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HOARD'S DAIRYMAN

From January 21, 1921 to July 15, 1921 — *W. D. Hoard & Sons Co., Fort Atkinson, Wis.*

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HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING



Fort Atkinson, Wisconsin Volume LXI, No. 1 January 21, 1921

Make Dreams Come True

James plans make a barn all that a barn should be.

What better time than now to plan the barn that some day will be yours?

Even though you may not be certain that you will build during this coming season, you should plan now, so that when the time does come, you can go right ahead without delay and without mistakes.

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You can have all this without extra c

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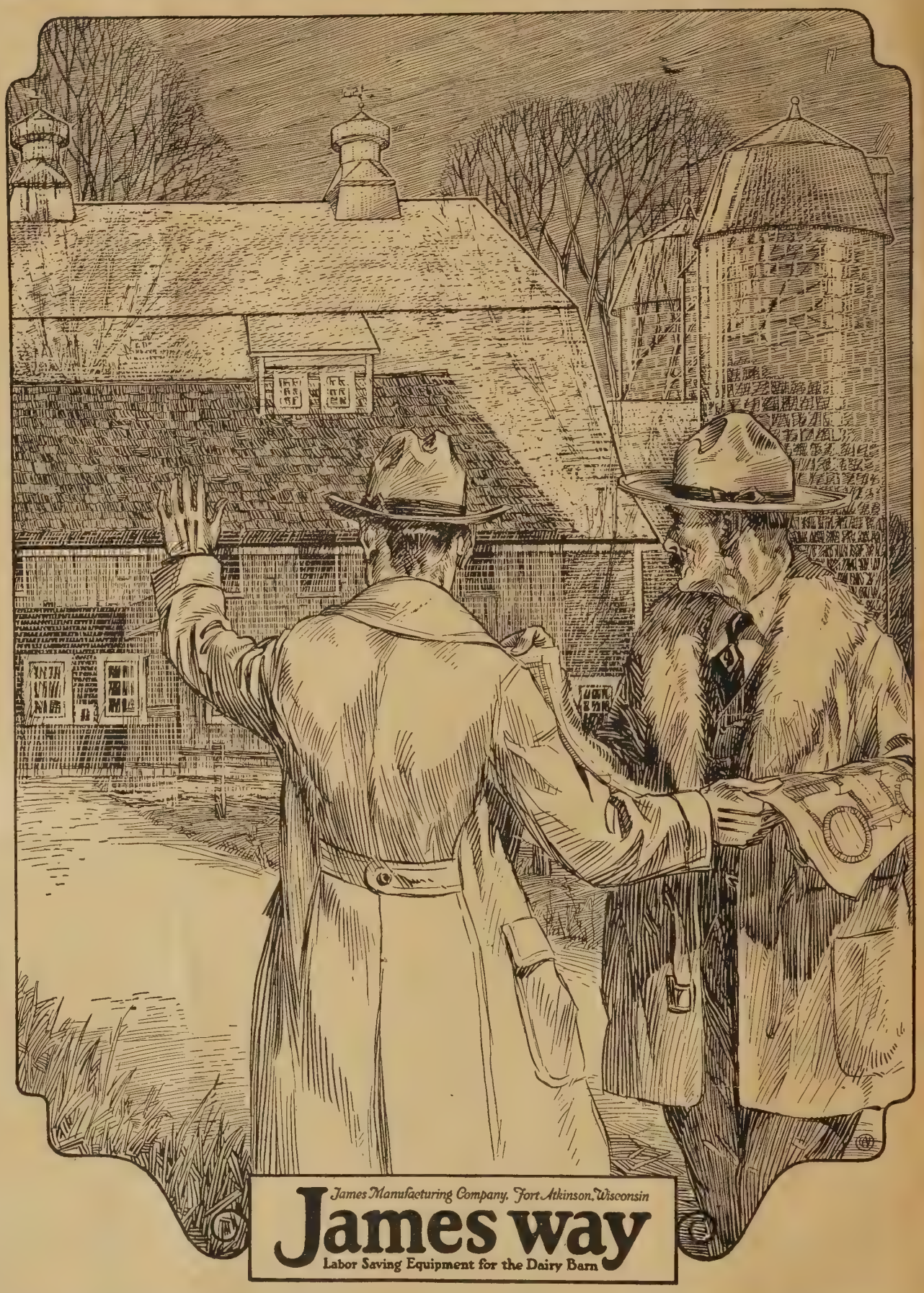
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James Manufacturing Company, Fort Atkinson, Wisconsin

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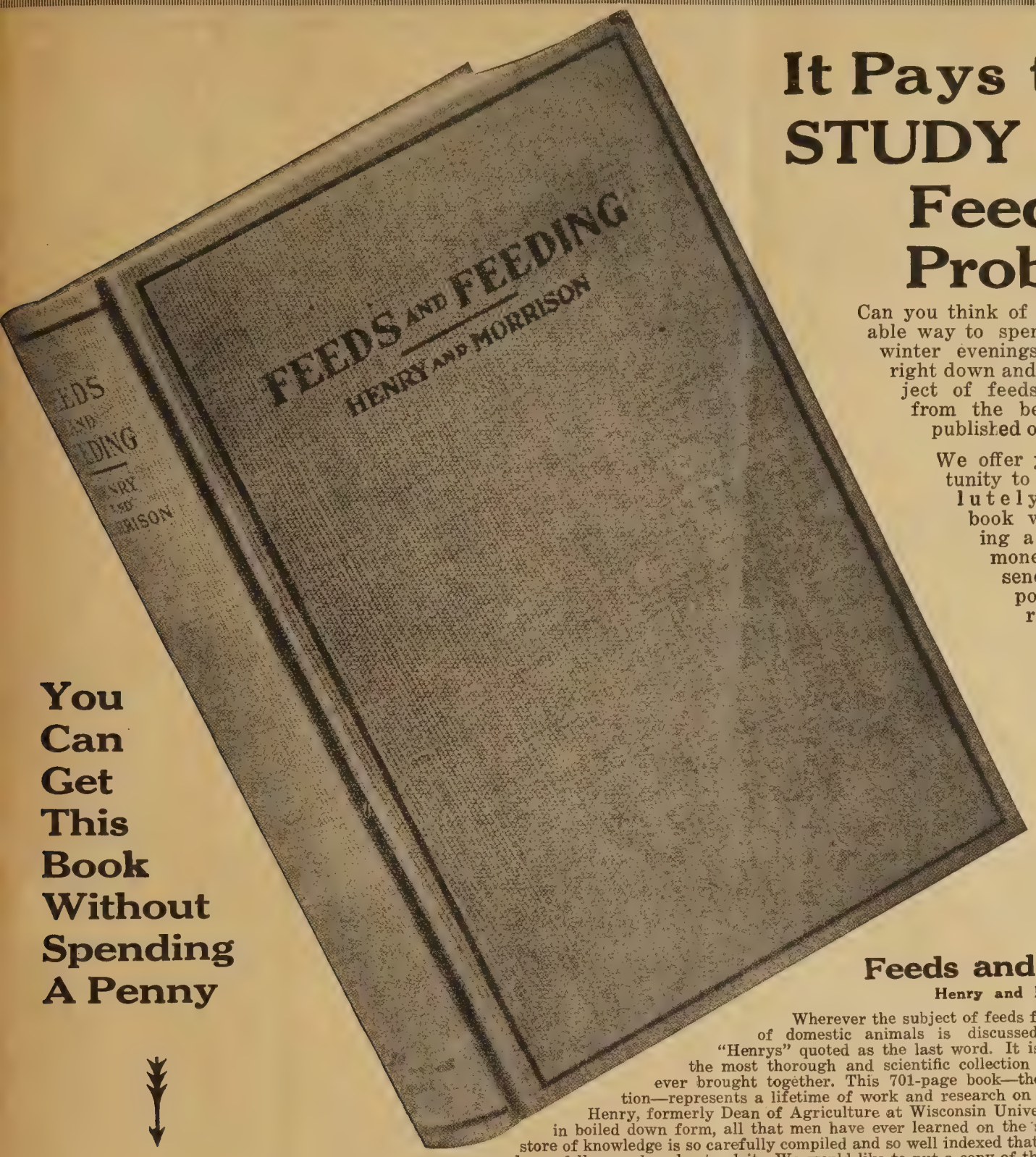
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HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING

Volume LXI | FORT ATKINSON, WIS., JANUARY 21, 1921 | Number 1

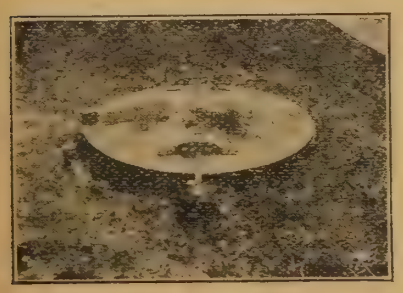
FARM LIGHTING

A. G. TYLER, Minnesota College of Agriculture

LIGHT is a form of energy and, as we know, all forms of energy originate in the sun. Light and heat are exactly the same thing, that is, both are vibrations and they differ only in the rapidity with which these vibrations take place. It is possible to produce heat without producing light but light without heat has not yet been evolved. The reflected sunlight from the moon comes the nearest to being light without heat that we know of. Since light and heat are the same thing it is natural to expect that the things that will produce heat may be made to produce light. That this is a fact may be shown by observing that any kind of fuel may be converted into light after first passing through the heat stage.

The energy of the sun is stored in many different ways, some of which are not readily available for transformation into heat or light. Some of the more common substances and ways in which energy is stored are in oils, coal, wood, in fact in fuels of all kinds and in water and chemical compounds which may be made by bringing together some of the various elements or by separating some of the compounds.

Some of the things that we familiarly associate with light are candles of all kinds, kerosene, gasoline, Blaugas, coal gas, water gas, natural gas, acetylene, electricity, etc., not forgetting the light from the sun, moon, and stars.



All there is to be seen of a pit type acetylene generator. It may be located anywhere on the premises.

Candles are things of the past so far as economical house illumination is concerned. They are still used to some extent for sentimental reasons and for religious purposes and again temporarily when other sources of light fail.

Candles

Our main interest in candles nowadays is due to the fact that practically all other forms of light are measured by and referred to as being of such and such candle power. The term candle power does not mean much unless it is rather closely defined. It will be readily seen that the size of the candle, kind of material and size and condition of the wick are all factors which will govern the amount of light given by any candle. The term candle power is generally considered to be the amount of light given by a standard candle burning under certain conditions. The ordinary paraffin candles will give slightly more than one candle power of light.

Kerosene is one of the many products obtained when petroleum is distilled. It is a liquid at ordinary temperatures and has a density of about .8 compared with that of water which is taken as 1.0. When crude oil is distilled various compounds are obtained; for instance, in the order named we get gasoline, naptha, benzine, kerosene, light lubricating oil, heavier lubricating oil, cylinder oil, and greases of various kinds, as axle grease and vaseline. Paraffin is also a petroleum product. There are other products obtained but from our point of view they will not be considered. The amount of and order in which the various compounds are obtained d pends upon the kind of crude oil which is under treatment. One kind has a paraffin base and another asphaltic base.

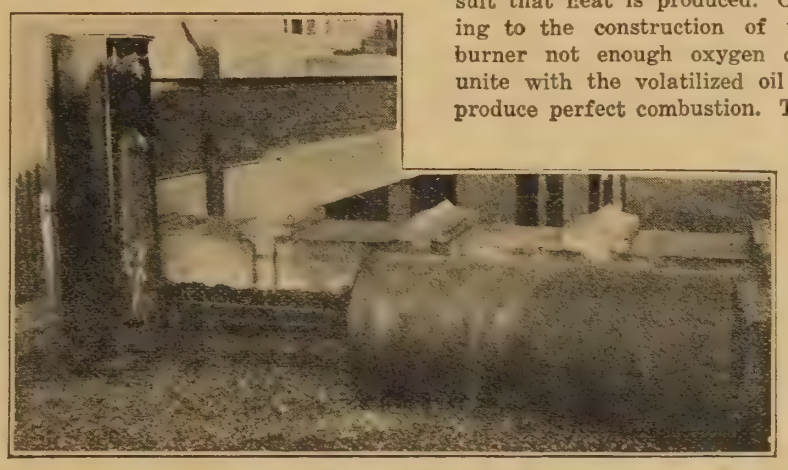
Kerosene

When crude oil is distilled the first products are naturally the most volatile, that is, they are vaporized at the lowest temperature, consequently they are the most explosive. Kerosene being part way down the scale is not very volatile as compared with gasoline, for instance. There are various grades of kerosene depending largely upon the temperature at which they are obtained. For use in lamps, kerosene should not give off a vapor at a lower temperature than about 120 degrees F., and the higher the temperature, up to about 150 degrees F., that this vapor will be noticed the safer the oil will be for household use. The temperature at which an oil will give off vapor, that may be ignited by a match, is known as the flash point.

Kerosene has been in more or less common use as an illuminant for about sixty years. It was, and still is, known in some parts of the country as coal oil from the fact that the crude oil from which it is obtained is generally found in regions where coal is mined or known to exist. The successful use of kerosene as a lighting agent depends almost altogether upon the burner. One type of burner uses a flat wick while another uses a round wick. In both cases the object is to bring the oxygen of the air in as close contact with the hydrogen and carbon of the fuel as possible. When these elements are raised to the ignition point, by means of a match for instance, a chemical combination takes place with the result that heat is produced. Owing to the construction of the burner not enough oxygen can unite with the volatilized oil to produce perfect combustion. The result is that while a certain amount of the oil is burned (mostly the hydrogen) a certain proportion is carried upward, first passing through the heated area. Most of this matter that is carried upward consists of particles of carbon which are heated to incandescence and which are later burned as they come in contact with the oxygen of the air. As every one knows if some object is placed over the chimney, if the chimney is raised, or if the wick is turned up too far, the flame will immediately begin to smoke. The reason is that the mixture of oil or oil gases and air is changed to such an extent that proper combustion does not take place.

From the foregoing statements it is natural to believe that if the air and oil could be brought together in the correct proportions there would be little if any light given out. This is exactly the case as is shown in the kerosene mantle lamp. In this type of lamp the oil and air are so mixed that practically perfect combustion takes place at once, producing great heat with but little light. The intense heat of the perfect combustion causes the mantle to become white hot. Thus it is the white hot mantle which produces the light rather than the flame itself. If not enough air or, rather, too much oil is being burned at any time the mantle will show black spots which are simply deposits of carbon. If a large proportion of air is admitted these carbon deposits will burn off and leave the mantle clear white.

The quality of light given out by a kerosene mantle lamp is excellent. It is a brilliant white light and is remarkably soft for its large candle power. It is also cheap and efficient but has the one great fault that it is not dependable under all conditions. The wick must be trimmed just so, the combustion must be practically perfect, extreme care must be taken in handling the lamp to see that the mantle is not broken, and considerable pains must be taken to heat the burner and mantle gradually. As a general thing these factors more than offset the excellent qualities of the light.



A SMALL BLAU-GAS OUTFIT

Control cabinet on the left, expansion tank on the right. All gas outfits should be outdoors.

Gasoline is used quite successfully and to quite a large extent for house and store lighting, especially in rural districts and small towns and villages where city gas is not available. There are several different devices for using gasoline as an illuminant but the principle is practically the same in all; that is, the gasoline is forced to the burner where it is vaporized and mixed with the proper amount of air and then burned in a mantle.

Gasoline

One of the most common types is known as the hollow wire system, so called because the gasoline is forced through a very small pipe or hollow wire from the supply tank to the burners. The tank, generally placed out of doors or in some out building or possibly in the cellar, holds from ten to twenty gallons and is ordinarily filled to about three-quarters full of gasoline. Air is forced in by an ordinary tire pump until the pressure is about thirty-five or forty pounds. The hollow wire is connected to the bottom of the tank so that gasoline and not air will be forced out. When the burner is reached the gasoline is

(Continued on page 16)



Some of the conveniences that may be enjoyed by installing a gas plant. Note the electrically operated gas plant. Push a button and it lights, push the other button and it goes out.

SELLING MILK WITHOUT STRIKES

Milwaukee Milk Producers' Association Satisfies Its Members Even When Prices Are Low. Sells on Basis of Supply and Demand.

MILWAUKEE, Wisconsin, takes the prize on low milk prices. When other markets paid as high as $4.50 to $4.95 for 3.5 per cent milk in December, Milwaukee paid but $2.75, the lowest of 43 representative cities, as shown by Bureau of Markets reports. Likewise, the retail price of 11 cents was a bottom value; consumers in all other large markets paying more, in some as high as 20 cents. That was in December. January sets a new low record, the producer receiving $2.30 per 100 lbs. and the consumer getting his daily quart for 10 cents.

Most unusual with these extremely low prices is the feeling prevalent among producers. Though their milk checks are slim, they aren't wasting time calling the distributors' names but are making the best of the situation. The milk dealers, on the other hand, are taking their full share of the drop and making no effort toward further cuts in the returns to the farmer. Even with extremely low prices there is much less trouble, in the city made famous by another than the lacteal beverage, between the man who produces milk and the man who retails it than in the majority of markets where much higher values prevail.

Producers' Association Promotes General Understanding

The reason for the smooth flow of the city's milk supply under such conditions—the cause of the intelligent understanding between buyer and seller—is the Milwaukee Milk Producers' Association. It keeps the producer informed, that he may not expect larger returns than market conditions justify, and it gives the distributor the facts which should govern prices. Its officers meet each month with representatives from the dealers and set the price for the following month. No formula is used in the calculations and little emphasis is given cost of production figures. Supply and demand and general milk marketing conditions set the price.

The milk is bartered—the dealers buying as cheaply as possible, and the association selling for all it can get. Selling milk is made a business proposition, buyer and seller coming together on a common basis and clear-mindedly doing what appears best for the business.

Association O. K.'d Low Price

So the association knew in advance that the slump was coming and the factors which brought it about. In fact, it had a hand in making the city's milk supply the cheapest in the country and was quite as willing to make the cut as were the dealers. Here's the reason. Fully 90 per cent of the 3,000 shippers to the city live within 30 miles of the market and the great part of the herds are less than 15 miles beyond the city limits. Sixty-five per cent of the 6,000 cans of milk comes in on trucks. Just outside this small milk shed is a ring of condenseries—and in that ring is the cause of Milwaukee's low milk prices. When the bottom fell out of the canned milk market, a flood of milk was made available to Milwaukee dealers. Even in October when the association price was $2.55 for an 8-gallon can, the condensery districts would have supplied it $1 cheaper. The reduction to $1.85 for December still left the condenseries anxious to turn their milk to Milwaukee for, before the month's end, they were buying butterfat alone and netting some of their patrons less than $1.25 per 100 lbs. of milk. The association was forced to sell milk cheaply enough to prevent a tremendous inflow of outside milk. The price set was not made by the distributors but by the association itself in order to save its market. The situation proved that an association may sometimes benefit its members in other ways than raising prices, even to bringing about a temporary reduction.

Price Setting a Tame Affair

The actual business of settling upon a price for Milwaukee's milk each month seems a tame affair to one familiar with the common procedure in many other whole milk districts. In interviewing both producers and distributors, no one called another a thief or a scoundrel; no farmer claimed the dealers are dishonest and unfair, that they are happy only when the producer sells his milk at a loss; and no dealer made the charge, so familiar in other cities, that all farmers are ignorant, inefficient, and undeserving of high returns. G. R. Rice, secretary for the association and the one on whose shoulders falls the bulk of its work, doesn't believe that all distributors are rascals and unwilling to deal fairly. He says: "Of course they buy as cheaply as they can, but I think they are doing exactly as we would in their places. There's nothing to be gained in fighting when we can make equitable settlements of our differences by meeting and talking matters over. We don't have milk strikes here. They're too expensive—a strike is a losing proposition even if we win. We operate on the fundamental theory that before you can sell anything you must have the buyer's confidence. We have tried to be fair and to warrant the confidence we seek."

That seems to be the kernel of the Milwaukee situation—mutual confidence. Dealer and producer meet in the association office and reach a bargain, each confident of fair dealing and neither keeping extra close watch of his hat and overcoat. Not all producers are satisfied with this peaceful condition of affairs. Some cling to the old notion that their representative should do a good bit of arm waving and loud talking to frighten the dealer into paying more. The majority, however, prefer to be represented on the basis of brains and facts rather than overworking the lungs in a fruitless effort to blow down the walls raised by dealers in protection against such tactics.

History of the Association

A history of Milwaukee's milk supply proves that the producers' association has benefited its members by increasing and stabilizing prices and in preserving a uniform market. Milk is sold by the can—not by the hundredweight. The eight-gallon can, which averages about 67¾ lbs. milk, is the standard unit. Also, in general, milk's milk, very little attention being given fat percentages, anything over 3 being accepted.

Cut-throat competition, stimulated by the system of delivering a decade ago, put retail milk at 6 cents per quart and made the milk business a loser for the farmer. Milk was sold haphazardly in Milwaukee by the haulers themselves. In 1904 an eight-gallon can sold for 88⅛ cents. In 1907, eleven cents more was paid. That year farmers organized in what Secretary Rice terms "a loose knit, $1.00 a year association". It had no official representatives. A committee went to the city, without having a knowledge of markets or the other factors which determine prices, saw the distributors, and went back home again to milk their cows. Three strikes were called, one lasting for six weeks. Their net result was to furnish good proof for Mr. Rice's statement that strikes are expensive. Not until 1916 did producers take a real interest in their market. In 1915 they received $1.13¾ for milk which was less than its butterfat value. In January, 1916, when they began their present organization, their milk was bringing less than it was worth for buttermaking 100 miles from market. The organization was capitalized at $10,000 with $10 shares. By the end of February 500 members had signed. A meeting was called for April 15, when a permanent association was formed and E. S. Robbins was elected president and G. R. Rice secretary, the two holding these offices since that time. No more capital stock was issued until January, 1920, when it was increased to $75,000. The association's income is provided by one cent per can which is deducted by the dealers from the checks of shippers. At present, members are being solicited for permission to deduce 2 cents per can, to provide funds for advertising milk.

The first work of the association was to gain the confidence of the dealers in order that a basis for price agreement might be worked out. So successful has the association been that Milwaukee is known the country over as a city where milk is sold without the resultless controversies which characterize the milk selling in so many places. The second work was to see that milk brings a uniform price in Milwaukee, that the association is not undersold by shippers who are not members. To do this necessitated providing for handling whatever milk a hauler may have, over that taken by his regular patrons.

Also, the association has handled the surplus problem. President Robbins says of that unwelcome part of the milk supply known as surplus: "Before our association was organized, dealers used surplus to beat down prices. Then when surplus came it was turned back on the farmer. We took this club out of their hands when we began handling surplus ourselves. We have averaged to use 200 cans a day and took care of as high as 800 cans last summer, managing to care for about two-fifths of the city's surplus. That which goes through our building loses us $.27 per can, but by caring for the surplus we stabilize our market. That loss is a good investment." Last year American cheese was made in the association's plant, this year the product goes into butter and milk powder.

The Unwelcome Surplus

The seriousness of this surplus problem is indicated by the fact that production in 1920 was increased about 15 per cent over that of 1919—on the same farms. In two years production increased 30 per cent. In 1919 the production from the farms of patrons of the Gridley Dairy Company, which distributes about 60 per cent of Milwaukee's milk, varied from 2,200 cans per day to 4,490. October 12, 1920, the patrons of this company delivered 3,100 cans, while on June 7 they sent in 5,940 cans.

While the association's plant handles only a part of the surplus, it is held that this serves to prevent price slumps and protects the market except under such extraordinary conditions as the present condensery catastrophe has brought about. In this plant the day to day surplus is processed so that an outlet is provided for extra milk and prices are not cut. Also the association thinks that it would be possible, if it becomes necessary, to relieve the dealers of all surplus. The association president says: "The association must have a kick behind it. Our plant is the kick."

Profits From Organization

It is not doubted that the producers' organization has paid its cost many times over. The 1919 average price was $2.496 per can, or $3.70 per hundred pounds. In 1920, even with November and December milk selling for $1.85 per can, the average was $2.292, or about $3.40 per hundred pounds. Before the association began its work, prices averaged below those at Chicago; now they are enough above that Chicago shippers are turning to the Milwaukee market. The president states that for the last two or three years the association has secured 30 to 50 cents more per can than would have been received without an organization. A conservative estimate by the secretary places the increased price, secured from the time the association was formed, at 10 cents per can. Add to this the fact that the market has been continuous with no costly strikes and good reason is found for the association's dependence on a system of bargaining backed up by a kick—the bargaining being done monthly on the basis of market conditions and the kick being in the form of a plant for handling surplus.

Market conditions set the price on Milwaukee's milk supply. No formulas or cost of production figures are used. Present low price necessitated by condensery overflow.

⚜

Producers and dealers meet each month and agree upon a price. Fair dealing and mutual confidence make frank discussions possible.

⚜

Plant for handling surplus puts "kick" in Association's arguments. Takes care of milk which formerly cut the prices.

⚜

System of bartering and of keeping surplus off the market makes expensive milk strikes unnecessary. Association's work makes its members ten cents on each can of milk—it costs one cent.

Then and Now in the Feed Business

F. L. CLARK, IOWA

THROUGHOUT the Middle West today abandoned mills in picturesque settings on streams and rivers invite retrospection. They have outlived their usefulness. The stone ones are weathering the years and combatting the ravages of old Father Time pretty well. The frame mills which were far more common than those built of rock are tumbling down. Many have entirely disappeared or are just a heap of rubbish. Poke around in the ruins and you'll find nine times out of ten the great old granite buhrs which did the grinding in all the primitive mills. They were too heavy to move, so have been left by the roadside to tell to this generation and generations to come the story of the old, old days when every middle west farmer had to haul his grain miles over the prairie and through the timber to have it ground into flour for his family and feed for his stock.

In pioneer days "going to mill" was one of the hardest and most expensive features of farm life. Days were often consumed in long journeys over rough trails, through bogs, and across turbulent streams in going to and coming from mill. Besides, the millers extracted heavy toll for grinding. They were the autocrats of their day. But no more. True, a few of the old time mills are still grinding some feed, but their business wanes. Just now the rapidity with which the power feed grinder is being put on the farm suggests that the very last one of these small mills may some day have to close up shop.

One may visit farm after farm on most any of the main roads of Iowa, Illinois, and other corn belt states and receive the answer "yes" far more times than "no" to the question, "Are you doing your own feed grinding?"

More often it is the tractor which is belted up to a grinder. One farmer whom the writer knows has built a small "tractorage" and set up a feed grinder and bin in the front of it. When the tractor is not doing field work it stands in the little building right next to the grinder. When feed is to be ground, all that is necessary is to adjust the belt and step on the gas. If not a tractor, almost every farm nowadays has a gas engine of some kind. It does a variety of jobs, one of which is sure to be feed grinding.

Not all of the business of the small feed mill, however, probably will be done on the farms. A part of the small feed mill business has gone to the big milling centers and will stay there in all likelihood. The farmers, indeed, even with the widespread practice of power grinding at home, are becoming more, instead of less, dependent upon the mills. The reason is that they are all the time feeding more as the gospel of feeding cattle and hogs to get maximum returns spreads.

The "balanced ration" which brings the high tests cannot all come from the farm no matter how efficient the power grinder is. The mills, to meet this new demand, are preparing rations in accordance with tested formulas worked out by experts. And as the feeds become better the farmers are buying more, in addition to the purchase of the cottonseed and oil meals.

"I used to think K—— was a fool to haul out all that feed," a certain Iowa farmer said a year ago." K—— was an up-to-date dairyman who had learned the value of feeding. Soon after, the man who had made the comment joined a cow testing association. Now he isn't calling K—— a fool but is hauling feed himself.

This same thing is happening wherever testing is practiced. But how to buy these prepared feeds and the concentrates and keep down feeding expense in proportion to the greater cash returns is a problem which the farmer needs now to work on. If he does not keep an eye out to economical buying, he may find he eats up all his profits "hauling feed" just as his father did in the old "going to mill" days.

Many cow testing associations are cooperatively at work on the problem of keeping down feed costs. One way they are finding is to buy in carlots direct from the mills, thus keeping in their pockets the dollars which otherwise would have found their way to the bank account of the middleman.



Abandoned mill on Miner's Creek in Northeastern Iowa.



Old mill buhrs on site of pioneer frame mill.



Grinding feed with grinder and 6 H. P. gas engine on L. Siegel's Farm, Iowa. Capacity 20 bushels per hour.



Member of McGregor, Ia., Cow Testing Association teaming home load of cottonseed meal.

Fundamentals of Tractor Engine Cooling

R. U. BLASINGAME, Pennsylvania College of Agriculture

RED hot engine parts cannot be lubricated. Therefore, the tractor engine must be cooled to be properly lubricated.

When the explosion occurs in the engine cylinder the temperature may run as high as 3000° F. This temperature would heat the valves, piston, piston rings, cylinder, and wrist pin red hot. If oil were applied to such red hot iron it would be consumed immediately. Correct cooling then is the first essential to correct lubrication. Thus, cooling is an essential feature in the efficiency of a tractor, automobile truck, or any other internal combustion engine. Cooling, then, is not one of the essentials for the engine to run, but is necessary to maintain the engine when it is in operation. It will be remembered that the only essential features for a gas engine to operate are (1) the formation of a combustible gas which is drawn into the cylinder, (2) the compression of that inflammable gas, (3) the ignition of the gas, and (4) the exhaust of the burned gases. These are the necessary features for getting power out of gasoline, kerosene, alcohol, turpentine, natural gas, or any other fuel. There are several features necessary to maintain the tractor engine when it is in operation, which are: (1) cooling, (2) lubrication, and (3) speed control or governing.

Cooling Systems

There are two common methods of cooling gas engines: (1) air cooling and (2) liquid cooling. As the air cooling method is rarely used for cooling tractor engines, the liquid cooling systems will be discussed in this article.

There are two types of liquid cooling systems: (1) the thermosyphon and (2) the circulating pump. Both of these systems employ a cooling jacket around the engine cylinders through which a cooling liquid circulates. When the engine is in operation a part of the heat from the explosion of the gas within the cylinder is absorbed by the cylinder walls and other engine parts. The liquid in the cooling jacket of the engine takes up the heat from the engine. The hot water then flows to the radiator where it is cooled by a blast of air passing through the cells of the radiator. It is the method of circulating the cooling liquid in the cooling system from which the two terms, "thermosyphon" and "circulating pump" come.

THERMOSYPHON. In the thermosyphon system, the cooling liquid remains still in the cooling system until the engine is in operation long enough to cause the water around cylinders to become hot enough to rise to the top of the radiator. The liquid circulates by the principle that hot water

(Continued on page 20)

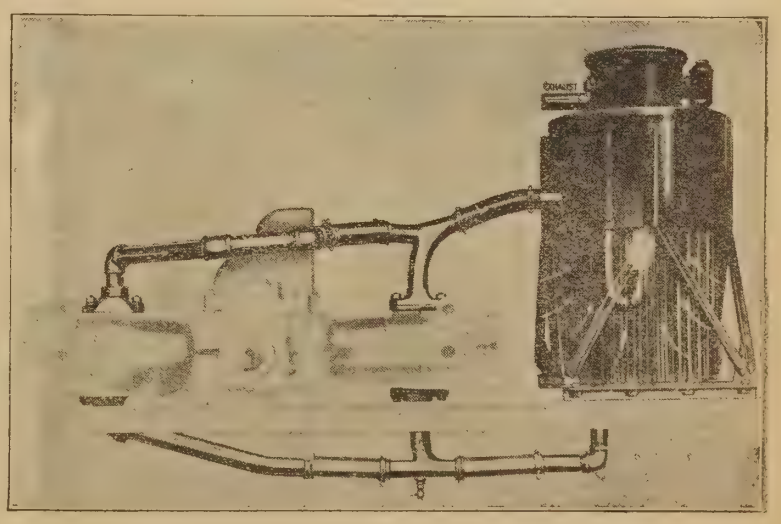


FIG. 1. THERMOSYPHON COOLING SYSTEM

The air draft between the tubes of the radiator is created by the exhaust through the tap of a casing around the radiator.

Perpendicular Pastures

An Enthusiast on Kudzu Tells His Story

C. F. LEACH, FLORIDA

IN a recent interview Mr. W. H. Hovey, director of the milk plants of the Dairymen's League Co-operative Association, is quoted as saying that "milk is shipped into New York City from distances ranging beyond 400 miles yet all of it could be supplied within a range of 200 miles."

Mr. Hovey's statement is quite conservative. There is no good reason why all the milk used in New York City could not be produced by dairies located within 100 miles of New York and if it were so produced there would be a saving of about 25 per cent of the freight now paid on more than one-half of the milk used in New York. It is also possible to produce milk on the farm so that it could be delivered by the farmer at his milk station for 25 per cent less than he must now charge in order to live and even with this reduction his milk would return him a much larger profit than he now receives.

Having made these rather large claims and somewhat startling statements it is up to me to explain "how come", as we say in the South. Loose talk and empty mouthings never made a gallon of milk or delivered it anywhere at any price.

My answer to your "how come" will be short and it may be utterly incomprehensible to ninety-nine per cent of those who read this article.

Plant Perpendicular Pastures

Now don't laugh. This is not the place where the laugh comes in. There will be no laughs in this article. Perpendicular pastures are not a joke. That dear old baldheaded joker, Bill Nye, used to claim that he once owned and farmed a farm in the mountains of West Virginia that was perpendicular. I have been all through that picturesque country and Bill was not so far wrong at that. Bill's joke was not as jocular as one might think and it is no joke to farm those mountain sides, either.

But I do not refer to mountainsides when I speak of perpendicular pastures. The perpendicular pastures I am talking about are grown on perfectly level ground or where the landscape is gently rolling. It is true that steep hillsides can also be used if necessary but their approach to the vertical will have nothing to do with the perpendicularity of the pastures.

Anyhow, one acre of level land or of rolling land or even steep hillside land will produce three acres of perfectly good pasture, the most nutritious pasturage ever produced. One acre of the three acres of pasture that can be grown on one acre of land as aforesaid can be grown lying down, as you might say. Just like any other pasture. And two acres of the three acres of pasture herein before mentioned can be grown standing up. In other words, there will be two acres of perpendicular pasture to one acre of horizontal pasture on this one acre of land.



KUDZU PASTURE



LANE IN PERPENDICULAR PASTURE

ALLEY JUST FINISHED GRAZING

So far as I know there is but one forage plant in the world that will produce pastures growing at right angles with the surface of the earth and that is the Kudzu vine. Kudzu vines will grow on trees, arbors, trellises, porches, watertank towers, windmill derricks, or anything like that and they will grow on these structures sixty or seventy feet high. Kudzu is some climber. But it will also grow on fences seven feet high and it will run over the ground where the main or stem vines will take root at every joint and throw up multitudinous branches covered with large and luscious leaves and tendrils so that in time the ground will be covered with a mat of hard, woody trunk vines whose lateral branches growing upward, curling and twining together, make a mass of edible vegetation three or four feet deep. The vines that climb on the fences do likewise, only the main or trunk vines do not take root, of course, and the innumerable branches grow out horizontally on both sides of the fence, twining and curling together until the whole fence is hidden with a mass of luxuriant herbage two feet or more thick on each side of the fence.

If you will build two parallel wovven wire fences, seven feet apart and seven feet high, and plant Kudzu roots right under each fence you will soon have a seven foot lane or alley between the fences, covered with Kudzu and each fence will also be covered with Kudzu. Then a cow in the alley can eat off the right hand fence first and that is seven feet of pasture. Then she can eat the seven feet of Kudzu on the ground and after that she can calmly devour the seven feet of herbage from the left hand fence. And there you are. Three times seven are twenty-one, or twenty-one feet of pasture on seven feet of land, three for one or three on one. Just as you like. If you will build twenty parallel fences seven feet apart and about 310 feet long and then plant Kudzu roots, just the way I said, you will have in one year three acres of pasture on one acre of land that will afford the finest grazing from May until frost and keep four cows full of feed all summer.

Incredulous Smiles of Friends

There is no use talking, I do hate to write about Kudzu, it is so hard to write about Kudzu without appearing to exaggerate. I hate to even talk about Kudzu to my best and dearest

(Continued on next page)

Wintering the Brood Sow

CLARENCE M. BAKER, OHIO

WHAT does the brood sow eat during the winter?

Nothing pleases a breeder in the spring more than to have his sows farrow strong, vigorous pigs with plenty of vitality. To accomplish this the feeder and breeder must begin in the fall and winter to care for the sows.

The conditions of wintering a brood sow are so much different than that of caring for her in the summer that wintering is a real problem. In the summer the brood sow has plenty of forage and gets much exercise; during the winter she should have exercise, but of course the forage cannot be provided. The dangers of poor management with brood sows come largely from feeding solely on grain, for sows fed in this manner produce weak pigs of extremely light bone. Corn-fed sows may gain slowly during the winter although their daily feed sometimes is higher than that of others fed supplements with corn.

During gestation sows should receive enough of feed to gain in weight, besides allowing for increasing weight of the developing young. Sows lose weight during lactation, so that ordinarily an increase in weight from 7-10 to one pound daily should be encouraged. This has been found true at the Ohio Experiment Station.

Since corn alone is too fattening and does not supply enough mineral and protein elements, some tankage should be allowed in the ration. Tankage also furnishes mineral requirement. About one-tenth of a pound per day would be sufficient for brood sows receiving a ration of corn in addition to clover or alfalfa hay.

When clover or alfalfa hay is provided less grain is needed, but the benefit of feeding hay to sows is that it induces exercise. Ordinarily, in experiments at the Ohio Experiment Station, the sows consumed about 3 pounds of hay daily per head. This amount supplies the needed bulk to the ration. In addition to the hay and tankage, one pound of grain or concentrates should be supplied daily for every 100 pounds of live weight. This is an easy way in getting at the amount of feed a brood sow should have. If a sow weighs 500 pounds, 5 pounds of grain or concentrates, 3 pounds of hay, and from one to two-tenths of a pound of tankage should be given daily. The hay is supplied in racks from which sows may eat; tankage may be given in troughs.



A RATHER EXPENSIVE BUT LABOR SAVING FARROWING BARN

During the winter sows are both fed and sheltered within, but some inducement should be given to compel brood sows to get exercise.

A satisfactory means of inducing exercise on hog farms consists of keeping the sleeping quarters for the sows some distance from their feeding place so that the sows must travel this distance several times daily. However, if this cannot be done, sows will secure plenty of exercise eating hay from a low rack built for the purpose. Care must be taken in feeding brood sows not to furnish too much corn or concentrates so that they will be full and not care to eat the hay. It is necessary to induce the brood sows to consume the hay.

Of course, there are other supplements for corn in feeding brood sows. Skimmilk is valuable, but skimmilk is more valuable to feed to young pigs than to mature animals. Linseed meal is also adequate in supplementing corn, the sows requiring about the same amount of linseed meal as they do of tankage. However, linseed meal does not furnish mineral elements like tankage.

Oats has been tried at the Ohio Station, for the price of oats is at times such that it may be used to re-

(Continued on page 29)

Perpendicular Pastures

(Continued from page 8)

friends. It hurts me to see them kind of twitch their lips, trying to hide their indulgent, incredulous smiles. It hurts like the mischief when they turn away their heads so that I will not see their eyes and guess what they think. That sort of thing hurts a thin skinned man. It also fills me with pain to think I cannot tell the truth about Kudzu. No one will believe me when I do tell the truth about Kudzu and so I must lie. I lied knowingly and deliberately when I said just now that four cows could be pastured all summer on one acre planted to perpendicular Kudzu pastures. Such a pasture as I have ascribed will easily carry six cows all summer when it is three years old and every year the vines will grow stronger and more productive. That is not all, cows will give a full flow of milk with less grain on Kudzu than on any other forage plant ever grown in this country. I know that all this and more is so, for I have tried it, but I really don't expect others to believe me. Even when I have told but half the truth about Kudzu I must dumbly and miserably watch you smile.

These perpendicular Kudzu pastures are a new thing. They are something we have half discovered and half invented here on Cherokee Farms, but the old style, horizontal Kudzu pastures are not new. They raise and use them all around here. I had one near Lake Erie many years ago. This year and last year we tested the capacity of our old style Kudzu pastures and found that these flat pastures, where we only get one acre of pasture on one acre of land, carried three head of stock per acre from May to October 1. There are many people here who saw these cows on our pastures and will verify what I say.

Where It Came From

Kudzu is something most of the readers of this article have never heard of and never seen but there are many who have grown it as an ornamental vine on arbors, porches, and pergolas. Many a nice boy has kissed his sweetheart under the sheltering shade of the Kudzu vine. It is a rapid growing leguminous vine. It is said it was first brought to this country from Japan in 1876 to ornament the buildings and grounds of the Centennial Exposition at Philadelphia. I bought some roots from a New York seedhouse in 1898 and grew it in the north for sixteen years.

Kudzu is perfectly hardy and the U. S. Department of Agriculture in Circular 89 says that it grows as far north as Nova Scotia and as far south as Miami, Florida. The Bureau of Plant Industry has a Kudzu meadow on its Arlington Farm in Virginia where they say they have cut an average of five tons of hay per acre for the past five of six years. We cut twenty tons from a four-acre field this year in two cuttings and the third crop is now about eighteen inches high, although we have had two head of stock per acre grazing on it since a few days after the last cutting.

Kudzu is perennial and once planted and well cared for the first year it will last for generations; growing stronger and more productive every year. It will grow on any well drained soil except very light sand. It prefers a clay loam or a sandy loam with clay subsoil and for such a soil it is highly recommended by the Department of Agriculture. After the first year, Kudzu requires no cultivation and no fertilizer. It has a great advantage over most other legumes in that it requires no lime and no inoculating. It is never a pest but on the contrary it will kill out all other plant pests. When Kudzu has once covered the ground, which it will do the first season, it quickly smothers out all other vegetation. It makes an excellent permanent cover crop in orchards affording a fine mulch and adding great stores of nitrogen and humus to the soil.

As a Feed

There have been several official analyses made of Kudzu. These analyses vary from 16.7 per cent to 19.82 per cent protein. If Kudzu contains 19.82 per cent protein then it should be higher in feeding value than alfalfa, clover, or even wheat bran, but analysis does not always show the true feeding value and there have been no official feeding tests. However, all the farmers who have fed the various leguminous forages claim that Kudzu is a better feed than alfalfa, cowpeas, or soy beans.

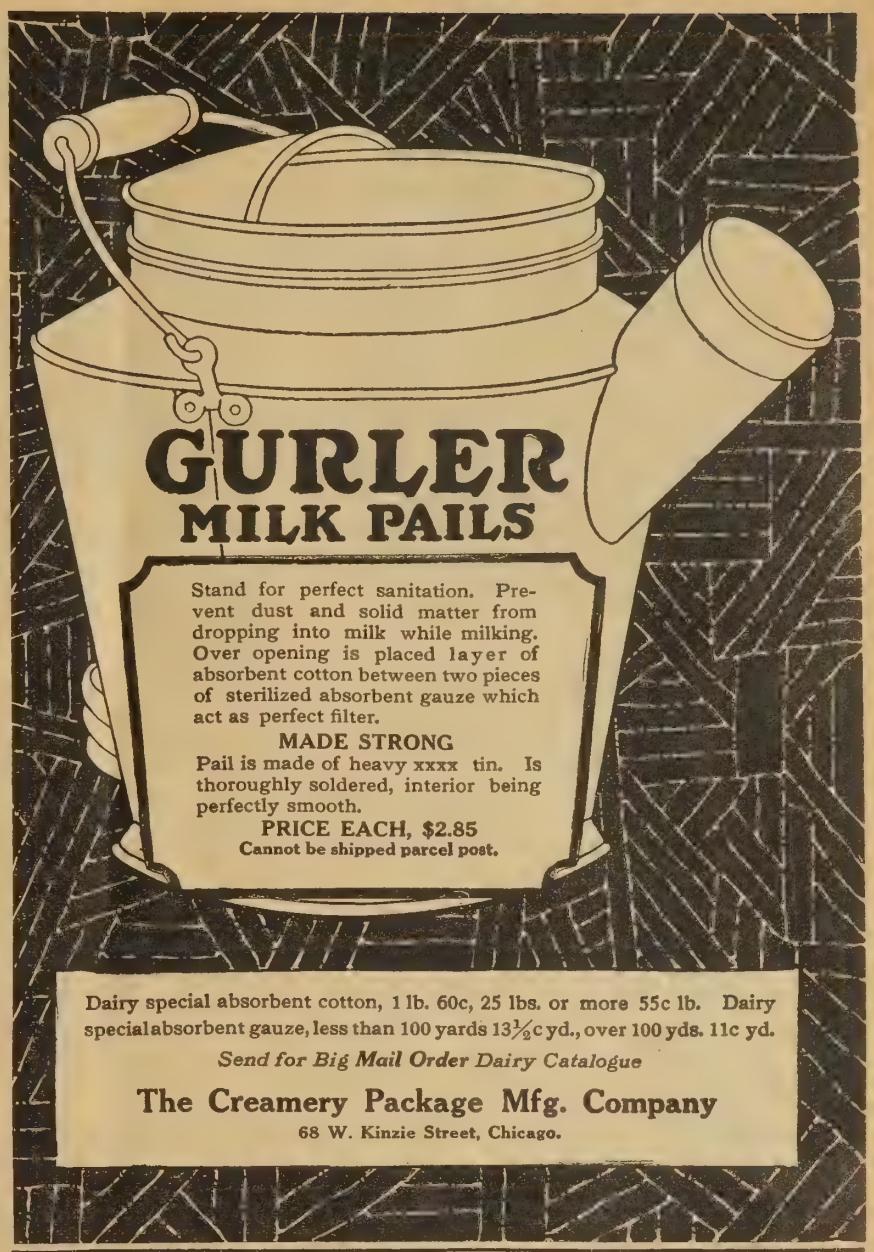
No one in the North should plant a large area to Kudzu unless they can procure well rooted plants grown in the North. A good start can be made with two hundred roots grown in the South and they should be obtained from responsible growers who will dig them at the right season and pack them carefully so that the roots will not dry out in transit. Any farmer can make a success with 200 Kudzu roots if the roots reach him in good condition, and if he will follow the instructions furnished by responsible growers. From these 200 roots can be grown a large number of seed roots and thus extensive meadows and pastures can be very quickly produced. Write the Bureau of Plant Industry, U. S. Department of Agriculture, Washington, D. C., for a copy of Circular 89, entitled "Kudzu".

[Editor's Note:—A few growers of Kudzu have written very glowing accounts of this legume and we are giving Mr. Leach full opportunity to tell his story. It would seem to be the "Wonder Plant", but its general acceptance and use has made very slow progress. Disappointing results have been secured in some instances and on some soil types, but Professor Piper of the U. S. Department of Agriculture believes good yields ought to be secured over most of the Piedmont of the South. As with all innovations, it is well to start in a small way and try out this plant without going to too great expense.]



SARA OF MOUNTAIN VIEW

Guernsey cow owned by Leslie G. Perry, President of the Idaho Guernsey Breeders' Association. This cow has produced in Class BB 12,843.5 pounds of milk, 608.73 pounds of fat. She misses being a class leader by only 12 pounds. Mr. Perry is an ex-travelling salesman who years ago settled as a pioneer in the new country in Idaho. He has cleared his farm from sage brush, put in an irrigation system, and has a highly developed farm on which alfalfa and other crops are grown. The first cows were grades, which were replaced only a few years ago by pure-breds. During the past season in his first Advanced Registry testing, he has completed a number of very excellent records, that of Sara of Mountain View being representative. These cows were housed in a shed barn and fed as much alfalfa as they would consume and one pound of the following grain mixture for four pounds of milk produced: 200 pounds each of ground corn, ground barley, ground oats, and wheat bran, and 100 pounds of oil meal.





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Where the Holsteins Lead

HOARD'S DAIRYMAN:—What state has the largest number of pure-bred Holstein cattle?

Answer, New York State.

In what county in New York State may the most of this famous breed be found?

Answer, Madison County.

Located almost in the exact geographical center of the state, Madison County is the veritable Garden of Eden of the Holstein-Friesian breed in the western hemisphere if not in the entire world. What is the reason for Madison County's present leadership in these pure-bred black and white cattle? There are several good reasons, but before I attempt to set them down here permit me to substantiate the points just made concerning leadership, by referring to a recent report issued by the Holstein-Friesian Association. This report states that New York has 83,546 registered Holstein cattle on its farms. Its nearest competitor, Wisconsin, has 58,092 head. Also, New York has more Holsteins within its boundaries than the states of Minnesota, Illinois, Michigan, and Ohio combined.

Madison County, according to this same report, has 7,257 pure-bred registered Holstein cattle that dot its hillsides with animated spots of black and white. It is a typical 100 per cent agricultural county, located just southeast of the city of Syracuse which has been widely advertised as the hub of the Holstein wheel in the East. But Syracuse is not the "hub", it is just a good city in which to stop. The real center of the hub is Peterboro, a little hill hamlet almost in the center of Madison County. Onondaga County, adjoining Madison to the West, and Allegany County in the southern tier, are its nearest competitors, each being credited with 4,153 and 4,642 registered animals, respectively.

The older breeders of these black and white cattle claim that the chief reason why they are so popular in the county is that they have been a profitable breed for the farmers. They also remark with pride, for which there appears to be ample justification, that these high, rolling hills green with luxuriant pastures, with fertile valleys in between, are quite ideally situated for dairy farming, particularly Holsteins. The rainfall is abundant and regular. It is a natural grass and corn country and alfalfa growing in recent years, greatly stimulated by the persistent preaching of the farm bureau agent, is rapidly spreading its roots downward and outward into the limestone soils. Extensive fields of alfalfa and silage corn, and wide sweeps of green hill pastures dotted with black and white cattle. You get the picture? It is another reason.

The first pure-bred Holstein cattle to be brought into the state and kept pure were those imported from Holland in 1869 by Mr. Dudley Miller. These animals were sent direct to Peterboro in Madison County to the farm owned and still operated by Mr. Gerret S. Miller, a brother of Dudley Miller. There were other earlier importations of Holsteins into the state, particularly by the old Holland Land Company, as early as 1795, but these were crossed with the native stock and lost their identity.

The first Miller importation was made up of the three cows and a bull. A second importation, made in 1876, included the bull, Billy Boelyn. This was followed in 1879 by the third and last importation, made by Gerret S. Miller. About this time he disposed of all of his Holsteins except the bull, Billy Boelyn, and the three foundation cows, Empress, Johanna, and Ondine. Today the Miller herd is composed entirely of descendants from these three foundation cows. The only new blood introduced into the herd has come from the purchase and use of bulls of choice breeding. No females have ever been purchased and added to his herd. This practice has been rather unusual but apparently has resulted in a herd of remarkable uniformity from which many notable animals with high production records trace their origin.

In passing, it may be interesting to state that Mr. Miller, himself, has never developed the knack of fitting and feeding for high production records. Most of the excellent producers from this herd have been developed by men who purchased animals from the herd and gave them official records. In this brief sketch space will not permit the tracings of any of the remarkable individuals that have descended from the Miller herd. It is perhaps sufficient to state that undoubtedly much of the popularity for Holstein dairy cattle in Madison County is directly traceable to Mr. Miller's early importations.

Some years ago the breeders organized a county association, but for some reason in recent years it has not functioned as aggressively as one would expect in a county where the breeding of Holsteins has assumed such vast importance. One would ordinarily expect to see such an organization enthusiastically backing a campaign to eliminate disease and build up for the county a wide reputation for healthy herds. Such an effort would in itself widely advertise the Holsteins of Madison County and would go far toward establishing a standard for quality greater even than its present leadership in quantity production. The accredited herd project is looked upon by some of the breeders with suspicion or as some fashionable fad that may not survive the test of time, and this position is held despite some very convincing proof to the contrary in herds within the county that have been for years federally certified as disease free.

In view of the fact that out-of-state buyers are demanding healthy cattle, and that no other agency than the federal government will supervise the testing and certify to the health of the clean herds, it would seem to follow, almost as a matter of good busi-

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A. W. HOPKINS.



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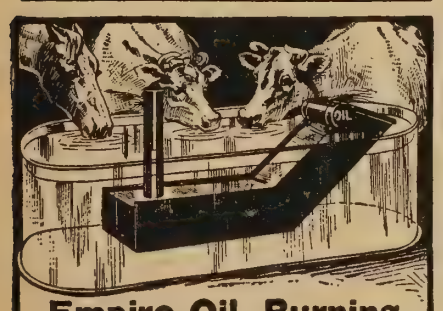
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ness, that the county breeders' association could do nothing of greater importance than to aggressively push a campaign for healthy herds. The thousands of pure-bred black and white cattle, for which Madison County is now so well noted, cannot, by numbers alone, uphold and maintain the banner of leadership in the western hemisphere. They must also be healthy cattle.

New York. F. E. ROBERTSON.

A Community Plan

HOARD'S DAIRYMAN:—Two dairymen were talking over the results of their year's efforts. It was in one of those small communities where five or six farmers were clustered together in a kind of community. All were engaged in the same business—that of furnishing cream for a creamery near by. "Trouble with us," said Jim Norris, "we are each trying to go alone."

"Guess you're right," replied Joe Andrews, "I've been thinking about what that county agent fellow said at the grange meeting the other night. I liked what he said about a better sire club. Why can't we take up that idea right here?"

As a result of that conversation, five farmers, whose farms clustered together, had a meeting the next night and planned out a scheme that is well worth following in other communities. These five men kept from fifty to sixty cows in the aggregate, not enough for any one to afford a registered bull of good breeding; also, they had a mixed bunch of cows of all colors and sizes in which, perhaps, black and white stock had the lead. It was decided to go in for Holstein stock. This happened some years ago and now each one of these men has a handsome herd of high producing Holsteins. It was decided that each man should take his turn at buying and keeping a good bull and all the others should pay a nominal figure for service. Lots were drawn to decide who should buy first. He was to purchase a mature bull and have him ready the first of the year. The second man was to have a bull ready for service eighteen months later, and the third at the end of a similar period. The other two were to follow in turn. An agreement was drawn up and signed by the five. In case of death or removal a stated sum was to be paid over to those who had already fulfilled their parts by the agreement, based on the time service had been provided.

By this plan the first man was required to purchase a bull ready for service but the others might buy younger animals and raise them to maturity. This gave a succession of good sires, and, as the period of service was only eighteen months, there was no chance of mating a bull with his daughters. Such a plan does not permit the breeding up of a family along the same blood lines but for small farmers it gives maximum service at a minimum expense. Each one is sure of a good sire for his heifers and he has the expense of keeping the bull only one-fifth of the time.

Since the plan was started, each of the men has bought registered heifer calves, so now there are but few grades in the community and those few cannot be distinguished from the straight stock, except by the examination of papers.

For a small community, we know of no plan that will work out more cheaply than this. It happens that these farms are bunched within a radius of little more than a mile. Of course there would be an objection to driving cows any considerable distance, also this plan is not needed by large farmers.

New Hampshire. C. H. CHESLEY.

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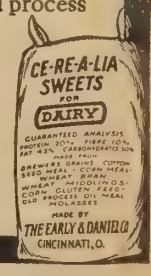


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EDITORIAL COMMENT



THERE are many lessons to be gleaned from our present situation, but one of the most striking things is the prices of our best bred dairy cattle and the highest quality of butter. Animals that have been properly bred, of good type, have not declined materially in price. They are selling readily and for good prices. In a conversation with a man who sells many hundreds of cattle and with a dealer who handles large numbers, it was expressed by them that the slump in prices of dairy cattle has largely come to the poorer grades.

So with butter. On Monday, December 27th, one large creamery concern was paying 64 cents per pound for fat to the farmers. This price could not have been given for an inferior quality of cream, for that company has manufactured the highest grade of butter and has a large demand for all it can make at this price.

These illustrations show that for the man who is willing to strive to produce the finest cattle and the best quality of butter, there is a remuneration. In other words, the men who are informed are as a rule the most successful men in their business.

LOCAL CO-OPERATIVE ENTERPRISES

In these times when much thought is being given to methods of improving the handling and marketing of dairy products, it is well to consider the plan which we have advocated for many years as being the safest and the most satisfactory way for the dairy farmer to market his milk. It seems to us that the ideal plan is for every community to establish a co-operative enterprise which will be capable of manufacturing butter and cheese, shipping of milk or cream, and, in many communities, of manufacturing the various types of skimmilk cheese such as cottage and Camembert. The average man little appreciates the splendid opportunities to develop the various types of cheese and to manufacture the finest quality of butter. To do these things is to enlarge the market for dairy products and this means better prices. When too much of our milk goes into one product there is likely to be severe reverses similar to that which we are experiencing at the present time with condensed milk. But if the farmer will develop a local co-operative enterprise capable of making two or three dairy products of the finest quality and develop a market for them, he is not likely to feel the sting of the decline in the prices of his products. Communities that have co-operative enterprises in operation are not at present suffering the decline in prices of dairy products as are those where the farmers have not established such institutions.

It is our opinion that the solution of our marketing lies very largely in the successful development, in the various communities of a state, of local co-operative enterprises. It would not be necessary for each of these institutions to manufacture the same kind of product, but it should be their purpose to manufacture the very best quality of dairy products possible and then develop a good market for them. When there is a sufficient number of these institutions in any one state, they can be federated and a sales agency established for the purpose of furthering the marketing of their products and to secure better prices for them and to do the work of marketing more economically. An industry built upon successful co-operative units, each one carrying out its plans under separate management, so far as the development of the factories is concerned, is the sensible and substantial way of developing a system of co-operative institutions for caring for milk and its products. Proceeding in this manner is building an industry from the bottom up and not from the top down. These small units educate the patrons to business practices and teach them how institutions like this are financed, and if they follow the business closely enough they get a reflex action from the market and they learn how to take advantage of the market.

At the present time there is a wide variation in the prices paid for butterfat. Some farmers are now selling butterfat as low as 40 cents per pound and we know of one institution that recently paid on Dec. 27th 64 cents per pound for butterfat. In many of the co-operative creameries where all the skimmilk is returned to the farmers, they are paid in the neighborhood of 60 cents per pound for fat. There is too large a difference between 40 cents per pound for fat and 64 cents and it is the farmers who have no co-operative factories of their own that are forced to take these low prices. Not only does the co-operative enterprise owned by the farmer give him control of the manufacturing of his business, but he can through proper organization form a sales agency which will be to his advantage. There are very few co-operative creameries or cheese factories that have attempted to develop special dairy products for the market or have graded their products and sold them under a brand, both of which are highly desirable.

To bring about these ideal results, we believe in beginning by establishing in communities local co-operative institutions and gradually developing them until there is a sufficient number for a federation. There will be strength, economy, and business efficiency in a co-operative plan of this character.

VARIATION IN MILK PRODUCTION

Those selling market milk little appreciate the wide variation in production. This presents to the distributor a problem of caring for surplus milk, for he must secure a sufficient number of patrons to take care of his business when there is a minimum production of milk. This means that in the flush of the season he has about twice as much milk as his customers will demand. It has always seemed wise to us that co-operative enterprises should be established in all communities by the farmers so the surplus milk can be taken care of, as this is a factor in price making and, we believe, has led the producers at times to sell their milk cheaper because the dealer claims he looses heavily upon surplus. If in every community there were established co-operative institutions capable of manufacturing butter or cheese, in short, various kinds of dairy products from a high quality of milk, it would be unnecessary for the milk producer to buy milk from so many patrons. He could then turn to these institutions during the period of lowest production and secure milk for the period of low production. Moreover, he would not only be assured of an adequate quantity of milk for his customers but the farmer would be certain of being in a better position to take care of his own product, which we believe is the desirable thing for the producers.

The milk dealer, in many cases, has provided ways and means of manufacturing the surplus into the various dairy products. This is a wise course for him. Manufacturers of other commodities do not expect their customers to take care of their surplus; they take care of it themselves. In short, we believe the farmer should attempt to organize his business and place it upon the same basis as other enterprises are conducted.

It is perhaps well to consider how much the milk production varies from the same patrons. The Gridley Dairy Company of Milwaukee has 1,700 patrons. In 1919 its lowest milk receipts amounted to 2,200 cans on September 21st. Their highest receipts were 4,500 cans on June 2nd. In 1920 the lowest receipts were 3,100 cans on October 12th and their highest, 5,945 cans on June 7th. It would seem on casual reflection that the consumption of milk would not materially vary but on Christmas Day, 1920, the Gridley Dairy Company had a surplus of 1,000 cans of milk, while on Thanksgiving Day there was a larger demand for milk. There is a variation in the production of milk on the farms of producers during the year, depending upon the prices of milk, feed, and weather conditions. During the year 1920 there has been an increased production of nearly 15% among the Gridley Dairy Company patrons.

These facts present some of the problems which the milk dealers must contend with and explain why the surplus at times becomes troublesome.

LESSONS IN MARKETING

This subject of marketing farm products is claiming the attention of every thinking person interested in the welfare of agriculture. There are certain fundamentals which must be worked out and well established in the minds of the farmers and those in charge of the markets before we can expect to improve our present system.

Mr. E. L. Luther, superintendent of farmers' institutes in Wisconsin, enunciates a few of the essentials in marketing. He states: "A suitable product suitably put up. Farmers should present for sale only such a product as they would themselves buy and the product should be presented in an attractive form. Community production must also succeed individual farm production in establishing a quality product in quantity."

Mr. Luther could have well stated, too, that the farmers must take into consideration the demands, the idiosyncrasies, and the tastes of the consumers. Every good merchant studies what the consumer desires and then attempts to furnish him the product and in a package in keeping with that desire. In other words, the good merchant attempts to please. So must the farmer attempt to please the consumer in the marketing of his product.

Mr. Luther continues as follows: "A knowledge of the cost of the product. No other business in the world than farming could have survived the lack of cost accounting. Farmers should know something of what their products cost them. Farmers must begin to keep accounts."

This is highly essential and there would not be as large a production of certain products if the farmers knew what it cost to produce them. There are sections where milk production has increased as high as 30 per cent or more when the market was scarcely paying for the cost of production.

Again, Mr. Luther says: "Control of the product as far as possible towards the ultimate consumer. This can be brought about through co-operative marketing. Local warehouses co-operatively owned and terminal facilities in central markets must be co-operatively owned and operated."

This means that the farmer must place himself in position to market his products throughout the year and not in the month or two that follows his harvest. This will place him in position to take advantage of the market and he will be following the same practices of business men engaged in other enterprises. It is highly desirable that the farmers have these local co-operative institutions through which they can market their products in an orderly way.

The Federal Farm Loan System

I have read with interest the article on "The Dairy Farmer and the Farm Loan Act". I had a very limited captial when I started, but now have a third equity in my 200-acre farm. I was getting on splendidly until the slump came, but am now sewed up tight. I have no complaint against the local bankers, but the constant anxiety of meeting or renewing the short time loans hampers me. If I could secure $5,000 additional by giving a chattel on about $8,000 of personal property and my $10,000 equity in the farm, I could get along nicely.

Wisconsin. W. P. W.

Under the farm loan act loans are restricted to 50 per cent of the appraised value of the land plus 20 per cent of the insured permanent improvements. No loans are made on personal property.

It might be possible to secure a loan on the above basis as a first mortgage to run over a long period of relatively small payments, supplementing

this with loans secured on a second mortgage to cover the balance needed to properly finance the farm. Talk this matter over with the local banker or money lender, and if they will supply the additional amount take up the matter of a first mortgage loan either with the Bankers' Joint Land Bank, 68 Wisconsin St., Milwaukee, Wisconsin, or with the Federal Farm Loan Bureau, Washington, D. C.

Computing Monthly Wage

How many days constitute a working month on a farm? Would it be right to use thirty days as a base to figure out a rate per day when a hired man wants every other day off? Sundays are not regular working days only for necessary care of stock and therefore board on such a day would be about equal to the duties performed. Is there any law in regard to this?

Oakwood Wis. W. E. H.

Where wages are paid by the month, each day of the month is figured at the same rate, no matter whether it is a holiday or a workday. That is, for the thirty days in November a man would be entitled to one-thirtieth of the monthly wage for each day he is employed, while in December he would be entitled to one-thirty-first of the monthly wage for each day he is employed.

The reason for this is that when wages are set on a monthly basis, it is assumed that consideration is given to the employment or non-employment on Sundays or holidays within the month. We do not know that there is any statute covering this, but it is a matter which has frequently been decided by the courts according to the rule outlined above.

If one is interested in going somewhat further into the general rules applying to the employment of farm labor, we would suggest writing the Agricultural Experiment Station, Madison, Wisconsin, for a copy of their recent bulletin No. 316, entitled, "Farm Labor in Wisconsin".

Selling Cottage Cheese

Do you think it would be practical to make cottage cheese on the farm and sell direct at retail? What would an appropriate printed package cost? The dealers are paying about 10 cents per pound wholesale and selling for 15 cents. Would it pay to wrap the cheese and deliver it for the extra five cents?

Hartford, Wis. F. L.

It is quite practical to make cottage cheese on the farm and sell it direct to consumers. This means, however, that a special trade must be developed and the retailing of the product will represent a considerable expense unless one has some special means of distribution. We doubt very much whether one could afford to make a special delivery of cottage cheese only and do it for five cents a pound, this to include the extra cost of package.

The cups for handling cottage cheese are somewhat expensive and may cost you from two to three cents each. If desired to put the cheese up in prints, the necessary cartons and paraffined paper can be secured for about one cent a package.

We dislike very much to discourage such a project as proposed, but it is our candid opinion that unless a person can make some special arrangement for retail delivery he will find this much more expensive than anticipated. The cost of retail delivery is quite heavy and the only way to reduce it is to have a relatively large volume of business. It is for this reason that the retail dealer in milk can often do this work to advantage, because it represents very little additional delivery cost.

Feed Dry Cows and Heifers

I would like to ask you about the best way of feeding oil meal. Also please make a balanced ration of ground oats, barley, and corn and cob meal. How much bran should a mixture of this kind have? The cows have plenty of alfalfa hay and silage. How much of the ground feed should they have at one feeding? Is there anything gained in feeding ground feed to dry cows and heifers?

Wisconsin. C. D.

Oil meal is best supplied to cows in a grain mixture. Fed separately it may be wasted and the additional work of feeding it alone is not worth while. In feeding calves, oil meal should be mixed with other concentrates and fed dry, not being stirred into the milk as is the practice on some farms.

These cows should have as much alfalfa as they will eat and around thirty or thirty-five pounds of silage per day. Supplementing this with a concentrate mixture of 300 pounds of ground barley or corn and cob meal, 200 pounds of ground oats or bran, and 100 pounds of oil meal or cottonseed meal and feeding at the rate of one pound for each three and one-half or four pounds of milk produced, should give splendid returns. Choice between each pair of feeds listed together may be made on the basis of their market value. It may be that cottonseed meal will give somewhat better results than oil meal since there are two other rather laxative feeds in the ration—alfalfa and silage.

Dry cows should have enough grain in addition to roughage to keep them in good condition and prepare them for their milking period. Many good feeders hold that the grain given cows at this time gives even greater returns than that furnished it any other time in the year. It will pay to feed yearling heifers grain in their ration and keep them growing as rapidly as possible. It is not necessary that they be maintained in high flesh, but it is necessary to see that they make a vigorous growth.

Re-ringing Bull

How can I re-ring my bull, the web of his nose has worn through. It is very necessary that I have a ring in his nose as he is three years old and not safe without one.

Alpena, Mich. A. M. H.

Some time ago one of our subscribers sent us the following description of his method of ringing a bull where the old ring had torn out:

"I had a case of this kind with a large bull I was caring for a few years ago. I put the ring back the other way of the nose, going through nose and lip and coming out of the mouth. I used a large ring (3"x½"), thus reaching well above lip where flesh was thin.

"It was quite a difficult job to hold the animal while hole was cut through the nose. We used a staff to handle him same as before and with apparently equal results. The ring gradually works down in nose, but we could see no change in position in lip and do not think there would be a material change in a few years or any difficulty in handling bull with ring through lip alone should ring come entirely out of nose. I would not advise tying direct to ring. While this method would probably make grazing difficult, it did not bother bull to eat hay and grain."

We have known of other instances in which men have run two small rings on either side of the nose and through these fixed a third and larger ring by which the bull was actually led. There is, however, no wholly satisfactory method of re-ringing a bull, but in cases of this kind one must accept the best substitute available.

Have any of our readers had experience in successfully meeting this trouble?

Small Diameter Silo

Have any readers of Hoard's Dairyman had experience with silos as small as eight feet in diameter? My silo is too large for summer feeding and even a ten foot silo would be too large, I think, for a herd of eight cows. In winter when we feed all the young stock, and sheep, then our twelve-foot silo is the right size. In summer we only feed the cows giving milk and it is unsatisfactory to feed out of a twelve-foot silo. I would like to hear from some one who has had experience. Last summer when in Oregon I saw many small silos and they say they are satisfactory. They use silos as small as five feet in diameter. That was in Clackamas County where the winter is wet and I was wondering whether that wet weather helps to keep the ensilage.

Kalma, Iowa. D. B. S.

A silo of eight feet or less in diameter should properly keep silage. The experience in Oregon which is recited would hold quite as true in other states and we do not feel that the atmospheric moisture would have any effect upon the relative keeping quality of the silage. Indeed, in those sections, grasses or legumes are quite largely used for silage and we would expect corn silage cut at the right period to keep fully as well, if not better, in Iowa than the other type of silage will keep in Oregon.

What experience have the readers of Hoard's Dairyman had with small diameter silos?

Abundance of Feed

HOARD'S DAIRYMAN:—The ultimate source of the various constituents of the milk is the feed and if copious milk production is to be expected liberal feeding must be practiced. A good producing cow may give large yields of milk for a time when poorly fed but to do this she must draw on her own body for the nutrients necessary for the process. The stores of nutrients in the cow's body are not inexhaustible and when they reach a certain degree of depletion milk production must be decreased.

As an example of this take the case of a 1,250-pound cow producing 40 pounds of 3.0% milk daily. Her requirements for maintenance and production, according to the modified Wolff-Lehmann Standard, would be as follows:

	Digestible nutrients	
	Crude protein, lbs.	Carbohydrate equivalent, lbs.
Maintenance	.88	9.03
Production	2.08	9.36
Total	2.96	18.39

The required nutrients can be provided by a ration outlined as follows:

Feed	Amount	Digestible nutrients	
		Crude protein	Carbohydrate equivalent
	Lbs.	Lbs.	Lbs.
Corn silage	40	.44	6.64
Alfalfa hay	12	1.27	4.92
Cracked corn	4	.28	3.08
Ground oats	3	.28	1.82
Wheat bran	3	.38	1.45
Cottonseed meal	1	.37	.41
Total	73	3.02	18.32

Such a ration will maintain the animal and allow her to produce her 40 pounds of milk per day.

If the three pounds of wheat bran and one pound of cottonseed meal be taken from the ration the nutrients will be reduced to 2.27 pounds of digestible crude protein and 16.46 pounds of digestible carbohydrate equivalent. When the maintenance requirements are taken from this there are left for productive purposes only 1.39 pounds digestible crude protein and 7.43 pounds digestible carbohydrate equivalent.

This will be enough protein for the production of 27 pounds of milk and enough carbohydrate equivalent for the production of 30 pounds. The production of the cow would, therefore, be reduced to somewhere between 27 and 30 pounds of milk per day. The decrease to this point would not be sudden, as the cow generally would draw on her own body nutrients for a time. Ultimately, however, the reduced ration would result in decreased production.

The main point to consider, however, is economy of production and for this purpose the feeds used may be taken at the following prices:

Feed	Price per ton
Corn silage	$ 8.50
Alfalfa hay	25.00
Cracked corn	48.00
Ground oats	35.00
Wheat bran	48.00
Cottonseed meal	70.00

With the feeds at these prices the cost of the daily ration will be 42 cents when the cow is on full feed and 31 cents when she is not being fed to capacity. If a value of $3.00 per 100 pounds be put on the milk the daily returns will be $1.20 when the yield is at its best and only 81 cents when the cow has decreased in production owing to insufficient feed. In other words, when the cow is properly fed the returns over feed cost at the prices used will be 78 cents, whereas, only 50 cents will be left after paying for the feed when the ration is stinted. A clear gain of 28 cents per day is available through liberal feeding in this case.

The greater the amount of feed a cow uses for milk production the less will be the relative importance of her maintenance requirements when considered as a part of her whole ration. Consequently, the more feed over maintenance requirements that a cow can be induced to consume and convert into milk and butterfat, the greater and more economical will be her production. Liberal feeding, when wisely practiced, gives the most profitable returns. A. C. McCANDLISH.

Iowa College of Agriculture.

Hoard's Dairyman

Fort Atkinson, Wisconsin

Founded 1885 by W. D. HOARD

W. D. HOARD & SONS CO., Publishers
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Subscription in United States and Mexico $1.00 per year; 3 years, $2.00; Canada, $1.50 per year.

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All foreign countries in the Postal Union $2.50 a year; not in the Postal Union $3.00, including postage.

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Entered at Fort Atkinson, Wis., as second class matter.

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Coming Events

Jan. 24 to 29—Grain Show by the Wisconsin Agricultural Experiment Station, La Crosse. E. D. Holden, Ass't Secretary.

Jan. 27-28—Southern Wisconsin Cheesemakers' and Dairymen's Association. Secretary, Henry Elmer, Monroe.

Feb. 1-4—Manitoba Dairy Association will meet at Fort Garry Hotel, Winnipeg. Secretary, L. A. Gibson, Winnipeg.

Feb. 1-10—Mid-Winter Farmers' Course, Madison.

Feb. 1-10—Wisconsin Live Stock Breeders' Association, Madison. Geo. W. Davis, Secretary, Madison.

Feb. 4 & 5—State Live Stock Judging Tournament (roundup), Madison.

Feb. 7-12—Sixth National Tractor Show to be given in Columbus, Ohio.

Feb. 15-17. Michigan Allied Dairy Association, Grand Rapids. Secretary, H. D. Wendt, Lansing.

New Ayrshire Roll of Honor Champion



Soapstone Howie's Queen, an Ayrshire cow owned and developed by Delchester Farms, Pennsylvania, has completed a 300-day Roll of Honor record, 15,813 lbs. milk, 695.97 lbs. fat. This makes her champion Roll of Honor cow for 1920. She surpassed her former fat record of 620.72 lbs., which was the Roll of Honor fat record for 1919, this being her second consecutive 300-day Roll of Honor record. Her average for 2 years is 14,860 lbs. milk, 658.35 lbs. fat. She produced two living calves within the year. She has five A. R. records and has produced a living calf every year. She has been a very consistent milker and is again entered on the 300-day Roll of Honor test and is making 68 lbs. daily. She is without doubt one of the best cows of the breed in the country today.

Dairying Thirty Years Ago

Taken from the issue of Hoard's Dairyman of January 16, 1891

The motto of every progressive dairyman should be—Increase the profit by decreasing all needless expense. The price he is to get for his butter the farmer cannot control, but he can control to a great degree the cost of producing it.

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The idea of sharp, practical dairying for profit, and doing it by the aid of the best study and knowledge obtainable is yet a "sealed book" to thousands of farmers who have been fooling with cows for years, and never supposed that it took brains to win in this business.

Make Profit by Making Expenses

A subscriber wants us to mention some of the items of "foolish expense" in dairying that the Dairyman has so often spoken of. Well, the first one is keeping a poor cow. It costs just as much to support the carcass of a cow that is running you in debt as it does one that is giving you fifty dollars a year profit. Not one farmer in a hundred ever tested his cows to know which are the ones that were beating him "out of house and home". How is he to act if he don't know, and how is he to know if he does not put forth intelligent effort to know. There is scarcely a dairyman in the land who is not keeping two cows to do the work of one. Ask any of the progressive dairymen you know and they will tell you that about their first step in cutting down useless expense was to get a better cow. Buy her, breed her, get her any way you choose, but be sure and get her.

2. Stop the expense of bad handling. You must handle a dairy cow not as if she were a steer, but as a bovine mother. You want to make money out of her motherhood; then handle her, shelter her, feed her, and treat her generally as a mother should be handled, sheltered, and treated. If you don't know how a mother should be treated, ask your wife or your mother.

3. Build a silo, so that your milk feed shall cost you less. Build it sufficiently large so you can have ensilage enough to feed in summer and fall when the pasturage dries up. That will keep your cows up to their best flow, so you can have milk to do business with in late fall and winter when prices of butter are higher. That's good economy.

4. Stop this expensive summer dairying—keeping cows on expensive pasture and getting nothing for the milk—just because there are thousands of other men just like you who had rather milk a cow in summer and make nothing, than to go into winter dairying and make a fair profit. Give up all these cranky old notions about dairying, and proceed to measure the business from the dollar standpoint, just as any other manufacturer does.

5. Study to increase the fertility and decrease the acreage of your farm. Make one acre furnish as much food for cows as two acres did formerly. Sell or give away the other acre and thus save the expense of farming it. Remember, everything costs.

6. You must have an albuminoid feed, such as bran, oats, linseed meal, cottonseed meal, etc. Study how to avoid buying this feed, and see if you cannot raise it in the shape of clover nicely cured, and particularly peas. No finer feed on earth for a butter cow than a certain portion of pea meal every day. Look into this pea culture and see if you cannot learn how to grow peas sucessfully. There are many other fine points that we have not time or space in which to enumerate.

In short, make fine, close study of your business and all its finer economies. Don't think it a cheap business, requiring but little brains or intelligence. You are dealing with the mysteries of animal life at every turn, and that is one of the biggest problems on earth.

Ohio Farmers to Meet

The ninth annual Farmers' Week of Ohio will be held at the Ohio State University at Columbus from January 31 to February 4. At that time nearly a score of the principal state agricultural organizations will hold their annual meetings and the latest information regarding farm and home problems will be offered by 150 farmers and college and experiment station workers.

Last year's record attendance of 6,000 farmers is expected to be exceeded.

In addition to the speaking program and the organization meetings, several shows will be held. One is the annual Ohio State Corn and Grain Show. Another will be a big display of different types of farm water supply and home lighting systems. These will be tested for efficiency much the same as the tractors have been during previous Farmers' Week programs. A cattle and horse show will be combined with judging demonstrations.

On the animal husbandry program, Monday will be dairy cattle day; Tuesday, sheep day; Wednesday, horse day; Thursday, swine day; and Friday, beef cattle day.

On the crops program, Monday will be given over to a discussion of sweet clover, Tuesday to soy beans, Wednesday to crop rotations and special forage crops, and Thursday, to better seeds.

Among prominent speakers from outside Ohio will be Signora Olivia Agresti of Rome; Daniel Dean, New York; John M. Evvard, Iowa State College; L. F. Graber and Emil Truog, University of Wisconsin; W. F. Handschin, University of Illinois; J. R. Howard, president, American Farm Bureau Federation; Frank I. Mann, Illinois; H. W. Riley, Cornell University; Mrs. Ruby Green Smith, Cornell University; E. B. White, Virginia; and W. D. Zinn, West Virginia.

New England Holstein Club Organized

January 6 Holstein breeders from the New England States met in Boston and completed the preliminary organization of the New England States Holstein-Friesain Association. A meeting will be called for the purpose of ratifying the constitution adopted. A directors' meeting was held January 14 at Springfield, Massachusetts, where plans were laid for carrying out the work of the new association.

At the January 6 meeting Professor W. M. Ryder, in charge of extension work for the National Holstein-Friesian Association, met with the breeders and submitted the constitution which was adopted. The meeting voted in favor of making $5 the minimum annual fee of the association, this fee to extend over a period of three years.

F. M. Peasely of Connecticut was chosen president; T. E. Elder of Massachusetts, secretary; and L. E. McIntyre of Maine, treasurer.

G. G. Summers, Senior dairy student in the University of Tennessee, is the winner of the $200 scholarship awarded to the most worthy student specializing in dairying in that institution. The scholarship is offered by the Security Mills & Feed Company of Tennessee.



ADDINGTON QUEEN 3D

Ayrshire cow owned by W. P. Schanck of New York. She has lately completed a record of 19,221 lbs. milk, 731.69 lbs. fat.

New York Holstein Association Holds Meeting

A YEAR ago the New York Holstein Breeders' Association did not exist. Today it is a going concern with approximately 1,200 members, and a live wire secretary, E. E. Zimmer. It was organized early in 1920 and to date the big work of its secretary and officers has been to get it in shape to really accomplish something. Plans have been laid which will put the Empire State in the position which she should have in the Holstein world.

The association's annual meeting at Rochester, January 11, was an eye-opener to anyone who thought that the breeders of the state were not interested in their association. Approximately 150 members, representing all sections of the state, were in attendance. They were there for business and, before the meeting adjourned, there were just enough fireworks to clear the air and give assurance that everyone present was interested in the future of the association.

President H. V. Noyes made a general report of the work that had been attempted during the past year. He said that if New York wished to take her position as one of the leading organized Holstein states, if she wishes to make her bid for Holstein business from other sections, she must first set her own house in order. With that end in view the efforts of the association officials have been beyond the work of getting the association in working order, to forward the accredited herd plan, and encourage breeding for type as well as production.

He described the work of getting together New York's National Sale consignment, one which proved a decided credit to the state and brought to the state association a very satisfactory financial return.

Secretary E. R. Zimmer reported the work of the secretary's office and made some excellent suggestions for future work. He favors strong co-operation of the state association with the county organizations. A speakers' bureau has been established to furnish speakers for local meetings. Mr. Zimmer suggested enlarging this to include at least one speaker from each county. One of the arguments advanced for the organization of the state association was that it could be of very considerable assistance in increasing private sales of cattle. Such work by a state organization must of course be limited but Secretary Zimmer pointed out that more could and should be done, largely by working through the local association.

To date the directors of the state association were elected without particular reference to their geographical location, but this year Mr. C. F. Bigler introduced a plan of dividing the state into 11 districts with a director from each. This brought out considerable opposition and the fireworks of the meeting but when the smoke cleared away the plan was adopted with the breeders from the various districts electing their own directors.

The 1921 directorate is composed of Harry Yates, R. E. Chapin, D. M. White, Paul Smith, C. F. Bigler, Geo. N. Smith, F. M. Jones, A. W. Brown, E. J. Chaffee, N. V. Lasher, and H. L. Stafford.

Another change was made in the membership fee. The change makes $5 the minimum fee with a charge of 50 cents per head for pure-bred females over a year old and 10 cents per head for grades owned by members. Furthermore, in those localities where there are local associations it is provided that if the local association has 100 per cent of its members state members, 25 per cent of the membership fee from each member is turned back to the local association, 50 per cent to 100 per cent nets the local association 10 per cent of the membership fee, and 25 per cent to 50 per cent, 5 per cent of the fee.

The banquet in the evening brought out approximately 250 members and their wives and carried with it one of the most interesting and entertaining programs we have ever listened to. W. F. Schilling of Minnesota and D. W. McLaury, head of the New York Bureau of Animal Industry, were the principal speakers with President H. V. Noyes as toastmaster.

Mr. Schilling spoke on "Co-operation for the Dairyman and Holstein Breeder", using as an illustration the work done by the Twin City Milk Producers' Association, of which he is president.

Dr. McLaury spoke of the work being done to fight tuberculosis among the dairy herds of the state. He asked for more co-operation from association members, telling them very plainly that such a course was a vital necessity if they wished New York to take her proper position among Holstein states.

59 Waukesha Holstein Bulls Average $179

Fifty-nine animals were sold in Waukesha County's second annual Holstein-Friesian bull sale, January 12. The average price was $179. Most of the consignments were in sale shape and of acceptable conformation. A few were faulty in type and brought low prices in consequence. A greater factor in keeping bids down was the lack of high records close up in the pedigrees, for the choice animals sold well.

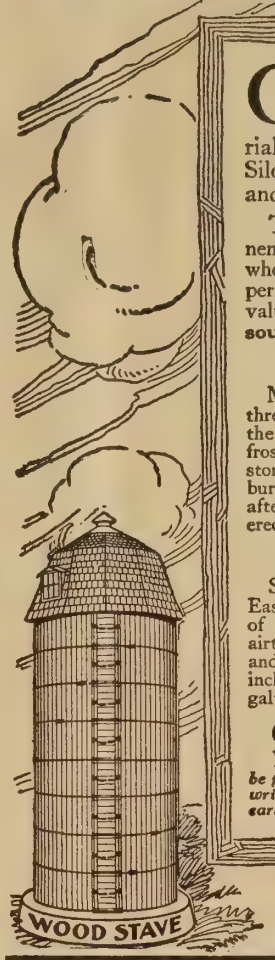
From the beginning it was clear that the crowd was not bull hungry. Apparently all had lost their taste for herd sires, except as tempted by unusual breeding and individuality. A number of very good young bulls sold well below their worth. Not only was the demand poor but the readiness with which breeders had offered consignments for the sale indicated bulls have not been selling freely recently.

H. E. Dickenson topped the sale with Dicmere Korndyke Creation, a son of Creator, which brought $1,500. This six-month-old calf is out of Pabst White Clover 2d, a "19.15-lb. two-year-old" and a sister to the $30,000 heifer, Pabst Korndyke Cornflower. This was the only son of Creator which was offered. E. C. Rogers of Connecticut was the buyer.

The second highest bull was a yearling son of Sir Pietertje Ormsby Mercedes 43d, consigned by J. J. Reid & Son. He is out of Ashburn Hengerveld Dora, a "thirty-pound cow". He went to Geo. J. Schuster of Wisconsin for $1,250.

E. C. Rogers also took Summit Alma Mercedes, a "16.48-lb" son of Sir Pietertje Ormsby Mercedes 41st, consigned by Hollyhock Farms, paying $700. The only other bull to reach the $500 mark was an "18.16-lb." yearling consigned by Williams Bros. and taken by the Connecticut buyer.

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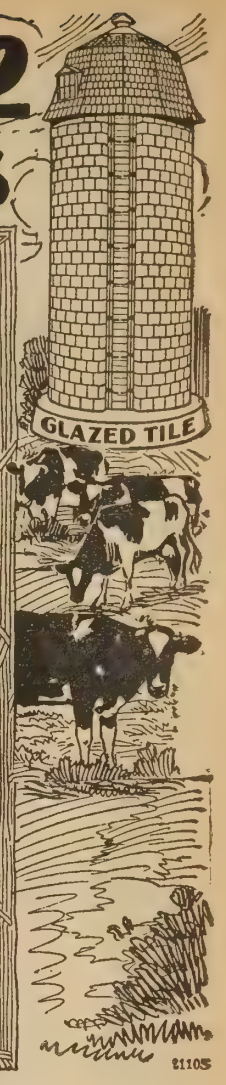
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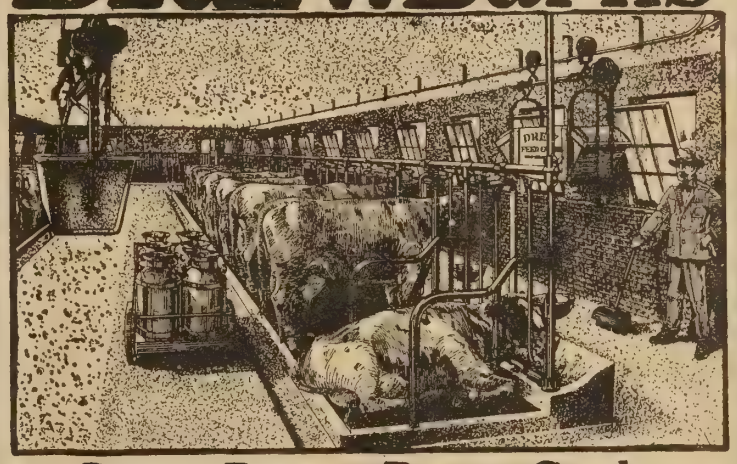
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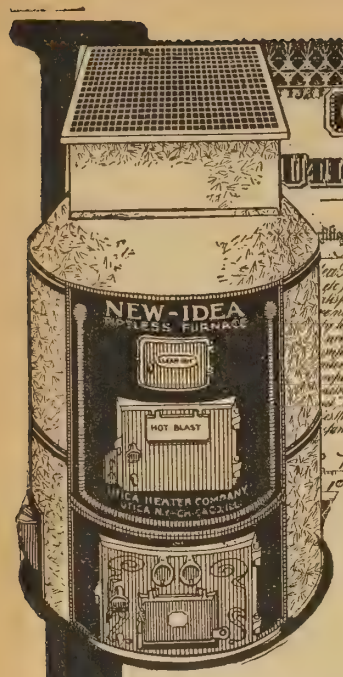
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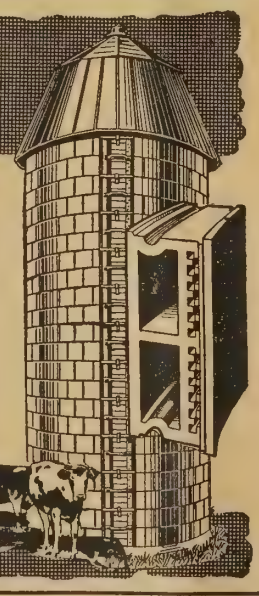
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Farm Lighting

(Continued from page 9)

forced through a U tube and then out of a very small opening about the size of a small pin hole. The operation is substantially as follows: When the light is wanted a torch of some kind, generally asbestos soaked in alcohol, is lighted and held under the U tube for a few minutes. As soon as this tube becomes hot the gasoline valve is opened and the gasoline, now in the form of a gas due to the heat of the tube through which it has passed, is forced through the pinhole above mentioned. This gas is forced to pass through the air before it enters another tube leading to the mantle and in this way combines with air enough to allow it to burn. After the burner has been generated the heat of the flame keeps the vaporizing tube hot.

With a good grade of gasoline, that is, one that will vaporize easily and completely, very little trouble will be experienced with this kind of an outfit. The quality of gasoline is sometimes indicated by giving its specific gravity and again by speaking of it as having either a high or a low test, the high test being the better grade. The specific gravity of good gasoline should not vary much from .66.

During the last few years the demand for gasoline as a fuel for internal combustion engines has had a very important bearing on the quality of the product. It is not very long ago that the very best grades of gasoline could be had for six to eight cents a gallon. At that time kerosene was what the refiners wanted while gasoline was a by-product. With the gradual passing of the kerosene lamp, especially in the cities, the demand for kerosene has fallen off while the demand for gasoline has increased by leaps and bounds. The natural result is that many of the less volatile products of petroleum are now turned into gasoline with the result that gasoline is becoming poorer and poorer. The ordinary gasoline of today has a specific gravity of .75 or even more.

It might be well to state at this point that gasoline gas will not explode or burn unless it is mixed with air. The explosive and burning range of average gasoline vapor varies from 12 parts of gasoline mixed with 88 parts of air to 6 parts of gasoline mixed with 94 parts of air.

If the burner is properly constructed and in good working condition the volatilized gasoline mixed with air will burn with practically no smoke or odor and with very little light but with intense heat. The heat of this flame causes a mantle of some sort to become incandescent and this hot mantle gives a soft and quite powerful light.

As a general thing lighting plants of this sort are supplied with two pressure tanks which are arranged in such a way that one of the tanks may be filled while the plant is in operation. This is a decided advantage over the single tank type where the pressure must be allowed to go down and necessarily the lights to go out before the tank can be filled.

Hand lamps and lanterns using gasoline as fuel are used quite extensively. They give an excellent light and are probably no more dangerous than any other lamps that use a liquid fuel. It has been said that "the price of safety is everlasting caution" and the truth of this saying is nowhere better exemplified than in the handling of gasoline lighting outfits. When used and operated according to directions they are entirely safe but it is impossible to make them fool proof.

One of the annoying features of this kind of lamp is the regularity with which the pinhole, through

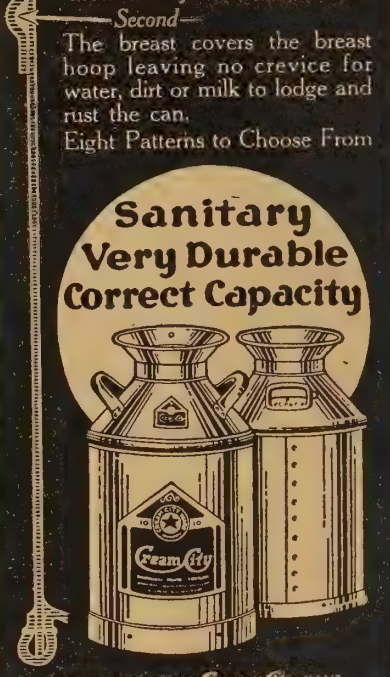
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which the volatilized gasoline escapes, becomes clogged. This clogging is due to the accumulation of non-volatile particles which are present to some extent in all gasoline and to quite a large extent ir the poorer grades.

To obtain the best results with a gasoline light, the better grades of gasoline should be used and they should always be strained through chamois skin. Most of the lamps now on the market are equipped with some sort of a cleaning device which enables one to clean out the small orifice at will and generally while the light is burning. There has recently been offered for sale a gasoline lamp which lights with a match. This is a decided improvement over the older types.

One of the objections to lamps of this kind, that is, the forced feed type, is the noise. When the volatilized gasoline escapes from the pinhole it produces a more or less loud hissing noise which is very annoying to some people. This fault will in all probability be overcome in due time.

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Blau-Gas

Blau-gas is a product which takes its name from the man who discovered a method of liquifying it. This gas is made from gas or petroleum oil which is crude petroleum with some of the more volatile constituents taken out. The oil is volatilized in clay retorts by means of heat. It is then freed from tar, ammonia, and other things which might be considered impurities.

As the gas goes into the gas holder at the works it is much too bulky to be shipped from place to place so it is liquified and placed in steel cylinders for convenience.

Gases of all kinds may be compressed but not all of them may be liquified. For instance, city gas, or, as it is more commonly known, coal gas, can be reduced to a liquid. Coal gas is made up very largely of carbon monoxide which is a gas that will not become a liquid under any known conditions. Thus when Blau-gas is liquified the carbon monoxide and other gases which will not liquify are literally squeezed out. In the process of liquifaction a pressure of about 1,600 lbs. to the square inch is used and the temperature is reduced to about 50 degrees below zero. The liquid gas is sold and shipped in strong steel cylinders holding about twenty or twenty-five pounds.

Blau-gas is very rich in heat units due to the fact that most of the poorer gases are eliminated during the process of liquifaction. One cubic foot of Blau-gas contains about 1,800 British thermal units as compared with 600 in a cubic foot of ordinary city gas. Another good feature about Blau-gas is that it is practically non-asphyxiating. The danger in city gas and in the gas escaping from coal stoves and furnaces lies in the high percentage of carbon monoxide which they contain. Blau-gas is explosive of course but its explosive range is much lower than most other gases.

Blau-gas outfits consist of a steel cabinet containing the devices for reducing the pressure and the necessary gauges, valves, etc., and a large steel tank which is the expansion tank. The full cylinders are attached to the proper connections and the bottle valve is opened so that the gas may enter the large expansion tank. The liquid gas returns instantly to its gaseous state when the pressure is reduced so that the expansion tank contains no liquid. The pressure is kept at about 40 or 50 pounds per square inch in the expansion tank and again reduced to about 6 ounces where it enters the house pipe.

Since neither heat nor cold has any effect on Blau-gas the tank and cabinet are always placed out of doors. Open flames of all kinds must be kept away from the plant. In ordinary use the plant will require about two minutes time each day to see that the pressure in the expansion tank is kept up to normal.

Blau-gas in common with other gases, is harmful to house plants, so it is important that the piping and valves be gas tight at all times. The ordinary gas plant uses two cylinders at a time, one being connected and the other being in reserve. The consumer pays the freight both ways on the gas receptacles.

⚜

Acetylene gas as used in lighting plants is made by bringing together

(Continued on page 28)

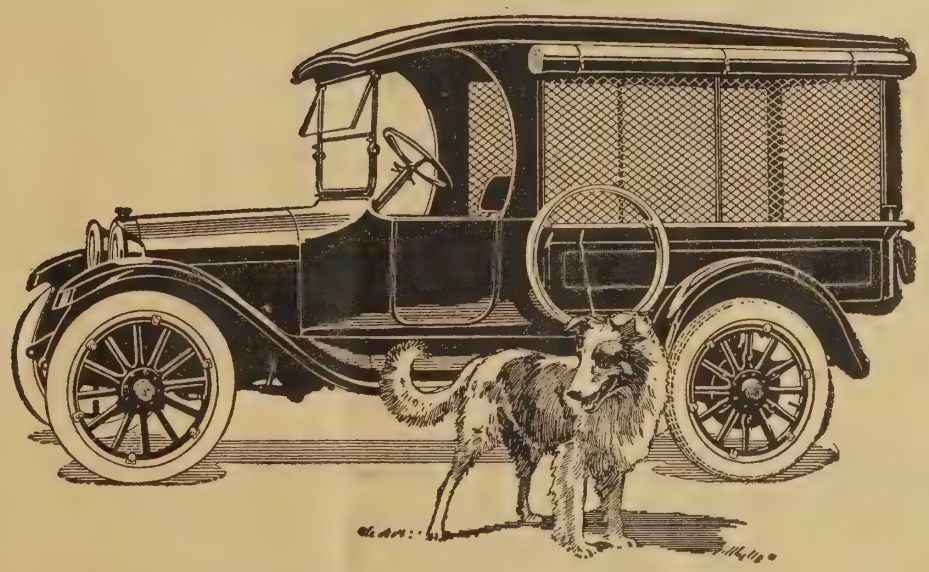
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She has been dehorned with a KEYSTONE DEHORNER, making her gentler, safer and more profitable. This also applies to steers. We make Keystone Dehorners, Bull Staffs, and other appliances for dairymen and cattlemen—all sold on a money back guarantee. Write for circular.

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Grind 100 Bushels Shelled Corn An Hour With Small Tractor

W-W all-purpose grinders grind anything you raise for feed. Small grains, ear corn, fodder, alfalfa, straw, etc., ground course or fine at one operation.

W-W GRINDERS

have no burrs to clog — no knives to run dull. Blunt steel hammers at high speed give whirlwind capacity. Simple, strong, durable — rocks or iron in machine won't hurt them.



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Then you can see why owners are enthusiastic over remarkable capacity and all-purpose features. All sizes — one to fit your needs. Use your tractor. Investigate now. Mail card to

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Do *you* put in *there?*

FEED, yes. But—WHAT KIND is it?

AT the fairs and dairy shows, many of the most successful dairymen tell us they get more dollars' worth of milk out of a dollar's worth of BUFFALO CORN GLUTEN FEED, fed mixed with wheat bran or millfeed, oats, etc., than any feed they know of.

They probably never had anybody offer a reason *why* BUFFALO CORN GLUTEN FEED makes milk the way it does. They did not care WHY so much, as long as they got the milk. But the *very high digestibility*, in large measure, *accounts for it.*

See that there is plenty of BUFFALO CORN GLUTEN FEED mixture in the feed trough in front of your cows—and you will understand *why* BUFFALO CORN GLUTEN FEED is so well thought of on thousands of real dairy farms.

Corn Products Refining Co.
New York MANUFACTURERS OF Chicago
BUFFALO CORN GLUTEN FEED

FEED UP! Your dealer should have BUFFALO CORN GLUTEN FEED. If he does not, write us for literature and sample, giving us his name and address.



NOTICE THE POINT

IT'S A NEW FEATURE
Found only in The PIERCEASY Bull Ring
No more tearing of the nostrils, because it is now so simple and easy. Just pass the ring thru the nostril, put in one small screw and the work is done quickly, making a clean hole thru the nostril.
CUTS A CLEAN HOLE
Made of a SPECIALLY PREPARED METAL and in SEVERAL SIZES
The Pierceasy Bull Ring is the latest and most durable ring on the market. More simple and efficient than the old style bull ring and many times more practical.
Buy them from your dealer or send $2.00 for No. R.B.3, which is our large size, postpaid.
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DANA EAR LABEL
Stamped with owner's name or address and serial numbers. Send for free samples.
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Ear Tags, Bull Staff and Rings.
Description and prices sent on application.
300,000 of these ear tags have been sold without adverse criticism. 500 of these BullStaffs are used by the best breeders in the business.
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THE SIMPLEST MILKER MADE
Furnished in units for herds of five cows or more. Pump-pulsator type. Gives complete vacuum release on teat; safe, smooth natural action.
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Patented exclusive feature. See all teats milking. One piece—clear as crystal—as easy to clean as a dish. Most lasting, greatest milker improvement invented.
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Get particulars on complete United line
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Just what you want in America's Greatest Values
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United Engine
1¾ to 12 H.P. Gasoline or Kerosene—200,000 in use. Get all facts today.
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THE GREAT UNITED LINE FARM MACHINES

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Washington, D. C., Weekly News

[SPECIAL TO HOARD'S DAIRYMAN]

WASHINGTON, JAN. 12—In spite of the uncertainties as to whether or not the emergency tariff bill could possibly be enacted into law at this session of Congress, representatives of the dairy interests appeared here in force on Tuesday, January, 11, to present the emergency which the industry is facing to the Senate Finance Committee and to demand a fair tariff on butter, cheese, and other dairy products to prevent this emergency from going on to the point of ruin.

John Farrell of the Dairy Products Committee, Geo. L. McKay of the National Association of Creamery Butter Manufacturers, Howard Bronson of the New England Milk Producers' Association, W. F. Schilling of the Twin City Milk Producers' Association, O. M. Camburn of the Dairy Division of the Massachusetts State Department of Agriculture, Senator J. M. Hackney of Minnesota representing the Holstein-Friesian Association of America, President M. D. Munn of the National Dairy Council, A. M. Loomis, secretary of the National Dairy Union, and a number of others were before the committee. Resolutions and requests from Pacific coast dairymen and dairy interests in many other sections were presented.

Senator La Follette of Wisconsin, a member of the Finance Committee, assured the dairy representatives that he would use his utmost efforts to see that an amendment giving the dairy interests such protection as was possible at this time, is added to the bill. In the discussion, rates of from six to ten cents on butter were suggested, also from five to ten cents on cheese, and a four cents per gallon tax on whole milk. One suggestion which met considerable favor as an emergency tax was a fifteen per cent ad valorem tariff on all dairy products.

The committee was noticeably impressed with the statements made which showed the wholesale disturbance in the dairy industry due to the closing of the condenseries, and the falling prices of butter, and more particularly with the latest reports of the Bureau of Markets, showing big Danish shipments, and even shipments from Turkey in Europe coming to this country. Charts prepared by the Dairy Division of the Department of Agriculture showed the great falling off in European consumption of butter, and the decreased buying power of Germany and the United Kingdom as causing the big overproduction of the European countries, which, combined with the difference in exchange, made the American market so attractive as to cause the flow here in the past eleven months of over 33 million pounds of butter in addition to large shipments of other dairy products.

Several members of the committee were averse to considering any additions to the bill as it came from the House. Among these is Senator Smoot of Utah, who is interested primarily in a tariff on wool. Senator La Follette's view was expressed in this language: "I prefer to save the dairy industry from ruin while there is a chance, rather than to wait for the fate which has overtaken the cotton and wool industries before taking remedial measures."

Senator La Follette read into the record a telegram received from Hoard's Dairyman urging proper tariff protection.

The dairy leaders who were here for the hearing expressed the sentiment that even if the bill did not go through with the dairy amendment, a strong case had been made which would greatly aid in getting proper schedules included in the regular bill now being prepared by the House Ways and Means Committee. The dairy hearings before that committee will be on January 22 according to present arrangements.

⚜

Most of the dairy representatives who were here on Monday were given the privilege of making statements to the House sub-committee on agricultural appropriations, of which Representative Sidney Anderson is chairman, in the interest of the various appropriations asked for by the department for the work of the Dairy Division. On Saturday a large delegation was here in the interest of the tuberculosis eradication appropriation.

⚜

An effort is being made this week to get a resolution reported from the House Committee on foreign relations, on the subject of inviting foreign governments to participate in a World Dairy Congress to be held here next year. The President's letter transmitting with his approval the action of the National Dairy Association and other organizations represented at the Dairy Show in Chicago, the endorsement of the secretary of agriculture, and the secretary of state, has gone to this committee for appropriate action. Representative Potter of Pennsylvania is chairman.

⚜

Milo D. Campbell, president of the National Federation of Milk Producers, is planning to spend some weeks in Washington in the interest of the Capper—Volstead bill and other legislation and government matters of interest to the milk industry. He will take part in the tariff legislation and revenue legislation and will be a welcome addition to the group of farmer organization representatives here.

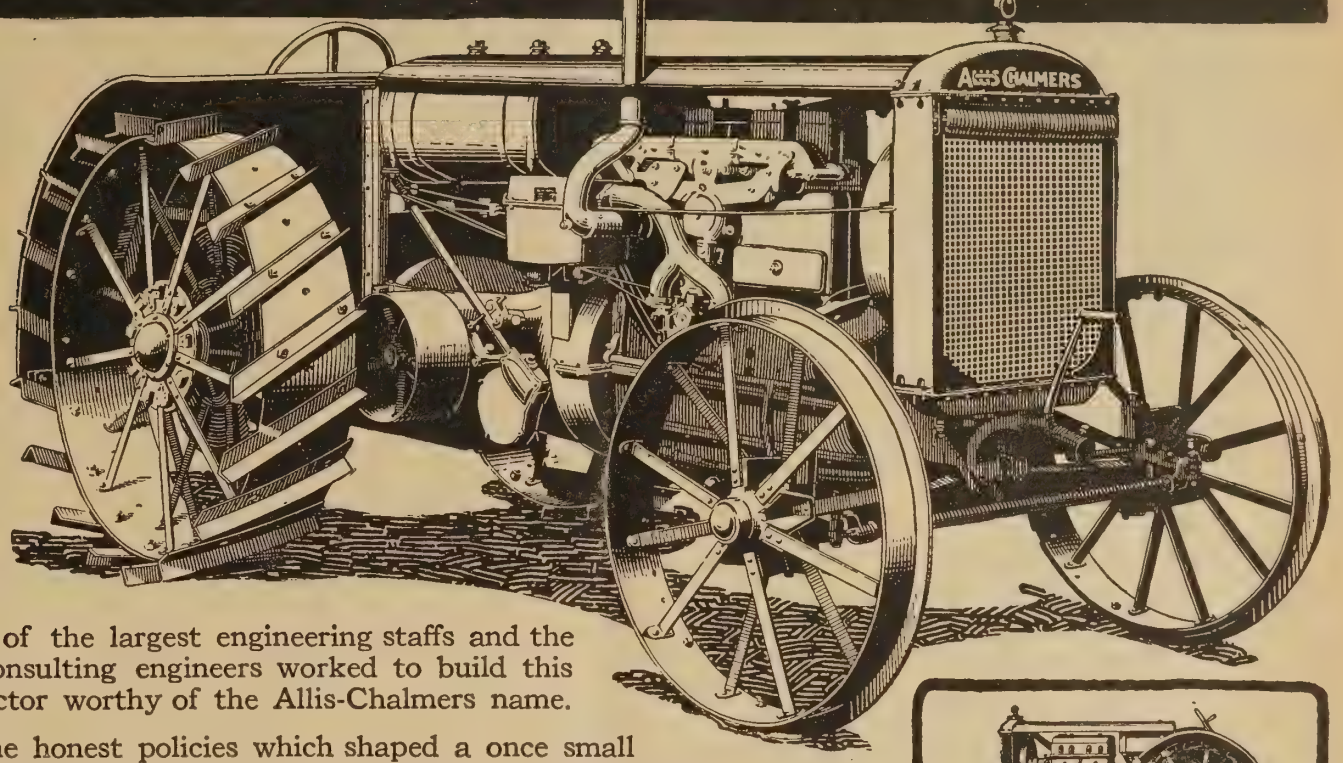
⚜

The Muscle—Shoals bill is still under debate in the senate, and is strongly and bitterly opposed, Senator Lenroot of Wisconsin leading the fight. He charges that it is not a real fertilizer measure, but in the interest of war preparedness and to provide an outlet for military ambitions. A letter to members of the House, written by representatives of the American Farm Bureau Federation after the defeat of the bill in the House, led to writers being asked to explain before the Graham Committee on Monday last. Neither President Howard nor Grey Silver would modify the statements made, that the bill was defeated through pressure exerted by private interests opposed to the Muscle Shoals development, and a bitter cross examination followed, in which Mr. Silver refused to answer questions asked him. The matter is still unsettled and bids fair to develop into one of the bitterest contests before Congress in a long time.

Minnesota Creameries

Reports from 198 co-operative creameries in Minnesota show that they paid their patrons during the month of October from 50 cents to 73 cents a pound fat, or an average of 65.4 cents. New York butter quotations during the same period averaged 60.5 cents. These creameries received from 1,532 to 16,173 lbs. fat during the month, the average being 9,529 lbs. The net price received for butter ranged from 47 to 62 cents, all but 37 creameries receiving better than 55 cents net.

When a $42,500,000 Company Says "O.K."



Allis-Chalmers 18-30

3-4 Plow

3000 Lbs. Constant Drawbar Pull

FOR seven years one of the largest engineering staffs and the country's foremost consulting engineers worked to build this brute of steel—a tractor worthy of the Allis-Chalmers name.

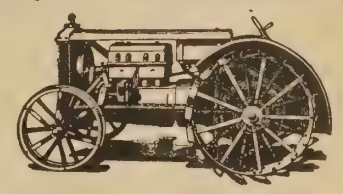
For seven years the same honest policies which shaped a once small manufacturing company into a $42,500,000 institution, have guided every step in Allis-Chalmers' solving of the farm power problem—policies which have been faithfully adhered to for 65 years.

For seven years the development of Allis-Chalmers tractors has been marked by a succession of tests—by trials of a score of models—and the expenditure of $3,000,000 that Allis-Chalmers tractors should prove capable of withstanding the punishments of service.

But that was not enough! It was the endorsement of the farmer that Allis-Chalmers wanted! That is why Allis-Chalmers first released only a limited number of 18-30's—why the judgment of owners was considered paramount—why the particular needs of every territory governed every unit of design.

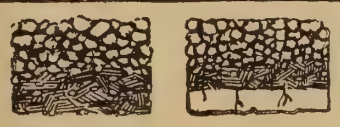
Such is Allis-Chalmers thoroughness—an insistence that every product of the Allis-Chalmers plant serve its owners just a little more faithfully, economically and efficiently. So, today, the A-C 18-30 stands as the perfected tractor—serving in every section of the country, and against which not a single farmer has made complaint. And in support of this, we refer you to any A-C 18-30 owner for the facts about the service he is getting. So advanced is this tractor in design, so remarkable its field performance, that an A-C 12-20 is being built—*embodying the same time-tested features which have made the 18-30 famous.*

Now, climaxing seven years of tests and engineering effort, the $42,500,000 Allis-Chalmers Company says "O. K." Now Allis-Chalmers tractors are ready to set heretofore unattained standards in farm power efficiency—do the work tractors should do—but more economically, at less expense and for a longer time. And now Allis-Chalmers enters volume production with their 65-year reputation staked on this tractor.



Watch for the A-C 12-20!

Here is the coming 12-20 tractor. There is no guesswork about what it will do in the field—the A-C 12-20 embodies the same construction features as the A-C 18-30. It is a 2-3 plow tractor with 2000 pounds constant drawbar pull—with a power reserve to overcome all emergencies. Its speed range is 2½ to 3¼ M. P. H. Factory and field tests are completed, and this new tractor is now being made ready for production. The same Allis-Chalmers engineers who have designed and built the manufacturing machinery for some of the largest factories in the world are entrusted with the making of the A-C 12-20. Large scale production, combined with Allis-Chalmers' enormous buying power, will make this 12-20 one of the greatest tractor values in the country. Go to your dealer today and ask to see the 18-30, after which the 12-20 was modeled. A demonstration will convince you that Allis-Chalmers is the make of tractor you want.



Plow Deep—Grow Larger Crops

The difference between a shallow and a deep furrow is the difference between a seed bed which rapidly loses moisture and one which tends to conserve it. Plow deep—into subsoil—and make every inch of rainfall deliver the maximum amount of moisture necessary for healthy plants and early harvests. By all means get a tractor that will plow *deep—without strain!* It will quickly earn its slight increase in cost through vastly increased crop yields. Both the Allis-Chalmers 18-30 and 12-20 are built for deep plowing.

Power for the Hardest Jobs

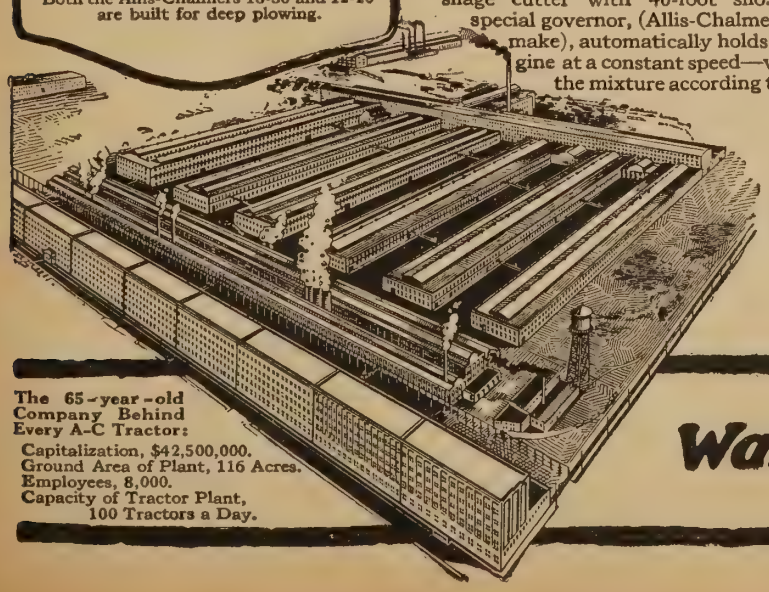
The 18-30 motor is conservatively rated, and possesses an abundant reserve. Under ordinary soil conditions it pulls four 14″ bottoms—*without strain.* It operates a 28″ separator, with all attachments, and handles the largest size ensilage cutter with 40-foot silo. The special governor, (Allis-Chalmers' own make), automatically holds the engine at a constant speed—varying the mixture according to load.

A Tractor with "Built-In" Long Life

Frameless construction and three-point suspension provide a flexibility that relieves all strains in roughest going, bearings are thoroughly lubricated by a pressure feed system perfected at a cost of $75,000; air entering the carburetor is first washed—freed of every particle of dirt and dust; an oversize fin-and-tube type radiator prevents overheating even in the warmest weather.

Quick Accessibility to Every Part

Every working part of the A-C 18-30 is open to almost immediate inspection. Clutch shoes can be taken out for re-lining in 15 minutes; cylinder heads are easily removable and expose all valves for grinding or cleaning of carbon; spokes on both guide and drive wheels are riveted both to the hub and rim, thus making it possible to replace individually any damaged spoke; crankcase interior can be reached through inspection plates.



The 65-year-old Company Behind Every A-C Tractor:

Capitalization, $42,500,000.
Ground Area of Plant, 116 Acres.
Employees, 8,000.
Capacity of Tractor Plant, 100 Tractors a Day.

WRITE FOR BOOKLET TODAY: Ask for 18-30 booklet giving exclusive features of Allis-Chalmers construction. Descriptive literature on the coming A-C 12-20—the smaller partner to the 18-30—will also tell you why your choice should be an Allis-Chalmers tractor.

DEALERS: The new addition to the Allis-Chalmers tractor plant provides a production capacity of 100 tractors a day. A mammoth sales co-operation program in keeping with this production is extended all A-C dealers. Write for details of attractive dealership and jobber proposition.

THE ALLIS-CHALMERS MFG. CO.

Department 28A
MILWAUKEE, WISCONSIN

Watch ALLIS-CHALMERS this Year

A Frank Answer to An Important Question

Because you have given us your confidence and patronage for so many years, we want to talk frankly with you about the price of farm implements.

The cost of manufacturing farm tools has not declined. While some raw materials have been reduced slightly in cost during the past 90 days, those we use are costing us more. We must purchase the materials we use months in advance and we are manufacturing today from materials that cost far more than those that went into 1920 implements. Yet the price has not been increased to take care of that advance—instead we are accepting this loss.

The price of E-B implements never advanced in proportion to manufacturing cost, because we purchased and installed the latest and best labor-saving machinery and gave you the benefit of the economies we effected.

Cut *your* cost of production. Make *your own* investment in labor-saving farm implements carefully. Be sure they will do the work required thoroughly. Find out how they save you time and labor. See to it that they are up-to-date, durable in construction and you will produce crops at a lower cost.

Buy implements of a reputable make—tools that bear a trade-mark known for reliability, then use your machines to their full capacity and take good care of them. Do this and you will see a profit on your investment for 1921.

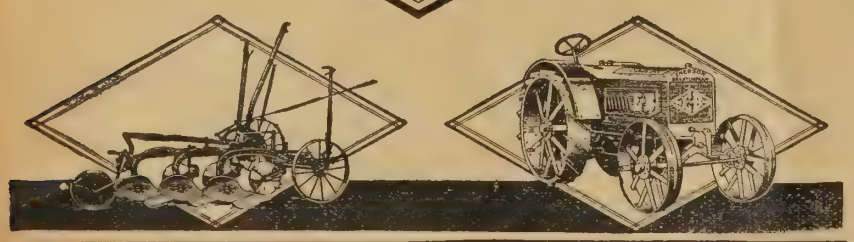
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A Complete Line of Farm Machinery Manufactured and Guaranteed by One Company

EMERSON BRANTINGHAM THE E-B LINE FARM MACHINERY

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Why worry with horned stock? Dehorn 'em and get better prices. Shear horns off the safe, sure, quick way, with

Leavitt Dehorner

Two V-shaped blades cut four ways at once. Blade cogged to give the end of stroke the most power, where needed. Sure cut, can't crush. Fully guaranteed. Over 75,000 in use. See your dealer. Circular free.

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ANTI-COW-KICKER

Save your temper, your cows, your milk. Does not excite the cow, nor disturb the flow of milk. Indispensible for breaking heifers, cows with sore teats, or vicious kickers. Cannot wear out. Put on or off in 15 seconds. Guaranteed to be an absolutely perfect anti-kicker, or put on loosely as hobble for cow, horse or mule. Price $1.15 Postage extra. Weight 2 lbs. Send for it **today**, when you need it you won't have time.

DAIRY EQUIPMENT CO.,
Dept. H. Topeka, Kansas.

Fundamentals of Tractor Engine Cooling

(Continued from page 7)

is less dense than cold water. The water which enters the top of the radiator is cooled and sinks to the bottom and returns to the engine.

Thus, it is obvious that this system should be kept filled to the top of the radiator in order to make a complete circuit of water through the entire system to prevent overheating. It is also important with this system to keep all water passages through the cooling system clean and free from any trash, rust, or other material which would hinder free circulation of the water, because there is no force behind the water except the force created between the difference in weight of cool and hot water. A method of cleaning the cooling system will be mentioned later.

CIRCULATING PUMP. The circulating pump cooling system gets its name from the fact that the cooling liquid in the system is circulated by a pump. The majority of tractor engines which use this system of cooling have the pump driven through the timing gears by the magneto shaft. In this system, therefore, it is highly important to drain the pump with the little petcock under it. If the pump is frozen and the engine is cranked by force, the timing gears are likely to be broken. This will throw the magneto out of time and cause an expensive repair job. Draining the water from the radiator does not mean that the pump is drained.

In the circulating pump cooling system, the connections between the engine and radiator and the water jacket itself are smaller than in the case of the thermosyphon cooling arrangement. Thus, if the circulating pump on the tractor motor is out of commission, one should not depend upon the thermosyphon principle for cooling because the water passages are not sufficiently large for correct flow of water without the force of the pump. Overheating is likely to occur, which will effect correct lubrication and the cylinder is likely to be scored which costs a big lot of money to repair or replace.

Packing the Pump

Very often the pump leaks where the shaft runs through it. There are two packing glands at each side of the water pump which may be drawn up from time to time to prevent leaking. If the glands need repacking to prevent leakage, unscrew the glands, remove the old packing, and replace with a new piece which has been "graphited". The packing should be wrapped around the shaft in the same direction which the nut is turned to tighten it.

It is allowable for the automobile engine pump to leak because this machine only works about 10 per cent of its time under full load and it is generally convenient to water. The tractor works about 95% of its time under full load and should be provided with a full supply of water at all times. The tractor engine cooling system should not be allowed to get low. The difference of 95% and 10% between the use of the tractor and automobile often costs the tractor operator a good deal. Too many farm tractors are put out of commission because of lack of knowledge, carelessness, and comparison of the job of tractor with that of the automobile. The farm tractor does not coast down many hills as the automobile does.

Cooling Liquids

Most tractor motors are cooled by water. In view of the fact that the tractor engine works under a heavy load the most of the time, there is likely to be some evaporation of the cooling water. If the water contains any salts, such as lime, there is likely to be a scale deposited in the water system which will prevent the free flow of water and a scale in the water jacket has a tendency to insulate the water from the metal; thus, the heat is not taken from the engine as it should be. Therefore, the use of rain

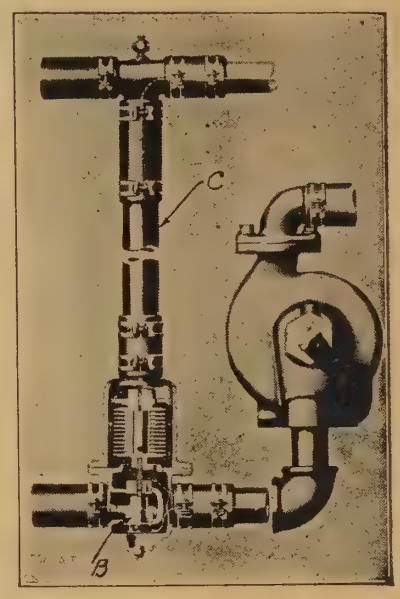


Fig. 2. Thermostat control on cooling system keeps the engine temperature correct.

water in the cooling system is ideal from the standpoint that it does not contain any lime or other salts in solution.

A few tractors use oil in the cooling systems. This is to prevent freezing and the trouble of draining and refilling the cooling system each time the tractor is to be used in cold weather. If the oil should foam, there is likely to be water in it. A small amount of water will evaporate in a short time and the foaming should stop. Foaming is sometimes mistaken for overheating. If the oil becomes thick in cold weather and moves slowly, the oil may be thinned by adding kerosene. When oil is used as a cooling liquid, the cooling system should be kept full. Oil will cause rubber connections to decay very rapidly.

Kerosene is being used to a great extent during winter for cooling tractor, truck, and automobile engines. It seems to give good satisfaction and is efficient.

Non-Freezing Mixtures

When water is used as a cooling liquid its freezing point may be lowered considerably by addition of various materials such as denatured alcohol, calcium chloride, glycerine, etc. When any of these or other compounds are mixed with water, there are certain requirements which should be fulfilled: (1) it should not damage the cooling system; (2) it should be cheap; (3) it should not vaporize or waste away easily.

Glycerine will attack rubber connections and it is rather expensive. Glycerine also may contain some free acids which will attack the various metal portions of the cooling system.

Calcium chloride, or common salt, has a tendency to cause metal parts to rust and will leave a crust in the cooling system if much of the water is evaporated. This crust will stop up the cooling system. Salt solution, however, makes a very good non-freezing solution.

A 50-50 mixture of alcohol and rain water makes a very good cooling mixture. The only difficulty lies in the fact that alcohol will vaporize easily and it is necessary to add alcohol now and then to keep the solution up to normal. Always use denatured be-

cause wood alcohol is likely to contain free acids which will attack metal.

Non-freezing mixture		Freezes at
Water 50%	Alcohol 50%	About 32 below 0
Water 75%	Salt 25%	About 18 below 0
Water 60%	Glycerine and alcohol 40%	About 25 below 0

Kerosene will not freeze.

Thermostat Control

If a cooling system on a tractor engine is designed for mid-summer temperatures that cooling system is likely to keep the engine too cool in zero weather. To obviate this difficulty and to have the engine heat up quickly after starting, a thermostat may be installed.

Figure 2 shows the details of a thermostat which is standard equipment on several of the well known tractors. The active part of the thermostat is fluted copper tube A. The tube contains a liquid which changes from a liquid to a gas when it is heated and thus expands. When the water in the cooling system cools to a certain degree the gas in the fluted copper tube turns to a liquid and the valve B closes. This restricts the flow of water between the radiator and pump or causes the water to flow through the water jacket and through the tube C. The cooling liquid rises in temperature very fast when the engine is operating and the liquid in the copper tube turns to a gas, expands, and opens the valve B and the water begins flowing through the radiator when the right temperature has been reached. This arrangement keeps the engine operating under correct temperature at any atmospheric temperature. Another advantage of the thermostat is that the engine heats up immediately after it is started. There is always a disadvantage where there is an advantage, and the only way to decide between the two evils is to choose the one which will give the biggest profit. The disadvantage is the addition of more parts to the machine, adding complications and reducing simplicity.

When the Tractor Overheats

Overheating of the tractor causes loss of power and is detrimental to the life of the machine. Some of the causes of overheating are: (1) lack of proper lubrication; (2) water pump not working properly; (3) fan belt slipping or broken; (4) radiator or other parts of the cooling system clogged up; (5) gas and air mixture too rich; (6) cooling liquid low; (7) spark retarded.

If the oil is low in the engine a new supply should be added. It sometimes happens that there is plenty of oil in the crank case, but the screen around the oil pump may be clogged. This often happens. If a thick grade of oil is used, it may freeze in cold weather in which case the pump will not supply it to the engine bearings.

It sometimes happens that the impellers of the pump may be broken and fail to circulate the cooling liquid.

The fan belt may be slipping on account of being too loose or may be greasy. The grease may be washed off with gasoline.

If the radiator and other part of the cooling system is clogged up, it may be washed out with a hose placed in the radiator filling cap. If lime or other scale is deposited in the water system, it may be removed by dissolving all of the baking soda that will dissolve in enough warm water to fill the cooling system. Pour the solution in the cooling system and run the engine about an hour with the spark retarded to warm it up. Allow the solution to remain in the cooling system about three hours and drain out. Wash the system thoroughly with a hose.

If a black smoke comes from the exhaust the mixture is too rich. Cut down on the fuel at the carburetor.

If the engine knocks on hard pulls, clean out the carbon.

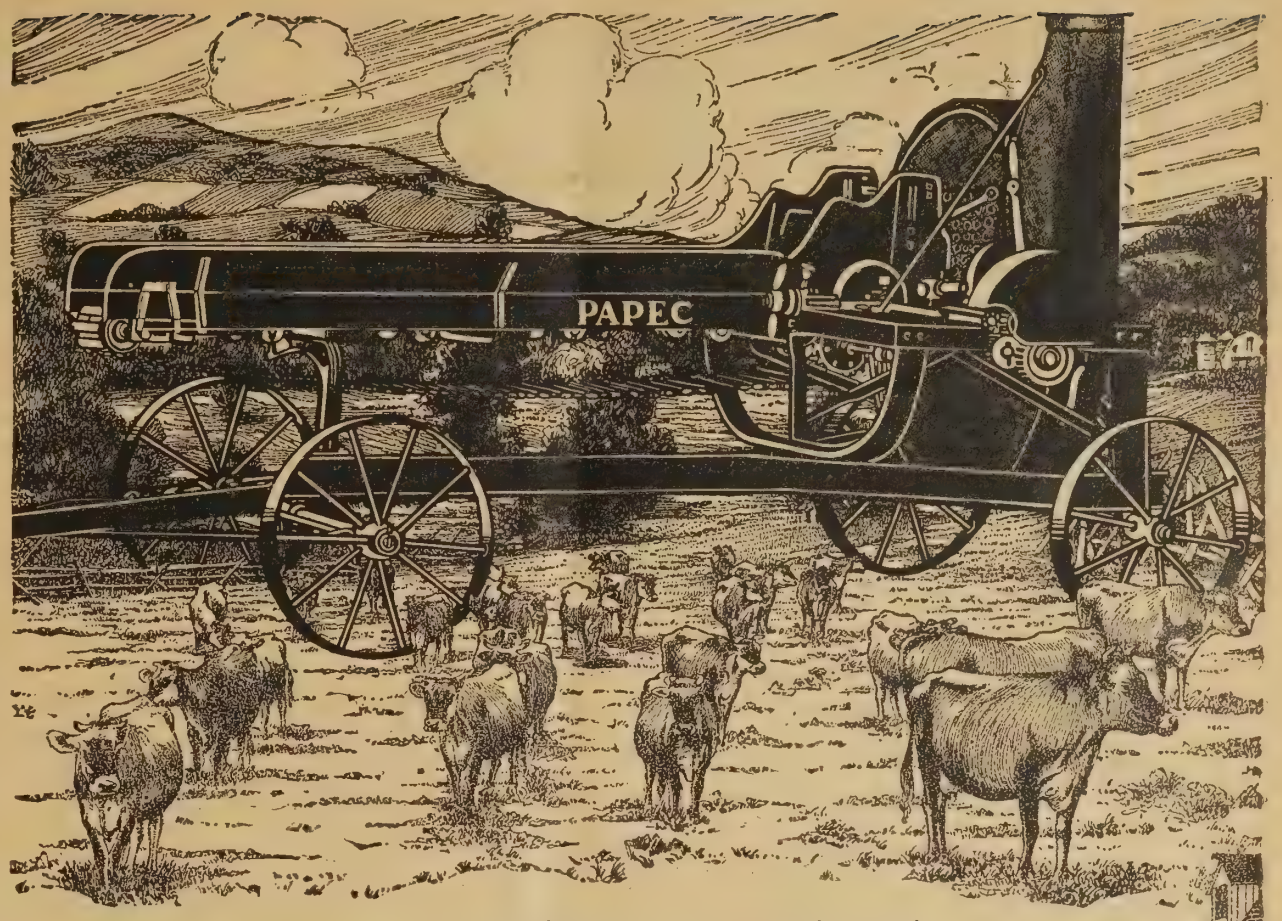
Always keep plenty of water or cooling liquid in the system.

Always run the engine with the spark properly advanced.

Very often cooling troubles arise from obstructions in the hose connections. The hose connections have a fabric in them. This fabric may get loose and hang down in the pipe and hinder proper circulation.

DON'T PUT OFF

Seeing your friends and having them join in for a club of subscribers.



"supreme with men who know"

THE PAPEC Ensilage Cutter is the choice of men who know machinery. The mechanical principles on which the Papec is built have remained the same for 20 years—because these principles are *right*. The Papec has reduced the cost of silo filling for thousands of farmers, because its sturdy, durable construction has practically eliminated breakdowns and delays.

The fact that the Papec operates with *less* power proves its efficiency. Because of this efficiency, demand for Papec Ensilage Cutters has made the Papec plant the largest exclusive ensilage cutter factory in the world. Papec is *"supreme with men who know."*

With its six fans instead of four or fewer, the Papec throws as well as blows the silage in a steady stream to the height of any silo. It is made in four sizes—capacities from 3 to 30 tons per hour—a 3 horse-power gasoline engine operates the smallest size. Remember, it is guaranteed.

Own Your Own Papec—It Pays

Tell us what kind of power you have and the horse-power, and we will tell you the right size of Papec to buy. Write today for catalog and guarantee. Use the coupon.

PAPEC MACHINE COMPANY 116 Main Street SHORTSVILLE, NEW YORK

With our 36 distributing houses the Papec dealer can give you the same service as if the Papec were made in a nearby town

PAPEC

(Accent on the "pay")

(Clip Coupon Here)

PAPEC MACHINE COMPANY, SHORTSVILLE, N. Y. 116

Gentlemen:—Without any obligation on my part, you may send me your catalog and guarantee, and tell me what size Papec Ensilage Cutter my engine will operate. I have a ..... horsepower ....(Kind).....engine.

Name.....R. D. ....P. O.....State.....



JUST OUT—My New "direct from factory" Bargain Book on Fence and Gates. Prices way below competition. Values bigger than ever. Get it today.

I Pay ALL Freight

Brown Fence lasts longest because built strongest, stiffest. All wires same size, heavily galvanized. 150 styles. Also Gates, Lawn Fence and Barb Wire at bargain prices. Sample and book free, postpaid.

Brown Fence & Wire Co., Dept. 276 Cleveland, O.



WE PAY THE FREIGHT

and save you the difference.

Saved 38 per cent

Mr. R. D. Dillard, Milton, Okla., writes: "I found all the Fence as good or better than I expected. I saved $28.65 on my $75.00 order."

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KITSELMAN BROS. Dept. 256 MUNCIE, IND.

Ear Tags FOR STOCK



Tag your stock—best and cheapest means of identification for Hogs, Sheep and Cattle. Name, address and number stamped on tags. Catalog mailed **free** on request.

F.S. Burch & Co. 156 W. Huron St. Chicago

Natco Dairy Barns Are Warm in Winter

NATCO barns are warm in winter, yet cool in summer. They provide year-round comfort for your cows. More comfort in the stable means more milk in the pail—more money in the bank.

The hollow spaces in a glazed Natco Hollow Tile wall provide a blanket of still air through which heat, cold or dampness will not pass.

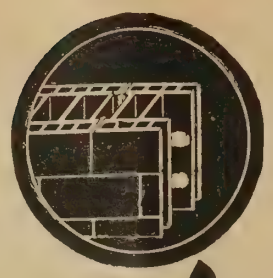
And the cost? Perhaps a little more at first, but *far less* in the end than for other construction. The saving in insurance and upkeep will repay the added investment within a few years. All further savings are clear profit.

Whatever you intend to build, our book, "Natco on the Farm," will offer helpful suggestions. Write for it today—*no charge.*

Ask your building supply dealer to quote you prices on Natco Hollow Tile.

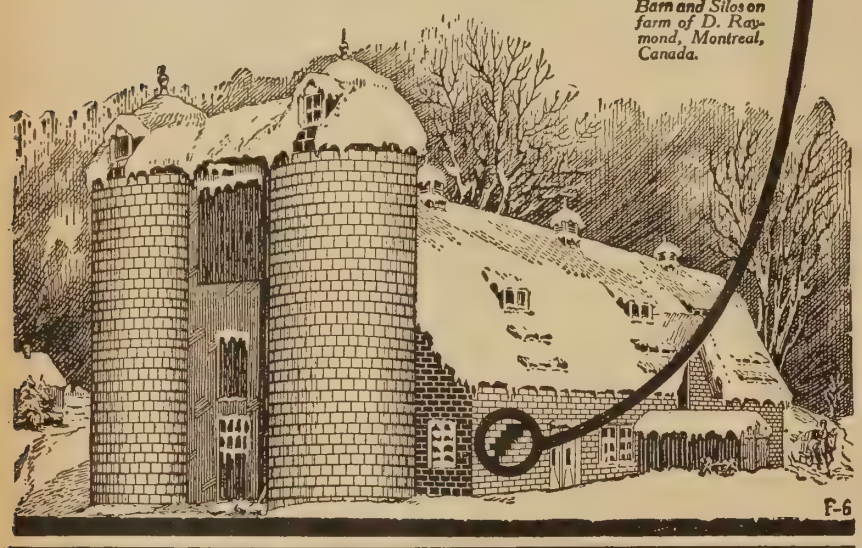
National Fire Proofing Company
1049 Fulton Building
Pittsburgh, Pa.

23 Factories assure a wide and economical distribution.



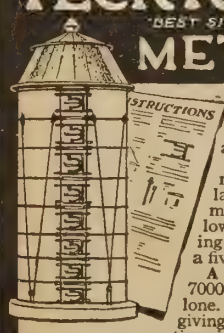
Section of Natco Wall showing still air spaces.

Barn and Silos on farm of D. Raymond, Montreal, Canada.



F-6

Build a Perfect Wood Silo By the TECKTONIUS "BEST SILO ON EARTH" METHOD



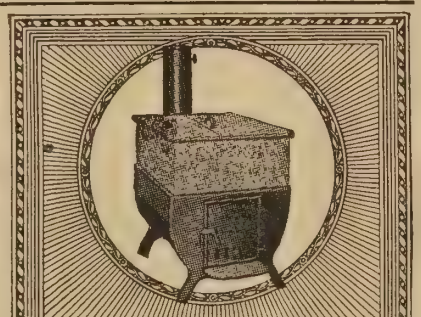
The TECKTONIUS method builds a rigid, air-tight, permanent silo that makes perfect silage. Just buy your materials and follow our simple working plan. Backed by a five-year guarantee.

A 5-Year Success

7000 in Wisconsin alone. Thousands more giving perfect satisfaction in the United States, Canada and foreign countries. Door locks at four corners, automatic adjusting hoop fasteners and super cable and base stave anchorage system. Don't buy any silo until you investigate the Tecktonius.

FREE To farm owners. Our illustrated booklet "Perfect Silage." Gives the real facts about silos. Send for it at once, also send your lumber dealer's name.

E. C. TECKTONIUS MFG. CO.
1204 Racine Avenue. Racine, Wisconsin



Farmers Favorite Feed Cooker

Give Cows warm water. Watch the Milk increase in quantity and quality. Give hogs warm feed; grow larger frames and more solid meat. Give hens warm feed if you want winter eggs. Render lard; boil water, sap, strychnium, spray-mix, etc. Burn chunks, long sticks, cobs, anything. Guaranteed. Write for prices.

CHAMPION MILK COOLER CO.
Dept. 204, Cortland, N. Y.
Successors to Lewis Mfg. Co.



"PELOUZE" Dairy Scales

Three Sizes: 40, 60 and 120 lbs. by Tenths of a Pound.

Guaranteed Accurate

Made to comply with Departments of Weights and Measures. Large Circular Dial, with distinct, black figures and graduations. Patented adjustable hand for obtaining the tare weight of empty pail.

Order direct or through any leading Dairy Supply house. Specify "Pelouze."

No. D. 40 $3.75
No. D. 60 $4.50
No. D. 120 $5.00

PELOUZE MANUFACTURING CO.
233-242 East Ohio Street, Chicago

Why a "B-V-T" Silo is the Best Investment

Because it has been on the market TEN YEARS, without a SINGLE FAILURE.

Made of famous Brazil Vitrified Fire Clay—ONE ton costs as much as FIVE tons of shale.

THE "B-V-T" WILL LAST FOREVER

Will not freeze or crack. Keeps silage in perfect condition. You never have to rebuild a "B-V-T"

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Brazil Hollow Brick and Tile Company
BRAZIL INDIANA



Learn Auctioneering

at World's Original and Greatest School and become independent with no capital invested. Every branch of the business taught. Write today for free catalog. Jones Nat'l School of Auctioneering, 38 N. Sacramento Blvd., Chicago, Ill. Carey M. Jones, Pres.

Nebraska Dairymen in 36th Annual Convention

W. F. DOBBINS, NEBRASKA

A SPIRIT of optimism characterized the thirty-sixth annual convention of Nebraska dairymen. This was reflected in the address of welcome of Dean E. A. Burnett of the state agricultural college. Dean Burnett told the dairymen that it has been some time since the dairy industry has been so strongly in the limelight as it is at the present time. In times of great prosperity intensive industries suffer most because farmers receive high prices for their crops and farmers give much less attention to milking cows and to improving their herds. Recently the dairy industry has been making great strides in the number and the quality of the cows found on Nebraska farms.

Dean Burnett highly commended the Nebraska farm bureau and the county agents for good work. He said that through these activities the breeding of live stock has been substantially increased in many of the counties of the state. The necessity of weeding out the scrubs was emphasized. If Nebraska dairymen will work to improve their herds, the dean said, production would be doubled in from seven to ten years. He outlined the program of the state dairy department, its primary purpose being to educate young men and young women and then send them back to the farms to use the knowledge they have gained to develop the dairy industry.

J. H. Frandsen, head of the state dairy department, in an address on "The Future of Dairying", also brought words of cheer. "With the collapse of a satisfactory market for farm crops, the dairy cow is now of immense assistance in becoming the market and saving the day for many a farmer," he said. "She is one of the most useful factors, and perhaps the safest, in developing permanent prosperity for the great plains country, and will not only pay grocery bills and other urgent expenses of the farm, when the bottom drops out of the grain market, as at present, but will also lay the foundation of the future success for many farmers.

"Not only health but also economy is served by the increased use of milk," he said, "for at the present price of foods, milk is cheaper than most others. Drinking more milk means better children.

D. D. Aitken, president of the National Holstein-Friesian Association of America, and the "father" of the National Dairy Council, told the dairymen that he had the utmost contempt for the fellows who go over the country declaring that farmers are abused and that they need sympathy.

"Farmers are engaged in the biggest business on earth and they are capable of taking care of themselves," he said. "They are not abused nor are they looking for sympathy. He was opposed to class legislation of any kind. He did not favor special legislation for the farmers or any other body engaged in various industries. He wanted to see no class feeling or class consciousness.

Dairymen were informed how rapidly the demand for milk is growing, and he begged them not to be so much interested in making money that they would neglect the pureness of their product. Then they would be able to tell the mothers of Nebraska that the milk they furnished is fit for their children. "Dairymen can't expect to make a success of their business," he said, "unless they use the most efficient and economical machinery." He predicted that unless the production of milk is greatly increased that in future years the supply will not be sufficient to meet the demand. He urged that dairymen make efforts to constantly improve their herds.

"The Holstein-Friesian Association of America has a wholesome contempt for the trickster and the cow jockey," he said. He was cheered vigorously.

J. G. Winkjer, of the United States Dairy Division, told how to improve the dairy herd. He has charge of the organization of co-operative bull associations over the country. He said that there are now 124 such associations and that the movement is spreading rapidly. He explained that through co-operative bull associations the small dairyman is able to build up a profitable herd on the same financial footing with the large dairyman. Professor M. N. Lawritson, of the state dairy department, told what extension work is planned for 1921. Co-operative bull associations, girls' and boys' clubs, and co-operative cow testing are among the projects which will increasingly occupy the attention of the extension department. Professor J. W. Hendrickson, of the same department, presented an exhaustive paper on the "Feed Cost of Milk Production". The experiments covered a period of five years with the state farm herd. The result of the experiments proved of much value to the dairymen.

President Harvey H. Morrison of the state association told the dairymen that they should breed only the best strains of cows. He would have a community noted for the great excellence of one breed of dairy cows and thereby build up a much greater business for their product. John Frazeur, manager of a co-operative milk company of Omaha, a plant run by farmers, said that it had a prosperous season during the past twelve months.

The old officers of the association were re-elected. They are: president, Harvey H. Morrison; vice-president,



R. C. POLLOCK

Mr. Pollock has accepted an appointment with the American Farm Bureau Federation in the Department of Organization. He begins his work in Arizona, where he will be in charge of an intensive campaign for membership. Mr. Pollock comes to the Federation from the directorship of the extension department of the Holstein-Friesian Association of America. He has had conspicuous success as an organizer. He was born and reared in Southeastern Iowa and graduated from the Iowa State College in 1913. After graduation he was county agent in Dakota County, Minnesota. For six months he was Assistant County Agent Leader in South Dakota, and from there went to North Dakota to take up county agent leadership. In September, 1919, he became head of the organization work of the Holstein-Friesian Association of America. Since that time he has organized the breeders of black and whites in Ohio, Wisconsin, Michigan, New York, New Jersey, and New England. After his campaign in Arizona, Mr. Pollock will go into the great Northwest to carry the message of the American Farm Bureau Federation.

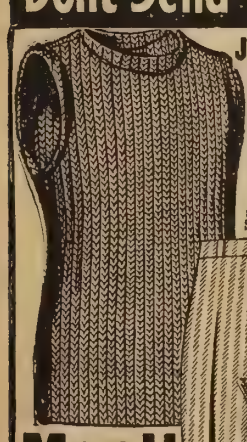
C. E. Morse; secretary-treasurer, J. E. Palm.

Resolutions were approved asking congress to place a tariff on butter and other dairy products, requesting the legislature for money to reimburse dairy farmers whose cattle react to tuberculin, asking for the repeal of an act taxing dairymen one dollar as a license fee, and expressing appreciation of the efficient services of Professor J. H. Frandsen, chief of the dairy department, who has resigned after ten years of efficient service to accept the position of dairy editor of one of the leading farm papers of Nebraska and Kansas. Nels Anderson was also remembered appreciatively for caring for the Nebraska champion dairy cow belonging to the state agricultural college.

The attendance at the state association was much larger than for several years, between 350 and 400 dairymen being present. Nebraska dairymen have heretofore come to the state meetings knowing that the industry had been crowded to the wall and had slumped because of the great prosperity of the country as reflected in the extremely high price of farm crops. The situation is reversed this year, and this was distinctly noticeable among the delegates of 1921.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

Dont Send 1 Penny



Just send your name and address, size and color, and I will send this sweater and pair of trousers to you. You don't pay one penny until they are delivered at your door by the postman. Trousers alone are worth more than $2.98, so you are getting the sweater **absolutely FREE.** Send your order now.

Men!!
Pants and Sweater
Both $2.98 for 2==

The trousers are made of a very strong and durable gray striped worsted material. They have customary pockets and belt straps. All seams are double stitched and guaranteed not to rip. These trousers would ordinarily sell for more than $2.98. **Color: Oxford gray stripe only.** Sizes: 30 to 44 inches waist measure.

The sweater is made of heavy commercial yarn, woven in slip-over style, with round neck and sleeveless. Fits snugly to body. **Colors: Khaki or navy blue.** Sizes: 34 to 46 chest measure. Remember, one sweater and one pair of trousers for **$2.98.** They will not be sold separately.

Delivery Free Just send your name and address—no money. Be sure to give size and color. When the sweater and trousers are delivered at your door by the postman, pay him **$2.98** for them. We have paid the delivery charges. Wear both articles and if you don't find them all you expected, return them and we will cheerfully refund your money at once. Order by No. 42.

Dept. L1199
Walter Field Co. 316 S Michigan Ave., Chicago

Only $2 DOWN ONE YEAR TO PAY



$44 Buys the New Butterfly Jr. No. 2½ Light running, easy cleaning, close skimming, durable.

NEW BUTTERFLY Separators are guaranteed a lifetime against defects in material and workmanship. Made also in four larger sizes up to No. 8 shown here; sold on

30 DAYS' FREE TRIAL

and on a plan whereby they earn their own cost and more by what they save. Postal brings Free Catalog Folder. Buy from the manufacturer and save money. (1)

ALBAUGH-DOVER CO., 2161 Marshall Bl. Chicago

Well Over 30,000 Leaguers Agree to Pool

HOARD'S DAIRYMAN:—With the first of the year there are over thirty thousand pooling contracts signed in League territory and received at headquarters. There were the original four thousand when the present new drive was undertaken about October first. If, as we understand, there were on January first 35,000 of the 50,000 needed on hand, it is no wonder that League officials say with emphasis that the full number is sure to be secured and that the form of the contract is not going to be changed. This indeed was voted with a whoop at the Utica meeting in December. There were those there who thought the form should be changed and who expected to get a resolution passed there to effect a change. It soon appeared that any man who might dare to present any such resolution would be swept off his feet in a perfect Niagara of opposition and reproach and no one had the courage to make the attempt.

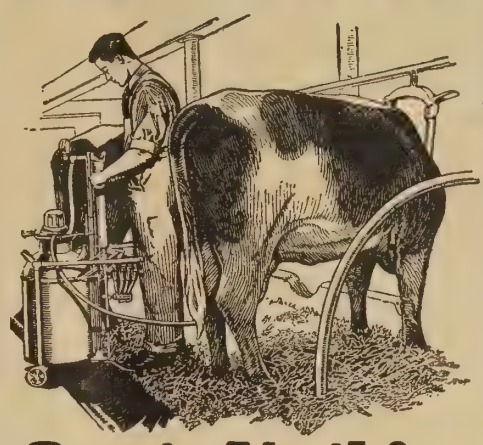
The question still bobs up locally all over the territory, "Can the pooling be made effective early enough to prevent any serious break in the League?" There are times and places that look dark. There is opposition and fear and even indifference, apparently. There is hesitation from some who look to others for advice and leadership. Most leadership is loyal, but occasionally it is not. Almost all farmers are honest in their positions. Some may be trying to approach the spectacular and are succeeding. These may yet find a hot spot. As the time goes on more dairymen are coming to see that the pooling contract is a better document than they at first thought. Then it is coming to be seen that only voluntary individual effort can bring early success and I am looking for this to be put into operation. I am now at a county meeting where the lead is the best, but where there are still four hundred unsigned members. Possibly this is the best county but here is work to be done, and it will be.

As a sample, let's look at the situation here. One town has had a market for its milk at full price for only about a month since October first, and this month there are 47 farmers there who cannot sell. They can get the condensers to take it and pay something but they prefer to stay by the League and hold their milk. Another local has a market with a condenser who is believed to be honestly offering to buy temporarily at less than League prices as he will lose too heavily without. The League cannot sell at a lower price than set in the agreement with the conference board, but if the local farmers think best to let the milk go temporarily at fifty cents or so under, it probably would not be looked upon as an act of disloyalty. In both of these places the farmers are anxious to support the League and pooling. One other is the case of dealer believed to be honest in his claim that he cannot take all the milk at full price. Here local farmers have come to an agreement as to the amount to be taken, a committee has been appointed, and this committee is to say how much milk each patron may deliver, the remainder to be held back and used on the farm.

These are incidents on one side, but there are others. One group of several hundred farmers lost their market early. Some of the local leaders, according to reports, commenced to blame the League directors and officers and to demand things of them that were impossible. It commences now to appear that the individual farmers are more loyal and in fact not ready to follow their local lead-

(Continued on page 31)

The Milking Machine for 1921!



Sensational Improvement!

Costs Half; Does Double Work

The *new* PAGE Milker—operated by hand—one man milks 2 cows at once. Little work—quickly done—easiest of all machines to handle—easiest by far, to clean; the most wonderful advance in milking machine manufacture.

Costs Nothing To Install—

Not a cent of installation expense—no engine, no motor, *nothing! Just* the machine for herds of 12 to 16 or 20 cows. For large herds get our electric or engine power outfits at $225 and up.

You milk right into your own ordinary milk can; no extra pails; no pipes; no pulsators; no tanks. Amazingly easy to clean.

Guaranteed to do the work.

Guaranteed to save time.

Guaranteed—the last word in sanitary milking (one creamery wrote us that the most sanitary milk came from farmers using the PAGE Milker).

And!—

Guaranteed:

Action alterable to suit every cow separately. Instantly adapted to any cow according to her disposition and how easily or how hard she milks.

Book on Milking Sent Free

Burton Page Co., Dept. 9621
661 West Lake Street, Chicago, Ill.

Please send me your free book on milking. Also full description and your offer on the new model PAGE Milker, hand operated, engine and electric power.

Name.....

Address.....

My Dealer's Name .....

PUBLIC AUCTION

A 600-ACRE IOWA FARM

At front door of Court House, in

Marshalltown, Iowa

Saturday, Feb'y 5, 1921

at 2 P. M.

This farm lies in a body, eight miles from Marshalltown, the County Seat, on a graveled road.
Adjoins the town of Albion, Marshall County, Iowa. Splendid community, fine school and churches.
Large farm house and good tenant house. Matured groves. Large basement barn with ample granary. Cattle shed 60x120, hog house, cribs, garage and icehouse.
Running water. Windmill and deep well with supply tank and water piped to buildings.
Excellent shipping facilities. M. & St. L. depot and stockyards at Albion adjoin the farm. C. & N. W. and C. G. W. at Marshalltown.
Good blue grass timber pasture and considerable native hard wood timber.
Has been used as a stock farm for more than thirty years and is in a high state of cultivation.
One of the best stock, or dairy, propositions in Central Iowa.
Possession March 1, 1921.
Sold under order of Court to settle estate.

Address:—G. A. Mote, Sole Referee, or F. L. Meeker, Attorney for estate, or E. N. Farber, Attorney, Marshalltown, Iowa

ALFALFA HAY
AND
DAIRY FEEDS
CLOSE PRICES — PROMPT SERVICE
THE GOLDWOOD—AMRINE CO.
St. Joseph, Mo. — 312 Am. Nat'l Bk. Bldg.
Kansas City, Mo. — 312 Victor Bldg.

—FISH—

Free, our new January price list. All varieties fancy new, frozen, smoked, spiced, salted, and canned lake and ocean fish. Quality finest ever, prices lowest imaginable. It will pay you to write for our new price list before ordering elsewhere.

JOHNSON FISH CO., 8, Dept. , Green Bay, Wis.

Reduce Concrete Costs

Concrete adds to the value and appearance of your farm. It is easy to put in your own concrete improvements with the Wynn Barrel Mixer. It saves money for you and ends the back-breaking task of mixing by hand. The Wynn is made for farmers use. Simple, strong and easy to move. Mixes 2½ cu. ft. at a batch—as good a mix as any high priced big contractor's machine. One man can run it—will keep 6 men busy. Easily attached to any 1 or 1½ H. P. engine. Will save its cost on the first jobs. Write for description.



BARREL MIXER CO.
640 Williamson St. MADISON, WIS.

A FARM and HOME in HAPPYLAND

OWN A FARM
We Make It Easy
This Free Book Tells How

You Will Prosper in Upper Wisconsin — America's Cloverland

Here is a wonderful dairy country. Crops are always big. Abundant rainfall. Lakes and rivers everywhere. Seasonable hunting and fishing. Schools, societies and churches. Money is easily made in this fertile land. Every season offers special opportunities.
Every farm on a fine highway. Payments easy—small amount down—balance spread out in a ten-year period. We help you locate and show you how to build and clear land. This is a real opportunity—hundreds are happy in this Happyland.
Write for Booklet Today. Tells About Crops, Soil, Rainfall and Climate

Edward Hines Farm Land Co.
1312 Otis Building, Chicago.

Phosphoric Acid

Finely Ground Raw Rock Phosphate is the cheapest source. Your inquiries solicited.

M. H. Gray, Mt. Pleasant, Tennessee



HOARDS DAIRYMAN JUNIORS



A DEPARTMENT FOR THE DAIRY FARM BOY

Where Do You Stand?

During the past two months it has been the pleasure of the Junior Editor to write a personal letter to each of several hundred new members who have joined the Hoard's Dairyman Juniors Club. This, indeed, has been a pleasure for it has not only extended our acquaintanceship, but in addition we know that it is going to add to the pleasures and profits of these young people. And we already know this for most of these new members have had happiness brought into their lives by the possession of the Dairy Farm Boy's Creed which is given with every membership. They have said this and we dare say that many of our Juniors can quote this creed by heart. That is splendid and we wish that we could say every farm boy and girl knew this. We are certain it would bring an inspiration into the lives of all of them.

One fine thing about our club: its membership is not limited. With the hundreds we have enrolled there is still room for those who desire to come in. Sometimes the girls write to us, asking if they too can join. In all cases we have said, "Yes," and as a result our girl membership has rapidly increased. We welcome all alike; there are no distinctions made. But there is one limitation which I nearly overlooked and of course you will all see the reason for it. It is this. In order to join our club, some member of your family must be a subscriber of Hoard's Dairyman so that you will reap the full enjoyment of being one of our Juniors by having access to the Junior Department. In fact, this is about the only way in which you can keep in touch with the other Juniors and become acquainted with them and also us. And, in addition, we think that you will derive a great deal of pleasure from the stories which appear for the Juniors.

The new year has started; in fact, it is getting well under way. We are wondering where you stand to-day as a live young American! We trust that you have all made some very definite plan for the year which when carried out will make you feel as 1921 comes to a close that it has been a very profitable year for you.

Many of you will say, "What can I do?" The trouble is, boys and girls, there are so many things for us all to do that it is difficult for us to settle upon any one thing. Club members are always busy people, but every one cannot belong to a club for various reasons. Going to school is usually the chief business of the average boy and girl. Then if this is the chief thing in which you are engaged, why not make it of the most importance? Many of us can make this a banner school year if we so desire. That is something which we think is worth while and every Junior can engage himself in this business. We should all acquire a looking ahead spirit and then go after it.

But in addition to our school activities there are many other things which we all do to add to our pleasures. We find that thousands of boys and girls are finding a great deal of profit and pleasure in being a Hoard's Dairyman Junior. We are proud of our Junior organization. Don't you want to be one of us?

Junior Letters

In each issue of Hoard's Dairyman we aim to have some of our best Junior letters appear in the Junior Department. We know that some of you have been disappointed because you have not yet found any of your letters in print. But of course there is a reason for this. Did you ever stop to think that it would be impossible to print all of the letters that come to us? We are sure that you will agree with us that it is, so the thing which we try to do is to print only the best ones. But you say, "I have done my best and none of mine have ever appeared." But did you?

Of course you want to know some of the things which we consider in selecting the best ones; so we are going to tell you about them, and then the next time that you sit down to write us you may perhaps be able to do a better job if you think about what you are now reading.

First of all, we consider whether your letter deals with things of interest to other Juniors. This you will see is something of prime importance, because none of us likes to spend time in reading uninteresting things. Some of the things that make letters interesting are those that tell what you are doing and how you are doing it.

Another matter which we always take into consideration is how the letter is put together. By this we mean how it is written. And so we consider the writing, the punctuation, the spelling, and how you say what you want to tell. A letter may be ever so interesting but if it is difficult to read on account of poor spelling and writing, the interest is dead before it is half read. Of course we don't expect that the younger Juniors can do as well as the older ones, so your age is also considered.

And in addition to all of this there is one other thing that should not be overlooked in letter writing. Just the other day your Junior Editor had to lay aside a number of letters written by Juniors from those he was answering because the names and addresses of the writers were so poorly written that he could not cipher them out. So we caution you to always write your name and address so that they can be easily read. This is very important if you want to have your letter answered.

Now the next time that you undertake to write a letter try to make it so interesting and write it so well that you, too, will have your efforts rewarded by seeing it appear on the Junior page.

Watch Out for the Louse

It is during the winter season that calves and cattle become affected with lice more than any other time of the year. Usually calves and young cattle suffer the most from this parasite, although older cattle and especially those which are being poorly cared for are also frequently affected. It is not a difficult matter to discover the presence of lice upon an animal, for there are several indications which usually prove the case. Affected animals when turned into the yard generally start to rub their necks and shoulders against posts, fences, and trees. And, in very bad cases, the hair often begins to fall out and a close examination of these places on the neck and shoulders will reveal the trouble. It is cruelty to animals not to attempt to kill the lice when their presence is known. And don't forget that lousy cattle will not make the progress in their winter's growth that they should, no matter how good the care that is otherwise given them.

The remedy is simple and effective. Coal tar dips which are now found upon the market may be used very successfully for the purpose. Then there is the home-made kerosene emulsion which also gives excellent results. Any Junior can make this preparation without any difficulty if he follows these directions. Bring one gallon of soft water to boiling and then shave into it a half pound of hard soap, allowing it to thoroughly dissolve. Then add two gallons of kerosene and mix thoroughly until a thick, creamy emulsion is formed. The oil will not separate from this very easily. The next step is to add to this emulsion about 19 gallons of water and the preparation is then ready for use.

And it is just as easy to apply as it is to make. Here is one of the best ways. With the preparation just about lukewarm apply it with a brush, wetting all parts of the body thoroughly and especially the neck and shoulders. In order to guard against the animals taking cold, it will be a good practice to blanket them immediately following treatment and by all means do not turn them out in the cold. A second application should be made after about 10 days. In especially stubborn cases, it might be good to clip away the hair from the places most affected before applying the wash.

Of Interest to Junior Poultrymen

Armistice Queen is a proud hen, and well may she be for on November 11 she finished a year's record with 284 eggs chalked up to her credit. She is quite an ordinary looking single comb white Leghorn, bearing the number K227. She is the daughter of Lady Vanity, who had a record of 208 eggs. Armistice Queen began her record when but six months and twelve days old and she has certainly been on the job ever since. She is a small hen, weighing little over four pounds, but she is all hen, and the producing kind at that. She is exceedingly active from morning until night and is very friendly at all times.

This bird is not a matter of chance, but rather the result of careful breeding and selection. And she has made her record under ordinary conditions. She does not live in a heated coop, nor were electric lights used at night to keep her awake and active. Neither did she receive any stimulants to force her. She has had a good place to live in, no better than any farm flock should have if it is expected to do well. Her feed has been good and given in plenty and she has always been attended to regularly, so that it can be claimed that her record has been made under ordinary conditions of egg production. It pays to breed and select from the best producers. Armistice Queen has demonstrated this to the satisfaction of the Poultry Department of the Wisconsin College of Agriculture, the home of this record maker.

Trapping Hints

The country boy who does not trap is depriving himself of considerable easy money. There is a lot of fun in trapping and big money, too. Even the boy who goes to school can arrange to run a trap line. It is not necessary to go into the wilds of the far north to successfully trap fur-bearers. Almost every rural community has a certain amount of fur-bearing animals and may be good trapping ground.

The amateur must be willing to put forth his best efforts and get into the game in earnest. The boy who is careful and observant and who uses good judgment in making his sets will have a neat bank account when the season is over.

The first thing to do is to locate the trapping ground and this should be done early in the fall. Naturally, the nearer home it is, the better. Go over the ground carefully, several weeks before you are ready to trap, and look for dens and runways. Examine closely the ponds and stream banks, old trees, hollow logs, stumps, stone walls, old tumble-down fences, etc., and you will find many good places to set traps.

Do not start trapping too early as it does not pay. The furs are not prime and command comparatively low prices. Wait until the cold weather sets in and then you will be well paid for your efforts. Most states have laws regulating the trapping of fur-bearing animals. Obey the law. If you live in a state that has no trapping laws, use your own judgment regarding the time to start and quit. Always remember that one prime, good quality skin will command a higher price than several unprime skins. November 1st to 15th is early enough to start trapping.

As a rule, the country boy has only a limited time to devote to the trap line and the question of how many traps to set depends on how much time he can spend on his line. Don't try to set too many traps. It is better to set a few and look after them well. Of course, use as many traps as possible, but never set more traps than you can attend to properly.

Visit your traps often and try to follow the same path as much as possible. All animals are more or less suspicious of human scent. Always wear gloves when handling your traps, so that no human scent will remain on the traps. To remove the odor of new metal, boil the traps in water and wood ashes. Do not take a dog along when going over your trap line, as the game may scent the dog and be frightened away.

The amateur will, undoubtedly, secure better results by using baits and scents than trying to take the animals in blind sets. There are many trappers who do not use a bait or a scent, but until the amateur becomes thoroughly acquainted with the habits, haunts, and characteristics of the different fur-bearers, he will find the use of baits and scents advantageous. The bait is some article of food of which the animals are particularly fond. A scent is a strong-smelling substance which arouses the passions, incites curiosity, or suggests a particularly tasty morsel of food. Bait or scent should never be put on the pan of the trap, but placed on a stick, or



4,200 Eggs From 48 Hens

Simply write me and I will send you a big double size box of my famous **Buttermilk Compound Tablets** by return mail, postpaid. I want you to know that you can double and treble your poultry profits by doubling or trebling your egg yield—perhaps get five to seven times as many eggs as did many of my friends last winter by using these wonderful tablets. Fed in drinking water or feed. Because I want these tablets known in every township in America I say: Try them at my risk. If you like them, tell your friends. If not, you are not out a cent.

Over 10,000 People Wrote Me Last Year

Here are a few samples of the kind of letters I get from all parts of the United States.

4,200 Eggs.

I used two boxes of your tablets. Before using them got only 6 eggs a day. Within two weeks was getting 12 to 15 eggs a day. In seven months I got about 350 dozen (4,200) eggs from my 48 hens. I did not have any Roup. I give your tablets the praise.
MRS. ARTHUR TUCKER. Wilkinson, Ind.

75 Eggs Instead of None.

I found the tablets were fine to start hens to laying. Before using the tablets I wasn't getting any eggs. Within 10 days after using tablets increase started. I was finally getting 75 eggs a day and fed the tablets until spring.
MRS. R. H. TULTZ, Scranton, Kans.

Makes 'Em Lay in Coldest Weather.

Last winter I fed two boxes of your tablets mixed with feed. Before using tablets got only 12 eggs a day—afterward 30 to 36 eggs a day. This was within three weeks. After feeding the tablets six weeks got 50 and 60 eggs a day and in the coldest weather in winter.
MRS. ELMER HOTTMAN, Ridgeway, Wis.

Best Tablets Made.

The Buttermilk Compound Tablets I think are better than the common tablets. I got more eggs within two weeks after using them. I have some other tablets but the "Buttermilk" are the best. I fed three boxes last winter. My flock did not have the Roup. Will send for more tablets.
MRS. WALTER ELLIS, Gypsum, Kans.

30-DAY FREE TRIAL

Because I want one million new users of these wonderful tablets I am willing to send you a big double size box if you will just write me. Your name and address is all I need. Use a postal card if you wish—I'll send the tablets by return mail, post paid. You use the tablets 30 days then report results to me. If you are not satisfied in every way—if you are not more than pleased—the tablets are to cost you nothing. But if you do find that you get many, many more eggs—probably three to five and even seven times as many—and your flock is healthier than ever before—full of pep and strutting around with healthy red combs—the tablets cost you only $1.00. No matter what you have tried before, I want you to remember that my secret formula is absolutely different from anything else—that it has been known to succeed where others failed. Not only that—you must remember that I send you a big double size box—nearly three time as big as the ordinary box of tablets.

At any rate, the risk is all mine. You can't afford to pass up this Special Introductory offer a single minute—it may never be made again.

Send No Money — Just Write Me, That's All.

All I need is your name and address—just put it on a postal card or use the coupon below—I'll understand and send you the tablets post paid by return mail.

MILK PRODUCTS CO.,
R. C. Combs, General Manager,
668 Creamery Bldg., Kansas City, Mo.

As per your offer send me your big double size box of Combs' Buttermilk Compound Tablets. I understand I am to use these tablets in a thirty days' test at one dollar the trial package, and if not satisfied, they are to cost me nothing.

Name .....

Address .....

R. F. D. .....P. O. Box.....

above or beyond the trap, and so arranged that the animal will have to step into the trap to reach the bait.

The muskrat is one fur-bearer that is familiar. A greater number of this little animal is taken during the fur season than any other kind of fur-bearer, and it is probably one of the easiest fur-bearing animals to trap. They live in marshy, sluggish places and along streams and ponds. One of the most common methods of trapping muskrats is to locate their slides on the banks and set traps under a couple of inches of water directly beneath the slides. The trap should be staked in deep water so that when the animal is caught it will drown. The sliding pole is a very good method of fastening the trap. Get a long sapling and trim it of its branches, except a few at the small end. Slip the ring of the trap chain on to the sapling, the small end of which should be slanted down into deep water and the other end securely fastened to a stake driven into the bank. The animal when caught will invariably dive into the water, the short trap chain will prevent him from rising to the surface and cause him to drown.

Another way is to get a log and cut shallow notches into it just wide enough to hold a trap. Set a trap in each notch and cover lightly with dead grass and leaves. A few small pieces of sweet apple, carrot, etc., may be scattered along the log as a bait. The log should be moored to the shore or anchored in the pond. The trap chains should be fastened to the log.

The skunk is another good fur-bearer for the amateur to practice on. They, too, are easily trapped, as they have no fear of man and are not at all suspicious. They make their homes in holes in the ground, hollow logs, under old outbuildings, hay mows, etc. The best way to trap a skunk is to set a trap in the entrance to its den. If you can find no den and there are skunk signs about, fasten a mouse or a piece of tainted meat to a tree or stake a foot from the ground and set a trap directly beneath. Skunk often travel along old fences, and this is a good place to set traps. Hang a piece of bait on to the fence and set a trap under the bait. Cover lightly.

Always leave the surroundings of your traps looking as natural as possible. The less visible signs you leave along your trap line, the better success you will have in catching the animals.

S. THOMAS.

Boys' Letters

Hoard's Dairyman Juniors:—I live on a farm of eighty acres. We have twenty-seven cattle and three horses. We have one pure-bred cow and bull, also one pure-bred heifer, and the rest are grade Holsteins. We are milking eleven cows at present.

We have some good ensilage this year.

I am twelve years old and in the eighth grade in school.

Last year I planted some field corn and some beets and lettuce.

Massachusetts. Henry J. Hartness.

Hoard's Dairyman Juniors:—I have been going to school so have not had time to write. I am in the 6th grade at school. I have $1.98 worth of tomatoes from my garden and have about two bushels of turnips and two of potatoes and one stack of beans. My mother bought a Guernsey cow and calf. The cow gives good cream. My brother milks the cow. I milk four and my father, five.

I will answer any letter from any of the juniors. My address is Reiter, Maine.

Horace Hopkins.

Hoard's Dairyman Juniors:—I live on a 50-acre farm. We have there milk cows. Two are Jerseys and one is a Holstein. I have one pure-bred heifer that is a Jersey. I have one filly which is two years old. We have four head of horses.

Missouri. Henry S. Howell.

Hoard's Dairyman Juniors:—I received the fob, creed, and button and was very much pleased with them. I have a pet pig. She is about five months old and I call her Wiggy.

I live on a 320-acre farm. Papa has about thirty head of cattle. We milk four. Papa has eleven head of horses and three sows with little pigs and some other hogs, too. I am thirteen years old and in the 7th grade.

Illinois. Tiny Hays.

Hoard's Dairyman Juniors:—My father has taken Hoard's Dairyman for many years and I like to read the junior letters. We live on a 160-acre farm and most of it is under cultivation. We have two silos and I think these are very good things to have.

I am thirteen years old and am in the eighth grade at school. We have a very good teacher. Her name is Miss Roeder. My brother and I have joined the calf club and we each have a registered calf and wish that we could win the prize. We are all through threshing and filling silos and have half of the one fed. We have fifteen cattle; nine of them are registered and the rest are grades. If any of the juniors want to write to me my address is R. F. D. 1, Rockyridge, O.

Hazel Biehler.

Hoard's Dairyman Juniors:—I am a junior, thirteen years old. This is my first letter to the juniors. I live on a farm of 100 acres. We have five horses. Their names are David, Grace, Bob, and Bill. We have two mules. Their names are Maude and Kate, and also two ponies. Their names are Dick and Mable and a burro whose name is Beauty. I own a heifer and a sow. We raise quite a lot of young pigs. We have two silos.

Pennsylvania. Walter T. Fogel.

Hoard's Dairyman Juniors:—I am thirteen years old. I walk about a mile to school every day.

We have fifteen cows; three of them are mine. I have fifty Brown Leghorn hens. I take all the care of them. I raised eighty chickens last summer. I kept the pullets and sold the roosters for $27 which I put in the bank. I also have two ducks my father bought for me this fall.

I enjoy reading juniors' letters and would like to have some of them write to me. My address is R. D. No. 1, Windham N. Y.

Claude De Vere Cooke.

Hoard's Dairyman Juniors:—I have a good heifer but she is out of a fine grade cow. Her sire is Sayda's Fairmont Jap. We think him as good an animal as Sybil's Gamboge. But I hope that I can get a registered female calf soon by Jap, out of one of our cows.

I have to get up about 4:30 in the morning and milk five cows.

This being my first letter and being bed time, I will have to close.

North Carolina. Eugene B. Worth.

Hoard's Dairyman Juniors:—I have been intending to write for a long time, but I have been very busy since school started.

I am 13 years old and live on a 170-acre farm. It is really a dairy farm, as we have about 50 head of Jerseys, but we also have some hay crops and corn. We have 9 pigs now, 6 farm horses, 2 colts, a pony, and a pair of half Hackney driving horses.

My mother and I have been keeping geese this year and will get about $80 for those we sent to market last fall, of which I will get half.

We also have 15 Shropshire sheep. I have one Dorset ewe and I am very anxious to get another registered one as I like that breed best.

My brother and I have a young goat which we got when 3 months old.

I wish some of the juniors would write to me and tell me of their geese or sheep, especially Dorsets, as I love them very much. I shall be very glad to write them and give them any information I can. My address is Box 3, Newtown Square, Penna.

Sidney Page Seeler.

Hoard's Dairyman Juniors:—I am 16 years old and am only about 6 ft. high. I have a registered Holstein heifer. She is nearly all white. We are planning on building a barn in the spring. We have not room for all of our cattle in our barn now. We are talking of selling our hogs tomorrow. We have Chester White hogs. I will be very glad to hear from any of you juniors if you want to write to me.

Wisconsin. John Hodgson.

Hoard's Dairyman Juniors:—I live on a farm of 160 acres. I have a cow, a Shetland pony, and a dozen and one-half young hens. My pony's name is Daisy. She raised a colt which I sold last year and invested the money in a Liberty bond. We had a dairy sale in October. We sold twenty-four Holstein cows and fourteen heifers.

I am ten years old and in the sixth grade. My sister is thirteen and goes to high school.

I hope some of the juniors will write to me. My address is R. D. No. 7, Lawrence, Kans.

Rush Herriott.

Hoard's Dairyman Juniors:—I live on a 200-acre farm. We have 20 grade Ayrshire cows. Our bull is a registered Ayrshire.

We have 5 horses and one colt. Their names are: Molly, Kit, Prince, Fred, Jerry, and Junior. Junior is the colt.

I have nine pullets, three old hens, and one rooster. They are all Rhode Island Reds.

If any of the juniors want to write to me my address is Clover Dale Farm, Saco, Me.

Irving Scamman.

SWINE



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We are now offering for private sale some good young boars and gilts. These are priced to sell. All of our stock is immune from cholera.
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have never possessed a finer lot of **BERKSHIRES** than at present. Let us name you prices on fall and spring boars and young gilts.
J. K. Dering, Owner, Lake Villa, Ill.



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are the best. Being made of aluminum they are brighter, lighter, stronger and more durable than any other. Fit any part of the ear. Nothing to catch on feed trough or other obstacle. Your name, address and any series of numbers on each tag. **Sample tag**, catalog and prices **mailed free.** Ask for them.
Address **Wilcox & Harvey Mfg. Co.,**
568 W. Randolph St., Chicago, Ill.

SOW

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Get your seed potatoes of Salzer this year and have a bumper crop. Honestly, you can't afford to waste land and labor on "scrub" seed when vigorous, healthy, pure-bred seed like Salzer's will pay for itself many times over in better yield and quality.

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We guarantee all Salzer Flower and Vegetable Seed to be satisfactory to you or will refund full purchase price.

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The rate for advertising in this department is 10 cents per word. Count address. Remit in advance. Copy must reach us 8 days ahead of date of issue. Farm labor advertising 7c per word.

STOCK FOR SALE

Registered Holstein females, open heifers, bred heifers and nearby springers that have quality. Bred to good sires. Do not write but come and investigate. C. S. MULKS & SON, Whitewater, Wis. 1*

If you are in need of pure-bred Holsteins of any age or grade Holsteins it would pay you to see me as I have from 1 to 3 carloads on hand all the time. If I do not have what you want, I will help you find them as I know where to go. R. D. LEE, Cazenovia, N. Y. 3*

Holstein heifer and bull calves. Pure-bred, registered and high grade. Splendid individuals and breedings. Delivered to you, $25 and up. Your inquiry will be given our best attention. BROWNCROFT FARMS, McGraw, N. Y. 5*

I have usually 100 head of registered and high grade Holsteins on hand for sale. Also registered and imported Percheron and Belgian horses. RALPH HUDSON, Milton Junction, Wis. 12*

For Sale—At Elmwood Stock Farm, high grade Holstein cows, fresh and springers, by the carload. JOHN MURPHY, Mukwonago, Wis. 3*

"The Willows" offers fifty high grade Holstein cows for sale. S. D. SHAMBEAU, Waupaca, Wis. 12*

High Grade Holstein heifer calves, two to four weeks old, from tuberculin tested herds, $30 each, crated. Will ship C. O. D. WAUKESHA CO. HOLSTEIN-FRIESIAN BREEDERS' ASSOCIATION, Waukesha, Wis. 9*

High Grade Holstein and Guernsey calves. $25 crated. Safe delivery guaranteed. BROWN & COLLINS, Lima Center, Wis. 16*

Serviceable grandsons of Lola Segis Pontiac Homestead for sale, he a 34-lb., 1,000-lb. son of Piebe Laura Ollie Homestead King. Their dams are daughters of Joe Oak De Kol Fobes. Well grown, good individuals. Your choice, $150. R. W. MEAD, Stillwater, Minnesota. 10*

High Grade Holstein calves 6 to 8 weeks old, $30.00 each. We pay express and ship C. O. D. SPREADING OAK FARM, Whitewater, Wis. 11-tf.

For Sale—30 high grade Holstein milkers and springers. Will sell one or all. FRED JOHNSON, Waupaca, Wisconsin. 23*

Closing out herd of grade Holsteins, $100.00 each. H. A. KUHTZ, Waukesha, Wisconsin. 24*

Registered Holstein calves, either sex, also bulls of serviceable age. DIEHL, LANUS & WENTE, Montrose, Illinois. 25-3

Holsteins—37-lb. herd sire, young bulls, cows, heifer calves. PHILIP LEHNER, Princeton, Wis. 1-3

Holstein bull, ready for service, 2 dams averaged 106 lbs. milk 1 day, 40.67 lbs. butter 7 days. $200. Terms. ROY HARRIMAN, Appleton, Wisconsin. 25-6

Registered Holstein heifer calves $75. 7 months old, $100 each. E. A. FOTH, Sparta, Wisconsin. 25-3

For Sale at bargain price, six registered Holstein cows. A. R. O. stuff and outstanding individuals. M. H. ALEXANDER, Carlinville, Illinois. 26-2

You take no chances when you order your Holstein heifer calves from me as I ship C. O. D. and pay express. Also a few real producing cows cheap. E. F. THOMAS, Oconomowoc, Wisconsin. 26-8

$250.00 buys a registered Holstein bull soon ready for service and a six-month-old heifer calf. Good prospect for a high record cow. Sure to please. A. H. ANDERSON, Goodhue, Minnesota. 26-2

Bull for Sale—14 months old, good individual, well grown, ready for service. Two nearest dams average 34.55. Bulls for sale by 37.45-, 1,127.85-lb. sire, tested and untested dams. Good individuals nearly ready for service. CLARENCE J. PESTER, Whitewater, Wisconsin. 26-3

For Sale—Bulls ready for service by Illona Dark Mystic, whose sire is 32-lb. grandson of K. P. Pontiac Lass. No. 1 from 19.58-lb. 2-year-old daughter of 27.43-lb. cow. Price $250. No. 2 out of 21.27-lb. junior 4-year-old. Price $200. GEO. B. WALKER, Elmhurst, Illinois. 1-2

We have serviceable bulls, also bull calves, all out of good record dams for sale at real farmers' prices. Investigate and convince yourself. We always satisfy. DATE HOLSTEIN FARMS, Baroda, Mich. 1-4

Do you want the very best? I offer beautifully marked, high grade Holstein heifer calves at only $20. Registered bull calves, $40. Will ship C. O. D. and if calves don't satisfy don't take them. J. M. McFARLAND, Watertown, Wisconsin. 1-2

Grandsons of Homestead Junior and of 37th for sale, from A. R. O. dams, of all ages. Pure-bred heifers and cows, bred. High grade heifer calves from producing dams a specialty. S. E. JONES, Watertown, Wisconsin. 1-4

For Sale—My entire herd of choice high grade Holsteins, mostly bred to and sired by thirty-pound bull. There is one full load of the best large heifers in southern Wisconsin, uniformly marked, about three-fourths white. C. L. SIMMONS, Belmont, Wis. 1*

Guernseys for Sale—Members of the Ohio Guernsey Breeders' Association own more than 2,000 registered females. Also some of the finest bulls of the breed. Think of the progeny that results each year. Write for sale list of males and females. OHIO GUERNSEY BREEDERS' ASSOCIATION, Box 602, Sylvania, Ohio. 4*

Serviceable and younger grandsons of Beauty Eagle, 846 lbs. fat, and of Bonny Boy of Riverdale. Out of heavy producing cows. Farmers' prices. LA BELLE KNOLL FARM, Oconomowoc, Wisconsin. 14*

For Sale—At Tamarack Farm. Three registered Guernsey bulls, one three years old from imported cow; one two years old; one bull calf six months old from imported cow and Craigamoor's Beau Regal, whose dam has finished a test of 679.4 B. F. Also ten high grade Guernsey heifers. All have passed government tuberculin test. Address A. W. BROWN, Rhinelander, Wisconsin. 16*

For Sale—Guernsey bulls, some of serviceable age. Sired by May King's Vrangue of Ingleside and Cinderella's King of Mound City and from dams with good A. R. records. CHAS. A. WILKINS, Platteville, Wisconsin. 17*

My entire herd of grade Guernseys for sale. Also a few choice heifer calves at $30.00 delivered. SHADY HILL FARM, Whitewater, Wis. 23*

Guernsey heifer calves. Can ship you 10 at once about 4 weeks old. Calves out of my own herd, so know what I am shipping. $30 each crated, F. O. B. Waukesha. WERN FARMS, Waukesha, Wis. 18*

George-Washington Farms' Guernseys. Choice young bulls of serviceable age. GEORGE-WASHINGTON FARMS, Mankato, Minnesota. 19*

Guernsey bulls of May Rose breeding with records up to 700 lbs. fat in B. B. Beautiful heifers (grades) in calf, also few Holstein springers. H. A. KUHTZ, Waukesha, Wisconsin. 19*

STOCK FOR SALE

Guernsey calves six weeks old, $30, delivered. THOMAS HAGERTY, Knapp, Wisconsin. 18*

Guernseys—All ages, both registered and grade. H. A. MAIN Sec'y, Jefferson Co. Guernsey Breeders' Association, Fort Atkinson, Wisconsin. 20*

For bargains on May Rose bulls with type and production, write KUHTZ BROS., Waukesha, Wis. 21*

100 head of pure-bred and grade Guernseys. A great bargain for someone who can handle that number. Address BOX 518, care Hoard's Dairyman. 23*

For Sale—Daniel Rilma 49395, a junior 4-year-old Guernsey bull of merit. Price $150. HARRY W. DOTY, Savanna, Illinois. 23*

Guernseys—High grade Guernsey calves, either sex, four to six weeks old, bred for production of milk and butter. Thirty dollars apiece delivered to any station, express charges paid here. Send orders or write. LAKE VIEW GUERNSEY PLACE, Whitewater, Wisconsin. 26-tf

Two serviceable Guernsey bulls for sale. Dams Advance Registry records average over 600 lbs. fat. HOMER RUNDELL, Livingston, Wis. 24*

For Sale—Registered Guernsey bull calves, good producing dams at farmers' price. OTTO KRUEGER, 427 East Broadway, Toledo, Ohio. 24*

Extra good bull calves—I have ten fine, well grown out bull calves for sale. This ad good for $25.00 for the first five men sending this ad to me and buying a bull. Tested dams and fully guaranteed. FRISSDALE FARM, Hopkins, Minnesota. 25-4

Guernseys for Sale—From Federally Accredited herd. Bull calves, two bulls ready for service, sired by Clara's Sequel and out of high testing dams. Also ten pure-bred females. LLOYD RUNDELL, Roberts, St. Croix County, Wisconsin. 26*

Guernsey females—Six pure-bred Guernsey cows. Good type, size and production. Fully guaranteed. Fine foundation stock. Come at once. FRISSDALE FARM, Hopkins, Minnesota. 25-4

For Sale—Going out of dairy business, offering herd sire, bull calf and 4 mature cows, all registered Guernseys. First check for $600 takes them. TROUTMERE FARM, Sanborn, Wisconsin. 26-2

Registered Guernsey bull calves out of sire whose dam has A. R. record, 818.04 pounds butterfat as 3½-year-old. Farmers' prices. C. R. KISSINGER, Ottawa, Kansas. 26-2

Two serviceable Guernsey bulls, and some younger, for sale at reasonable prices. JOHN NELSON, Perrydale Farm, Harshaw, Wisconsin. 1-3

For Sale—Registered Guernseys. Both sexes. Herd under Federal Supervision and free from disease. CLOVERNOOK FARM, Whitefish Bay, Milwaukee County, Wisconsin. 1-4

May Rose Guernsey bulls, serviceable age, from record dams or on test, sired by Pencoyd's Golden May Secret and Heiress' King of the May. If you are short of cash we will take your note if it's good. Send for sale list. ORA BREITRICK, Appleton, Wisconsin. 1-2

Oshkosh Demonstration Farm offers registered Guernseys and Holsteins, both sex. T. G. BROWN, Director of Agriculture, Oshkosh, Wisconsin.

Registered Guernsey bulls. Good breeding. One of serviceable age, two younger. Will sell them at a bargain. ALOIS A. BINDL, Spring Green, Wis. 1-2

Serviceable Guernsey bull for sale. Dam has 501 lbs. double letter record. $125 buys bull calf whose five nearest dams average 489 lbs. fat. May Rose breeding. SEYMOUR FARM, Osseo, Wis. 1-3

Jersey bulls—Pogis Oxford breeding. Tested dams. Clean, priced to sell. F. O'DONNELL, Rock Creek, Minnesota. 26-2

Polled Jersey male calf eligible to register. CHRIS. LONKE, Sunman, Indiana.

For Sale—1 yearling registered Ayrshire heifer. 1 8-month-old registered Ayrshire heifer. JOHN T. HAIGHT, Koshkonong, Wisconsin.

STOCK WANTED

Want to buy 50 head of Holstein heifers, 3-year-old close-up springers. Every one must be the right type and quality. G. J. THOMAS, Sioux Falls, South Dakota. 25*

Wanted to Buy—One mature bull, good breeding, also 2 to 4 two-year-old bulls, one car registered cows, two cars heavy grade springers. Four cars 2-year grade springers. All tuberculin tested and must be good stock and price right. Quote lowest price first letter. F. L. DAVIS, Cosa Grande, Arizona.

Guernsey bull over eighteen months old, healthy, good individual, guaranteed breeder. Three nearest dam's records above 500 lbs. fat each. Send full particulars, photograph, lowest price first letter. HASKELL'S DAIRY, Augusta, Georgia.

STOCK BUYER

Registered dairy cattle bought and sold. EDWARD A. WALTER, 111 Monroe St., Chicago. 18*

DOGS

German Shepherd, airedales, collies, and old English Shepherd dogs. Brood matrons, puppies, farm helpers. 10 cents for instructive list. W. R. WATSON, Box 520, Oakland, Iowa. 20*

For Sale—Black and tan female Shepherd dog, two years old. Male dog, four months old. GRIFF R. JONES, Wales, Wisconsin.

POULTRY

Highest prices paid for live and dressed poultry, wild rabbits, pigeons, veal, hides, etc. Quick returns, fair treatment. C. E. McNEILL & CO., 325 W. So. Water St., Chicago. 24*

S. C. W. Minorca cockerels. Eggs in season. CHRIS. LONKE, Sunman, Indiana.

For Choice Single Comb Rhode Island Red Cockerels of the Winnebago strain write EDWARD NITSCHKE, Burnett, Wisconsin. 1-4

Pure-bred barred Rock and Rhode Island Red cockerels $2.00 each. JAMES KANE, Avoca, Wisconsin.

Thoroughbred mammoth bronze turkeys from prize winning stock. Toms, $10; hens, $8. EDW. SMITH, Viroqua, Wisconsin.

HORSES

For Sale—A pure-bred Percheron stallion, six years old. Best records can be obtained with horse. A good breeder, and will work. I will also exchange for either Holstein or Guernsey cattle. FRANK LAYKOVICH, Box 36, Willard, Wisconsin. 26-2

SWINE

Choicely bred registered Berkshire spring boars and bred gilts, reasonable prices. Also Highwood bred herd boar, fine individual, born March 1919, sure breeder. QUINEILO FARMS, 297 East Water, Milwaukee. 26-2

Duroc-bred gilts and boar. Prize winners. PHILIP LEHNER, Princeton, Wisconsin. 1-3

Berkshire fall pigs. Sired by a grandson of Epochal and Hillside's Emancipator. BRUNO HOPPE, Cedarburg, Wisconsin. 1-2

Grow your own boars. Choice fall pigs at low prices. Pedigreed. Big boned Chinas, Chesters and Durocs. BURNETT CO. PEDIGREE SWINE ASS'N, Grantsburg, Wisconsin.

For Sale—Pure-bred big type Poland China pigs, three months old, both sex, at farmers' prices. S. O. WEBSTER, Route 2, South Haven, Michigan. 1-2

For Sale—Chester white pigs boars and gilts, big type. Babcock's prize stock. BULL MOOSE STOCK FARM, Watertown, Wisconsin.

EXCHANGE

One 60-ft. steel tower, tower ladder and tank ladder for sale or exchange for A. R. O. Holstein bull of serviceable age or young stock. JOHN T. WILSON, Route 2, Sparta, Illinois. 26-2

MACHINERY

For Sale—Two-unit Hinman Milker, complete, new, never used. $135.00. JOHN ROWE, Route 4, Box 177, Lincoln, Nebraska. 26-2

Want the cheapest, handiest belt power? Then ask me about my Little Twister Power Transmitter for Ford and Dodge cars. FRANK R. WEISGERBER, Salina, Kansas. 16*

For Sale Cheap—A small lot of standard make Swedish Cream Separators, 400 pounds capacity, $29.00, 500 pounds capacity, $34.00, 700 pounds capacity, $39.00. These are all new machines, wonderful bargains. THOMAS TAFFEE, Box 355, Lansing, Mich. 18*

One Empire Double-unit Milker, good as new, $110.00 sent on approval. Satisfaction or money back. WALTER GERWIG, Forreston, Illinois. 26-2

For Sale—One No. 110 De Laval Clarifier, as good as new, capacity 4,000 lbs., price $300.00. NORWALK DAIRY, Norwalk, Ohio.

For Sale—12-25 Avery Tractor with four 14-inch bottom plows in good running condition, reasonable price, or would consider exchange for registered or high grade Holstein bred heifers or young cows. Address SPRING, 1st Nat. Bk. Building, Chicago.

First check for $125.00 takes my 2-unit Sharples Milker. Good as new, a snap. O. H. WEBER, Oconomowoc, Wisconsin. 1-2

For Sale—Lally Light Plant, good as new, $250.00. BULL MOOSE STOCK FARM, Watertown, Wisconsin.

Empire Three Double-Unit Milking Machine, with pump and tank complete, used thirty days, good as new, cost $610.00. First check $300.00 takes it. QUINEILO FARMS, 297 East Water, Milwaukee. 1-2

For Sale—Two Sharples Single-unit Milkers, complete with one extra pail; used only nine months, $150.00; or one-unit complete, $75.00. Remit with order. If sold, money will be returned. SUN RISE DAIRY, Tazewell, Virginia.

For Sale—One three-unit Hinman milking machine with one extra bucket, 1916 model, price $100.00. SAM HAMPTON, New Florence, Mo.

Wanted to Buy—Hand capping device. State make and price. Address BOX 574, care Hoard's Dairyman.

For Sale—1 milk testing machine, 1 oil stove, 1 water tank heater, $25.00. Also small Shetland pony, $50.00. J. G. McDONOUGH, 168 North Ann Street, Chicago.

Three-unit Hinman Milker, double-unit Empire Milker, two double-unit Universal Milker, Davis-Watkins washer, rinser and sterilizer. All outfits complete and as good as new. D. OFFRINGA, Ames, Iowa.

For Sale—De Laval Clarifier No. 100 in good condition, 10 months in use, $100.00. PRIMROSE FARM, Ardmore, Oklahoma. 1-3

HAY

Alfalfa Hay—100 cars good green hay cured without rain. Irrigated. Wire or write for price. W. H. McCORMICK SEED HOUSE, Billings, Montana. 26-8

Alfalfa and prairie hay for sale. Prompt shipments. Personally inspected loading. Wire or write GUNN HAY CO., Lexington, Nebr. Reference Lexington State Bank. 11*

Number one and choice alfalfa hay and seed ready for shipment. Address A. L. DAMON & COMPANY, Inc., Rapid City, South Dakota. 8*

Alfalfa Hay for Sale—Write or wire for delivered prices. ALBERT MILLER & COMPANY, 192 North Clark St., Chicago. 17*

Alfalfa. We handle nothing but the very best quality. Write or wire JAMES BROTHERS, Rapid City, S. D., for delivered prices. 20-10

Alfalfa hay direct from producer, Nebraska dry land grown. For quick shipment wire ROSENBERG BROS., Lexington, Nebr. 24-4

SEEDS

Want to Buy—Medium red clover, alsike, and timothy seed. DADMUN BROS., Whitewater, Wis. 23*

Pure Grass Seeds at ½ of last year's prices, also seed corn, soy beans, seed grains, etc. Bargain list free. BECKMAN'S SEED FARM, Cokato, Minn. 24-6

Alfalfa, $10.00 bu; timothy, $3.00; Kaffir, $1.25; Caneseed, $1.00; sweet clover, $11.00; Sudan, $6.50 cwt.; sacks free. Satisfaction or money back. RELIABLE SEED CO., Salina, Kansas. 26-3

No. 1 Alfalfa Seed—$11.00 bushel, sack lots, F. O. B. Jerome. WILLIAM VEAZIE, Jerome County Farm Bureau, Jerome, Idaho. 26-2

Farmers, ranchmen and dairymen. Order your Grimm and Cossack alfalfa seed direct from the grower. All seed recleaned and guaranteed. Ask for samples. WM. H. K. WILLIAMS, Triangle Ranch, Cottonwood, South Dakota. 26*

Sweet clover, white blossoms, scarified. Greatest hay, pasture, weed choker, fertilizer known. Guaranteed clean. Seed twenty cents per pound. MUTUAL LAND CO., Grand Forks, N. Dak. 26-2

Jacques' Seed Corn—Early maturity, high yield, perfect germination. Grown in Clark County, North Wisconsin twelve years. My Golden Glow ripens in 100 days, yields 60 bushels shelled corn per acre. My North Wisconsin Yellow Dent ripens in 90 days, yields 50 bushels shelled corn per acre. Picked before frost, thoroughly fire dried. Careful tests show 98% to 100% germination. Money refunded if corn is unsatisfactory. Write for folder and prices to WM. H. JACQUES, Neillsville, Wisconsin. 1-13

Seed Corn—All leading varieties suitable for Northwest. Grown in Rice County under our strict supervision. Also clover, timothy, alfalfa. NORTHFIELD SEED CO., Northfield, Minn.

FEEDS

Buy your condensed buttermilk for hogs and poultry at FRED C. MANSFIELD COMPANY, Johnson Creek, Wisconsin. 26-4

Molasses—Richest feed, lowest cost. Write for special price. CHICAGO MOLASSES COMPANY, 1131 East 77th St., Chicago, Illinois. 25-spl

FEED BAGS

Ship your bags to LARIMER BAG CO., Washington, D. C. 11-spl

TANNING

Let us tan your hide: Cow, horse, or calf skins for coat or robe. Catalog on request. THE CROSBY FRISIAN FUR CO., Rochester, N. Y. 1-52

FARMS FOR SALE

For Sale— Choice dairy farms in the dairy center of the world. R. B. HELLEN, Jefferson, Wis. 1*

For Sale—Choice Ohio farms. All sizes and prices, some great bargains. Write for list. I. J. MILLER, JR., Conneaut, Ashtabula Co., Ohio. 22*

Farms, ask French if he has what you want. Write him and state your wants. Reference any bank here. J. R. FRENCH, Cortland, N. Y. 24-13

Landology special number just out, containing 1921 facts of clover land in Marinette County, Wisconsin. If for a home or as an investment you are thinking of buying good farm lands where farmers grow rich, send at once for this special number of Landology. It is free on request. Address SKIDMORE-RIEHLE LAND CO., 47 Skidmore-Riehl Bldg., Marinette, Wisconsin. 25-12

For Sale—Stock and dairy farm, 157 acres, buildings, stock and machinery all in good condition, six miles north from Sheboygan, Wisconsin. For particulars write owner, OTTO GERBING, Route 1, Sheboygan, Wisconsin. 26-4

Rose Valley Farm—137 acres; 17 miles macadam roads to City Hall, Philadelphia; owner's residence, electric lights, hot water heat, open fireplaces; beautiful lawn and shade; extended view; large stable and carriage house; modern cow barn, 48 head; tenant houses; purest water in abundance; all necessary buildings; macadam roads each side and through farm; $50,000 less than cost of buildings. FARM 2024 N. 10TH ST., Philadelphia, Pa. 26*

For Sale—Or will exchange for eastern dairy farm, 240-acre finely improved, irrigated farm with abundance of water. Located Colfax County, New Mexico. Price $125.00 per acre. W. S. HAYES, French, New Mexico. 26-2

Free Wisconsin Bulletins, soil, climate, crops. IMMIGRATION BUREAU, Wisconsin Dept. of Agriculture, Capitol Drawer 125, Madison, Wisconsin. 26-13

Alfalfa, corn, grain and live stock farms. Best in famous prarie belt for the money. Write me what you want. H. H. HANSEN, Macon, Miss. 21-spl

We have productive farms to sell for the value of its buildings. NEW YORK FARM AGENCY, Westfield, N. Y. 19-spl

Farm Bargains—60 miles Twin Cities. Free list. man. BAKER O 76, St. Croix Falls, Wisconsin. 8-spl

375 acres, $6,000 with horses, 24 cows and heifers, oxen, machinery, hay, crops; estimated 1,000 cords wood, 200,000 ft. timber; 1½ miles town; 100 acres tractor-worked; 70-cow spring-watered pasture; 200 apple trees; equipped 1,600-bucket sugar grove; good house, silo, 3 barns, etc.; easy terms. Details page 16 Strout's Illustrated Catalog 1200 Bargains. Free. STROUT FARM AGENCY, 150 DL Nassau St., New York City.

For Sale—Dairy farm, 212 acres, 45 registered Holsteins, 4 horses, all farming tools, milking machine, modern buildings, some furniture; everything goes for $20,000 half cash. Address OWNER, Box 23, Center Village, Broome Co., N. Y.

For Sale—In central New York alfalfa belt, one of the best producing 250-acre stock farms. No waste or hill land. Beautiful equipment of buildings, stock and machinery. Conveniences include electricity for light and power. Will sell including personal at low price. Liberal terms. High school, churches, main line railroad and trolley one mile. J. RAY TOTTEN, Savannah, New York.

For Sale or Rent—Finest dairy farm in Eastern Tennessee, located on L. & N. Road 40 miles Knoxville. Farm extends within corporate limits of county seat. 500 acres productive, level land—100 acres of grass and clover, 45 acres seeded to wheat, 85 acres woodland. Five churches, county High School, rocked roads. Would sell or rent to party buying stock and tools. Widows farm. Address KEFEUVER FARM, Madisonville, Tennessee.

A 200-acre improved stock farm. Terms reasonable. Write JOHN ROBERTS, Route 4, Rio, Wisconsin.

Farm for Sale—77½ acres, 8-room house, barn with L30x40—20x30. Four chicken coops, all out buildings. Dark loam soil, all tile drained, near school. State road. One mile to station. Price including stock and tools, and immediate possession, $10,000. F. W. LONG, Geneva, New York.

Hardwood cut-over land, silt loam, clay sub-soil. Neither sandy nor gravelly; close to town; good roads; good schools; in the heart of the dairy country. You deal directly with the owners. No agents and no commissions. Easy terms. Also improved farms. Write for map and Booklet No. 4. NORTH WESTERN LUMBER CO., Land Department, Stanley, Wisconsin. 1*

Farm for Sale—215-acre equipped farm near R. R. town, 15 head cattle, pair horses, 75 hens, tools, hay, oats, potatoes; 40 acres timber, 25 acres pasture, running water. 150 acres can be worked with tractor; variety fruit; good 12-room house, basement barn; running water at house and barn. Price $7,000. SAMUEL C. RAMSBURG, Route 1, Georgetown, New York.

FARMS FOR RENT

Wanted—Good, responsible share man, one who can furnish references. Have 200 acres of good work land, shed room for 20 acres tobacco. Good house and good buildings all electric lighted. Farm is seven miles from Edgerton, 1½ miles from creamery. ALFRED THRONSON, Route 3, Edgerton, Wisconsin. 1-3

WANTED TO RENT

Wanted—To rent dairy farm or general farm, fully equipped, in middle Atlantic States, on shares with option to buy herd or farm or both. Address S. S. LEVISEE, Somerset, Pa.

Dairy farmer experienced in management large place, growing crops and making Advanced Registry records, wants to rent for cash for term of years fully equipped dairy, at least 50 cows with sufficient productive land adapted to corn and alfalfa to support them. Pure-bred Holsteins preferred but would consider grades if accompanied by retail milk route. Moderate climate east of Mississippi River preferred. Address BOX 580, care Hoard's Dairyman.

Wanted—By family experienced stockmen, good farm, stock, equipment, on shares with option to buy, in central New York State. Address BOX 579, care Hoard's Dairyman.

Dairy farmer with own help wants to rent large equipped dairy farm that carries 40 to 70 cows. New York State preferred. JOHN STAUFFENEGER, Cortland, New York.

Wanted to rent by two young men, dairy farm consisting of 100 to 120 acres, within a radius of 100 miles from Milwaukee. Farm must have silos and good buildings as we intend to buy in the later years. Address BOX 583, care Hoard's Dairyman. 1-2

Want to rent small, modern, registered Holstein dairy in Minnesota on shares. Address A. C. HOLSCHUH, Maple Lake, Minnesota.

PARTNER WANTED

Partner wanted to operate 200-acre farm on share plan. Must have own help and be capable. Holsteins or Guernseys. Fine location in city limits. Good buildings. Close to school, church and cheese factory. Address BOX 398, care Hoard's Dairyman. 13-*

Partner Wanted—Experienced dairyman with own help. Half and half basis. We furnish farm, horses, equipment, etc. You furnish labor and herd of cows. ROY SMITH, LeRoy, McLean Co., Illinois. 26-2

HONEY AND CHEESE

Honey and cheese of superior quality in family size packages. Price list free. I. B. ROSA, Monroe, Wis. 21*

Clover honey. Ten-pound pail $3.00 postpaid. Larger sizes, write for prices. SCHULTZ APIARIES, Ripon, Wisconsin. 25-3

MILK PLANT

$1,500 takes this milk business in a thriving town of about 8,000, located in center of business district. City borders Fort Riley and Camp Funston. Interurban service to Kansas State Agricultural College at Manhattan 22 miles away. Best of educational facilities. Ideal place for man with family wishing to educate children. Doing fine business with a very good chance of oil boom in spring. Poor health reason for selling. For further particulars write P. D. ABBOTT, 130 W. 7th St., Junction City, Kansas.

PRINTING

Hoard's Dairyman Art Department designs your letter head free. Just tell us your breeds of stock. Book of 5,000 Farm, Ranch and Cottage names 25 cents. Ask for samples of letter heads, envelopes, shipping tags, cards, milk tickets, etc. Poor stationery is more of a damage than a help. Be sure and give correct post office address, including state. Address HOARD'S DAIRYMAN, Art Dept., Fort Atkinson, Wisconsin. 8-tf



Advertising in this department is 7c per word
Remit in advance.

POSITIONS WANTED

Do you want herdsmen, dairymen, poultry men, farm assistants, greenhouse men, farm foremen or other farm help? We have a few well trained men available on March 1st. BERNHARD OSTROLENK, National Farm School, Farm School, Pa. 26-3

Position wanted by young single man, clean and experienced in dairy work. Best references. Illinois preferred. $55 and board. Address BOX 560, care Hoard's Dairyman. 26-2

Farm Superintendent—Scientific, practical, energetic, desires position on large modern farm or estate and will put same on paying basis. Experienced in Advanced Registry, pure-bred stock, modern farming, tractors, orcharding, road and building construction. Married, no family. Excellent references. Address BOX 544, care Hoard's Dairyman. 25-4

Position wanted as farm manager. Single, agricultural college training, lifetime experience with live stock and crop production, up-to-date with farm implement and tractors, 10 years in managerial capacity, best of references. Address BOX 509, care Hoard's Dairyman. 22-3

Dairy manager—Married, six years' experience running dairy farm with most profitable results. Best references. Right man to make your dairy pay. Write offer. GASTON RIGAUX, General Delivery, Moline, Illinois. 25*

Herdsman, single, capable of managing pure-bred herd successfully. Long experience, A. R. O. work. Best references. BOX 98, Barnegat, N. J. 26-2

Job wanted—By experienced herdsman and farmer, successful calf raiser, A. R. O. feeder. Experienced with all kinds farm machinery, including tractors. Address BOX 558, care Hoard's Dairyman. 26-2

Farm Manager—Life experience all lines general farming and dairying, college training. Experienced in handling all types farm machinery, stationary engines, tractors, etc. Prefer commercial proposition. Address BOX 568, care Hoard's Dairyman.

Want position with Holstein breeder as herdsman. Highly experienced in the handling of cows, feeding in the different lines of work, raising calves. Can furnish best of reference. Address BOX 572, care Hoard's Dairyman. 1-2

Farm Manager or estate superintendent open for position February 15th. Modern methods and practical application to scientific farming. Experience in every operation connected with large farms; construction, road-building, landscaping, farm mechanics and all branches of stock raising and crop production. References. Address BOX 578, care Hoard's Dairyman.

Farm Manager—Open for position. American, 30 years old, married, one child. Life experience pure-bred Holsteins. Six years as manager. Understand modern dairy farm machinery, crop rotation, feeding, fitting for show and test. Qualified to establish and take complete charge of large proposition. Excellent references. Give full particulars. Address BOX 575, care Hoard's Dairyman.

Position Wanted—As manager of modern farm or estate or one that will be made so. Lifetime experience in stock raising, soil improvement, fruit growing, machinery, new improvement work. Six winters at Agricultural Colleges. Thirteen years in present position. Address BOX 576, care Hoard's Dairyman.

Wanted—Management large proposition in East. Registered stock preferred. Thoroughly experienced. Cornell training. Fully recommended. Married, two children. Address BOX 577, care Hoard's Dairyman.

Farm Manager, scientific and practical in general farming, soil improvements, dairying, calf raising, swine, poultry, orcharding, desires situation. Address BOX 581, care Hoard's Dairyman.

Experienced, reliable, protestant, American, aged 30, wants steady place on modern dairy or creamery close to school. Have wife, 2 children. Prefer California. State wages and particulars first letter. DON E. SMITH, Craig, Mo. 1-2

Young man, aged 20, with dairy experience, wants good steady position by February 1st, on dairy or stock farm with chance for advancement. Will go anywhere, providing employer pays transportation. References. State wages, hours and privileges. EMORY J. STEELE, Box 253, Fort Atkinson, Wisconsin.

AGENTS WANTED

Yes Sir, we have a special opportunity for you during spare time, an opportunity to do some good work in your neighborhood, for the betterment of dairy farming, that will pay you in cash for the effort you put forth. Write for our "Special Opportunity Getting Together" folder. Address HOARD'S DAIRYMAN, Fort Atkinson, Wis. 2-tf

Agents—Man sold 18 sprayers and autowashers one Saturday. Profit $54.00. Square deal. Steady work. Write RUSLER COMPANY, Johnstown, Ohio. 25-spl

MISCELLANEOUS

Firemen, Brakemen, railroads everywhere, beginners $200, later $300. RAILWAY ASSOCIATION, Desk W5, Brooklyn, New York. 26-3

Would much appreciate information as to present location of William Saalbach, late of Mulvane, Kans. Address BOX 582, care Hoard's Dairyman.

POSITIONS WANTED

Manager open for position April 1st; 44 years, married, no children; 24 years practical experience in all branches of dairy farming and the breeding of pure-breds. A practical man who has handled large propositions successfully, understanding the laws of heredity, breeding, selling, pedigrees and feeding for records. Leaving on account of changing owners, Jerseys preferred. Address BOX 571, care Hoard's Dairyman. 1-4

Position wanted as hog herdsman. Single, understands feeding and care taking. Have fitted for show and sales. Have handled some of the best herds in East and West. Reference furnished. State wages in first letter. Address BOX 584, care Hoard's Dairyman.

Married man, 31, open for position February or March 1st on dairy farm. Good dry hand milker. Wages in first letter. References exchanged. P. H. HADIX, Route 5, Memphis, Missouri.

Young man wishes position as assistant herdsman on large dairy farm. Age 17, clean habits. State wages and particulars. GEO. LOEHNDORF, Saukville, Wisconsin.

Wanted—Position on dairy farm at once by experienced man, single, nine years' experience. Can furnish good references. State wages willing to pay and all particulars. HENRY C. MUELLER, 1241 S. Water Street, Stevens Point, Wisconsin.

Thoroughly dependable married man, no children, wants yearly contract. Accustomed work, responsibility. Money making dairy farming, North or South. Cannot board help now. Wire or write describing farm and equipment, location, compensation, work expected, house and surroundings. CLARENCE DORSEY, 122 West Ormsby St., Louisville, Kentucky.

HELP WANTED

Wanted by March first. Single man to work with herd of A. R. O. Holsteins. Must be willing to help take care of cows on test as well as all other work in barn. Prefer young man with clean habits who is a hustler. Give references and salary expected in first letter. KILPATRICK BROS. CO., Beatrice, Nebr. 19*

Wanted—Railway mail clerks, $135 month. Vacancy list free. Write. FRANKLIN INSTITUTE, Dept. G 118, Rochester, N. Y. 25-5

Wanted—Middle aged herdsman to take charge of modern dairy barn. Prefer married man with no children. G. J. THOMAS, Sioux Falls, South Dakota. 25*

Wanted—An experienced dairyman, well recommended, married, no children. A. S. ROSENZWEIG, Shepherd, Tenn. 26-2

A position open at once for a good married general farm man. Permanent place for right man. Farm near Chicago. Give nationality, age, reference, wages, etc., in first letter. Address BOX 554, care Hoard's Dairyman. 28*

Wanted—Man and wife without children as caretakers for small farm in Northern Wisconsin. Address W. A. HANCE, Freeport, Illinois. 26-4

Wanted—Married man for general farm work and caring for stock, very little milking; wife to board one extra man; position open March 1st. Good wages, permanent position. A. C. RAMSEYER, Smithville, Wayne Co., Ohio. 26-3

Wanted—Herdsman skilled in compounding rations and handling cows on Official Test. None need apply who have not to their credit a cow with a 30-lb. seven-day record or a 1,000-lb. semi-official record. Address BOX 570, care Hoard's Dairyman. 1-3

Clean cut and experienced single man about 30 years of age, for herdsman with pure-bred Holsteins. Must have good references and be a good A. R. O. feeder, with ability to make good records. Salary $85.00 per month and board. Address GRANT E. VOLLAND, Mgr., Date Holstein Farms, Baroda, Michigan. 1-2

Wanted—Herdsman to begin work in February. Call or write. References required. GEO. L. SCHLOUGH, Pinehurst Farms, Wheeler, Wisconsin. 1-3

Wanted April 1st—Experienced married man as working foreman on 200-acre dairy farm in northern Illinois. Must understand general farming, feeding for milk production and raising calves. Good house, fire-wood and garden furnished. State age, experience, addressses former employers and wages expected. Address BOX 573, care Hoard's Dairyman.

Wanted—Single man for general work on Holstein farm. Year round position. R. E. L. SMITH, Barber, Virginia. 1-2

Wanted—Housekeeper on modern farm, one accustomed to farm preferred. No small children. BULL MOOSE STOCK FARM, Watertown, Wisconsin.

Wanted—Neat, experienced housekeeper, must be good cook. State wages, experience, age and nationality in first letter. A. B. HAWKINS, Cascade, Iowa. 1-2

HELP WANTED

Wanted—Herdsman for a large herd of hogs at a State Institution. Good opportunity and good living conditions. State experience, age, wages expected and give references in first letter. K. N. WHITE, Farm Manager, State Hospital, Warren, Pa.

Wanted—Married man for farm foreman. One who can handle and prepare for show registered Duroc hogs and registered Aberdeen Angus cattle. $90.00 a month. If not a worker do not apply. C. D. JOHNSON, Frankfort, South Dakota. 1-2

Wanted—Married couple. Dairy farm work. Man must be able to milk 25 Holsteins. Live with owner. Wife to do housework for four. Steady job. Wages $50 per month. PAUL H. BROWN, Kampeska, South Dakota.

Wanted—Married man, preferably middle age, to take care of small herd of pure-bred Holsteins. Modern house. Good barns. Must furnish reference. PINEHURST FARMS, Rockford, Ill.

Wanted—A superintendent, gentleman's farm near Chicago, some knowledge of flowers and landscape gardening, also road making. Prefer married man with wife who is willing to run small boarding house. Address BOX 585, care Hoard's Dairyman.

Wanted—Farm hand, gardner, married, whose wife is willing to run a small boarding house. Ideal conditions on gentleman's farm near Chicago. Address BOX 586, care Hoard's Dairyman.

Wanted—Married man to work on stock and grain farm by year. THOS. STEWART, Plainfield, Ill. 1-spl

Dairymen's League in New Offices

The new offices of the Dairymen's League at Utica, N. Y., will soon be ready, and in a few weeks the main organization will move its headquarters there from New York City. The new offices are being prepared for a large force of clerical help to handle the pooling of the proceeds of the members' milk, when enough co-operative contracts are signed to make pooling operative. The contracts are coming into the League office steadily and there were at the end of the year 30,208 properly signed and on file, besides several hundred that had been returned for correction and several thousand still in the hands of local officers. When 50,000 members have signed, the co-operative contract and pooling will become operative.—LEAGUE NEWS.

Farm Bureaus Predict Milk Price Drop

Further reduction in milk prices is forecast by the farm bureaus of New York and Pennsylvania. This expectation is also shared by local cheese manufacturers. It is not expected that the cut will be more than a few cents a hundred, insufficient to affect the retail price of milk which is likely to remain at its present figure through the winter.

All indications point to no steadying influence in milk conditions during the coming month. Cheese factories are running at a minimum, due to the uncertain conditions, especially regarding the foreign exports. Large amounts of cheese from both these states are sent to Europe under normal times.

Pennsylvania. E. M. L. BLANCHER.

Iowa Breeders Meet at Ames

During Farm and Home Week at Iowa State College January 3 to 8, the Iowa dairy cattle breeders held meetings and officers were elected by each association. The Jersey, Holstein, and Guernsey breeders were represented, and all three associations passed a resolution asking for rigid tubercular testing of all animals exhibited at state, interstate, and national dairy shows. The following officers were elected: Iowa Holstein Breeders' Association: president, Z. C. Thornburg; vice-president, M. L. Henderson; secretary-treasurer, C. F. Jeness. Iowa Guernsey Breeders' Association: president, C. Mountain; vice-president, J. Golinvaun; secretary-treasurer, Albert Hyzer.

The Jersey breeders' association met but did not elect officers.

Iowa. H. W. BALDWIN.

MARKETS

CHICAGO, Jan. 14—Butter—Creamery extras, 48½c; standards, 47c; dairy, firsts, 39@47c; seconds, 34@39c.

Eggs—Ordinary, 57@63c; firsts, 67c.

Cheese—Twins, 23¼c; Young Americas, 26¼c.

MILWAUKEE, Wis., Jan. 14—Butter—Creamery, tubs, 50c; prints, 51c; extra firsts, 47@48c; firsts, 44@46c; No. 1 packing stock, 20@25c; off goods, 20@25c.

Eggs—Current receipts, country candled, cases returned, 54@60c; checks, 40@42c; dirties, 42@45c; refrigerators (April or May), not recandled for city trade, 58@60c.

Cheese—Twins, 25½@26c; Daisies, 25c; Longhorns, 26½c; fancy Brick, 21½c; Limburger, 1 lb., 22c; 2 lbs. 23c.

NEW YORK, Jan. 14—Cheese—Firm; state milk, common to specials, 20@28½c; skims, common to specials, 10@20c.

Butter—Quiet; receipts, 7,535 pkgs.; creamery extras, 53½@54c; state dairy, tubs, 30@52c; imitation creamery, prints, nominal.

Eggs—Firm; receipts, 12,974 cases; nearby white, fancy, 76@77c; nearby mixed, fancy, 64@74c; fresh firsts, 68@72c.

Have You A Little Spare Time?

Have you a car—or a horse and buggy?

HOARD'S DAIRYMAN would like to offer you a proposition to look after our subscription interests in your community during your spare time.

It would be light, pleasant work among your old neighbors; and we can make it really profitable, too.

Write and tell us about the territory around you and how much you could take care of, and we'll make you a proposition.

Hoard's Dairyman, Fort Atkinson, Wis.

Dispersal Sale of Brown Swiss Cattle

30 — HEAD — 30

Feb. 3, Honey Creek, Wis.

Included in this herd are two daughters of College Bravura 2nd with 19,460 lbs. of milk and over 798 lbs. fat. Also one granddaughter and grandson. Herd sire grandson of Merney with a fine record. Federal tested and free from contagious abortion.

Write for Catalogue

D. FRASER, Honey Creek, Wis.

Come On With the Entries!!!

For

WISCONSIN HOLSTEIN BREEDERS' ASSOCIATION

Three State Sales

May 13 at Chippewa Falls
May 17 at State Fair Grounds, Milwaukee
May 26 at Marshfield

Every breeder in Wisconsin eligible to enter. This is a case of letting loose of some good ones so that your fellow breeder may get a start with foundation stuff.

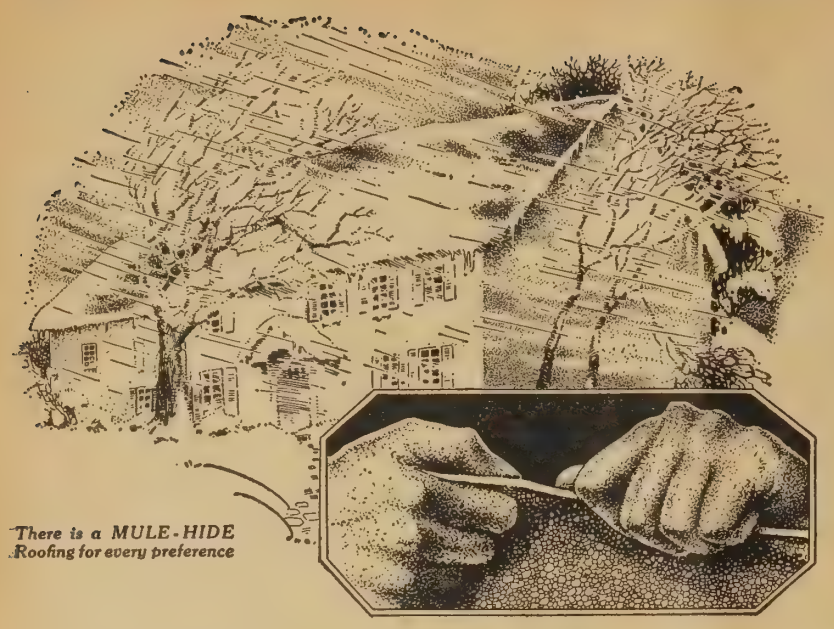
Requirements for Entry. Every animal must be a good individual. **Females** must be at least six months of age, must have creditable A. R. O. records or be from A. R. O. dams. **Bulls** must be from dams having yearly or 30-lb. records or the equivalent thereof.

All entries will be considered and inspected by a sales committee consisting of **A. P. Kaye, F. J. Southcott, and R. J. Schafer.** Get busy—tell us what you have! ! !

Address all communications to

Holstein-Friesian Breeders' Association of Wisconsin

L. L. OLDHAM, Secretary, 241 Washington Bldg., MADISON, WIS.



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You will discover one of the reasons if you will take a sample in your hands and try to tear it—it resists your efforts. You must exert considerable force to make any impression on it.

Just so, it resists the force of the elements, and stands up year after year in a way that emphasizes its remarkable service record:

"Not a Kick in a Million Feet"

For dependability and permanency, select MULE-HIDE roof coverings. They are investments that pay big dividends.

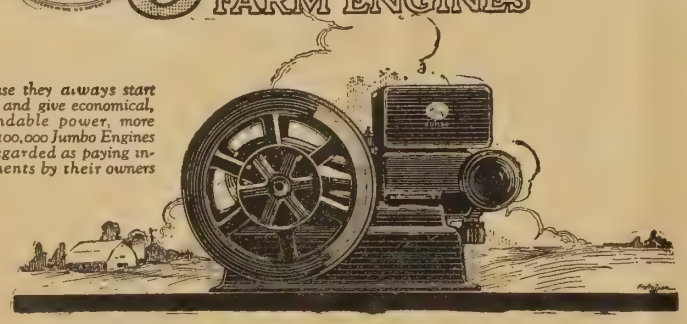
If there is no MULE-HIDE dealer in your vicinity write to us direct, mentioning the name of your lumber dealer.

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MULE-HIDE Individual Asphalt Shingles in Standard and Double-Thick Weights.
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SEAL-SKIN and BLACK-BEAR Waterproof Building Papers.

MULE-HIDE "NOT A KICK IN A MILLION FEET" ROOFING AND SHINGLES Reg U.S. Pat Office

THE LEHON COMPANY
MANUFACTURERS
44th to 45th on Oakley Ave., Chicago

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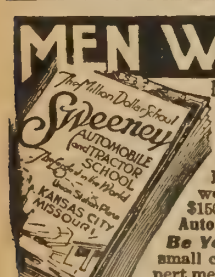


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NELSON BROTHERS COMPANY, *Saginaw, Mich.*
ENGINES, FEED MILLS AND PUMP JACKS

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Mechanically Inclined —to send for my big illustrated 72-PAGE BOOK—FREE!

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Booklets and Information Free.

Farm Lighting

(Continued from page 17)

calcium carbide and water. Calcium carbide, or as it is more commonly called, carbide, is produced by burning together in an electric furnace a mixture of lime, (calcium) and coke (carbon). This product has a very great affinity for water and must be packed in an air tight container. It is nearly always obtainable in metal cans holding 100 lbs.

Acetylene

Acetylene generators are made in two distinctly different ways. In one type the water is fed to the carbide while in the other the carbide is fed to the water. Each type has its particular advantages over the other. There are probably more of the carbide to water plants in use than there are of the water to carbide. When water and carbide are brought together acetylene gas and a considerable amount of heat are generated. In the water to carbide type of generator this heat is localized to quite an extent so that certain parts of the machine may get pretty hot. In the carbide to water type exactly the same amount of heat is produced but it is absorbed by a large amount of water so that the temperature is not raised so much. On the other hand, the water to carbide type probably is a little more easily handled since a smaller amount of water is needed. Either kind of machine will give very satisfactory results if properly installed and handled.

Acetylene is made up of the two elements, carbon and hydrogen, in the proportions of 92.3 of the former and 7.7 of the latter. It is a gas which under certain conditions is powerfully explosive and burns with an exceedingly smoky flame. If proper precautions are taken in the installation and care of the machines they are absolutely safe. The board of fire underwriters has undertaken to say what these conditions and precautions shall be. Some of their recommendations are:

1. The generator shall preferably be located out of doors although basement locations are not prohibited.
2. They must be so located that they may be cared for without the use of artificial light.
3. They must be at least fifteen feet from a furnace or other flame if located indoors.
4. They must be so located that the water will not freeze.
5. They must be large enough so that charging at night will not be necessary and must have a capacity of at least one pound of carbide for each one-half foot burner.
6. The piping must be properly done and tested by competent persons.

One precaution which cannot be too often repeated is, never look for leaks in an acteylene system with a match or other open flame. The probabilities are that if you do so you will never know whether there was a leak or not. If these precautions are observed an acetylene lighting plant is as safe as any other system and the advantages over some are considerable.

Acteylene gas has a rather wide range of explosibility, that is, a mixture of acetylene and air anywhere between the proportions of 2 parts acetylene to 98 parts of air and 49 parts of acetylene to 51 parts of air will explode. To offset this danger, if it may be called such, it has been shown that in a room 10x12x8 feet with all the openings carefully closed a one-half foot acetylene burner would have to be left open for fifty-seven hours before the lower limit of explosibility could be reached. Again, due to its extremely unpleasant odor, it would be practically impossible to sleep in a room where acetylene gas was escaping. The quality of light produced by burning acetylene in a proper burner is probably the next best to sunlight. It is absolutely odorless and practically pure white. It consumes very little oxygen and does not require a globe or mantle.

Acetylene burners are entirely different from any other kind. They are made in the shape of a Y with small holes so placed that the two jets come together and make a flat flame. Burners are made in several sizes and known variously as one-fourth, one-half, three-fourths, or 1 foot burners accordingly as they use one-fourth, one-half, three-fourths, or 1 cubic foot of gas per hour. One pound of carbide will produce from four to six cubic feet of acetylene gas, averaging about five. Thus, one pound of carbide will keep a one-half foot burner going for ten hours. The different size burners produce about 12, 25, 37, and 50 candle power each respectively.

Acetylene burners may be lighted with a match but they are generally fitted with a small flint and steel or some sort of electrical device operated by dry cells, which will produce a spark that will ignite the gas.

Acetylene generators are made in small sizes and are frequently used as portable lamps. The quality of light and efficiency are about the same as in the larger stationary plant. The principle objection to these small outfits is the frequency with which they must be cared for and the unpleasant odor that is so noticeable when this care is given.

Acetylene is to all intents and purposes non-asphyxiating, at least there is no known case where death has been caused by inhaling it. This is probably due to the fact that the gas has such an extremely unpleasant odor that no one cares to stay around where it is unless it is confined.

An acetylene lighting outfit is as safe as any kind of lighting outfit when it is given careful attention by a person who understands its make-

Sale Announcements

Jan. 28—Holsteins. Pennsylvania State Sale at Harrisburg, Pa. S. F. Zook, Mgr.
Jan. 29—Holsteins. Northern Illinois Live Stock Breeders' Ass'n. Sale at Rockford, Ill.
Feb. 1, 1921—Holsteins. Watertown Holstein Bull Sale at Watertown, Wis. Francis Darcey, Sale Manager.
Feb. 26—Holsteins. John Wuethrich's Holstein Sale at Greenwood, Wis.
Mar. 15-16—Holsteins. Fletcher Bros. Dispersion at Fond du Lac, Wis.
Mar. 15-16—Holsteins. Wisconsin Breeders' Sale at Fond du Lac, Wis. S. H. Bird, Mgr.
Mar. 24—Holsteins. Mankato Holstein Co. First Annual Sale at Mankato, Minn. Minnesota Holstein Breeders' Association, Sale Mgr.
Mar. 28—Holsteins. Isaac DeMunck & Sons, Plymouth, Wis. I. DeMunck, Sale Mgr.
Mar. 29—Holsteins. Fred Gessert, Plymouth, Wis. Fred Gessert, Sale Mgr.
Mar. 29-30, 1921—Holsteins. Watertown Holstein Sales Co., Watertown, Wis. F. Darcey, Sec.
Mar. 31-April 1—Holsteins. H. J. Goelzer's Sixth Sale at Plymouth, Wis. E. E. Goelzer, Mgr.
April 7, 1921—Holsteins. Central Wisconsin Holstein Breeders' Ass'n. 13th Semi-annual Consignment Sale at Marshfield Sales Pavilion, Marshfield, Wis. R. A. Peterson, Wisconsin Rapids, Wis., Sale Mgr.
April 25-26—Holsteins. Waukesha County Holstein-Friesian Association Sale at Waukesha, Wis. W. L. Baird, Sec'y.
May 2—Holsteins. Walworth County Holstein Breeders' Association Eighth Semi-annual Sale at Elkhorn, Wis. Ben Bachhuber, Mgr.
May 3—Holsteins. Clark County Quality Sale at Owen, Wis. J. Wuethrich, Sale Mgr.
May 9, 1921—Holsteins. Brown County Holstein Breeders' Sale at De Pere, Wisconsin.
May 12—Holsteins. Jefferson County Holstein-Friesian Breeders' Ass'n. second consignment sale. A. F. Gafke, Sec'y.
May 12—Holsteins. Marathon Co. Holstein Breeders' Association Sale at Wausau, Wis. Francis Darcey, Watertown, Wis., Mgr.
May 17, 1921—Holsteins. Wisconsin Holstein Breeders' Sale, West Allis, Wis.
May 18—Jerseys. Monroe County Jersey Breeders' Consignment Sale at Tomah, Wis.
May 25—Guernseys. Portage County Guernsey Breeders' Ass'n. Sale of pure-bred cattle at Stevens Point, Wis. R. K. McDonald, Sec'y.

up, but in incompetent or careless hands it is a dangerous proposition. Acetylene is used to a limited extent for cooking purposes. It gives an intensely hot flame but has to be burned in special stoves or at least in special burners. These stoves are fairly expensive and the gas is also quite expensive. The probabilities are that until further improvements are made the use of acetylene for cooking will not become very general.

[Editor's Note:—In a subsequent article Professor Tyler will discuss the use of electricity in farm lighting.]

Wintering the Brood Sow

(Continued from page 8)

place a part of the corn. Oats has a desirable quality of furnishing bulk to the ration so that this kind of grain is valuable for feeding brood sows. Sows fed oats generally eat less alfalfa or clover hay because of their bulky character.

The ration the brood sow should have is not always determined just by feeds on hand on the farm, nor the cheapness of the ration, for when healthy pigs are farrowed they can



A small A-house will provide a comfortable shelter for a few sows. During the farrowing season it can be used by one sow and litter.

be grown quickly into maturity, and the ration that makes this possible is profitable. Runty pigs of low vitality cannot be grown nor fattened easily.

The comfort of the brood sows should be looked after to some extent, but this will not require much time. A good way to control lice is to apply crude oil to the backs of brood sows, as the crude oil kills both lice and nits and destroys the eggs. Sleeping quarters should be cleaned frequently and filled with straw so that sows can rest easily. Ordinarily the sleeping quarters need not be exceptionally warm, but to offer protection from wind, rain, or snow.

Quakers Buy Cows to Provide Milk for Austrian Children

In order to relieve the shortage of cows in Austria and provide fresh milk for the small children of Vienna, many of whom have never tasted milk, the American Friends Service Committee of Philadelphia has purchased 450 cows from Switzerland and Holland and sent them to Vienna.

To insure the lowest prices and the healthiest stock the animals were bought directly from farmers. The services of Mr. Hartag, chief cattle expert of Holland, were loaned by the Herdbook Association and no commission was charged. Certified veterinary surgeons made the selection. The Dutch Government loaned motor cars to convey the cattle, and permitted both cattle and fodder to leave the country free of duty.

Many of the cows are pedigreed animals and all are in healthy condition. Four veterinary examinations took place before they reached Austria. When they arrived in Vienna the cows were placed in depleted dairies surrounding the city and arrangements were made for the dairymen to pay for the animals by delivering milk to the American Friends Service Committee for its child-feeding work. In 18 months the farmer will be able to pay for a cow with her own milk.

As there is not enough fodder in Austria to feed the cattle and make them milk-producing, it was necessary to procure fodder from England, America, Italy, and Czecho—Slovakia.

In order to give a greater incentive to milk-production American Friends Service Committee subsidizes the milk output to the extent of 1.70 kronen per litre (a trifle less than a quart), or about a cent a quart. This fixes the price of milk by the Friends in hospitals and for direct distribution to young children at about six cents a quart to the consumer. This is much less than the price of condensed and evaporated milk and the fresh milk is far more satisfactory to the children.

Dairymen will own the calves born during the time they have possession of the cows, but the cows will be the property of the American Friends Service Committee until they are fully paid for. They cannot be taken away, as the native ones have been taken, by the reparation clauses of the Peace Treaty.

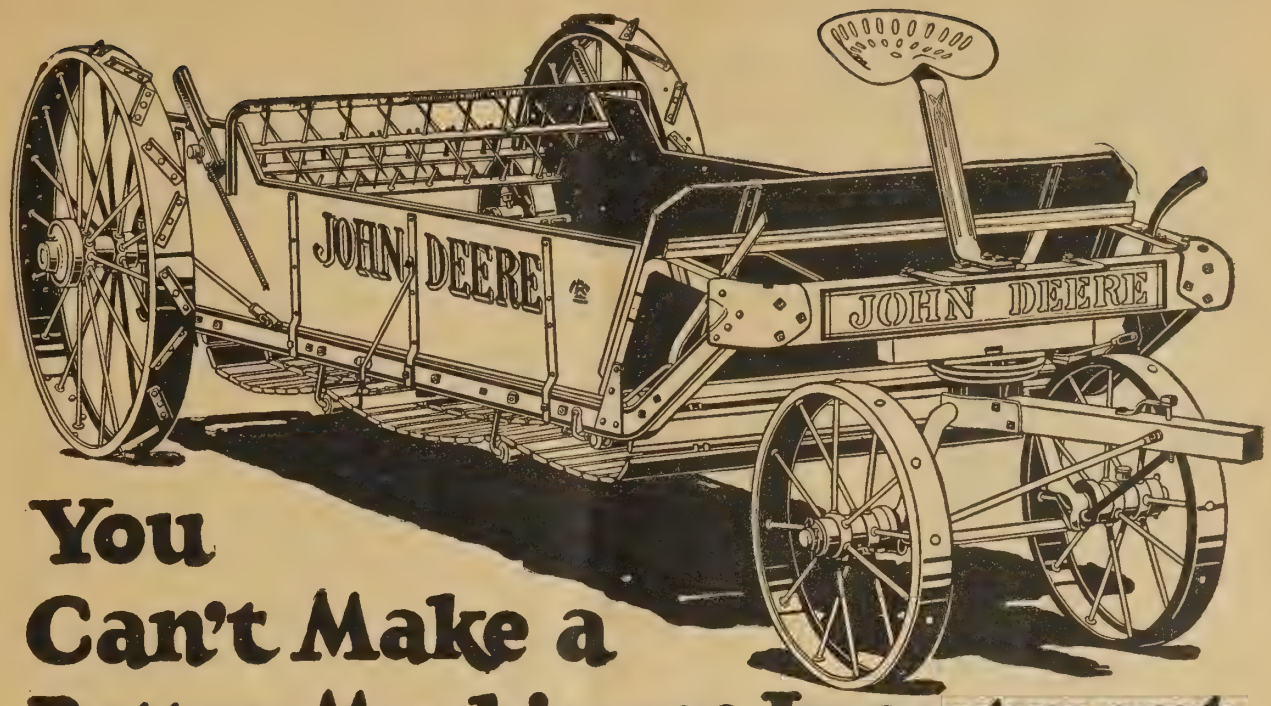
Pennsylvania. F. W. NORCROSS.

Jersey Cattle Notes

For week ending Dec. 24:

Number of animals registered: Bulls, 181; cows, 504; total, 685. Number of transfers recorded: Bulls, 184; cows, 682; total, 866.

Thrift is the careful use of money and materials.



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This Big Book and Two Others —Free

"Better Farm Implements" contains 114 pages of valuable information on a full line of labor-saving farm implements. A book you will keep.

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John Deere Spreader booklet fully illustrates and describes the best implement investment you can make.

To get these books free, drop a line to John Deere, Moline, Ill., and ask for Package S-414.

IT'S the extra bushels you raise per acre that count most. That's where your big profits are. This economic law applies always whether the selling price of your products is relatively high or low.

To get the extra bushels per acre increased fertility of your soil is necessary above everything else. Here is where the John Deere Spreader fits in. It doubles the value of your most important fertilizer—barnyard manure.

JOHN DEERE SPREADER

The SPREADER with the BEATER on the Axle

The John Deere Spreader makes manure go twice as far. The same quantity fertilizes more acres more effectively because the manure is evenly distributed—that's the result you want.

With it you have instant control over the amount of manure you put on the land—you can spread heavy or light to meet the needs of the soil and the crop.

Only by using a good spreader can you successfully top-dress pasture lands, hay lands, corn, etc. Proper top-dressing has proved to be a mighty effective way to increase production.

A good spreader saves time—one man with a John Deere can load and spread as much as two men who spread with a fork. You will utilize every load of manure that is made if you use a spreader, because it takes only about one-half the time to load and spread manure.

There is no other machine that will pay for itself so quickly as a good spreader. It's a profitable investment at twice its cost.

Mechanically the John Deere is the better spreader. Go to your John Deere dealer and ask to see it. Notice its extreme simplicity—no clutches, no chains, no adjustments to make, only one large beater; a low-down easy-loading box combined with high drive wheels; the revolving rake that insures even distribution; the beater drive with gears enclosed in a dust-proof oil-tight case. The John Deere gives extra years of profitable service.

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THE TRADE MARK OF QUALITY MADE FAMOUS BY GOOD IMPLEMENTS



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is the time to purchase a silo, have it shipped early and haul in the winter on good roads. CORN BELT hollow tile silos thoroughly and beautifully glazed are permanent, fireproof, paint proof, repair proof. Include tile-chute, tile feed room, steel back ladder and hip roof rafters. Special discounts for early shipments.

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Dickey Glazed Tile Silos

Best of materials, six different diameters, everlasting hollow tile roof, easiest to build—such features as these have made the Dickey pre-eminent among silos.

The Fruit Jar of the Field
Send for catalog No. 6
W. S. Dickey Clay Mfg. Co.
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Kansas City, Mo. Chattanooga, Tenn.

PLANS FOR POULTRY HOUSES All Styles. 150 Illustrations. Also copy of "The Full Egg Basket." These will surely please you—send 25c. INLAND POULTRY JOURNAL, Dept. 61, INDIANAPOLIS, IND.



Paterson vegetable parchment wrappers

Make Your Butter Popular

YOUR butter is just as good as any other. Quite likely you think it's just a little better. But the housewife doesn't know this. It's the *package* that impresses her.

An attractive, clean and sanitary butter package will sell all around one that has just an ordinary wrapper.

That's why butter wrapped in Paterson Vegetable Parchment Wrappers gets the gratified attention of the customer. It sells through its attractive and appetizing appearance.

Buy Paterson Vegetable Parchment Wrappers in lots of 5000 or more, and we will print your advertisement on them in attractive form and in inks that are guaranteed not to stain the butter.

PATERSON PARCHMENT PAPER CO.
PASSAIC, N. J.

"You Save Money"

says the Good Judge



And get more genuine chewing satisfaction, when you use this class of tobacco.

This is because the full, rich, real tobacco taste lasts so long, you don't need a fresh chew nearly as often.

And a small chew gives more real satisfaction than a big chew of the ordinary kind ever did.

Any man who uses the Real Tobacco Chew will tell you that.

Put up in two styles

W-B CUT is a long fine-cut tobacco
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Weyman-Bruton Company, 1107 Broadway, New York City

BUY YOUR **COFFEE** WHOLESALE IN 5 LB. LOTS
from JEVNE'S and SAVE 10c per pound
We Pay Parcel Post. We sell only High Grade Coffee and Tea
Send for our Money-Saving Price List, or better still
Send $1.45 for 5 lbs. JEVNE'S ECONOMY COFFEE
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JEVNE COFFEE CO. (Est. 1881) Coffee Specialists
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DON'T PUT OFF
Seeing your friends and having them join in for a club of subscribers.

BARGAIN!
Cheese Factory For Sale
In growing farming community
In Rusk County
modern in all respects. Easy terms to parties who mean business.
For particulars write
Rusk Farm Co., Eau Claire, Wis.

Standpat Methods Bound to Be Costly

HOARD'S DAIRYMAN:—In a few sections of our great country there are still a few farmers who keep one or more cows which they milk with one hand. In such cases the quart measure usually replaces the ordinary three-gallon covered milk pail used by the up-to-date dairyman. There are still a considerable number of farmers known as dairymen who persist in using a nondescript bull which is known down in the Piedmont country as the "Pennyroyal Scrub", probably because he can survive on the pennyroyal which grows on the mountain side, and doubtless also because he is royal to the extent of being worth about a penny. Then again in working among the dairymen one observes that many of them continue to employ the "scoop-shovel method" of feeding, and disregard to a great extent the feeding of grain in proportion to the milk yield. The good looking "Bossy" often gets the most feed when the little sway-backed "Spot" is much better bred, and only needs a fair chance to demonstrate her producing ability. Another practice that can rarely be justified is the "hand-to-mouth" way of buying feeds. The writer knows scores of dairymen, keeping ten or more cows, who buy a hundred pounds of feed at a time when they could save from $6.00 to $12.00 per ton by joining with their neighbors in the purchase of carload lots of feed.

A man may be ever so painstaking and conscientious about a certain dairy practice, but unless he takes the necessary precautions all along the line, and stops the big leaks, he will be "saving at the spigot and losing at the bunghole". It is said of Andrew Carnegie that he once offered to give $1,000,000 to the person who would devise a method whereby a ton of steel could be produced 10 cents cheaper than he was at that time producing it. More dairymen might well be actuated by that same principle which prompted the great steel king to put such a high premium on efficiency in every department of his vast enterprise.

In the past hundred years great progress has been made in the invention of new kinds of farm machinery, and in the methods of producing and handling crops, yet today there are tens of thousands who use the mower, binder, and manure spreader, but who fail to realize that by feeding high priced hay, silage, and grain to a 5,000-pound cow, they are going back fifty years to the scythe and cradle method of making milk.

The United States Department of Agriculture has just undertaken a novel piece of work. Pictures of cows of the 26th century B. C. found on Egyptian monuments have been made into stereopticon views and placed along side of pictures of scrub cows of today. They illustrate the fact: "Once a scrub, always a scrub." We are told that the wild cow of prehistoric times was a coarse, nondescript creature, possessing heavy shoulders and head and horns fitted for protection against wild animals; that this cow gave only enough milk to suckle her calf for a few weeks. Through the process of evolution, by the means of careful selection, breeding, and feeding, there have been developed a Tilly Alcartra with her yearly milk record of 33,424 pounds and hundreds of other cows that have produced over 20,000 pounds of milk and 1,000 pounds of butter in a year. Professors Larson and Putney in their book, "Dairy Cattle Feeding and Management", write as follows: "Dairy cattle breeding is both a science and an art. Until comparatively recent years it was merely an art. Recent fundamental studies in the principles of heredity have increased the proportion of science, and undoubtedly the future breeder will use more scientific principles."

Surely one can easily become enthusiastic over the great possibilities that are held forth by the dairy business. Of course it does not constitute a royal road to riches, but as reliable surveys have recently shown us, it promises a steady and fair income where brains are coupled with plenty of muscular energy.

The public has a right to expect that we are going to produce our product in a reasonable, orderly, and efficient manner, and we must have pride enough to do it.

West Virginia. E. J. PERRY.



VIOLET IV OF CORBINEZ
OWNED BY WADDINGTON FARM, WEST VIRGINIA
Record: 16,336 lbs. milk, 756.7 lbs. fat.



FERN'S DEAL'S MISS CLIFFORD
OWNED BY RAY WARD, WEST VIRGINIA
Record: 12,300 lbs. milk, 745 lbs. fat.

These West Virginia cows, one a Guernsey and the other a Jersey, are not like their long ago ancestors whose outlines appear on the Egyptian monuments erected 4,500 years ago.

New Field Agent for Oregon Dairymen's League

HOARD'S DAIRYMAN:—The Oregon Dairymen's League has secured Richard G. Scott as field agent. Mr. Scott has been agricultural agent of Clackamas County for the past two years and during that time he has done much to encourage the use of better dairy stock throughout the county.

His work was endorsed at the annual taxpayers' budget meeting by his being re-elected as county agent. By Mr. Scott's resigning that position the Oregon Dairymen's League gains a hard worker and a man very much alive to the dairymen's interests.

Oregon. CLEON J. EMERY.

A Unique Announcement

It has remained for L. F. Graber, Secretary of the Wisconsin Alfalfa Order, to originate a new method of announcing the meeting of an organization. It comes as a holiday postcard with a spray of alfalfa laid across the card, with the statement that the Wisconsin growth of alfalfa was increased from 38,000 acres in 1918 to 62,000 in 1919 and to 97,000 in 1920. "This inspiring record," says the announcement, "prompts us to send you the season's greetings and to invite you to attend the annual meeting of the Wisconsin Alfalfa Order at La Crosse on January 28th and 29th."

Well over 30,000 Leaguers Agree to Pool

(Continued from page 23)

ers in complaints and in delivering milk to the dealers who refuse to buy of the League. Here clearly is a case for our county leadership to take a hand in righting matters. It appears today that the whole county membership is likely to take an interest in this one group. The farmers will have the right plan explained to them and most likely the local leaders where they are found wanting will be asked to reform or resign. This is not unlike conditions in other counties. It shows that there is still much to do, but also that it is likely to be done.

After getting right out in touch with the real facts one readily comes to the conclusion that pooling is a coming fact. At home one gets to hearing the opposition say so much that he doesn't realize how strong the real sentiment is in favor of the League's proposal. This is because the proposition comes from the farmers' own organization. The counter propositions to "scrap" the contract are understood to come from those who are unfriendly to farmers' organization and therefore they tend rather to accelerate than retard the signing. At the same time it is coming to be realized that more real personal work must be done. In almost all localities there are men who are really alive to the seriousness of the situation, and who are willing to put in a good bit of sacrificing work.

New York. H. H. LYON.

New York Butter Market

NEW YORK CITY, JANUARY 11:—There is considerable agitation in the market at the present time over the effort on the part of several national dairy organizations to secure an advance in the tariff rate on dairy products. The New York Mercantile Exchange is today represented in Washington by a committee which will advocate an advance of 3½c per pound in the tariff on butter shipped into this country from outside sources. Opinions, however, seem to vary as to the advisability of a tariff increase. Receivers remember the instability of the butter market during the spring months of the year 1914 when the revised tariff on butter became operative. The revision was from 6c down to 2½c. Immediately after the new tariff law became effective, there was an influx of butter into this country from Siberia, Finland, Denmark, New Zealand, etc., with the result that the market became badly demoralized and prices fell to very low levels. While the butter that has been imported during the past few months has caused no great inconvenience, although some speculators have been caused to lose money because the trend of prices have not been upward of late, it is feared by many receivers that the conditions of 1914 may be repeated unless the tariff rate is changed. There are few, however, who feel that the emergency tariff bill now before Congress will ever become a law.

In spite of the fact that butter in excess of 30 million pounds has been imported during the past year, its effect has not been seriously felt. It is very doubtful that it has had much effect on butter values. It is true that there have been temporary breaks in values immediately following the arrival of particularly large shipments of Danish butter, but it is very probable that the price trend in general would have been downward to some extent regardless of butter importations. As a whole, consumers are curtailing their purchases to a marked degree. There might have been a tendency for higher prices in case no butter had been imported, but the probability is that any marked advance in price would have been neutralized by a cessation of buying on part of the consumer. Money is not so plentiful as in the years just passed and the consumer is much more conservative in buying. The importation of Danish butter, while working some hardship on the producer of butter of inferior quality and the speculator, has undoubtedly made it possible for people in moderate circumstances to purchase butter for table use.

During the closing weeks of the old year, the butter market gradually gained in strength and there was a conservative advance in values. Immediately following the holidays, although there was no logical reason for it, there was a sharp change in sentiment, buying practically ceased for several days and there was a sudden price decline of 3½c, that decline materializing on Saturday of last week. The decline was undoubtedly largely due to psychological causes. Daily receipts of domestic butter have been moderate and very little foreign butter has been received. However, there is a feeling that there must be a January price slump and buyers hesitate to purchase their full quota of goods because of that. At the outset of this week, buyers realized that their fears were unfounded and began to make conservative purchases with the result that the market has strengthened and prices advanced ½c today. It is very probable that the market will continue to gather strength during the next few days and that we will see other price advances. Established quotations are: Extras (92 score), 53½@54c; higher scoring than extras (93 score or higher), 54½@55c; firsts (90—91 score), 48@52c; firsts (88—89 score), 44@47c, and seconds (83—87 score), 36@42c.

A somewhat nervous feeling has developed in the market during the last few days because of a report that a steamer bearing approximately two million pounds of Danish butter has left Copenhagen with this country as destination. As that butter will not become available for fully two weeks, its probable effect will not be a certainty for at least that length of time.

W. B. LIVERANCE.

League Acquires Country Plants and a Distributing Station

The Dairymen's League Co-operative Association completed a deal, effective January first, acquiring the large creamery plant at Mansfield, Pennsylvania, the Seeley Creek, New York, condensery, and the Essex distributing plant for distributing fluid milk at Essex, New Jersey. The total purchase price was $467,000.

This property is now under the ownership and supervision of the Dairymen's League. Its acquisition is directly in line with the plans of the association to slowly acquire efficient country milk stations, manufacturing, and distributing plants so that the farmers will not be left without a market for their product when dealers refuse to buy.—LEAGUE NEWS.

New York Holsteins Average $296

An average of $296 was attained at the three-day consignment sale of Holstein-Friesian cattle which was held in the Liverpool pavilion at Liverpool, N. Y., last week. Two hundred and thirty-three pure-bred Holsteins were sold for $69,050. The highest price, $2,400, was brought by O. K. L. Bessy, daughter of Ormsby Korndyke Lad. The sale was directed by H. A. Moyer. Mr. Moyer sold 37 head for a total of $24,985, an average of $675.

Buyers attended the sale from as far west as Wisconsin and Michigan. A majority of the heaviest purchasers came from outside the state. A. G. Dysher of Pennsylvania led the bidding each day. He paid $9,000 for 14 animals. Mr. Dysher was the purchaser of the top cow, a sister of O. K. L. Pearl Tula and O. K. L. Audice Posch, butter and milk champion of New York.

It was the opinion of breeders present that good prices were secured. It was also felt that stock was not suffering appreciably from price deflation. Bob Haeger said he had been selling steadily since September 1 and had seen few indications of any great depression in the pure-bred Holstein business.

Pennsylvania. E. M. L. BLANCHER.

Michigan is the first state to offer a reward for planting nut trees beside highways. In Europe the profit from roadside nut trees assists in maintaining roads. Roadside nut trees abroad are protected from vandalism by public sentiment, and this is true of the nut orchards in the principal centers of production in this country.

Your Profits Depend on Your Farming Methods

A comparison of horse and tractor operating costs presents many startling facts for the progressive business farmer of today. If you are a horse farmer it is difficult for you to fully appreciate the value of power farming for the simple reason that it is hard to visualize the added advantages to be derived from new methods.

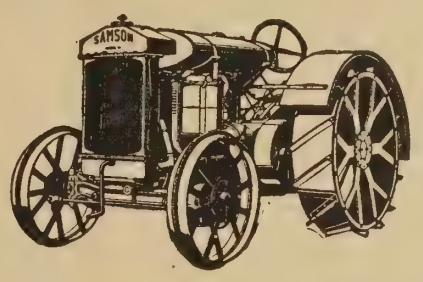
It is hard for you to figure cost of operation. It is hard for you to see and reduce the advantages of deep, quick plowing, of rapid discing and planting and fast harvesting into dollars.

It is easy to overlook inefficient and costly horse methods and at the same time to discount the tractor's many advantages. But this year the problem confronting you calls for a careful investigation of crop production costs.

You can no longer dodge the issue. It is either low cost efficient power farming or high cost slow horse methods.

The Samson Model "M" tractor has lowered operating costs on thousands of farms during the last year. Samson farmers made a profit this last year even though market conditions are low at the present time. If they had operated their farms as in previous years with costly animal power they would have been more than discouraged.

It is up to you this minute to decide whether you are going to fortify yourself for the coming season, so that your labors will show a profit. Let us show you how you can do this with the Samson Model "M" tractor—low cost power for your field work—your belt work—wherever you need power on your farm.



Write Us—Let Us Go Into This Question With You

We have much more information on this subject of lowering farm operating costs. It's yours for the asking without cost or obligation. Drop us a postal card today.

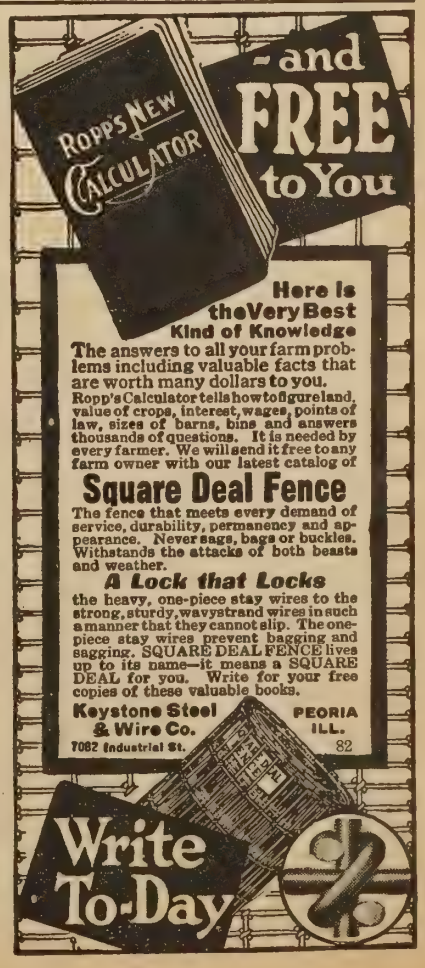
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VETERINARY

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Some Causes of Sterility

When a heifer fails to come in heat from birth examination by an expert may show that she is hermaphroditic, or in other words possessed of imperfect generative organs of each sex. Of this character usually is a female twinned with a bull, and commonly called a "free martin" heifer. The bull of such twins is fertile and so are twin heifers and twin bulls. It is possible, too, for a calf to be born barren although not a hermaphrodite, but such cases are rare.

When a heifer comes in heat regularly at normal intervals of 21 days yet fails to conceive when bred to a bull that is known to be a sure calf-getter, her vagina, womb, and ovaries should at once be examined by a qualified veterinarian capable of determining abnormal or diseased conditions and applying appropriate treatment for their removal.

One of the causes of barrenness found present on such an examination is the presence of a web or fold of fleshy membrane stretched across the vaginal passage. This is termed a "persistent hymen" and must be opened up by the veterinarian before conception can take place. One method of operating is to cut off a fold of the membrane with an ecraseur such as is used for castration. One of the most experienced veterinarians of England (Thompson) states that cases of persistent hymen are most common in white heifers, notably of the Shorthorn breed. With us the condition seems to be comparatively rare.

Other mechanical obstacles to conception are growths (polypi) of the vaginal wall and adhesions of the os (mouth) and cervix (neck) of the womb requiring an operation as does twisting (torsion) of the cervix, a condition most often discovered when a cow is unable to calve. A diseased condition of the vagina (infectious granular vaginitis) is another possible cause of barrenness.

If service be long postponed after a heifer repeatedly has come in heat generous feeding may cause her to fatten and become barren from fatty degeneration of the breeding organs. This condition may also result from overfeeding and prolonged over-fat condition of show cows. In such animals, too, it is possible that acidity of the secretions of the womb and vagina may prevent conception by destroying or weakening the vitality of the egg (ovum) of the female or sperm cells (spermatozoa) of the male.

Temporary barrenness in some instances occurs as a result of a severe attack of any serious disease or even the effects of a long railway journey, or marked change of locality, attitude, feed, and water. Semi-starvation by retarding normal development of the generative organs and causing low vitality may also prevent coming in heat at the time when puberty should occur, or later, should the animal long remain weak, thin in flesh, and impoverished in blood. Such conditions also commonly prevent conception, although the heifer or cow may come in heat at normal intervals, or make her what breeders term a "shy breeder".

Sores

I have a cow that is affected with small sores on her front legs and sides. This cow is a Jersey, four years old. Have been feeding her ground corn with cob, and cottonseed meal and for rough feed shredded corn.

McMinnville, Tenn. R. G.

You should have described the sores, but we suspect they are ringworm spots commonly called "barn itch". If so, scrub the spots free of crusts or scabs, if necessary first saturating them daily with sweet oil. When clean, wet them once a week with a solution of 4 ounces of sulphate of copper (bluestone) in 1 pint of hot water. Write again if we have not rightly understood the nature of the condition present.

Warts

I have a valuable horse that has a large wart on his upper lip and one on his lower lip; have been there for some time. Please tell me how to remove them.

Lewisburg, W. Va. J. J. E.

It would be best to have the warts dissected out by a surgeon. If you cannot have that done and the warts have narrow necks, tie a fine cord very tightly around the base of each growth and then saturate them daily with strong vinegar or a saturated solution of bicarbonate of soda. If the bases are not narrow, apply lard or vaseline freely to the sound skin and then lightly rub the warts with a lunar caustic pencil at intervals of 3 or 4 days.

Vomiting

We have a five-year-old Holsten cow that sometimes vomits. Will you please tell me what we can do to make her stop vomiting?

Manitowoc, Wis. F. D.

Vomiting always indicates derangement of the digestive organs when not due to some foreign body lodged in the tongue, throat, or wall of the stomach. It may also be due to an internal growth (tumor) or to an ulcerated condition of the lining membrane of the stomach. It would therefore be impossible for us to assign the exact cause and for that reason you should have a veterinarian make the necessary examination. Meanwhile we should suggest giving a change of feed, omitting silage and mixing a dram of subnitrate of bismuth and a heaping tablespoonful of powdered wood charcoal in the feed twice daily at first and three times daily if found necessary.

Tuberculosis

Kindly tell me if one can tell when butchering a pig if it has tuberculosis? Have heard that there will be lumps along the neck or flanks if it has. Is that true in all stages of the disease; or don't the lumps appear at once? Are these lumps solid or do they contain some fluid substance?

Kenyon, Minn. C. H.

The lymphatic glands are affected in tuberculosis and these are found below the tongue, between the lower jaw bones, about the throat, along the course of the windpipe, between the lungs and above the small intestines, on the web of tissue suspending these organs. Besides that, tubercular nodes are found upon the lining membrane of the chest and abdominal cavities and upon lungs and other internal organs. The nodes are filled with gritty, cheesey, yellowish substance. Pus sometimes is present in cavities in the lungs or liver. Not all of these lesions are present at one time, but one or the other of them or several of them are found in the affected animal.

Extra Teat

I have a pure-bred Holstein heifer calf two days old that has three well developed teats on one side. Should the center teat be removed?

Oneida, Ill. Z. S. C.

The extra teat should be amputated, and the sooner it is done the better. If a well marked duct connecting with a milk secreting gland tissue is found present, it should be destroyed by cauterization. If possible, have a trained surgeon do the work.

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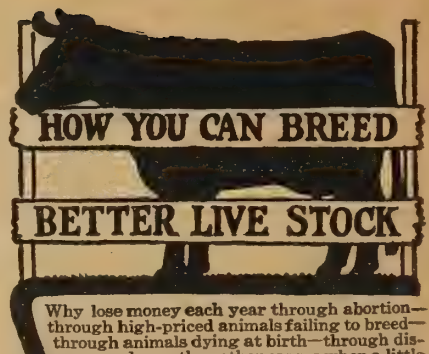
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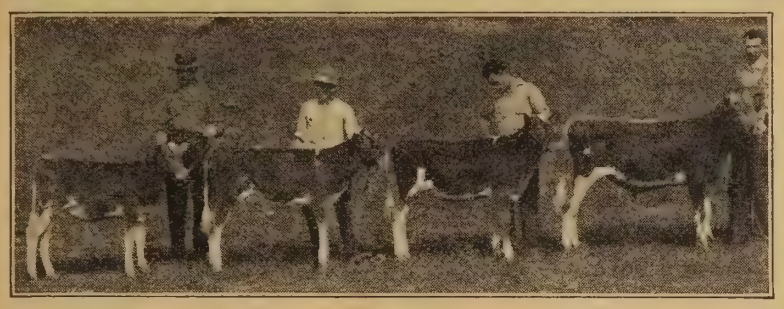


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"Get" of Pencoyd's Secret Marose

This bull won first prize, senior and grand championships at the New England Fair, Connecticut and New York State Fairs. His "get" (4-mo.-old calves) was first at The Eastern States Exposition and fourth at the National Dairy Show with thirteen "gets" shown. His heifer calf, Appletree Point's Dolly Dimple, was Junior Champion at New England Fair, first prize at Eastern States Exposition, and was Junior and Grand Champion female at Connecticut State Fair. His bull calf was unbeaten in all eastern shows and won at Waterloo and National Dairy Show. Write for prices on May Rose calves that combine type and production.

U. A. Woodbury, II **Burlington, Vermont**

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These heifers are not for sale but one glance at them tells you that *Anton's King Confidence* sires the kind you want in your herd. Since we value his females too highly to set a price on them your only opportunity is to get one of his sons for your next Herd sire. We have several growthy, vigorous and well put up young fellows ranging from 9 to 15 months of age for sale at the present time. We appreciate your inquiry. Send for our circulars.

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Private herd books written up, and entire management taken of Guernsey sales.

Write for information.

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Waukesha, Wisconsin

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I am offering several young sons of Golden Noble of Craigmoor A. R. He is a son of Langwater Raritan A. R. and from Imp. Daisy Moon 4th (639 lbs. fat).

These bulls are from A. R. dams with records up to 648 lbs. fat.

They are from 3 months to a year old. For prices and pedigrees call or write

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Nearly two hundred members in our Association. Many of the best sires of the breed are being used. We can supply your wants. Pure-breds or grades, male or female, all ages. Prices will interest you.

Come to the County or Write

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F. E. Fox, Secretary **Waukesha, Wisconsin**

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Increased the Average Production Credit of 12 A. R. daughters out of A. R. dams by 181 lbs. We offer his double grandson out of another daughter also making a better record than her dam.

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I am offering for sale 20 head of choice Grade Guernsey springers coming with first and second calf. Also have two bulls highly bred along May Rose lines just ready for service, that I will sell. For full particulars, write, wire, or come and see the stock.

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100 choice bull calves, by best sires of the breed out of dams with records up to 850 fat.
20 choice heifers, 6 months to 1 year old.
Grade cows and heifers. Send for sale list.

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FOR SALE: Several typy, May Rose bulls out of A. R. cows and sired by Hope's May Rose of Maple Hill (35903), whose dam is a class leader with 776 pounds of butterfat at 3 years. Also several choice pure-bred females and a few excellent grade cows. Herd on Federal Accredited list.

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Offers a number of good cows. All safe in calf, mostly with A. R. records. Also thirteen young bulls, from one month up to sixteen months of age. Some of these are very choice. Write for sale list.

W. G. JAMISON & SONS, **Appleton, Wis.**

GRASSLAND FARMS GUERNSEYS

Choicely bred males and females for sale. (The natural increase of the herd.)

Herd federal tested for tuberculosis. Send for sales list. Satisfaction guaranteed.

Taconic, Conn., Litchfield Co., (C. N. E. R. R.)

Hillswold Farm

Shrewbury, Mass.

Registered Guernsey bull calves for sale. Dams in Advanced Registry and tuberculin tested. Prices right, and animals guaranteed to suit. **W. A. Cloues, Mgr.**

Meadowland Guernseys

Sixty-five females, priced conservatively, are offered from which to make selections.

MEADOWLAND FARM, **Litchfield, Conn.**

When writing advertisers please mention Hoard's Dairyman.

Consider Your Hours

Let this and every dawn of morning be to you as the beginning of life, and let every setting sun be to you as its close; let every one of these short lives leave its sure record of some kindly thing done for others—some goodly strength or knowledge gained for yourselves; so, from day to day and strength to strength, you shall build up, by art, by thought, and by just will, an Ecclesia of which it shall not be said: "See what manner of stones are here!" but "See what manner of men!"—JOHN RUSKIN.

GUERNSEYS

We Offer For Sale

Simplicity's Winner of Iowanola (54404)

Born August 25, 1918. A show bull. First prize in class and member 2nd prize get of sire, Waterloo Dairy Congress, 1920.

Sire, Cherub's Winner (34180). The sire of all the animals that won all of the cups and trophies awarded at the N. D. S., 1920.

Dam, Simplicity of Haddon (47876), A. R. 7607. Record: 9,042.9 lbs. milk, 434.17 lbs. fat. A big, strong, typy cow, a very easy milker and a good breeder.

Write for further information. We have a few younger bulls.

Mountain Bros., Carrier 403, Des Moines, Ia.

Guernsey Bulls For Sale

Polly's Anchor No. 42845, born August 24, 1916, and Imp. Bluebird of Lakeside No. 45329, born June 15, 1917. Good, straight bulls, very gentle and sure breeders.

For Sale by

RADISSON FARM, ANOKA, MINN.

Shorewood Farm Offers

Sons of Ladysmith's Cherub, three times National grand champion. One of his first daughters to finish made 591 lbs. fat in Class G. Others equally as promising now on test.

These bull calves are from 3 months to serviceable age out of dams with records up to 777 lbs. fat. They combine size, and type with persistent production.

SHOREWOOD FARM, Crystal Bay, Minn.

Guernsey Bulls

All ages, sired by a son of Beda's May King, out of dams who are daughters of Governor of the Chene (1297) P. S., Langwater Raritan, Prince Charming and others. Write for prices.

Peter Simon, Elba, Minn.

Guernseys

Best May Rose breeding. Both sexes and all ages from an Accredited Herd. Write your wants and send for lists.

E. S. Person, Minot, N. D.

Falcon's Grenadier (65834)

Dropped Feb. 12, 1920

Sire: *Falcon's Proud Warrior* (47559). Pronounced by many experts as "the greatest son of Langwater Warrior".

Dam: *Stockbridge Olive* (30883), from a noted family of high producers. Olive has an A. R. record of 11,503.2 lbs. milk, 617.36 lbs. fat and dropped two calves during the year.

Grenadier is a high class, well grown bull; priced very conservatively at $600 f. o. b., Litchfield.

Write about him today.

Falcon's Flight Farms, Litchfield, Conn.

FOR SALE

Some Fine Bull Calves from heavy producing dams, and sired by Langwater Cyclop whose brother, Langwater Steadfast, sold for $25,000. Priced low for quick sale.

M. V. Finch, Mgr., Glen Gable Farms, Wyebrooke, Pa.

Major Oliver S. Johnson



The Dairy Auctioneer

—

Tipton, Ia.

AYRSHIRES



THEY "STAND UP" AT THE PAIL
"STAND OUT" IN THE SHOW RING
AND
"STAND APART" FROM THE OTHER DAIRY BREEDS

AYRSHIRE BREEDERS ASSOCIATION
BRANDON ····· VERMONT

Double Your Cream Check

By Breeding Increased Production With a

Ravinia Ayrshire Bull

We offer you the fruit of twenty-five years of the most successful, intensive, and scientific breeding for production. We offer you young bulls and bull calves that will put to work for you in your own herd the same blood that has brought to our herd more A. R. records and more world records than any other Ayrshire herd. Isn't this the blood you want? We know the wonderful profit power of Ravinia Ayrshires—their unequalled production, their size, good teats, splendid conformation, and tremendous vigor. We want all dairymen to know them as we do; and to do so we offer you a limited number of splendid individually selected young bulls and bull calves at less than half our regular prices. Write today for individual descriptions and prices. Be sure to tell us the age you want.

Write to Box 100 E, Martinsville, Ind.

Martinsville, Ind. Preston, Kans. Axial, Colo.

GOSSARD BREEDING ESTATES

Linndale Farm Ayrshires

"Are bred for Production"

Bull calves out of A. R. cows and sired by sons of World Record cows, for sale.

Our { Breeding, Conformation and Prices } are right.

See what we offer before you buy.

JOHN LINN & SONS, Manhattan, Kansas.

Pure-bred Ayrshire Cattle For Sale

Best of breeding. Calves sired by a Grandson of Brown Kate, record 1,080 lbs. butter in year.

Wm. Nisbet & Sons, Richland Center, Wis.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

Lippitt Farm Ayrshires

For the first time we offer females for sale. They are producers with type.

Write for prices to Hope, R. I.

Bensalem Ayrshires

For Sale:—Bull Calves from our best A. R. Dams, and sired by "Queen's Favorite", whose Dam, "Bloomer's Queen", holds the World's Record as an Ayrshire Four-year-old with 21,820 lbs. milk, 1,009 lbs. butter. Grandam of Sire, Auchenbrain Brown Kate, Ex-world's Champion, 23,022 lbs. milk, 1,080 lbs. butter.

FRIENDS HOSPITAL, Frankford, Phila., Penn.

Aldebaran Farms

Racine, Wis.

AYRSHIRES

BLACKBURN FARM

HOME OF

Addington's Champion

Grandfathers—Nox'emall and Finlayston
Father—Rena's Champion, 17 A. R. Daughters
Mother—Addington Queen 3d, two Mature Records each over 19,000 lbs.

For Sale —

4-year-old cow—Fresh Dec. 12, 1920
2-year-old heifer—Fresh Jan. 16, 1921
Also Young Stock

Tuberculin Free Herd

Sewickley, Pennsylvania

Weymouth Farms

"Ayrshires of Quality"

All cows on Advanced Registry Test. Herd Tuberculin Tested.

We can supply you a herd sire of choicest breeding.

MARTIN A. TOWLE, Mgr.
NORTH WEYMOUTH, MASS.

South Farm

250 Registered Ayrshires

Stock of all ages for sale. Write for prices.

George A. Cross, Mgr., Willoughby, Ohio.

ALTA CREST AYRSHIRES

Special Offering of

Ayrshire Bull Calves

Imported — Home Bred

which we believe to be the greatest lot of Ayrshire Youngsters ever offered by any breeding establishment in America.

Write for Sale List

Animals of all ages for sale. Over 200 head in the Herd. New Importation direct from Scotland to arrive August 1, 1920.

ALTA CREST FARMS,
Arthur H. Sagendorph William Hunter
SPENCER, MASSACHUSETTS

World's Champion Ayrshires

Fully Accredited Tuberculosis Free — 200 Head in Herd



AUCHENBRAIN WHITE BEAUTY 2D

A. R. 14,721 lbs. milk, 4.33%
In 13 years, 112,486 lbs. milk and 13 calves
110 animals in herd are descended from this cow

The 1st, 2nd, 6th and 7th highest records were made here. Four cows average 22,823 lbs. milk, 1,046 lbs. butter. 100 A. R. records made here average 13,246 lbs. milk. Choice stock of all ages for sale at pre-war prices. Special — Young bulls line bred to Auchenbrain White Beauty 2d.

PENSHURST FARM, Narberth, Pa.
(7 miles from Philadelphia)

Delchester Farms Ayrshires

Tell us your wants and we can supply them at prices you can afford to pay.

Aged cows, bred to Glenury, an A. R. son of Finlayston.

Aged cows, bred to Rena's Baron of Highland, an outstanding son of Baron's Best of Bargenoch.

Heifers, bred to these two great sires.

Young heifers.

Bull calves.

All the above stock carries some of the best producing blood of the breed with A. R. ancestry on both sides.

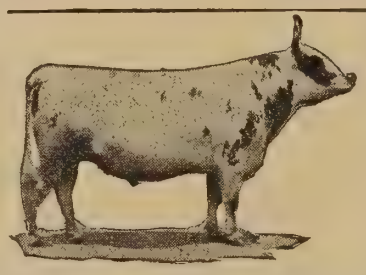
Herd free from tuberculosis

DELCHESTER FARMS
Edgemont, Del. Co., Penn. - Thomas W. Clark, Supt.

Ayrshire Stock

of all ages for sale. Satisfaction guaranteed

L. W. McCONNELL, Wellington, Ohio



We Have For Sale

the well bred Ayrshire bull, Bargenoch "Drexel" (18474) Imported. Bred by John Logan, Bargenoch, Scotland. Born Feb. 2nd, 1919. Color white and red. Sire, Bargenoch Magnificent (9579). Sire of Bargenoch "Royal Champion" sold at Bargenoch sale, 1919, for $7,267.00.

Dam, Bargenoch Victoria (37003). Scotch record: 9,221 lbs. milk, 4.23% fat in 43 weeks; 11,070 lbs. milk, 4.50% fat in 47 weeks.

BARCLAY FARMS, John Cochrane, Manager. ROSEMONT, PENNSYLVANIA

Middlesex Meadows Ayrshires

NANCY WHITEHALL, World's Jr. 4-yr.-old Champion Ayrshire, has just completed another record of 22,075 lbs. milk, 858 lbs. butterfat. Her bull calf, *NANCY'S CHANCELLOR OF MIDDLESEX*, born September, 1919, by a show ring champion with great milk production behind him, is a winner in the show ring this year, and is now being used on all the Middlesex Meadows Farm heifers. He is offered for sale for immediate delivery. Guaranteed a breeder and right in every way. Price $2,000.

A. Henry Higginson

South Lincoln, Mass.

BROWN SWISS



BETTY OF LAKE VIEW

Breed Brown Swiss Cattle

As producers they are worth every cent you pay for them. Cows are easily sold at reasonable prices. Their earning power has not been capitalized. Brown Swiss meet the ideals of working farmers.

BROWN SWISS CATTLE BREEDERS' ASS'N
IRA INMAN, Secretary, Beloit, Wis.
William B. Hale, Pres., Aqueduct Bldg., Rochester, N. Y.

JUBILEE FARM
Brown Swiss Cattle

Young stock for sale. Individuals of Quality. The best producing blood lines of the breed.

BOX 747, PEORIA, ILL.

Brown Swiss Cattle
Stock For Sale

Correspondence Solicited

HULL BROS., Painesville, Ohio

JERSEYS

Bull Clubs

We are in excellent shape to furnish several very high class Jersey bulls ready for service.
These bulls are out of Register of Merit dams with excellent records, sired by bulls backed with the largest production of the breed.
The World's Champion producing blood in these bulls insures their siring large cows of correct type and big profitable producers.
If you are in need of one bull or several bulls, we would appreciate your writing us about the quality and priced animal you need, and this will save time, money and correspondence.

AYREDALE STOCK FARM
F. W. Ayer, Prop., Bangor, Maine

Efficiency Jersey Bull

I am offering for sale a Roycroft Jersey bull dropped June 2, 1919, out of a Register of Merit cow with a record of 430 lbs., 10 oz. of butter as a three-year-old and sired by the King of Cloverland whose dam made a world's record with 1,132 lbs., 12 oz. of butter in one year. The King of Cloverland died of an accident recently and there are no more efficiency bulls of his blood lines for sale. This bull is an excellent individual in every way and will be sold under proper health certificate. The first check for $250.00 gets him delivered to any point east of the Mississippi River.

O. D. McClure, Ishpeming, Mich.

Jersey Bull Calves and Heifers

Herd Bulls: Champion Torono's Son
Whose Son sold at auction $7,500
Owl's-Over-the-Top and Golden Maid's Victors Jolly
100 head—no reactors

ULSTERDORP FARMS Highland, N. Y.

JERSEYS—DUROCS

TWO YOUNG BULLS. Splendid individuals. Out of splendid cows—sired by splendid sires. $100 to $150. Also some bred heifers and heifer calves.

F. R. Constance & Sons, Waupaca, Wis.

Hillcrest Jerseys

Bull calf born March, 1920. Sired by Imp. grandson of Golden Fern's Noble. Priced right for quick sale. Write

ROLLIE VANDERVORT, TOMAH, WIS.

Register Merit Jersey Herd

At Head, Mona's Jacoba Premier grandson: Pogis 99th of Hood Farm. Dam, Mona's Jacoba, record 806 lbs. butter: Granddaughter Jacoba Irene, young stock; St. Lambert breeding for sale. R. C. Green & Son, Albion, Wis.

JERSEYS
The Profit Breed

"The Key to Dairy Profits" and *"Jersey Facts"*—two important books, telling how farmers are making real profit today with Jerseys—how anyone can do it anywhere. Whether you are interested in one cow or a hundred, these books will show you how to make money. Free—Write today

American Jersey Cattle Club, 324-E W. 23 St. New York

DO YOU—

Want to make a profit from your dairy? If so you need high producing Jerseys.
Send for literature about

The Champion Producing Sophia Tormentor Family

We have bulls and bull calves for sale, rich in the blood of The Champion Cows and Champion Sires.
If you want a bull or bull calf, write us size of your herd, tell us the price you want to pay, and we will send you pedigree and full description of some for your consideration.

HOOD FARMS, Inc.
Lowell - - Mass.

N. B. If you mention "Hoard's Dairyman" we will send you colored postal of The World's Champion Sophie 19th of Hood Farm.

JIMMY DODGE, Mgr.

Bulls—JERSEY—Bulls

A splendid lot of Majesty bulls out of Register of Merit dams for sale at very low prices. We must sell to make room for our winter and spring calves. These bulls are from three months to two years old and sell with full guarantee to be breeders. We have a Federal Accredited Herd. For pedigrees, descriptions and prices, write Thos. T. Bacheller, Jr., Mgr.

ELMS JERSEY FARM
M. D. Munn Forest Lake, Minnesota

For Better Jerseys

We do not retain in our herd any cow which under favorable conditions will not produce 500 lbs. of butterfat (600 lbs. butter) in 1 yr. on official test.

We have a few young bulls for sale.

THORNBURY FARM
LIBERTYVILLE, ILLINOIS
W. A. BREWERTON, Owner L. A. BENT, Mgr.

Montpelier Jerseys

Three young bulls ready for service. Trace three times to Oxford Lad. Fine typy individuals. Right in every way.

Montpelier Manor Farms, Laurel, Md.

POLLED JERSEYS

Breeders' names and Spillman's "Inheritance of the Poll Character in Cattle" mailed free.
CHAS. S. HATFIELD, Secy, R4, Box 5, Springfield, Ohio.

Jersey Cows
For Sale

FROM FEDERAL ACCREDITED HERD

I have six cows for sale with Register of Merit records from 400 to 500 lbs. butterfat, age from 3 to 8 years. Prices from $250.00 up. One of these is a daughter of Noble's Fawn Prince, record 493 lbs. Five will freshen between January 5th and April 15th. These are all good individuals of right type.

P. G. WARMINGTON, Honey Creek, Wis.

Dunn and St. Croix Counties Jersey Breeders' Ass'n

have a few choice bulls and several pure-bred and grade cows and heifers for sale.

S. A. B. AUSMAN, Secy. Elk Mound, Wis.

Serviceable Bulls From R. M. Dams

We have a few very good individuals 6 to 13 months of Majesty and Raleigh breeding. A tuberculosis free herd. Every animal guaranteed right.
Your inquiry promptly answered.

E. E. HILL & SONS, Tomah, Wis.

GOLDEN MAID'S PRINCE BLOOD

Choice bull calves from dams in R. of M. or on test. Line bred to Golden Maid's Prince with outcrosses to Pedro, Hood Farm Torono, Loretta D, King Sappho King. Tuberculin tested herd free from contagious abortion.
Address: J. Q. Emery & Son, Edgerton, Wis.

Valley Farm is Offering

Several bulls, 6 to 12 months old, from R. M. cows. Sired by Golden Maid's Viscount and Kilda's Royal Majesty, two of the best Island bred bulls living. At prices to sell. Write

FRED STUBLEY, Black Earth, Wis.

HOLSTEINS

A Federal and State Accredited Herd Offers—

two serviceable sons of M. M. Rag Apple Oak Denver, a grandson of the 36-lb. cow, Dutchland Colantha Denver (1,315 lbs. butter, 25,431 lbs. milk in a year).

No. 1—Born Oct. 7, '19. Dam's record 16.04 lbs. as a heifer; second dam 24.79 lbs.; third dam 28.88 lbs. Bull mostly white, very good individual. Price $250.

No. 2—Born Nov. 5, '19. Dam's record 19.75 lbs.; second dam 18.75 lbs.; third dam 21.45 lbs. Half white. A show bull. Price $200.

For complete information and pedigree write

A. M. Anderson, Whitewater, Wis.

Cows and Heifers
A Few Good Bulls

Because I am overstocked, I am offering some very good registered females for sale. They either have A. R. O. records or are from A. R. O. dams.

Can also offer some excellent young bulls by a 33-lb. sire and from A. R. O. dams with records up to 28 lbs.

Every animal sold is guaranteed to be as represented.

Write or come and see for yourself.

J. D. McDonald West Salem, Wis.

ORMSBY BULL - Born Feb. 28, 1919
Sire, King Ormsby Pontiac De Nijlander, whose two nearest dams average over 30 lbs.
Dam, Aaltje Hengerveld Tritomia Segis. A. R. O. 17 lbs. at 3 yrs., next dam 29.68 in 7 days. Color light, fine individual. Ready for service. Price $300.
Fairview Stock Farm Whitewater, Wis., W. G. Marshall, Prop.



Mr. Dairyman—

This bull calf sired by "Carnation Prince Elba". our 31-lb. sire, from Beauty Pietertje Prince with 43 A. R. O. dams. Dropped by a fine, large, typy cow with a 19.85-lb. butter record, who was sired by a proven son of "Sir Ormsby Hengerveld De Kol", who had 69 A. R. O. daughters, 5 over 30 lbs. We have several other young bulls as good. Send for price and pedigree.

NORRIS FARM AND CAMP, Mukwonago, Wis.
D. W. Norris, Owner, E. Loehndorf, Herdsman

$100 to $200 Buys A Bull From A Good Record Dam

Am offering several for those prices sired by a 26-lb. bull and from A. R. O. dams with records up to 25.46 lbs.

Write at once. They'll go fast.

H. W. Crawford, R. 5, Campbellsport, Wis.

Serviceable Bulls For Sale

Sired by Pabst Pontiac Hengerveld, a son of King Pontiac Champion from Pabst Hengerveld Colanthus (31.5 lbs. butter in 7 days, 1,057 lbs. in a year.

These are nicely marked, well grown youngsters out of good producing dams. Several are ready for service, others are younger.

Write today.

John Alexander, Baraboo, Wis.

Bull For Sale—Born January 2, 1920

Dam:—A 22.62-lb. granddaughter of Johanna McKinley Segis. She has several good daughters in the herd with records up to 33.48 lbs. butter in 7 days and 112 lbs. milk in one day.
Sire:—A son of Molly Johanna Korndyke, former world's record 2-year-old with 30.62 lbs. butter in 7 days. Write for pedigree and price.

W. J. McROBERT, Waupun, Wis.

A Son of S. P. O. M. 36

for sale. He is 2 years old, a good individual and right in every way.
His dam is a 20-lb. daughter of a 20-lb. cow.
This is an opportunity to buy an excellent grandson of Sir Pietertje Ormsby Mercedes at a price that is right.
Write us at once.

Brown Bros., Waverly, S. D.

Here's Your Opportunity to Buy

A YEARLY RECORD BULL

Our 85 Yearly Record Cows and Heifers Average 753.49 Lbs. Butter and 17,525 Lbs. Milk

We can quote you on young bulls out of cows with good seven-day records and with semi-official records of from 600 to 1,000 lbs. Our prices range from $400 to $3,500.

These Calves are Sired By—

—King of the Ormsbys His dam, his dam's dam, and his full sister all have semi-official records above 1,000 lbs. His own dam has four records above 30 lbs. in 7 days and three above 1,000 lbs. in 365 days.

—King of the Sadie Vales His dam is a 38-lb. cow and both of his granddams are 41-lb. cows. His three, four, six, nine, and twelve nearest dams average over 31 lbs. in 7 days.

—Johanna King Segis His sire is a yearly record son of King Segis, and his dam is a 40-lb. cow—the first cow to produce over 500 lbs. butter in 120 days.

—Sir Inka Prilly Segis He is a 30-lb. son of King Segis. He has 20 daughters with semi-official records, and 15 are now on test.

If a saving of from $100 to $500 on a bull means anything to you, then write for our new price list which shows pedigrees of the bulls we have for sale.

(Federal Accredited Herd)

Winterthur Farms

Winterthur - - - Delaware

Keep Tab on Your Cows!

Send 5c in stamps for samples and prices of our weekly and monthly Milk Record Sheets. Hoard's Dairyman, Fort Atkinson, Wis.

You Make the Price
On 50 Serviceable Bulls

At WATERTOWN, WIS.
Tuesday, February 1st

We're selling the kind of bulls that will put you on the right track; we're selling individuals — we're selling bulls of the best breeding.

Bulls with splendid seven-day backing whose dams register up to 30 lbs.; bulls with lots of yearly backing, whose dams run as high as 750 lbs.

We're selling bulls from the best herds in the State — herds you all know about. We're selling bulls by the choicest sires Wisconsin can boast of today. We're saving you the tedious task of scouring the country for a real serviceable bull; we're bringing together the choicest lot obtainable in Wisconsin today. You select at your price.

All bulls tuberculin tested. Catalogs at sale

COME TO WATERTOWN, WIS., FEB. 1ST

J. E. MACK, Auctioneer

Watertown Holstein Sales Co.
Francis Darcey, Sec'y, Watertown, Wis

Ask us about a Son of—

Sir Pietertje Ormsby Mercedes 41st
that great son of S. P. O. M. and Spring Brook Bess Burke
or of
King Pontiac Artis Sadie Vale
he a 34-lb. son of the great K. K. S. V. from A 7-Day and Yearly Record Dam

We have several mighty good ones, from a few weeks to a year old, that we are pricing to sell.
Remember, every animal sold from Hollyhock Farms *must* be right.

Gustave Pabst's Hollyhock Farms
Fred J. Southcott, Manager Dousman, Wisconsin

BUY DIRECT
Reasons for Buying Holstein Cattle in Waukesha County:

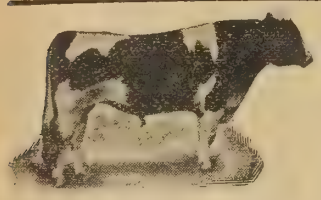
1. You can buy direct from the breeder through the breeders' association, organized by the breeders to promote the breeding of more and better Holstein cattle and to assist in a fair marketing of the same.
2. There are over 50 pure-bred Holstein sires in service in Waukesha County whose dams have records of over 30 lbs. butter in 7 days or 1,000 lbs. butter in a year.
3. There were 1,307 long-distance tests made on Holsteins in Waukesha County during the past year, which is more than the total in the next four leading counties in the state.
4. There are more tuberculin tested cattle in Waukesha than in any other county in the world.
5. The breeders' organization is in a position to put you in touch with "bred-for-production-stock" at reasonable prices.
6. When buying through the Association, you obtain the services of men who devote their entire time to the Holstein industry. It saves you time. You get more for your money.

Write or Wire for information

Waukesha County Holstein-Friesian Breeders' Association
254 Broadway, Waukesha, Wisconsin

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4 Serviceable Bulls
ALL SONS OF THE 1235-LB. YEARLY SIRE
Sir Korndyke Bess
The Dams' yearly records all over 800 lbs.
R. E. Benson - - Dousman, Wisconsin



Colantha Changeling Lad

30-lb. dam and daughters followed by a 30-lb. son of Sir Pietertje Ormsby Mercedes 37th, and now a 30lb. son of 41st, should interest you in buying your next herd sire. Buy them now.



Badger Stock Farms, Hartford, Wis. Lawrence F. Murphy



Yearly Records
Choice Young Bulls

from one to fourteen months old for sale. Sired by Cloverlawn Johanna Piebe whose five nearest dams average 1,070 lbs. of butter, 23,809 lbs. of milk a year. Herd numbers 140 head, forty cows with yearly records. State exactly what you want.

JOHN PULS, - HARTFORD, WISCONSIN

Your Herd Sire

Helps you toward success. We have young sons of Iowana Sir Ollie, sire of world's youngest 1,000-lb. 2-year-old, good individuals from tested dams, some with yearly records. These calves grow into profitable sires. Write

WALCOWIS FARMS
Lake Geneva, Wisconsin

Mr. Holstein Breeder—
You are Invited to
Pinehurst Farms

at any and all times. Come if you want a herd sire or foundation females. Come if you don't want to buy. We believe you will be interested in Sir Ormsby Beauty Pontiac Segis and his get and in our herd of producing females, many of them now doing very well on 7-day and year test.

You will be welcome and remember if you should buy from us, we stand back of every animal sold.

Pinehurst Farms Co., Sheboygan Falls, Wis.

Wayside Lawn Farms
Offer

Young bulls ready for service from A. R. O. dams sired by our 31-lb. bull. Price $125.00 to $200.00. Also two blemished young cows 3 years old, light colored, bred to our 33—1,000-lb. sire, King Mutual Korndyke 11th, whose two nearest dams average 34.90 lbs. butter in 7 days and 1,137.02 lbs. butter in one year. Price $200.00 per head. Herd Federally Accredited.

WALTER SORGE, Reedsburg, Wis.

Wayside Stock Farm
OFFERS
4 Serviceable Bulls

ONE is from a 28.30-lb. cow and by a 38-lb. sire.
TWO is from a 27.25-lb. Jr. 3-year-old and by a 36-lb. son of Champion Echo Sylvia Pontiac
THREE is from a 19.40-lb. 2-year-old and by a 33-lb. son of King of the Sadie Vales.
FOUR is from a 15-lb. 2-year-old daughter of a 27-lb. 3-year-old and by the 36-lb. grandson of May Echo Sylvia. Three of them have 5 nearest dams averaging over 30 lbs.

Be quick if you want one.

A. L. Williams Estate, Fond du Lac, Wis.

Holsteins For Sale

PURE-BREDS		GRADES	
	78 Cows		67 Heifer Calves
	88 Heifers		112 Heifers
	18 Heifer Calves		245 Cows
	250 Young Bulls		

Other Live Stock: Breeders are listing with us other dairy cattle, beef cattle, horses, sheep, and swine. Write us if you want stock. We will answer promptly.

BANKER FARMER EXCHANGE
D. H. Otis, Director, 1822 Chadbourne, Ave., Madison, Wis.

A. R. O. BULLS—2 Weeks to a Year Old
At Bargain Prices

They are sons of Rag Apple Pontiac, a 30-lb. grandson of King of the Pontiacs, from well bred dams with records up to 27 lbs. in 7 days. Write today for prices and pedigrees. I'll answer your inquiry promptly.

W. W. Quackenbush, - West Salem, Wis.

HOLSTEIN BULLS

No. 1. Born, Dec. 26, 1919. Sire, Sir Ormsby Homestead Butter Boy, whose two nearest dams average 33.23 lbs. butter in 7 days. Dam, De Kol Star Lilly, A. R. O., 16 lbs. as Junior 3-year-old. Color, light, straight top line. Price $275.

No. 2. Born Dec. 9, 1919. Sire, same as No. 1. Dam, Daisy Star Mink, A. R. O., 14 lbs. as junior 3-year-old. Color, little more black than white. Fine individual. Price $225.

GODFREY DALE FARM
R. T. Godfrey, Proprietor, Glenbeulah, Wis.

5-10 WELL BRED HEIFERS
SEVERAL GOOD YOUNG BULLS

are what we are offering just now. The heifers are registered two-year-olds, bred to freshen this fall. The bulls, old enough for service, are from A. R. O. dams and by Sir Ormsby Homestead Butter Boy, a 35-lb. bull. One is by a 42-lb. grandson of S. P. O. M. Come and see them.

ANDREW FRANK, FOX LAKE, WIS.

Three Holstein Bulls

fit for service, sired by sons of King Segis Pontiac. Pure-bred and grade females, any age, in carload lots for sale.

W. R. GATES, Fort Atkinson, Wis.

HOLSTEIN BULLS AND HEIFERS ! !

To make room in our barn we offer a 3 years of age. They are backed by Also a few bulls sired by King Korndyke age over 37 lbs. butter in 7 days. Come dozen or more heifers from 1 month to some of the best families of the breed. Veeman, whose two nearest dams averand see them or write to

WISCONSIN STAR STOCK FARM, ED. M. SHULTZ, HARTFORD, WIS.

Sons of a 36-lb.—1315-lb. Sire

They are sons of Dutchland Creamelle Denver Prince. His sire is a 30-lb. 1,028-lb. grandson of Colantha Johanna Lad and his dam, the highest record daughter of the same sire, with 36 lbs. in 7 days, 1,315 lbs. in a year.

They are from tested (records up to 20 lbs.) and untested dams — Good producers rich in the blood of Mooie Mutual De Kol and King Segis Pontiac.

The calves are from 2 to 8 months old. Priced right.

Jefferson County Asylum, Jefferson, Wis.
W. E. Voigt, Supt.

1000---HERD---1000
Quality Holsteins
GRADES AND PURE-BREDS

Just now we have a splendid lot of grade heifers. Write for our pure-bred bull list.

Jefferson County Holstein-Friesian Breeders' Association,
A. F. Gafke, Secretary, Jefferson, Wis.

Bull Ready For Service

Nicely marked and a good individual. Dam 20 lbs. butter at just 3 years. Next dam a 23-lb. 4-year-old. Two nearest dams of his sire average over 32 lbs. and ten nearest dams over 29 lbs. in 7 days Not a break in a three-generation pedigree. Priced to sell. Call or write

Halsey J. Sedgwick, Limeridge, Wis.

A 20-Mo.-Old Service Sire

out of a 26-lb. daughter of King Korndyke Veeman Wayne and sired by a 26-lb. son of King Segis Pontiac. A fine individual—Well grown—Well marked—Well bred. A few younger bulls out of record dams and priced right. Herd tuberculin tested. Come and see these at any time.

RIDGEHURST STOCK FARM.
Glen C. Ramsey, Ft. Atkinson, Wis.

M. & P.
Healthy Holsteins

A year ago we sold a bull calf to a Virginia breeder. The dam of that calf has just finished a year's record of 17,600 lbs. of milk, 800 lbs. of butter. Was he pleased? His letter states "The bull is growing nicely, and I am glad his dam made so good a year's record."

We supply this kind at moderate prices. Write

Markham & Puffer
Avon - New York

Yearling Bull Ready For Service

His sire is a son of the world famous "IT" whose dam held the world's record for a year. His dam is a double granddaughter of Pontiac Aaggie Korndyke, the famous sire of long distance champions. Price $150.

G. G. Burlingame, Cazenovia, New York.

High Grade Holstein Calves

This is the ideal time of year to start them and have them ready for pasture next spring. ⅞ pure-bred Holstein calves, $20 and $25 each. Ship C. O. D. if you wish. Safe arrival and satisfaction guaranteed. Everything in the line of registered heifers. Write your wants.

ELM GROVE STOCK FARM,
Box 253. Cortland, N. Y.

HOLSTEIN BULLS

Bull calves and service bulls. From good producing A. R. O. dams. Sired by King of the Changelings 180491, a 33-lb. son of King of the Pontiacs. They are good individuals and priced reasonable.

BRAEDOON FARM
Harry W. Petzold, Oswego, Tioga Co., N. Y.

$55---Handsome Bull, at Six Weeks Old, ¾ White

Sire — 30-lb. son of King Segis Pontiac Alcartra. His six nearest dams are all 30-lb. cows. Dam — A 17-lb. daughter of a 20-lb. cow and sired by a grandson of King Segis. Send check if you want him before somebody else gets him. No pedigrees.

H. J. KARPINSKI Route 7, Oswego, N. Y.

4 Holstein Bulls for Sale

All by King Segis Pontiac Cor-Will, 190512, whose sire is King Segis Pontiac, 44444, and whose dam is an A. R. O. daughter of Pontiac Korndyke. Also two fine young registered cows, one a granddaughter of Pontiac Korndyke.

Wm. N. Osborn, Wanatah, Ind.

Two Grandsons
of Pontiac Korndyke Ready for Service

No. 1. Born February 17, 1920, a very good individual. His dam is a show cow and an all year producer. She made 24.88 lbs. butter in 7 days as a 3-year-old. Is a granddaughter of Pontiac Aaggie Korndyke. His sire is Sir Korndyke Matador, one of the best sons of Pontiac Korndyke.

No. 2. Also a son of Sir Korndyke Matador, was born Dec. 29, '19. He is a well grown, very straight individual. His dam, a maternal sister to the 24-lb. 3-year-old dam of No. 1, has a 21-lb. 4-year-old record. Both bulls priced to sell. Tuberculin tested and sold subject to a 60-day retest.

TIM H. BLOSSER, care Bell Farm, Coraopolis, Pa.

THE TRAVERSE HERD

We have what you want in

BULL CALVES

the large, fine growthy type, guaranteed right in every way. They are from high producing A. R. O. ancestors. Dams' records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.

Traverse City State Hospital, - Traverse City, Michigan

The Pontiac Herd

"Where the Champions come from"

Offer Bull Calves sired by sons of *Pontiac Korndyke, Hengerveld De Kol, Pontiac Dutchland, or Admiral Walker Pietertje.*

Do you want a Pontiac in your herd?

PONTIAC STATE HOSPITAL. Pontiac, Mich.

Registered Holstein Bulls
4 Yearlings, 7-4 to 6 months old
$100.00 and up if taken soon

All sired by 30-pound bulls. Out of A. R. O. dams with records made on the farm running from a 17-lb. two-year-old to 21-lb. two-year-old, and aged cows from 22 to 30 pounds. We have 13 granddaughters of King of the Pontiacs in our herd and one of his sons out of a 30-lb. dam. Also a grandson of Pontiac Korndyke out of 1,105-lb. dam, 30 pounds, 7 days.

C. A. PARKS, Mgr. Assumption, Ill.

BULL CALF FOR SALE

Sire is a 27-lb. son of Johanna McKinley Segis, the 40-lb. bull that sold for $25,000. Dam is a granddaughter of Pearl of the Dairy's Joe De Kol with 78 A. R. O. daughters. Marking ⅔ white.

Long Distance Phone 389.

DUETT ROBINSON, R. 3, Capron Ill.

Woodell Farm
Offers a Few Serviceable Bulls

Sired by a son of King Segis Pontiac Superior and out of A. R. O. dams. They are good ones, priced reasonable. Write us today about them. We will answer you promptly.

Harry M. Wood, Prop., Delavan, Ill.
F. E. Washbon, Herdsman.

Buffalo Creek Farm Holsteins

This yearly record bull calf for sale, born Nov. 28, 1919.

Name, King Lavera Ormsby No. 297926. Sire: King Pietertje Homestead Ormsby No. 221488. Dam: Lavera Hortensia Bawn 2d. No. 124734, with a record of 26,010.2 lbs. of milk and 1,050.55 lbs. of butter in a year. Write for price and pedigree. This calf won 5th premium at the Dairy Show. Herd under Federal Supervision.

H. L. BINGHAM, Supt., Arlington Heights, Ill.

57 BULLS

From four to eighteen months of age. All pure-bred, registered Holsteins carrying the blood lines, close up, of some of the greatest families of the breed. Send for new bull catalog just out giving description, pedigree, and price. If interested in females, ask for female catalog. Over 600 head in our herds.

WOODLAWN FARM, STERLING, ILL.

Whitehurst Farms

BULLS FOR SALE FROM SEMI-OFFICIAL DAMS. Priced Right.

A. F. Randolph, Prop., Canton, Ill.

Edinboro Lake Farm

Show Type HOLSTEINS Production

Six state yearly record champions 1918-19.

We offer bull calves by Sir Paul Veeman Hengerveld and Sir Ormsby Skylark Fredericka, out of yearly record dams with type.

Edinboro, Pa.

ORIGIN FARM

HORNLESS HOLSTEINS, Registered and A. R. O. Animals, all ages, for sale. Federally Tested.

GEO. E. STEVENSON, Scranton, Penna.

Fairhurst Herd

On the Accredited List

We offer young bulls, fine individuals and well grown. Sired by 33-lb. bull and from dams with records up to 30 lbs. Write for pedigree and price.

KITTLE BROS., Holland, Ohio.

MR. CATTLE BUYER

We can supply you with good, healthy registered Holstein cows and heifers, singly or in car lots.

We always have some very desirable young bulls for sale.

It will pay you to look into our high class listings.

LENAWEE CO. HOLSTEIN BREEDERS' ASS'N, ADRIAN, MICH.
L. W. Harwood, Sales Mgr. R. C. Curtis, Sec.

$225 Buys a Registered Holstein Bull — 14 Months Old

A good individual, large sized, perfect top line and about ⅞ white. His dam is one of my largest and best cows, with a large square udder and exceptionally straight top line. She has just completed a 7-day Official test, making 24.2 lbs. butter and 505.3 lbs. milk. His sire is a 29-lb. bull of good breeding and individuality.

A Bargain for Someone

I have also some very choice bull calves of excellent breeding from dams with A. R. O. records of 20, 23, 24 and 26 lbs. of butter in 7 days.

I. M. SHORMAN, Route 4, Fowlerville, Michigan

ZEHRINGHURST HOLSTEIN FRIESIANS

A Few Splendid Young Bulls

for sale that have show ring type, that are backed by 7-day and yearly records and by the best productive breeding in Ohio. They are from an accredited herd, are guaranteed right and are priced to sell.

Zehringhurst Farm, Germantown, O. Oscar O. Zehring, Prop.

Northern Illinois Live Stock Breeders' Ass'n will hold its

Annual Sale
of Pure-bred Holstein Cattle

at the Emerson-Brantingham Carriage Works, So. Main St.

Rockford, Ill., Sat., Jan. 29th

Sale Commences At Noon

50 Head of Hand-Picked Holsteins — 40 Females, 10 Males

MEADOWSTREAM FARM consigns 6 cows, fresh or heavy springers, in calf to Carnation McKinley Segis Fayne who is a brother to the world's champion junior 2-year-old heifer. Also 6 heifers, daughters of this 33¼-lb. bull.

PINEHURST FARMS consign several cows, milking or heavy springers, in calf to a 29-lb. son of King Pieter. Also several daughters of this bull.

Many others of equal merit consigned by other Illinois breeders. An opportunity to buy exceptional foundation animals at your own price. Now is the time to start in the pure-bred Holstein business while the price is low. The pure-bred is better than the grade.

S. T. Wood, Sale Director. Col. J. E. Mack, Auctioneer.

Catalog and full information by applying to

Russell H. Coffin, Secretary, Rockford, Ill.

DISPERSION SALE
Woodlawn Home Farm Herd of Holsteins

Woodlawn Home Farm Is Sold. Every Holstein In This Herd Is Included In Sale.

Tuesday, February 15, Sterling, Ill.

To Be Held At The Heated Pavilion Of The Northern Illinois Breeders' Sale Co.

85 Females — 15 Bulls
BREEDERS' SALE

Every animal In This Sale Bred And Born On The Farm. This also applies to the dams and grandams of most of them. They will be sold in their everyday working clothes.

TUBERCULIN TESTED. 60-DAY RETEST

Our last annual test on this farm was 100 per cent clean. We hope the next test which will be held just prior to this sale will be equally as good.

INDIVIDUALITY

Strong, large, rugged cows of most splendid dairy type and conformation. Good judges have pronounced the daughters of Prince Hengerveld Segis in this sale as the greatest lot of large handsome dairy cows by one sire in America. No sale of equal size ever contained more animals of outstanding individuality than will be sold in this sale.

BLOOD LINES

The herd is strong in the blood of King Segis, Pontiac Korndyke, King of the Pontiacs, Aaggie Cornucopia Johanna Lad, Paul Beets and Pietertje Hengerveld Count De Kol through some of their best sons and daughters.

RECORDS

Have been made under ordinary herd conditions and include a large number up to 22 lbs. of two-year-olds and 30 lbs. at full age. Made under these conditions these records are no real indication of what these cows and heifers could do if properly fitted. It is not too much to say that as many great record prospects never before were sold in one sale by one farm in this country. This is a real opportunity to buy real prospects on which to make great records and the very best of foundation stock.

This Ad Will Appear But Once. Send For Catalog. It Tells The Whole Story.

Sale Begins 9:30 A. M.

Col. Perry, Col. Haeger, Auctioneers. S. T. Wood in the Box

Woodlawn Farm Co., Sterling, Ill.

HOLSTEIN CATTLE

C. H. Davies, Prop., Springvale Farm, Shipman, Illinois, writes:

"Nine years ago I purchased a two-year-old heifer and a five-year-old cow. Now I have a herd of 50 head, conservatively valued at $25,000. Where is there a business good enough to net a man $25,000 plus a good living for himself and family in nine years?"

Send for Free Booklets

The Holstein-Friesian Association of America

101 American Building **Brattleboro, Vermont**

MINNESOTA HOLSTEINS

Mark Up Feb. 9 For Crookston

The Red River Valley HOLSTEIN SALE

Feb. 9, Crookston, Minn.

The big sale is in connection with the Red River Valley Live Stock Show which starts February 7th and runs the full week.

65 — Top Notch Holsteins — 65

Sixty-five head of the breeding that is sought all over the country will be sold. There will be offered twelve bulls good enough to head any herd.

AMONG THE CONSIGNORS ARE:

E. C. Schroeder Farms, Moorhead
O. J. Grover, Moorhead
Steidl Bros., Moorhead
M. L. Enright, East Grand Forks
J. D. Bacon, Grand Forks, N. D.
Spaulding Farms, Warren
W. W. Sugden, Hallock
J. W. Malm, Orleans
McNelly and Harper, McIntosh
M. C. Kronemann, Fergus Falls
Dr. H. P. Fischer, Shakopee
Arden Farms, St. Paul
J. P. Peltz, St. Bonifacius
Dr. Egil Boeckmann, White Bear
F. R. Hedley, Crookston

Come early and attend the Meeting and Smoker on the evening of the 8th.

Minnesota Holstein-Friesian Breeders' Ass'n

406 Market Bank Bldg., Minneapolis, Minn.

Here's The Bull For You—

Offered on Easy Terms of Payment

He is King Pietertje Ormsby Piebe 24th, born July 2, a show son of King Pietertje Ormsby Piebe.

His dam, Rose King Mutual, at 24 months, made 22.3 lbs. butter in 7 days, 681 lbs. in a year. Her dam produced over 1,000 lbs. butter as a 4-year-old.

His 3 nearest dams average 1,038 lbs. in a year, all under full age.

He is a dandy and we guarantee him to be right.



KING PIETERTJE ORMSBY PIEBE 24th

Hargrove & Arnold **Norwalk, Iowa**

Herd Under Federal Supervision

SIR JOHANNA FAYNE



42147

now has 9 daughters 20,000 pounds or over. All of his yearly tested daughters, 3½ years old or over average 21,465.1 pounds milk and 831.45 pounds butter. 17 daughters average 20,000 pounds. A few young sons left at reasonable prices. Herd under Federal Supervision.

IOWANA FARMS

DAVENPORT, IOWA

HOME FARM HOLSTEIN FRIESIANS

Light Colored—Ready For Service

Born November, 1919, a son of King Korndyke Sadie Vale 24th. Dam—18 lbs. butter at 4 years, from 3 quarters, her full sister with 638 lbs. butter in a year, ¾ sister with 740 lbs. at 3 years. This bull has a perfect rump, is well grown out, has strong official backing.

W. B. BARNEY & SONS - - CHAPIN, IOWA

YOUNG BULLS

Backed By Real Production

We are offering for sale sons of our Sir Pietertje Geneseo Alcartra whose dam, Miss Pietertje Alexina 2d, has a 42.42-lb. 7-day record and a yearly record of 1,290.94 lbs. butter from 24,219.1 lbs. milk. These youngsters are good individuals from heavy producing dams. They are priced to sell.

Hubert Stuckart, - Raymond, Iowa

365-Day Milk Production

Still Another One

The May bull has been sold, but we offer another grandson of Sir Pietertje Ormsby Mercedes out of a granddaughter of Colantha Johanna Lad, born July 30, 1920. A handsome calf and well grown out, perfect top line; in fact, a fine individual of the popular breeding. This bull will get you "all the year round" producers. Our price is within the reach of the farmer or small breeder.

Cerro Gordo Farms, Mason City, Iowa

BULL CALF

Sire's dam, butter, 1 yr., 848 lbs.; her daughter, 1,055 lbs. Grandsire's dam, 987 lbs. at 11 yrs.; her full sister, 1,344 lbs.; another, same dam, 1,322 lbs. Dam, Miss Pietertje Alexina 3d, sister to Miss Pietertje Alexina 2d, 1,290.91 lbs. A dandy calf, priced right. Write quick to

McKAY BROS., - - CADDOA, COL.

VERY HIGHLY BRED YOUNG Holstein-Friesian BULLS

and two heifer calves are offered for sale cheap. All are registered, tuberculin tested and sound. Write or see "LIVE FAIR" VIEW, Waverly, Iowa. Otto Brandenburg, Mgr.

Mankato Holstein Farms

Offer a Son of

King Colantha Ormsby Bess, A Sir Pietertje Bess Burke combination. Nine dams average over 1,000 lbs.

Dam is going at better than 800 lbs. butter for the year. Has over 25 lbs. butter in 7 days.

This calf was Grand Champion over all bulls at a Southern Minnesota district fair.

Several bulls at prices warranting their use in grade herds.

Write or better still come and see them

(A Federal Accredited Herd)

Marlow & Randall, Mankato, Minn.

Son of a 37-Lb. Ormsby Bull

Dam: three-fourths sister to an 870-lb. junior 2-year-old. Mostly white, $150. Herd under Federal Supervision.

BLUEBELL FARM, RICEVILLE, IOWA.

Grandsons of "Piebe"

We have for sale a few 5-8 months old sons of Lola Segis Pontiac Homestead, he a 34-lb., 1,000-lb. son of Piebe Laura Ollie Homestead King. Most of them are from good producing daughters of Joe Oak De Kol Fobes, a grandson of Homestead Junior De Kol. Price $125 to $250.

Write us at once if you want one.

RANDALL BROS. Lakeland, Minn.

RICHLY BRED

HOLSTEIN BULL CALVES

out of A. R. dams and sired by our two richly bred herd sires — **King Piebe Ormsby Mercedes,** a 35-lb. son of Sir Korndyke Bess and every dam in pedigree over 22 lbs. and **King Pietertje Mercedes Ormsby,** a son of Sir Pietertje Ormsby Mercedes and out of a 19-lb. senior two-year-old dam.

Herd tuberculin tested. Write for information or visit herd.

P. FROST SPAULDING FARM CO.

C. L. Spaulding, Mgr., Warren, Minn.

We Have Half a Dozen Bulls

and bull calves that we want to move right away. Some by a 32-lb. son of Count and others by a 1,000-lb. son of Sir Korndyke Bess. Dams have good yearly records and all the way up to 30 lbs. butter in 7 days.

Flecks Farms, Faribault, Minn.

COME TO BISCAY

for your next purchase of pure-bred or grade Holstein cattle, mature or young stock. Large selection, also a few select male calves to offer. Located near station.

BISCAY SALES CO., BISCAY, MINN

THE LASHBROOK HERD



ELMWOOD MARIE NETHERLAND

Offers A High-Class Bull

Ten months old, sired by SIR WALKER SEGIS HOMESTEAD, a son of "PIEBE" and "Beauty Beets Walker Segis" world's greatest heifer, with two yearly records over 25,000 lbs. milk and 1,000 lbs. butter.

Dam, an 18-lb. junior two-year-old heifer, of rich A. R. O. breeding. Soon to freshen as senior two-year-old and go on yearly test. Will double value of bull in short time. He is evenly marked, a good, typy bull and a bargain for $500.

Send for pedigree and photo.

A. J. Lashbrook, Northfield, Minn.

Federal Accredited Herd

Minnesota Holstein Breeders' Association

Be sure that you buy Minnesota Holsteins from state association members. They are responsible. For list of members and other information address

THE SECRETARY, 406 MARKET BANK BUILDING, MINNEAPOLIS, MINN.

FOR SALE—A Few Splendid Cows Bred to —



These Famous Sires

SIR PIETERTJE ORMSBY MERCEDES 37TH

He already has two 1,000-lb. three-year-olds and a 900-lb. junior two.
A full sister has twice made over 1,000 lbs. in 305 days.
Dam:—Spring Brook Bess Burke 2d. 1,290.91. Two other records above 1,000 lbs.

SIR PIETERTJE ORMSBY MERCEDES 41ST

His daughters are real producers and show ring winners. One of his daughters was grand champion at the Dairy Cattle Congress, defeating the National Champion.
Dam:—Spring Brook Bess Burke 1,094.16. "Greatest Mother of the Breed".

And You Know Their Sire —

SIR PIETERTJE ORMSBY MERCEDES, the world's greatest sire of show ring winners and yearly producers. Thirteen of his daughters have made above 1,000 lbs. Twenty have made over 20,000 lbs. milk in a year.

We are offering a few splendid cows—not culls—bred to these bulls at prices that will move them quickly. Come and look them over.

E. C. SCHROEDER FARMS *(Fully Accredited Herd)* **Moorhead, Minnesota**

Minnesota Holsteins



Miss Korndyke Akkrummer Ormsby 30-lb. 4-year-old. 39.67 lbs. butter at full age. Owned and developed by J. B. Irwin.

For Your Next Herd Sire

get a son of Sir Ormsby Banostine Champion, son of Duchess Skylark Ormsby, world record cow. We have some good ones for sale from dams with good 7-day and year records.

Woodlake & Clover Farms,
John B. Irwin, Station F,
Minneapolis, Minnesota.
"The Home o the Ormsbys."

Grandsons of "Count" and "Piebe"

I have just purchased from the University of Nebraska, which owns the highest record son of PIEBE from BEAUTY GIRL PONTIAC SEGIS, the World's Record Daughter of COUNT,

Eight Young Bulls

from six to eighteen months old, all from good A. R. O. dams. Individuality faultless. Beautifully marked.

Most Popular Combination of Breeding of the Day
They Won't Last Long **Write Me At Once For Prices**

J. M. HACKNEY
ARDEN FARMS, 602 Merchants Bank Bldg., St. Paul, Minn.



Lola Segis Pontiac Homestead

the highest record bull in southern Minnesota, heads our herd. His sire, Piebe Laura Ollie Homestead King, has more daughters that as 2-yr.-olds have produced 20,000 lbs. milk in a year than any other. His dam, a 34-lb. 4-year-old daughter of King Segis Pontiac Count, has 3 records averaging 33 lbs. and has made over 1,000 lbs. in 1 year. We have a few serviceable bulls and younger from A. R. O. dams for sale.

Clover Lea Farm, W. W. Walker, Owner. Austin, Minnesota

Grandsons of Sir Pietertje Ormsby Mercedes

The sire is Sir Pietertje Ormsby Mercedes 22d a son of Minnesota's first 1000-lb. cow. These bulls are all nicely marked, straight top lines Very good individuals from good A. R. O. dams. For pedigrees and prices, write

O. J. GROVER, - GLYNDON, MINN.

Grandsons of
Duchess Skylark Ormsby and of S. P. O. M. 38th.

for sale. These youngsters are from A. R. O. dams that are now making good yearly records. Write today for further information.

POPLAR HOLLOW STOCK FARM,
Bertram D. Scott, Prop., Richfield Station
Minneapolis, Minn.

Serviceable Sons of Dutchland Aaggie Tidy Prince

I have three of these youngsters for sale, all ready for service and from A. R. O. granddaughters of S. P. O. M. Their sire is from a sister to Tidy Abbekerk Prince and already has a good list of tested daughters, including one above 36 lbs.
Write today for complete information.
E. J. BROSIOUS, - - Stillwater, Minn.

Baby Bull For Sale

Grandson of Sir Ormsby Hengerveld Korndyke. Dam, a 16-lb. four-year-old. Price for immediate sale $100.
V. R. Holmes, Anoka, Minn.

MONEY

Is Hard to Get. So Are the Right Kind of Bulls!
We have both. Don't go without the bull you need just because money is tight. LET US HELP YOU. We also have a few females. WRITE FOR OUR BARGAIN LIST AND PAYMENT PLAN. Every milking animal in our herd has an official record. We need the barn room. Take advantage of this opportunity. SATISFACTION GUARANTEED.
GRAHAMHOLM FARMS, Holstein-Friesians
Federally Accredited.
H. R. Searles, Mgr., Rochester, Minn.

For Sale

A Few Good Females

Several High Class Young Bulls

I have a few good ones left. Write me at once if you are in the market for a herd sire or a few foundation females.
CHAS. OBY, Maple Lake, Minn.

Sir Korndyke Ormsby De Kol 15th—21 Months Old

His sire is a son of Sir Korndyke Hengerveld De Kol; 51 A. R. O. daughters, one of whom has a 7-day record of 39.56 lbs. and several above 1000 lbs.
His dam has a record of 23.778 lbs. and now on yearly test.
Geo. H. Elwell, - Minneapolis, Minn.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

THE MARK OF QUALITY

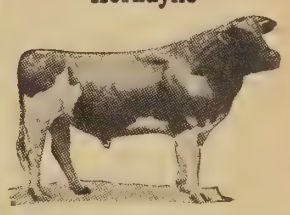
What would you expect from a cross of these Animals?

Eureka Melissa Segis



at two years, made in 7 days 21.93 Butter, 495.3 Milk; 30 days 86.36 Butter, 1,992.5 Milk. Sire, King Segis Pontiac Superior, sire of 5 A. R. O. daughters. Dam, Eureka Melissa, at 4 years, 12 days, produced 25.08 butter and 488.20 milk.

Sir Ormsby Hengerveld Korndyke



35-pound son of Sir Korndyke Hengerveld De Kol, sire of 45 A. R. O. Daughters. Dam, Pietertje Maid Ormsby, 35.56 butter and 535.40 milk in 7 days.

OAK DALE FARMS

INCORPORATED
BREEDERS of HOLSTEIN FRIESIANS
Austin Minnesota

Lake Shore Farm

Offers May 22nd, 1920, bull calf. 795 lbs. butter over 20,000 lbs. milk is his dam's yearly record. King Segis breeding, light color. Price for January $250.
E. J. OPPLIGER, Box 20 Forest Lake, Minn.

Bull Calves of Ormsby Breeding

from A. R. O. dams for sale, 2 to 8 months old. Prices $200 to $1,000. We can also offer several good, typy cows bred to a good Ormsby bull. Write or come and see us.

MINFRAL SPRINGS STOCK FARM, - - SAVAGE, MINNESOTA
Stuart—McIntyre—Hansen, Owners.
Address correspondence to Axel Hansen, formerly with John B. Irwin.

Prices Smashed

Our Price Guarantee

We Guarantee the prices in this announcement against further reduction for the benefit of quick, wise buyers. Every possible reduction *has* been made for this advance sale of 1921.

We Guarantee that if there should be a price reduction on any of these items before July 1st, 1921, we will hand you back the difference in money or merchandise between what you have paid us and the new established price.

HARRIS BROTHERS COMPANY

Now is Your Chance to Buy

Here's real news for our farm friends — the biggest thing we have ever attempted in all our 29 years of honest public dealing. Read this price guarantee — its protection is sure and certain. You can now buy early, wisely and safely with a feeling of absolute security that your requirements for 1921 have been bought at the lowest prices possible.

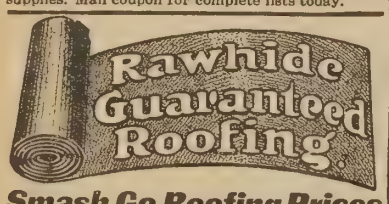
Remember these Facts:

1. *We buy the world's best products from forced sales at big reductions.*
2. *Our tremendous "spot cash" buying power gives us first choice of material at forced sales.*
3. *We sell as we buy, bargains in quality merchandise.*

We stand firmly back of every price, every promise, every word in this announcement. This page is backed by our entire institution and the publisher of this paper. Buy liberally and quickly — you can't possibly make a mistake. Our regular broad and liberal guarantee is an insurance policy that protects you in every purchase.

Army Camp Material

We are now conducting the sale of complete buildings from our purchases at Camp Merritt, Tenafly, New Jersey and Camp Shelby, Hattiesburg, Miss. Millions of feet of high grade lumber, complete buildings—plumbing material and general building supplies. Mail coupon for complete lists today.



Smash Go Roofing Prices

GOLD MEDAL ROOFING

No. LS4—Rawhide stone faced gold medal roofing guaranteed fifteen years. Fire resisting special coating. Full rolls of 108 sq ft. complete with nails and cement. High grade stock, per roll . . **$3.25**

FAMOUS RAWHIDE ROOFING

No. LS5—Rawhide roofing in three weights—a high grade covering in rolls 108 sq. ft. with nails and cement. Heavy weight guaranteed 12 yrs., roll, **$2.55**; medium weight per roll **$2.35**; light weight per roll **$1.95**.

CORRUGATED METAL ROOFING

Ask for Freight Paid Prices!

We can furnish 100 sq. ft. of corrugated metal sheets as low as..... **$2.75**

100 SQ. FT. WALLBOARD, $3.00

New serviceable wallboard. Ask for sample.



Guaranteed Paint

$2.35 Gallon

No. LS29—Won't peel, blister, fade or rub off. White, black and 26 non-fading colors. Put up in containers from 1 gal. to 50 gals. Per gal.....**$2.35**

Guaranteed barn paint, red, yellow or maroon, per gal. **$1.60**
Green, slate or red, per gal. **$1.80**

Ford Radiator



Latest pattern honeycomb radiator with brass core for Ford automobiles. Large capacity and cooling surface. Black wrought steel casing. **No. LS30** for old or new models; war tax paid, **$21.**

$21.00

Free Plan Book of 100 Houses—Reduced Prices!

ACT NOW! The time is here to start planning your home. Prices are smashed to "smithereens," but the high quality remains. Guaranteed new, clean stock from beginning to end. Practical, substantial and beautiful inside and outside. Can be bought under our simplified Ready Cut System, or not Ready Cut just as you like.



$2883 buys material to build this beautiful farm home. No. LS2015 size 25x32 ft. 8 rooms, bath Bedroom on first floor.

Our Ready Cut System is so simple, that a handy man can build a Harris Home. Our new free 1921 Plan Book tells all about it with illustrations, floor plans, specifications, liberal terms. Know all about our free plan offer and the numerous designs ready now for you. No lost time, material or money. Mark coupon for catalogue.

LUMBER AND MILLWORK PRICES SMASHED!



BELOW COST NOW

Lumber. For the Spring of 1921 we are going to sell many items of Lumber below our wholesale carload cost of last year. Practically no restriction, everything goes, large or small quantities, all BRAND NEW guaranteed stock right here in Chicago, ready for immediate shipment on your order. Prices will be as low per thousand as **$25.00**



$3.98

DOORS: Typical of many remarkable savings is this beautiful 5 Panel, 1¾-8 inch thick, Clear Oregon Fir Door. Hundreds of other different styles, sizes and woods to choose from. Guaranteed quality. Carefully packed and crated. 2 ft. 6 in. x 6 ft. 6 in. **$3.98**



$2.82

WINDOWS: All kinds and sizes, including fancy plate and leaded glass, also storm sash. Clear White Pine Lumber, standard thickness, perfectly glazed and puttied. **No. LS22**—This fancy top two light window in 24 in. x 24 in. glass size is **$3.54**. Windows in plain glass, same size, as low as **$2.82**.



$1.68

SCREENS: Yes, right now is the time to begin ordering your screens or screen stock. Black galvanized or Copper Wire. Lumber used. Clear Soft Pine or Oregon Fir. Our KD screen stock will save you 50 per cent. Full size black wire screen to fit window shown. **LS23, $1.68.**

Chemical Toilet



$9.95

Gives you every comfort of the modern home. Plumbing not needed. Best made. Steel blue enamel finish with mahogany finish seat and cover. Exhaust pipe and one gallon of chemical.

No. LS11.....**$9.95**

Every Needed Plumbing Item

We furnish plumbing material for every purpose at big savings. Ask for our prices on complete air pressure water systems and equipment for your land and buildings. Mail coupon.

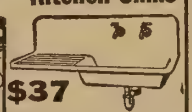
BATHROOM OUTFIT $83.00



No. LS10—Consists of white porcelain enameled bath tub 5 ft. long, 30 in. wide, fitted with nickel plated connected waste and overflow and nickel plated double bath cock. White porcelain enameled lavatory, size 17x19 in. with nickel plated trap and faucets. Closet outfit includes white vitreous earthenware wash down bowl with highly finished golden oak tank, copper lined, golden oak seat and cover. Price **$83.00** complete.....

Bath tub with fittings shown	Bath tub without fittings shown	Closet outfit complete	Lavatory with fittings shown
$40.00	**$33.00**	**$27.00**	**$19.00**

Kitchen Sinks



$37

White Porcelain sinks. Back, drainboard and sink cast in one piece. Furnished complete with two faucets strainer and lead "P" trap to wall. Right or left drainboard.

44 inches long, **$37.00**
48 inches long, **$39.00**
52 inches long, **$40.00**

WIRE NAILS



$3.95

No. LS24—New wire nails including all sizes from 3 to 40d. Put up in 100 lb. kegs; a handy assortment for general use—indespensible on the farm. Plenty of all sizes. Sale price per 100 lbs. **$3.95**

GOVERNMENT BARBED WIRE

Greatest Offers Ever Made

A large quantity bought by us at less than the actual cost of manufacture. Fine barbed wire, made under rigid government supervision. 12 gauge open hearth steel wire with four point barbs ⅝ in. long, spaced 3 in. apart. Order quickly from special lots below.

Extra Heavy and Durable

Coated with special weather resisting paint and put up in 58 pound reels containing about 700 ft. Also quadruple galvanized barbed wire, galvanized after being made which means much to the life of the wire. Reels weigh 60 lbs. and contain about 700 ft.

No. LS24	Painted	Galvanized
625 reels or more per reel	**$1.65**	**$3.30**
100 reels or more per reel	**$1.70**	**$3.35**
50 reels or more per reel	**$1.75**	**$3.40**
25 reels or more per reel	**$1.80**	**$3.45**
Less than 25 reels per reel	**$1.85**	**$3.50**

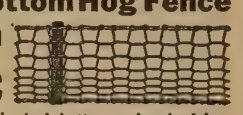


Galvanized Wire

Smooth galvanized wire, handy and necessary about the farm. Suitable for fences, stay wires, grape vines and all purposes where enduring wire is needed. Put up in rolls of irregular lengths of from 50 to 250 ft. 9 gauge per 100 lbs., **$4.25**, 10 gauge, **$4.35**, 12 gauge, **$4.45**, 13 gauge, **$4.60.**

Barbed Bottom Hog Fence

26 in. High Per Rod 32c



No. LS8—Special barbed bottom galvanized hog fencing made of No. 11 top wire and No. 14 intermediate line and stay wires. Stays spaced 6 in. apart. Space between line wires from bottom upwards are: 3, 3, 4, 4½, 5½ and 6 in. 100 rods weigh 425 lbs. 26 in. high, rod, **32c.** 32 in. high, rod, **39c.**

By using two strands of barbed wire above this fence you can make a general purpose farm fence at very low cost.

Porcelain Top Cabinet

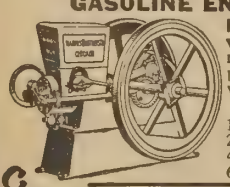
Typical of thousands of other bargains in our complete catalogue of furniture, rugs and home furnishings. This is a splendid cabinet built throughout of figured light oak, nicely finished. White enameled canopy interior and white porcelain enamel metal sliding work top. Handy drawers, roomy cupboard—all latest time and step saving conveniences.

$29.95



No. LS25. Price **$29.95**

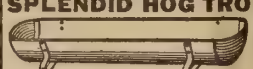
GASOLINE ENGINE BARGAIN



No. LS26—A splendid engine with Webster oscillating magneto. Develops full rated horse power. A sure starter and steady worker under all conditions.

Gasoline		Kerosene	
1¾	H. P. $49.50	3	H. P. $96.00
2½	H. P. 83.00	5	H. P. 126.00
4½	H. P. 110.00	7	H. P. 190.00
6	H. P. 170.00	10	H. P. 320.00

SPLENDID HOG TROUGHS

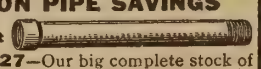


$1.00

No. LS27—The trough you have hoped and waited for. Can't tip—flared legs. Ideal individual trough for hogs and sheep. Capacity 3 gal. Size 30 in. long and 7 in. wide. Built of heavy indestructible steel. Won't rust or cave in. Painted black. Lots of 12, each **90c.** Lots of 6, each **95c.** Sale price each **$1.** Ask for prices on large sizes.

IRON PIPE SAVINGS

8c per foot



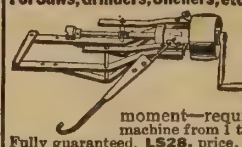
No. LS27—Our big complete stock of pipe offers wonderful values. Pipe in random lengths complete with couplings; all sizes now offered at unusual money savings. Suitable for the conveyance of water and all liquids. Order now. 1 in. pipe, per foot..... **8c**

Pipe in all other sizes, valves and fittings of every kind—world's largest stock at lowest prices.

POWER ATTACHMENT FOR FORD CARS

For Saws, Grinders, Shellers, etc.

$15.75



Use Ford Power for all your farm work. Most simple attachment designed for Ford machines. Slips into place —put on or taken off in a moment—requires no tools. Operates any machine from 1 to 15 H. P. All steel. Fully guaranteed. **LS28**, price..... **$15.75**

Big Capacity Concrete Mixer

$68.00 Special! We will furnish this concrete mixer and the 1¾ H. P. gasoline engine above for..... **$115.00**



Mixes a batch every minute. Capacity 3½ cubic feet. A fast, efficient, concrete mixer furnished for hand or engine power. Specially designed for farm work. **No. LS31**, each... **$68.00**

70 Egg Incubator, $5.45



Round like a nest—no cold corners or stagnant air pockets. Practically all metal construction. Complete glass damper. Uniform heat distribution. Water thermostat, simple regulator. Automatic ventilation. Everyone gets big results.

No. LS32
$5.45

Cut Off Coupon Here and Mail it Now to FREE BOOKS

HARRIS BROS. CO.
Dept. LS 38

Without obligation send me the free books and information I have checked.

- ☐ **Lumber and Building Material Catalog including material from army camps.**
- ☐ Plan Book of Harris Home
- ☐ Bolt-Together Building Book
- ☐ Furniture & Rug Book

I am also interested in the following:

- ☐ Roofing
- ☐ Wallboard
- ☐ Wire and Fencing
- ☐ Painting Supplies
- ☐ Plumbing Material
- ☐ Pipe and Fittings
- ☐ Cream Separators
- ☐ Corn Shellers
- ☐ Belting & Hose
- ☐ Heating Material

Name_____

Address_____



Size No.	Cap'y lbs. per hr.	Sale Prices
*1	* 175	* $34.95
*2	* 250	* 38.90
3	375	55.50
5	500	59.95
7	750	68.00
9	950	75.00

* Indicates table sizes. All machines ready for shipments from Minn., Pa. and Chicago. 3 per cent discount allowed if cash is sent with order.

$55.50

Harris Cream Getter Separator

Time to Pay If You Wish

LS12—These splendid machines have made a wonderful record in all sizes—all seasons of the year in all parts of the country. Newest model cream separators, easy to clean, easy to turn, easy to oil and now—easy to own.

Patented exclusive improvements everywhere—found only in these excellent separators.

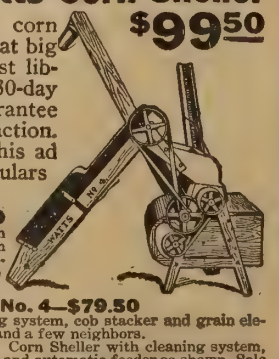
Fully guaranteed to get all the cream—the best cream separator you can buy regardless of name, make or price. We'll take your old separator off your hands allowing you liberally for it toward the purchase of your new cream getter.

SPECIAL

LS13—Improved Cream Getter Junior Separator capacity 300 lbs. an hr. on metal stand, each **$33.50**

Famous Watts Corn Sheller

$99.50



The world's best corn sheller now offered at big reduced prices. Most liberal terms and a 30-day free trial with a guarantee of positive satisfaction. Order now from this ad or get full particulars without delay.

Watts No. 1—$34.50

No. LS14 — For the man who shells corn for his own use. Capacity 50 to 75 bushels per hour with a 3 h.p engine.

Watts No. 4—$79.50

No. LS15—With cleaning system, cob stacker and grain elevator. Shell for yourself and a few neighbors.

No. LS18—Watts No. 4 Corn Sheller with cleaning system, cob stacker, grain elevator and automatic feeder as shown. Sale price now **$99.50.**

Watts No. 7—$266.00

No. LS16—With standard equipment including wagon box, grain elevator, cob stacker, type "B" feeder on steel trucks; 200 bushels per hour.

3% Cash Discount on Corn Shellers if ordered direct from this advertisement.

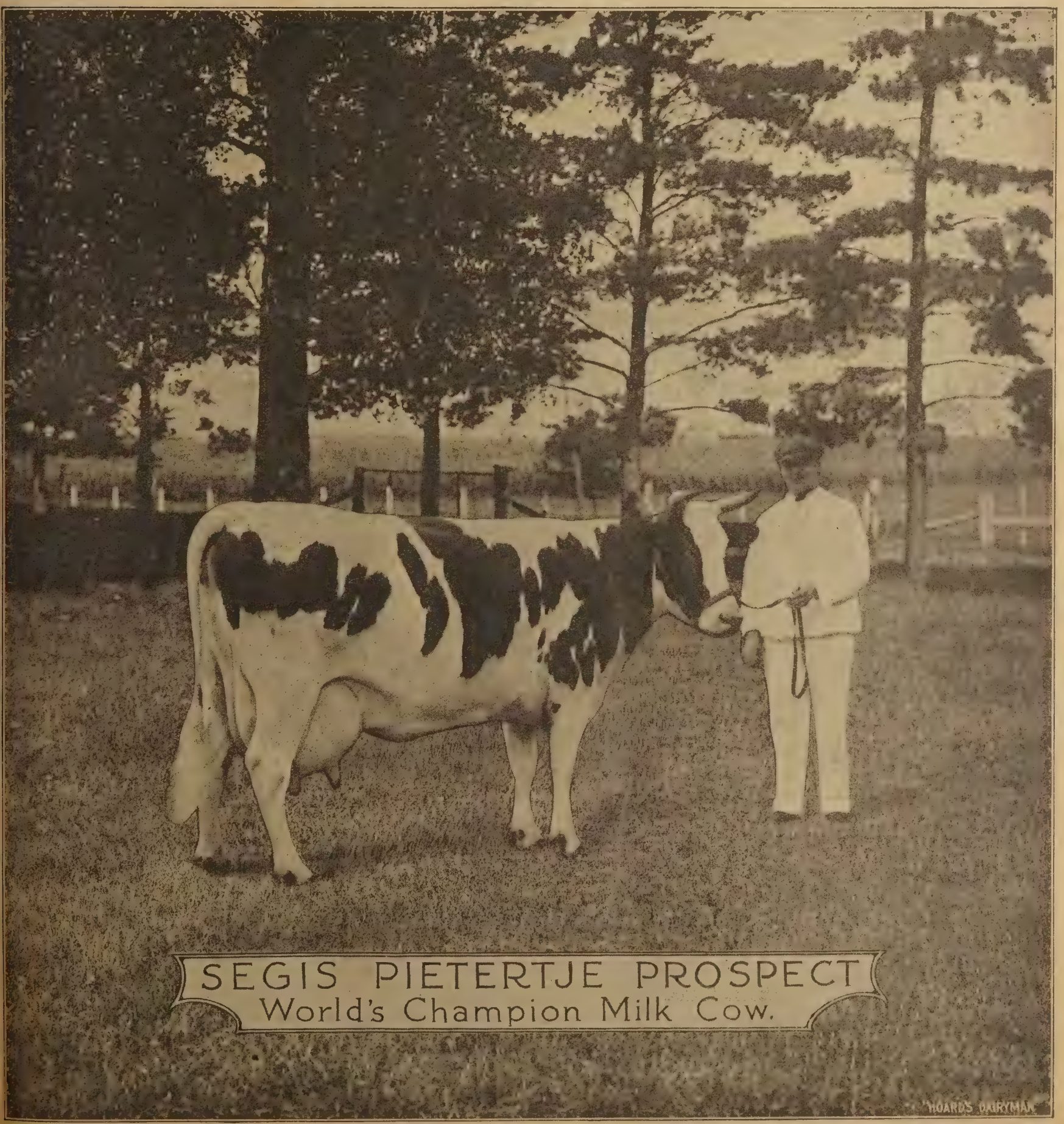
READER NOTE *If you do not wish to use the coupon just drop us a postal card.*

HARRIS BROTHERS CO. 35th and Iron St. CHICAGO

7 Jan 22

HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING

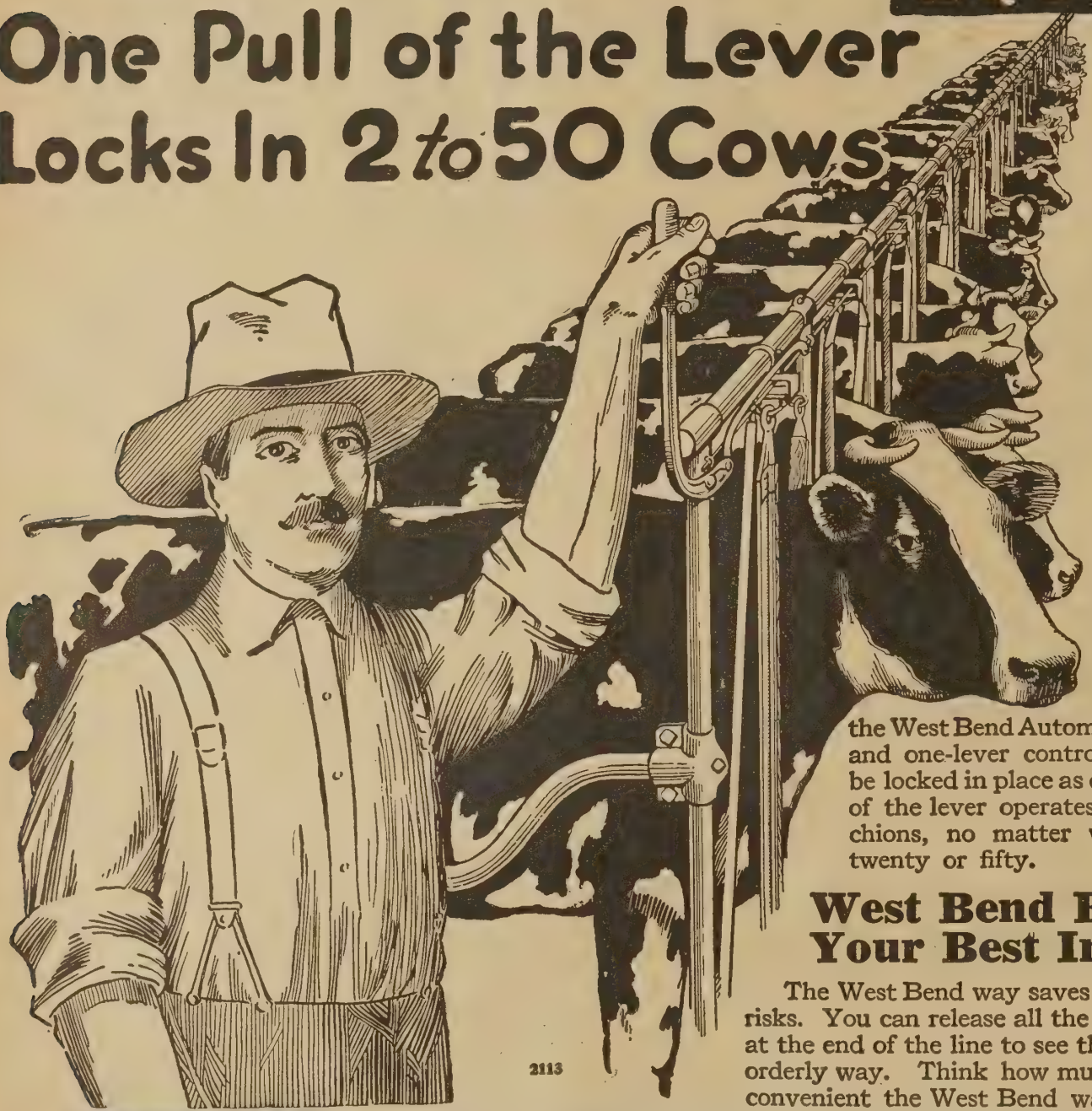


Fort Atkinson, Wisconsin Volume LXI, No. 2 January 28, 1921

Saving Labor

West Bend BARN EQUIPMENT

One Pull of the Lever Locks In 2 to 50 Cows



THINK of it! One move does the work of FIFTY. Instead of going from cow to cow and locking or releasing each one separately, you stand at the head of the line and throw the lever ONCE—operating all the stanchions and cow-stops simultaneously.

Our Special Patent

No other kind of barn equipment except the West Bend has this improved locking device. With ordinary equipment it is necessary to lock up and release each cow individually. With the West Bend Automatic Swinging Stanchions and one-lever control, two to fifty cows can be locked in place as easily as one. One throw of the lever operates the entire row of stanchions, no matter whether it is two, ten, twenty or fifty.

West Bend Equipment Your Best Investment

The West Bend way saves time, saves labor, avoids risks. You can release all the cows at once, then stand at the end of the line to see that they leave in a quiet, orderly way. Think how much easier, quicker, more convenient the West Bend way is. Yet, if necessary, West Bend Stanchions CAN BE OPERATED INDIVIDUALLY and, if desirable, one or more cows can be kept in the stable when the others are released. AUTOMATIC COW STOPS prevent the animal from putting its head in the wrong place. In addition, West Bend Stanchions have a perfect line-up device and many other valuable points.

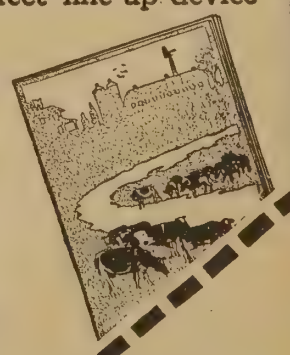
West Bend BARN EQUIPMENT

The Line Includes

Automatic Swinging Stanchions
Individually Operated Stanchions
Cow, Calf and Bull Pens
Barn Supporting Posts
Manger Divisions and Complete Mangers
Litter and Feed Carriers
Litter Carrier Track Systems
Swinging Booms or Cranes
Automatic Water Bowls
Gravity Water Systems
Feed Trucks, Milk Stools
Farm Concrete Mixers
Etc. Etc.

West Bend Has Greater Features and Costs No More

West Bend Barn Equipment costs no more than "the other kind," but there is no comparison in convenience and labor saving features. Every article is made of the best material an with the best workmanship.



FREE Send Coupon TODAY FREE

Barn Plan Service

Send in the coupon properly filled out and we will mail you our handsome book on Barn Equipment showing the entire West Bend line. We also have a FREE Barn Plan Service which we will be glad to explain to you. We will furnish you with a blue print of your barn plan free. Mail the coupon today. Address

WEST BEND EQUIPMENT CO.
277 So. Water St. WEST BEND, WIS.

WEST BEND EQUIPMENT COMPANY,
277 So. Water Street,
West Bend, Wis.

Please send me your big, new Barn Equipment Book, free and postpaid.

Name _____

Address _____

HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING

Volume LXI — FORT ATKINSON, WIS., JANUARY 28, 1921 — Number 2

The Denmark of Today

E. T. LEAVITT, IOWA



Co-operative creamery near Aarhus

"THE amount of butter which we will export to the United States in the future depends upon the price which your country is willing to pay and upon the rate of exchange," said Madsen Mygdal, Minister of Agriculture of Denmark, in answer to my question late last summer as to the prospect of increasing butter export. "We believe that England will always be our best market and when the government restrictions there are removed the demand will be sufficiently great to take all that we can produce. It is generally thought that the American dairy farmer can supply his own market cheaper than we can, although we have a commission over there investigating at the present time."

This same kind of an answer was given me by Professor B. Boggild of the Royal Agricultural College in Copenhagen. "It is the present rate of exchange which allows us to compete with your farmers on the New York market. With the kronen worth only half of what it was on the basis of the dollar, American buyers can afford to pay us the same price that the English government butter control allows. When the restrictions are removed in England I believe there will be no advantage in shipping butter across the Atlantic."

Butter for Coal

Denmark is buying coal from this country rather than from England. Fuel is very scarce at the present time and a large amount of peat is being burned not only as household fuel but in the boilers of the creameries and bacon factories and on the slower locomotives on the railroads. Normally large quantities of corn and oil cake are secured on our market and it is to their advantage to be able to pay for these products in American dollars secured from their butter. Unable to secure grain during the latter part of the war and unable to pay for it immediately after the war, the number of pigs in the country was about one-sixth that of the number in 1914. Denmark was forced to import bacon from this country instead of being herself an exporter as she had been previously. I was told, while in Denmark, that one large American packing firm which had imported $4,500,000 worth of pork during the past two years and, unable to bring the currency out of the country, had brought it back to this country in butter.

Nearly 14 million pounds of butter have come from Denmark in the last eight months. In the last forty years the annual total export of butter has arisen from 10,000 tons to 100,000 tons and yet this country does not have more than one-fourth the arable area of Iowa, neither does it have the black pay dirt of the corn belt. Agricultural Denmark has organized, specialized, and standardized.



POWER FOR THE VILLAGE WATER SUPPLY
Much power for grinding grain is furnished by windmills similar to this.

The First Co-operatives

In 1875, seven farmers started in Funen the first co-operative creamery. There were no others until 1882 when the Hjedding Co-operative Dairy was established from which the real movement started. "Now," says Professor Boggild, "only a very few of the 183,000 milk producers make butter themselves, nearly all of it being made in the 1,500 creameries, about 1,200 of which are co-operative. Nine hundred of these are equipped to make cheese.

"These co-operative dairies get their milk on an average from about 150 farmers receiving their milk from 800 cows. Many of the larger dairies which now have from 200 to 300 farmers and 1,200 to 1,500 cows were originally started by 50 farmers with from 200 to 300 cows. In nearly all of the dairies, the number of cows was increasing until the outbreak of the war in 1914. The principal rules upon which our organizations were based are: first, that each farmer bound himself to deliver to the dairy for a certain number of years, generally 10 or 15, all of the milk which he did not use himself; second, that the society provide for the transportation of the milk; and, third, that each member has only one vote regardless of the number of cows which he has.

"Every morning the carts, hired for that purpose, go about to collect the milk which is weighed and examined and put to cream separating immediately after its arrival at the creamery. A large part of the skimmilk is pasteurized directly after the cream has been separated and along with the buttermilk is returned to the farmers who in this way, in a few hours, are able to get this by-product from their own milk to feed their pigs, calves, colts, and chickens."



Dairy barn on large estate

Near Aarhus I looked in at a typical appearing creamery. It was equipped with a large separator, flash pasteurizer, and a churn similar in appearance to those in this country. The manager told me that this association had 150 members with 1,200 cows and the longest distance that milk had to be hauled was less than two miles. They were making nearly four and one-half million pounds of butter annually.

A Market Milk Plant

An interesting visit was made to the Trifolium Estates Dairy in Copenhagen which supplies over half the market milk of that city. Milk is sent here only from estates on the island upon which the city is located as it is shipped in twice every day. This co-operative organization is made up of owners of the larger estates all over Denmark. They milk 200 or more cows each and operate the largest creamery in the country and secure milk from 10,000 cows. While it is required that all cream must be pasteurized which is to be made into butter for the export and even the skimmilk which is fed to pigs must be made safe against the possible spread of tuberculosis, only 3,000 of the 70,000 pounds daily output of milk is pasteurized. The herds, however, are inspected twice each month by a veterinarian and the milk is tested daily by the methylene blue test. Ordinary milk was selling at eight cents per quart and their best grade of pasteurized retailed at about twelve cents. The estate owners were re-

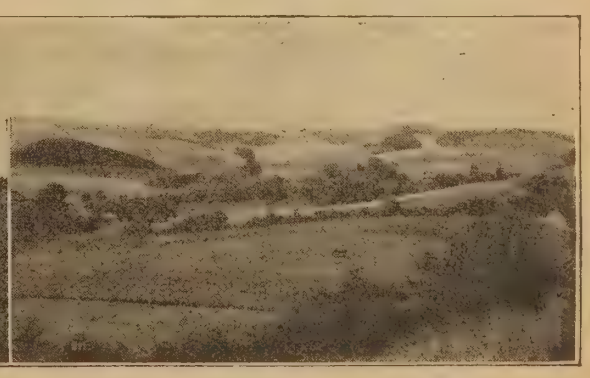
(Continued on page 58)



TYPICAL FARM HIGHWAY IN JUTLAND



JUTLAND CATTLE BY THE SEA



TYPICAL COUNTRYSIDE IN JUTLAND

Wisconsin Dairymen's Association

THE 49th annual convention of the Wisconsin Dairymen's Association was not largely attended, but it was well attended. The spirit of the meeting was one of service, a service not of words but of deeds and real accomplishment. It was largely the expression of that group of young men who serve as cow testers and who gathered at the convention in goodly numbers. These men brought out the real, every-day problems of dairy farming, and by interchange of ideas will be able to go home and better serve the thirty or more dairy farmers they each call upon each month.

The program was packed with good things from the opening address of welcome by K. L. Hatch to the closing remarks by one of Wisconsin's good cow testers. Professor Hatch discussed the somewhat demoralized condition of the dairy industry and the dangers now confronting us from imitation dairy products. He counseled the maintenance of a normal production of dairy products, improvement in their quality, and better marketing methods.

President Peterson was of the opinion that while the dairymen of the United States could not well be criticised for the advance they had made in breeding and feeding, they were indicted today for incompetence in marketing and in the quality of their product. The farmer of today is particularly concerned with marketing problems and he is investigating these with the hope of arriving at a solution that will in some manner benefit both producer and consumer. The dairymen of Wisconsin are in a particularly strategic position in this respect because they produce one-tenth of the milk made in the United States, and in particular manufacture 70 per cent of the nation's cheese. The problem of better cheese handling is now being worked out and it appears that all that is necessary is to get the story to the farmers of the state and convince them of its workability. Mr. Peterson made a plea for a more universal adoption of the cow testing association, suggesting the economic advantage of an association for every town and the employment of testers who would combine instruction with a measure of authority for the enforcement of sanitary regulation.

Drs. Healey and Eliason discussed the tuberculosis situation, telling of the advancement made in accredited herds and in area clean-up as well as the necessity of adequate appropriations to continue the work. The tuberculosis post mortem demonstration was well attended and the lessons learned will be carried to many sections of the state.

Miss Hoover, of the United States Dairy Division, told a most interesting story of the milk campaigns that have been staged in many cities, how consumers were interested, and how milk consumption was increased. We hope to reproduce the major portion of this address in an early issue, for the subject appealed strongly to those present as one solution of our present problem, the underconsumption of dairy products.

In speaking for the proposed cheese producers' federation, Mr. B. F. Sheridan stated it was founded on the rock of the production of a high quality product and its proper marketing. He is convinced that as the quality of the product is insured, consumption will largely increase. To secure this the producer must benefit. Agencies are now at work for the accomplishment of this ideal and we hope to give larger publicity to this subject.

The economy of proper feeding was emphasized by Professor Humphrey and, like all talks on feeding, the subject aroused considerable discussion. It pays to buy feed for cows that will respond and pay a profit; the others are as a mill stone around the dairymen's neck. Each cow is a problem in herself, and to secure the largest profit cows must be fed as individuals and not just as a herd. Professor Eckles reiterated this same story in his address which we are to publish in a few weeks. He stated that in handling cows the first consideration was to feed and care for them well in order to demonstrate their right to retention in the herd. If the heifer failed to make good the first year, it had been proved that in the majority of cases she would never become an asset to her owner. One-third of the heifers raised on the farm fail to make good and should be discarded.

Wisconsin farmers, perhaps, fail to appreciate that the investigators at their experiment station hold first place in all the constructive nutritional investigation that has been done during the past twenty years. Several men should be given due credit, but it is without invidious comparison that we are able to say that Professor E. B. Hart, as head of the department, stands out as the chief. He has not only made important discoveries himself, but he has given encouragement and help to his assistants that they might achieve. Those attending the convention were given the opportunity of seeing experimental work in part completed as well as new lines of investigation being started that truth and knowledge might be gained. Restricted rations were first explained, and the results noted. They have found how to cause cows to abort or give birth to weaklings, and, contra wise, they have been able to show how this can be avoided. A pig was shown that was well grown, but whose legs doubled under him because his ration lacked the element found in skimmilk and legume hay. A chicken was shown that could not stand, while its mate was vigorous. The only difference in handling the two was that the vigorous one received indigestible material (in this case paper) while the other only had ground meal. This demonstration tour was well worth a trip to Madison, for it brings out the possibility of things to come.

The last day of the convention was primarily a testers' conference and for information and value was not excelled by any meeting it has been our privilege to attend. To attempt to reproduce in print the information and inspiration of this session would fill Hoard's Dairyman from cover to cover, and then fail to give all. Individual stories were told of how, through feeding better rations, the feed cost has been cut and profits increased materially. These young men are missionaries that are getting farmers to think, and they do not now answer, as did one man, "If I want more milk I get me more cows".

The city of Watertown invited the association "to come back home" for its 50th anniversary meeting next year and the invitation was accepted. It was in that city that on February 15, 1872, seven men met and formod the organization that has had so large and vital part in the advancement of the dairy industry.

The officers elected for the ensuing year are: Chas. A. Peterson, president; Professor Geo. C. Humphrey, vice-president; Paul C. Burchard, secretary; and Geo. McKerrow, C. L. Hill, J. Q. Emery and C. H. Everett, directors.

The following resolutions were adopted:

The Wisconsin Dairymen's Association in convention assembled at Madison, January 11—15, 1921, go on record as endorsing the work of the Wisconsin Dairy Council and urge dairy farmers, creameries, and cheese factories to support its work both financially and in every other way.

2. We believe that the manufacture in Wisconsin of filled milk should be prohibited and we urge the present session of the Wisconsin legislature to enact legislation to bring this about.

3. We view with alarm the invasion of our markets by dairy products from Denmark, Argentina, New Zealand, Australia, and other countries and believe that such a tariff should be placed on imports of dairy products as will assure that American dairymen would at least be placed on an equal footing with foreign producers in our own markets.

4. We urge the appointment of Hon. J. Q. Emery as Dairy and Food Commissioner. His long years of vigorous, faithful, and efficient service assure us that with his appointment the duties of this office will be administered with fairness and justice to all the people of our Commonwealth.

5. We believe that legislation should be enacted making it a misdemeanor to use in the advertising and branding of dairy substitutes descriptive terms or illustrations tending to mislead the public into thinking the substitutes are an actual dairy product; also, that corporations or firms who manufacture or deal in dairy products shall be prohibited from selling substitute dairy products such as oleomargarine, thereby taking from such substitutes the dairy atmosphere they unjustly enjoy.

6. We believe it to be the urgent duty of every Wisconsin dairyman to do his utmost to promote the organization of the Wisconsin Cheese Producers' Federation as we are convinced that this is the greatest movement ever advanced to promote the manufacture of quality cheese as well as to provide a more equitable arrangement for marketing.

7. We heartily endorse the tuberculosis control work carried on jointly by the Bureau of Animal Industry and Wisconsin Live Stock Sanitary Board, and we urge the legislature to make liberal appropriation for this work.

8. We heartily endorse the co-operative work done by our milk producers around Milwaukee and in our eastern and southern counties, and we take this occasion to call to the attention of the dairymen in other sections of the state that the practice of shipping milk to those large city districts at times that controversy exists has a very damaging effect without compensating rewards.

9. We desire to extend our thanks and appreciation to the State College of Agriculture for its hospitality in entertaining this convention and to the speakers who have given of their time that we might benefit.

CHAS. L. HILL
B. F. SHERIDAN
NANDER M. NELSON
Committee.

Washington, D. C., Weekly News

[SPECIAL TO HOARD'S DAIRYMAN]

WASHINGTON, D. C., JANUARY 18—Representatives of several branches of the dairy business of the United States had a session with the Senate Finance Committee on Tuesday last which resulted in dairy products being added to the Emergency Tariff Bill. Whether this bill becomes law or not is problematical, but this experience in presenting the case for the industry served at least as a dress rehearsal to the presentation which must be made later on to the Ways & Means Committee of the House when the regular tariff measure is being framed and considered.

Present at this hearing were representatives of various dairy industries, ranging from the milk producers interested primarily in the market for fluid milk, which is based very largely on butter prices and closely affected by fluctuations in butter and cheese demand, to representatives of the New York Mercantile Board of Trade, interested in butter and cheese as commodities to be dealt in, and used as the basis for commissions and brokerage. The cheese interests were least in evidence, only one section being represented; the producers of northern New York represented by Congressman B. H. Snell of Potsdam.

Before going before the Senate Finance Committee a session was held in the office of the Dairy Products Committee, of which John J. Farrell is secretary and Washington representative. The producing interests were invited to attend this conference where the situation was gone over somewhat in detail. The Mercantile Exchange representatives, and the American Creamery Butter Manufacturers, represented by Professor George L. McKay, stated that they had each agreed on six cents as the proper butter tariff to ask for. New England Milk Producers, represented by Mr. Bronson of Boston, stated that they were being seriously disturbed by Canadian imports of milk, cream, and butter, and showed figures making it plain that it required an eleven cent tariff to equalize cost of production of butter, and about five cents per gallon on whole milk.

At the hearing Senator Penrose did not appear, but Senator McCumber of North Dakota presided, and gave evidences of his sympathy and approval of the requests being presented. Opposition was manifest at all times by Senator Simmons of North Carolina, who is looked on as the leader of the opposition to this bill, or any other high tariff measure which is likely to come before the Senate.

Senator La Follette of Wisconsin indicated approval of the idea of a tariff, and asked many questions designed to bring out the volume of imports now coming in, differences in costs and conditions of production in foreign countries, and other evidence upon which a real reason for a tariff could be predicted.

He showed that the six-cent tariff asked for by mercantile interests was based largely on the difference in asking price in the New York market between Danish and domestic butter, and not on differences on cost of production. The only cost of production figures based on recent investigations were presented by Mr. Bronson, showing Canadian costs as compared with Vermont, New Hampshire, and Massachusetts. Professor McKay described pre-war conditions, and gave some reasons for the fixing of the six-cent tariff in the Payne—Aldrich law, and said that his organization which manufactures about one-third of all the creamery butter made in the United States, had adopted this figure as their basis for tariff request largely because it was the Payne—Aldrich figure, and they thought that European conditions were likely to soon return to pre-war levels of costs. Other speakers were E. B. Lewis of the Horton Ice Cream Co., Chairman of the National Dairy Products Committee; Albert T. Johnson of the Borden Co., who asked for a tariff of two cents a pound on condensed milk and five cents on powdered milk; J. D. Nichols of the Ohio Dairy Products Association; C. F. Gearon and Walter S. Fitch of the New York Mercantile Exchange; O. M. Camburn of the Massachusetts State Department of Agriculture; W. H. Bronson of the N. E. M. P. A.; M. D. Munn of the National Dairy

(Continued on page 56)

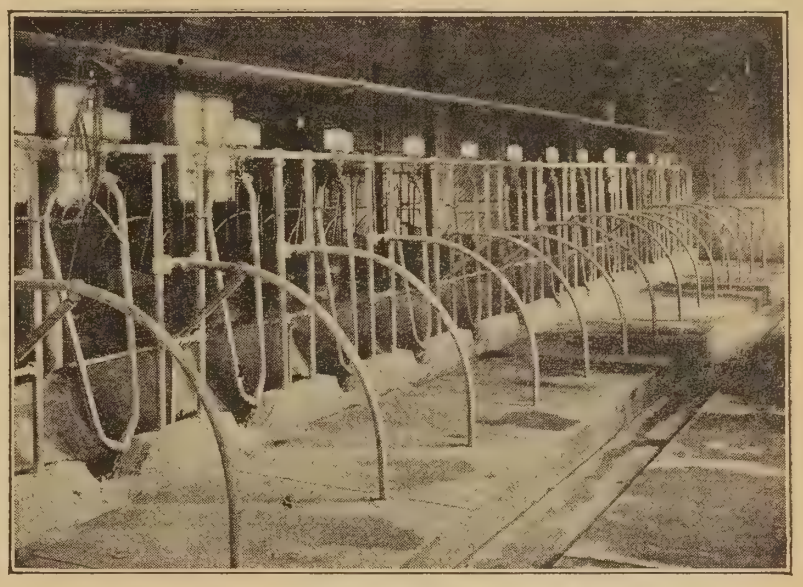
SHORT CUTS TO CLEAN MILK

Illustrations of Simple Methods Used at the Kentucky Experiment Station in the Production of Milk Averaging a Bacterial Content of 1,323, as Reported by Professors J. J. Hooper and J. W. Nutter in Circular 24 of that Station



BARN AND YARD

The pasture extends almost up to the door of the barn. A gentle slope away from the barn insures good drainage and a relatively clean barn lot. The space around the barn is paved with crushed stone. The cows thus pass into the barn in a fairly clean condition. Numerous windows are provided.



INTERIOR OF BARN, SHOWING SANITARY STEEL STALLS AND CONCRETE FLOOR, AND THE ABUNDANCE OF LIGHT

There is a minimum of dust and dirt here. The cows are turned out in the daytime, even in winter, in order that the barn may be washed and cleaned.



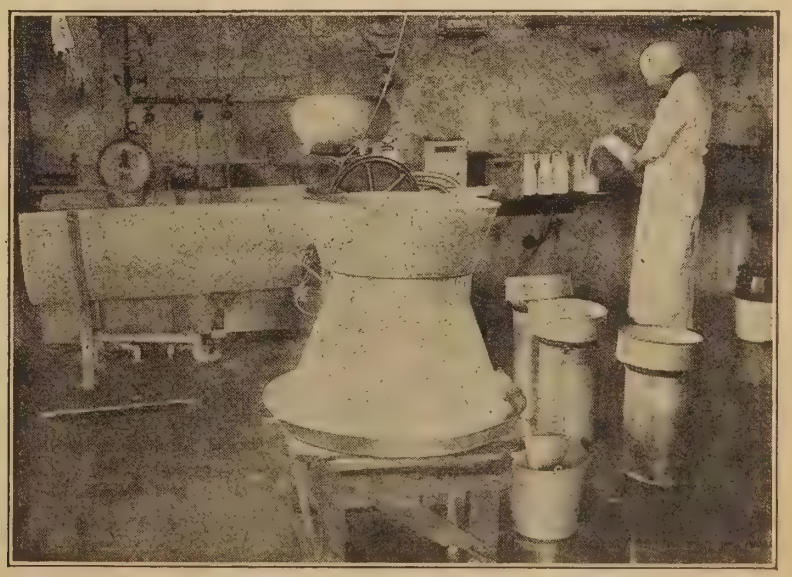
Cleaning Cow:—After the cows have been put in stalls they are curried and brushed, particular attention being given to the hind legs and the parts near the udder. Long, coarse hair is kept clipped off the udder.



Milking:—The first few streams of milk from each cow are discarded as the first milk drawn contains many bacteria. Then the milk is drawn into a small-topped pail. No difference in bacterial count was noted between milk drawn by hand and that by machine.



Cleaning Cow:—The udder is washed and then dried to prevent chapping. Before milking, the udder is again wiped with a damp cloth, which prevents loose dandruff or hair from dropping from the udder into the bucket.



The Milk Room:—Note numerous steam connections and the large wash vat. The milk is quickly poured over the cone-shaped milk cooler, which is filled with crushed ice and water. It is then bottled. The concrete walls and floor are washed frequently and the room kept scrupulously clean.

From $22 Scrubs to the Ladder's Top



JOHN ERICKSON

THERE are a lot of self-made men on dairy farms, but not all have cause for pride in their handiwork. A few furnish stimulating example to all who now struggle for success with cows. They stand for something. Their experiences are insipiring and their attainments are "knock-outs" for "it can't be done" ideas. One of these is John Erickson of Wisconsin, who has come up from $22 scrubs to the top of the ladder among Holstein breeders.

John Erickson started at the bottom—away down where each step upward takes hard, grinding work. He began on a quarter section, now famous the country over as "Lone Pine Farm", when it was "so thin it wouldn't grow beans". Its unproductiveness had forced its two previous owners to give it up. He fills his own definition of a good farmer—"One who takes a farm and makes it gain." He built the first silo in the county. He has so improved his soil that last year the farm cut 125 loads of hay and supplied the "makin's" for two 14 by 40 ft. silos, besides other feeds. It easily produces enough roughage and grain for a herd of 40 dairy animals.

A number of scrub cows came with this farm. Erickson valued them at $22 a head and soon decided they were money losers and that grade Holsteins even at the double value of $50 were cheaper. Grades did not long satisfy, for pedigreed animals were bringing their owners an extra return through the sale of offspring that even the best of care and feeding could not secure from cows not registered. In 1893 he laid the foundation for his present herd by purchasing pure-breds. He borrowed $500 to make payment on 13 head which cost $90 each. From that beginning he built his herd, supplying a market which took 200 lbs. of milk daily when he began and 900 lbs. at the end of two years.

"I got my first real start in the Wisconsin Cow Competition in 1909—1911," says Mr. Erickson. "I found out what I had and, what was equally important, other folks found out, too." For this former owner of $22 scrubs won the $500 prize in a Wisconsin-wide competition for the 10 highest producing cows in the state. The average credited these ten was 678.6 lbs. of fat in 16,044.41 lbs. milk. The average feed cost for the ten was $101.33 and the average net return over cost of feed, $89.45. One was the fifth cow in the contest and two won the monthly Hoard's Dairyman prize for heaviest production for a month, Wisconsin Lass 2nd making 90.478 lbs. fat and Wisconsin Lass Johanna, a two-year-old, making 40.649 lbs. 250 days after calving. Perhaps the "real start" was made before this contest gave publicity to the herd, for all of the ten were bred on Lone Pine Farm and eight were sired by the great bull, Sir Piebe Aaggie Hengerveld. The yearly testing begun in 1909 has been continued and Mr. Erickson holds rank as a pioneer long-time test man. With the tests now under way, more than sixty semi-official 365-day records are credited to the farm.

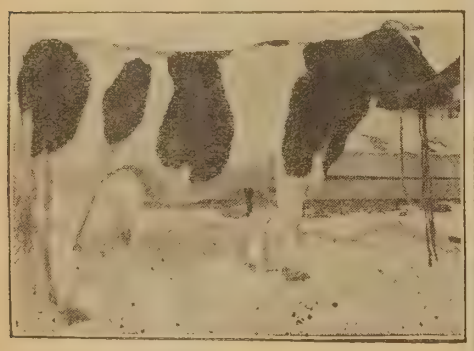
Mr. Erickson made his biggest strike financially in 1915 when he bought the bull which has put money into the herd—Sir Pietertje Ormsby Mercedes 37th, whose dam and sire are now as widely known as any two animals of the breed. He paid $5,000 for "37th" when the dam—the now famous Spring Brook Bess Burke 2d—had only a moderate 7-day junior three-year-old record. He bought him because he believed in the dam—in her size, her conformation, and her breeding. That was before the blood of the sire, Sir Pietertje Ormsby Mercedes, had attained its present popularity. Erickson spent his $5,000, a big price in 1915, because he believed in the power of a sire from a good dam.

This bull, bred on the heavy-producing, big framed cows, developed in twenty years through the use of good sires and very liberal feeding, has given great uniformity of type and marked productiveness in the herd. Four state records have been made by these daughters. They have drawn admiring visitors from every section of the country—men who have given the owner of Lone Pine the severest test a breeder ever faces by offering tremendous prices for his best animals. His refusal of tempting bids and his decision to continue his breeding plans is a benefit to the future of the breed. It takes him out of the ranks of the unnumbered "cow dealers" and places him with that small group of men who have made worth while contributions to live stock breeding in America.

Forty daughters of "37th" have been dropped in the Erickson herd. Three of these are out of one of the greatest cows ever developed. With her produce she offers such an example of prepotency in type and production as is found in few herds. With the animals in her pedigree which have been bred on the farm, she gives Erickson undisputed title as a real constructive breeder of Holsteins. This cow is Wisconsin Fobes, a granddaughter and a great granddaughter of Sir Piebe Aaggie Hengerveld, the bull whose get brought home the $500 prize in the "cow competition". Her dam and sire and her two grandams were bred on the farm, she was bred there, as were her five daughters and two sons, her granddaughters, and great granddaughters. This group is the consumation of a quarter of a century of far sighted management; it represents a life work. If Lone Pine Farm had produced no other animals than those in the six generations of the Wisconsin Fobes family, its contribution to the breed would yet rank it among the greatest breeding institutions so far developed in this country. This great cow has five A. R. O. daughters, as illustrated on this page; three of them are by "37th", as are her two sons, one now at Lone Pine and one, Sir Bess Ormsby Fobes, which was sold last summer for six times as much as his sire's cost five years before.

When John Erickson refused the prices offered by rich men for the get of "37th", he accepted the responsibility of further improvement of the herd. He took upon himself the task of so mating the animals that they may continue to give a good account of themselves through their offspring. The purchase of a sire was the first task of immediate importance. This selection was the more difficult because of the high quality of the females. Mr. Erickson selected what he considered to be the best bred bull available for the next cross—Marathon Bess Burke. The blood of "37th" is 50 per cent of that of Sir Pietertje Ormsby Mercedes and 25 per cent of Spring Brook Bess Burke. The bull selected to continue the breeding has 43.75 per cent of the blood of Sir Pietertje Ormsby Mercedes and 31.25 per cent of that of Spring Brook Bess Burke. The latter is the grandam of both bulls and is also the great-great grandam of "Marathon". Sir Pietertje Ormsby Mercedes is the sire of "37th" and appears three times in the pedigree of "Marathon", as grandsire, great grandsire, and as great-great grandsire. Mr. Erickson says of his decision to follow this line breeding, "If this cross goes wrong, you can't depend on breeding by pedigree."

When you have seen the quality and capacity of the herd and know the dairy wisdom the owner of Lone Pine has acquired in his successful climb from the bottom to the top rank as a breeder, you have confidence in the herd's future—that it won't "go wrong".













WISCONSIN FOBES AND HER FIVE A. R. O. DAUGHTERS, THE REMARKABLE FAMILY REPRESENTING A CONSUMMATION IN THE LIFE TIME EFFORTS OF JOHN ERICKSON

This famous dam is the central figure in the picture. She has produced 24,535.5 lbs. milk, 922.44 lbs. fat, in a year. To the left is Wisconsin Fobes 2d whose 7-day two-year-old record is 402.6 lbs. milk, 16 lbs. fat. Below, from left to right, are Wisconsin Fobes 3rd, 469.7 lbs. milk, 16 lbs. fat; Wisconsin Fobes 4th, 478.6 lbs. milk, 18.64 lbs. fat, as a two-year-old; and Wisconsin Fobes 5th, 518 lbs. milk, 23.74 lbs. fat, a state record for a two-year-old with first calf. To the right, above, is Wisconsin Fobes 6th, 392 lbs. milk, 13.48 lbs. fat, as a two-year-old.

THE HUMAN SIDE OF COW TESTING

Horace Evans, Tester for the Plainfield Association, Tells His Former College Roommate How a Good Member Was Built on Biscuits

July 10.

DEAR Mike:—I am already beginning to feel sorry for you. Though I have been at Plainfield less than two weeks and have not yet gotten acquainted with all the members of the association, I think any dairy student about to graduate without having had some experience as a cow tester needs sympathy. He simply hasn't gotten an important part of his education, that's all; and, if Prexy sees fit to hand you your diploma next June, I hope you will play fair with him and the University by getting a job with a cow testing association as soon as you can. Probably my place will be vacant in about a year, as I expect to go back for my sheepskin, and I'll recommend my job to you as postgraduate work. Meanwhile I am going to write to you from time to time about some of the members of our association, just as my contribution toward your education for a life on the milking stool.

I shall begin my letters where I began my testing operations, with Anson Wilbur. This is not because I wish to discuss the members of the Plainfield Cow Testing Association in a one, two, three order, but to give you a hint of some of the things that you will be up against if you take my place up here. The job of the cow tester, you will find, consists of much more than whirling 17.5 cubic centimeters of milk with an equal quantity of sulphuric acid. That, anyway, was the lesson which Anson gave me to carry around the rest of my cow testing days.

I thought I detected an unusually merry twinkle in William Kent's eye when he told me my duties would commence at the Wilbur farm. Now I know that he was enjoying what he considered a good private joke. Kent is president of the association, and in this capacity officially welcomed me to Plainfield, meeting me at the station and keeping me at his home the first night. Incidentally, he is a splendid dairyman, and probably I shall have more to tell you about him later.

"We have decided to let you start your route with Anson Wilbur," Kent said with that sly twinkle the day after I arrived. "Then you will finish up at my place. You see, the secretary lives near me and we thought that this plan would give us a good chance to talk over each month's work with you and take care of any business that is necessary. Besides, if there is ever a day or two of the month left after you have finished at all the members, I should like to have you stay with me until time to start out again."

I told Mr. Kent that I considered this a fine plan, thanked him for his hospitality, and thought no more about the matter that day. In the afternoon he took me for a drive about the Plainfield community, the plan being to reach Wilbur's in time for me to get ready for the evening milking. When at about the farthest point of the trip from our destination we were overtaken by a sudden storm, which soon developed into a downpour of uncertain ending. By means of mud chains and careful driving we finally reached the Wilbur farm, not long before the supper hour.

The proprietor did not seem greatly interested in seeing me. As I went up to the house from the roadside gate, where Mr. Kent had left me, I met Wilbur. His greeting was not calculated to brighten the gloom of the day one whit. He scarcely paused to make the hurried explanation that he was just setting out to bring the cows from the woodlot a half-mile away, and that it might be some time before his return, as he rather expected that he would also have to bring a new calf to the barn. "I guess you will have to make yourself at home the best you can," he said, leaving me. "I'll talk with you when I come back."

Though my welcome did not impress me as being particularly cordial, I resolved to give Wilbur the benefit of the doubt. Mr. Kent had carefully refrained from saying anything about Wilbur, so I proceeded as if everything was rosy. My first move was to go to the barn, where I selected a convenient place for my sample bottles and put the necessary utensils in readiness for milking time. As the cattle were in the pasture there was little to interest me in the barn, so I went to the house with the double purpose in mind of getting out of the rain and into togs more appropriate for the cow barn. My repeated knocks at the back door, however, brought no response. Then, glancing through the kitchen window, I saw unmistakable signs of bachelor housekeeping.

While the interior of the kitchen was uninviting, to say the least, it was dryer than outdoors so, contenting myself with my new host's injunction to make myself at home, I entered and sat down to await his return. I had just begun to reproach myself for not offering to help Wilbur bring up the cows when a feeling of hunger reminded me that it was past supper time. Then it occurred to me that if I couldn't make myself useful at the barn, I could at least help a little by getting supper. Of course, I know such an idea never would have occurred to you but, in the absence of sisters, mother provided for such contingencies by making the rudiments of cookery a part of my early training. So, like a hungry mouse, I began to rummage about the kitchen and pantry for edible materials, and though I met dirty dishes and all the other signs of bachelor life at every turn I soon had a meal well started.

A half-hour later Anson Wilbur, soaked to the skin and carrying the new calf on his shoulders, drove a motley mixture of red, white, and black cows into the barnyard, being closely followed by one anxious member of the herd. Perhaps he was the most surprised man I ever saw when, the animals stanchioned and the fresh cow safely stabled with her treasure, I calmly announced that supper was ready. It was clear that he had been taken off his guard, though this he tried to hide by saying in a matter of fact manner: "That's good. I expect this is a good time to eat, too," going to the house at once.

Smile all you wish, that supper nevertheless was a success. Of course I baked the potatoes, that way being the easiest. In the course of my explorations about the pantry I found some ham. This I sliced rather thick, frying it and then making a thick gravy. The bread supply seemed to consist only of a few hard crusts, so I kept up the search until I found all the necessary ingredients for biscuits. From the looks of the coffee pot I decided that whoever had been doing the cooking had not bothered to make a fresh brew for at least a week. Therefore I promptly cleaned it, ground some fresh coffee, and shortly an aroma of the drink was filling the kitchen that would tempt any man. As the finishing touch to my culinary labors I found a comb of honey that Anson evidently had taken from the beehive in the front yard.

Wilbur had little to say during the first part of the meal. For this I did not blame him. He was cold and wet, the chores were late, and in addition to all this I had come to bother him some more. He was eating supper with very evident relish, however, and after about the third cup of coffee had vanished down his throat he became somewhat more amiable. The biscuits, I noticed, had been disappearing with especial frequency, so rapidly in fact that I made potatoes serve as part of my share of the hot bread.

"You can cook, can't you? Where did you learn so much about cooking, anyway?" he asked, covering a half-biscuit with a piece of honey nearly as large, to which I explained that on occasions I had served as both daughter and son at home.

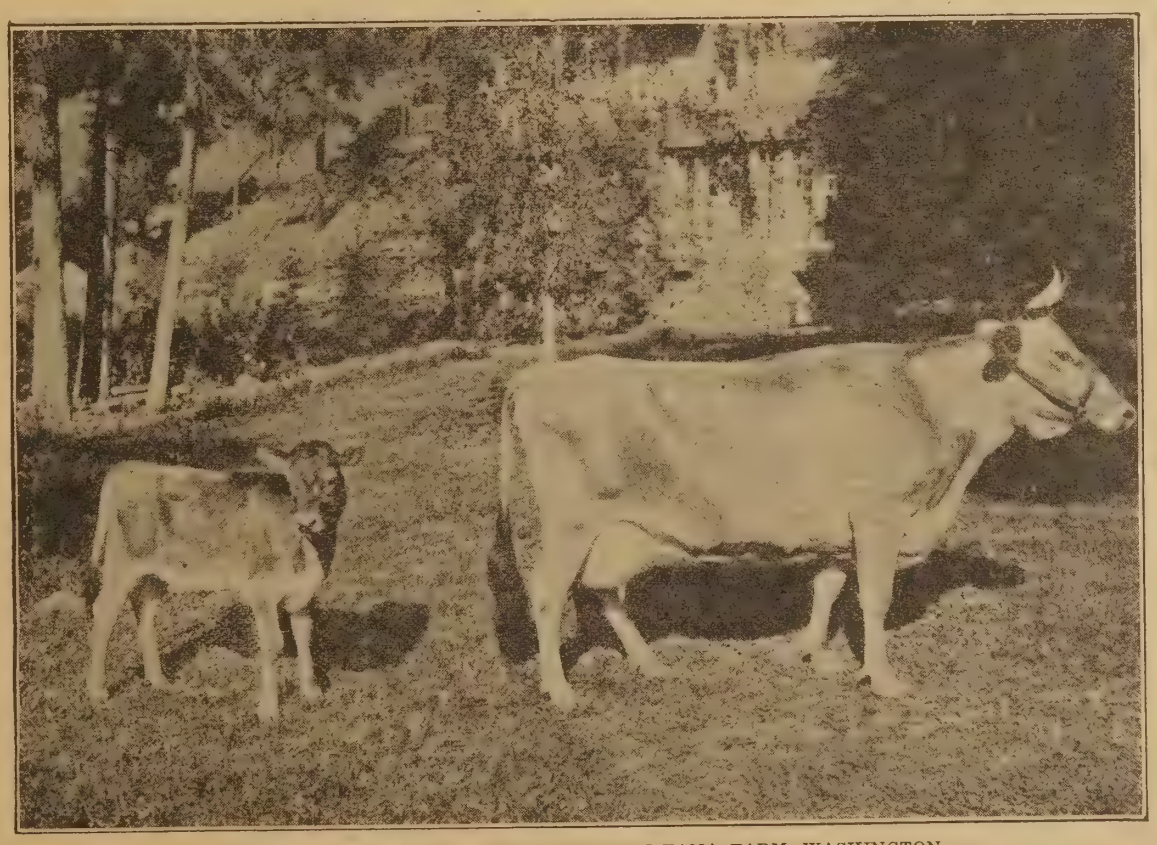
"Well, you certainly make some biscuits," he continued, as he reached for the last remaining one. "Why, I haven't had such biscuits since—well, humph, never mind..... I expect those cows are wondering whether they are going to be milked tonight." A moment later supper was over and, milk pail in hand, Wilbur was on his way to the barn, accompanied by his cow-tester cook.

He said almost nothing during the milking and, while permitting me to take the weights and samples, showed not the slightest interest in the work. Bedtime closely followed the belated chores, and I tumbled in that night frankly wondering whether I wanted to be a cow tester or not. In the morning Wilbur seemed slightly more agreeable, though still manifesting no concern in what I was doing. After the morning milking, however, he rather surprised me by his increased affability. "Say, kid," he asked as it came time for breakfast, "do you happen to know how to make pancakes? I have a feeling they would taste mighty good this morning."

"Sure," I replied hastily, as I was eager to do anything to break his apparently constant gloom. "They're easy."

Though I did not make an actual count, I believe that I made

(Continued on page 66)



GOLDEN LOUISE'S LOIS, OWNED BY GLEN TANA FARM, WASHINGTON

Golden Louise's Lois 331407, a descendant of those famous Jerseys, Ida Marigold and Stoke Pogis, completed a Register of Merit record of 14,936.7 pounds of milk and 841.39 pounds of fat, at five years and eleven months of age at start of test. At 4 years and 8 months she has an AA Register of Merit record of 10,848.7 lbs. milk containing 581.39 lbs. fat. She carried a calf 210 days of her last test, making her record all the more creditable, and qualifying her for the American Jersey Cattle Club Gold Medal.

The sire of Lois is Gertie's Stoke Pogis 29th, that has four Register of Merit daughters. The dam of Lois is Golden Louise 189225. She was bred by H. G. Woodward, Washington, and is owned by T. S. Griffith, Glen Tana Farm, Washington.

Lois was again placed on Register of Merit test June 1, 1920, and she has averaged over two pounds of fat per day in the first three months of her new test. Together with Lois is the heifer calf which she dropped May 20, 1920, two months after the completion of her last record.—AMERICAN JERSEY CATTLE CLUB.



Cow barn at State Industrial School, Waukesha, Wis.

"The once and for all" roofing—Asbestos

Stone from eaves to ridge-pole— Asbestos Shingled

HOW often do you expect to renew the foundation of your barn?

Never.

Well, you will not have to renew an Asbestos Shingled Roof any oftener. Both are of stone, and so they are both equally resistant to rot and disintegration. Johns-Manville Asbestos Shingles are made from asbestos rock and Portland cement, under tremendous hydraulic pressure. Strange to say they make a stouter and tougher roofing the older they grow because they take on a harder set with age.

Can a farmer afford them?

The best proof that he can is that farmers are applying them — all over the country. Remember, too, that if these shingles were not more economical than other forms of roofing, business concerns who view expenditure coldly, and the government which buys merit without partiality, would not specify them. If other business men can save money by buying this lasting roof—why shouldn't you? Johns-Manville Asbestos Shingles are not high in first cost, and need no special roof structure. In fact they can be laid right over the old wood shingles.

You may prefer some other form of Asbestos Roofing

You will find similar qualities in Johns-Manville roll roofing, as are found in the shingles. Atmospheric action, hot sun, winter cold, wet spells affect it no more than they would the stones in the field, nor do Johns-Manville Asbestos Shingles need the protection of painting or coating any more than these stones. And as to fire-safety—it is a commonly known truth that Asbestos is fire-resistant. Even the ancient Greeks realized this when they called the new found substance "Asbestos", which means "imperishable". Johns-Manville Asbestos Roofings are given the highest classifications by the Underwriters' Laboratories, Inc.

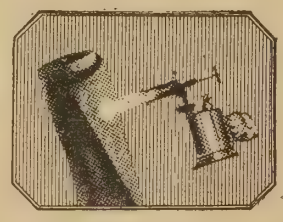
Your dealer will help you select Johns-Manville Asbestos Roofing

Your dealer will be glad to show you samples of the several forms of Johns-Manville Asbestos Roofing. He will advise you as to which kind is most suitable for your purposes. See him about it.

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And here is a piece of the asbestos rock, the fibres of which are soft and fine as silk, but as durable as the stones in your field.



The blow torch test proves that there is nothing in Asbestos Roofing to support combustion.



Send for this booklet. It explains very clearly the differences in modern types of roofing.

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JOHNS-MANVILLE ASBESTOS ROOFING

Segis Pietertje Prospect

ON the cover page of this issue appears the photograph of Segis Pietertje Prospect, the world's champion milk cow, with her feeder and caretaker, Carl Gockerell. A story of this Holstein cow's wonderful production was published in the Christmas issue of Hoard's Dairyman, her last few days' milk flow being estimated. The exact production with which she is credited in her 365 days of work is 37,381.4 lbs. milk, containing 1,158.95 lbs. fat. The following concise statements by Superintendent Malcolm H. Gardner in announcing the completion of this phenomenal record very well summarize the facts of interest to all owners of dairy cows:

"Segis Pietertje Prospect freshened at the age of 6 years, 8 months, 5 days. Her sire is King Segis 10th; her dam is Beauty Pietertje Clothilde. She was bred by G. V. Leighton, Idaho, and is owned by Carnation Stock Farms, Washington. Her best seven days' official production, made during the lactation period, is 686.4 lbs. milk containing 26.586 lbs. fat, this test being begun 6 days from freshening. Beginning 90 days from freshening she is credited with 858.9 lbs. milk containing 24.739 lbs. fat; at 122 days, 808.6 lbs. milk containing 26.544 lbs. fat; at 177 days, 745.4 lbs. milk containing 24.815 lbs. fat; and at 353 days, 572 lbs. milk containing 18.51 lbs. fat. In a 30-day test begun 337 days from freshening, she is credited with 2,529.3 lbs. milk containing 79.03 lbs. fat. She was under strictly official test for about one-fourth of the year. The enormous milk production is 3.956 lbs. milk greater than that ever before produced by any cow. With the fat production above mentioned she becomes the thirty-fourth cow to obtain place in the list of Holstein-Friesian cows producing above 1,000 lbs. fat in one year. Computed on the 80 per cent basis, the equivalent butter for Segis Pietertje Prospect amounts to 1,448.68 lbs."

$15,974.92 Saved by Co-operating

Polk County, Wisconsin, Creameries Make Good Profit by Marketing Their Product Together

IN five months in 1920 co-operation saved the creameries of Polk County, Wisconsin, $15,974.92. Just a simple plan of marketing together which cost nothing netted this tidy sum. Now these creameries plan further co-operative efforts by which they expect to net an annual saving of $60,000 to $70,000.

The chance boast of a commission firm's buyer gave these creameries their idea—in fact, stimulated nineteen of them into organizing the Wisconsin Creamery Association. This buyer said of the product of Polk County creameries, which was handled by his company for the government during the war, "We will make a nice piece of change on the butter from this county, on top of our commissions, by just using business methods in marketing the 3,000,000 pounds we will handle." Polk County's agricultural agent, John S. Klinka, heard the statement and immediately set out to discover just what the "business methods" were. If their use made "a nice piece of change" for a New York commission firm, he reasoned they might not be bad for creamery patrons.

Mr. Klinka soon found that it pays shippers to study freight rates. He learned the advantage of choosing certain routes to New York City and of shipping in carload lots only. So great is the possible saving that the commission firm was employing a man to give his full time to adjusting claims and gaining special rates on railroads. When Mr. Klinka had calculated the profit his county might make by the adoption of these "methods" in shipping its annual production of three and a third million pounds of butter, he called a meeting of representatives of the county's nineteen creameries.

On June 30, last year, representatives of seventeen creameries came together and agreed to carry on their business co-operatively. Accordingly the Wisconsin Creamery Association was organized for that purpose. The secretary-treasurer, Mrs. Lulu Matt-son, gives the association the following ambitious program:

"The association was formed by the co-operative creameries of Polk County to encourage better and more economical methods of production, distribution, storing, and warehousing of all creamery, dairy, and farm products; to secure better results in packing, advertising, grading, and marketing of the same; to buy, sell, deal, and traffic in dairy products on the co-operative plan; to buy supplies in a co-operative way; to cultivate a co-operative spirit in the community and between the different co-operative creameries; and perform any other work which would tend to the betterment of all members and the communities in which they exist."

The first work of the association was to begin to ship butter co-operatively. The local freight rate on 100 lbs. of butter from any point in the county to New York City is $2.155; on carload lots, it is $1.675. Instead of its members paying the higher rate on less than carload lots, the association assembled the output of enough creameries to fill a car and thus saved $.395 on each 100 lbs. after paying war tax, icing, etc. This small "piece of change" on a hundredweight gave a total for five months estimated at $15,974.92.

A minimum carload of butter is 20,000 lbs. A car is started at one creamery taking its consignment of butter. It is billed out with a stop-over privilege at another station central to other creameries. When the car is filled, the secretary of the association bills the car to a commission firm. This firm takes out the butter consigned to it, turns over the rest to the other firms to which different ones of the creameries may have consigned, and pro-rates the expense. This plan gives each creamery the opportunity to ship to its choice of firms, without affecting their shipping co-operatively. Each creamery gets paid for its own butter and pays its proportionate part of the expense.

The Wisconsin Co-operative Creamery Association has a capital stock of $10,000, the different creameries hold-

ing the $10 shares. An annual fee of $5 is charged each creamery whose sales total less than $100,000, and $10 is charged when the output is greater.

The next co-operative project to be undertaken is a standardization of product so that the county's butter can be sold under a special brand and at a special price. A field man will be employed to assist in improving quality. It is felt that the association can sell to better advantage than can single creameries and will be assured of better treatment than an individual receives. The association has been offered one-half cent per pound extra for its total output if all its product is pasteurized. On the 1920 production, this would amount to $16,988.57. It is expected that co-operative buying of supplies will make a good saving. If the plans now under way had been in operation in 1920 they would have made a saving which is estimated at $60,000 to $70,000—a "nice piece of change".

The Farmer's Voice

Will be heard on every aspect of agricultural thought and practice, at the Get-Together Conference, February 1—10, Madison, Wisconsin.

Current and impending farm problems will be boiled down to a program for 1921.

Fresh, vital, authoritative matter bearing directly on the problems that confronts the Wisconsin farmer will be heard. Let's go!

A. W. HOPKINS.

1921 Outlook in Central New York

HOARD'S DAIRYMAN:—The average Central New York farmer made more profit during the last three years than in the ten years that preceded them. Because of this prosperity, many western farmers have come to this section and purchased farms at prices that are locally considered to be far above the actual value of the property. Since many other farmers are considering moving to this section, a few observations of the 1921 outlook may not come amiss.

To begin with, the main income of the farmers in this section is derived from their dairy products. Milk is at present lower than usual, that is, it has declined more than the retail value of the prepared feeds, and must reduce the profit from milk, unless more efficient production methods can be utilized. The man coming from a distance is then dependent for much of his income on the dairy equipment of the farm he buys, and in justice to himself it is a good policy to secure actual facts and figures regarding past production and profits from this source.

The land here is not all the same, as it varies according to the treatment it has received. Why not make a personal examination? If you invest much money, this added investigation will repay you many times, for land suited to your purposes will naturally give far better results. This winter has been a very mild one, and it seems reasonable to expect that there will be very little winter-killing of new seeding.

There are some very good buys among Central New York farms, but, for your general satisfaction, make a thorough investigation. This is not propaganda for or against the real estate agencies through which most of the sales here are made, but is suggested as a practical aid by one who has lived here all his life. With prices going back to normal, it is easy to pay more than a farm is worth, especially if you buy without any investigation as to what it is considered worth locally.

If a man from your section has started in the farming business in this section, get his opinion if you can. Farming is a business anywhere, and it is doubly true in Central New York, and the successful farmers of the future here will be those who operate on business principles. One of the basic principles of successful business is to have a thorough knowledge of what you are buying. It is worth trying.

New York. S. C. MCGREGOR.



When you consider the unusual volume of rubber in Caterpillar tires and their patented side-vent construction, it is easy to see why they are so resilient.

And when you compare the cost of repairs and the length of life of a Caterpillar-equipped truck with that of a truck running on ordinary solid tires, it is easy to see the value of this resilience.

In dozens of big truck fleets where this comparison has been made, invariably the trucks that rolled on Caterpillars showed a decided saving in repair bills and a much longer life.

That is one reason why these fleets are being equipped with Caterpillars just as fast as the old tires wear out.

Kelly-Springfield Tire Co.
GENERAL SALES DEPARTMENT
1710 Broadway, New York

Indiana Calf Club Buys High Class Bull

The Argos Guernsey Calf Club of Argos, Indiana, has led the way among calf clubs of the state in the purchase of a high class Guernsey bull for the use of its members. King Masher 22nd was purchased from Harbor Hill Farms, New York. He is a son of King Masher whose twelve A. R. daughters have made wonderful records of production, one of them, Masher's Elsie, having made 855 pounds of butterfat and five others over 600 pounds of fat. His twelve daughters have eighteen records that average 597 pounds of fat.

The dam of the calf is Chelly Modenese II, now on test and producing at the rate of 345 pounds of butterfat in 197 days. She is a daughter of Imp. Masher's Galore and out of an A. R. cow, Chelly Modenese.

The securing of such a bull places this calf club in an enviable position among Guernsey calf clubs of Indiana and other states and enables the club members to go ahead with their club work in a fine way and with the assurance that they can breed better Guernseys than the calves with which they started.

Indiana. C. R. GEORGE.

Making bricks without straw wasn't any harder task for the children of Israel than it is for cows to make good milk without plenty of pure drinking water.

Talking about efficiency, a New Jersey authority says that whereas a century ago it was taking 75 per cent of our population to grow our food, today 25 per cent is doing it.

Cotton Seed Meal is our specialty



Service is our long suit
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46 Years In The Line

You are trading at **Headquarters** when you buy from us. Take the short route and write or wire us at our expense for prices.

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NULIFE
Pure Sugar Cane Stock Feeding
MOLASSES

Makes more milk. Puts more fat on steers, horses, sheep, and hogs in less time. Feed **NULIFE** pure sugar cane molasses with all your roughage and grain.
If your dealer can't supply you, send us his name and **Order Direct**, 55 gallon barrels — 23 cents per gallon — $12.65 per barrel, 10 barrels or more, 22c per gallon, $12.10 per barrel. Carlots, 21c per gallon, $11.55 per barrel. Net cash, sight draft bill of lading attached. **F. O. B. Chicago.** Pamphlet on **Feeding Facts Free. Prompt shipment. Order Today.**
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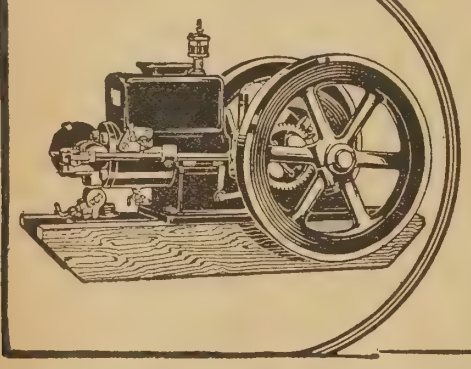
The LAUSON

Right near you is some good farmer who has owned a Lauson Junior engine for ten years or longer. Ask him how it compares with cheap farm engines.

Perhaps he first used it to run the feed grinder—and then the cream separator and churn—and later the washing machine or milker. In any case you will find it has carried the load year after year with unfailing satisfaction.

Literally thousands of Lauson owners would not have any other make. And their judgment is based on their own experience. Twenty-five years' time should be sufficient to satisfy anyone that the *best* farm engine is after all the *cheapest.*

May we send you a Lauson Farm Engine catalog? It tells the story in pictures.



The Lauson "Full Jewell" Tractor has won prizes for the best performance all the way from Walla Walla, Washington to Lincoln, England. It is just another evidence of quality construction.

The John Lauson Manufacturing Co.
53 Monroe Street
New Holstein, Wisconsin

Harvest 20 to 45 Bushel to Acre Wheat in WESTERN CANADA



Think what that means to you in good hard dollars with the great demand for wheat at high prices. Many farmers in Western Canada have paid for their land from a single crop. The same success may still be yours, for you can buy on easy terms,

Farm Land at $15 to $30 an Acre

located near thriving towns, good markets, railways—land of a kind which grows **20 to 45 bushels of wheat to the acre.** Good grazing lands at low prices convenient to your grain farm enable you to reap the **profits from stock raising and dairying.**

Learn the Facts About Western Canada

—low taxation (none on improvements), healthful climate, good schools, churches, pleasant social relationships, a prosperous and industrious people.

For illustrated literature, maps, description of farm opportunities in Manitoba, Saskatchewan and Alberta, reduced railroad rates, etc., write Department of Immigration, Ottawa, Canada, or

George A. Hall, 123 Second St., Milwaukee, Wis.

Canadian Government Agent.

WESTERN CANADA Farm Lands at Low Prices The Wheat Belt of America

SEED

By Prepaid Express—Order NOW—Prices Going Up. Our first quality, hardy northern-grown grass seed, famous for its frost and drought resisting qualities. High and strong in germination. Our price about two-thirds below last year, but now tending upward. Order EARLY. We pay all express or freight charges; bags free. Specials: Alsike and Timothy mixed $5.85 per bu.; Alfalfa $12.90 bu.; Medium Red Clover $13.50 bu.; Alsike $16 bu.; Timothy $3.95 bu.; Sweet Clover $4.50 bu.; Sudan Grass 8½c per lb. As seedsmen of many years experience we have carefully graded and tested these seeds. We guarantee them to be as represented, or your money back. You must be satisfied. We are not connected or associated with any other house selling direct to farmers. Order TODAY or send name for price list and full particulars. World Seed Company, 123 W. Madison St., Dept. P, Chicago, Ill.

When Writing to Advertisers, Mention Hoard's Dairyman

Cow Testing Associations

RECORDS, PRICES OF FEEDS, FAT, AND MILK

Following is the summary of reports received during the week and up to the time of going to press of this issue:

State	Association	Tester	Month	No. of cows tested	No. of cows producing over 40 lbs. fat	Fat production of high cow	Owner
Ind.	Orleans Co-op.	Albert C. Walker	Dec.	375	17	68.2	Jenkins Bros.
Wis.	Wood Co. No. 2	H. M. Karckuk	"			55.5	C. E. Blodgett
"	Hortonville—Dale	Victor Jacobs	"		10	58.6	L. Ray
Ill.	Knox County	J. B. Countiss	"	231	29	69.1	E. V. Moberg
"	Jo. Daviess Co. No. 2	Jas. E. Wiley	"	164	1	61.6	Chas. A. Heler
"	1st Kane Co.	Ralph J. Young	"	801	56	72.0	Albert Krahn
"	Kane Co. No. 2	Frank M. Barber	"	549	125	100.7	Anderson & Carlson
"	Macoupin Co.	H. R. Fletcher	Nov.	305	24	121.2	John Kahl
"	Effingham Co.	F. M. Schwarzlose	Dec.	193	29	66.9	Wente Bros.
"	Du Page Co.	C. J. Rieck	"	325	64	80.9	W. A. Rogers
Wis.	Byron	A. Miller	"	240	61	84.0	E. M. Cowles
"	Amherst—Nelsonville	Geo. W. Baumel	"	377	80	85.0	Otis Olson
"	Fort Atkinson	Wm. Seales	"	462	91	81.2	C. J. Pester
"	Wilton	E. V. Doemming	"	433	25	66.0	Wm. Brandon
"	Rock Prairie	W. J. McKee	"	473	68	83.6	J. Wehinger & Son
"	Racine & Kenosha	T. N. Boyer	"	476	64	65.5	Harvey Nelson
"	Ellington	Mathew Nelson	"	362	15	54.1	F. D. Breitrick
"	Whitewater	A. F. Probst	"	405	76	77.8	A. M. Anderson
"	West Bend	Martin Lange	"	325	35	58.4	Emil Ganger
Conn.	East Canaan	B. F. Dibble	"	232	32	69.4	A. Hurlburt
Ind.	Porter County	Geo. Huitema	"	356	34	72.2	Morgan Bros.
Ida.	Weiser—Payette Co-op.	Geo. E. Hardin	"	192	24	78.2	Inter-Mountain Inst.
Ia.	McGregor	E. A. Stacy	"	257	18	62.1	John Geraghty
Minn.	Pioneer	H. C. McMurray	"	1055	153	82.6	F. S. Ruble & Sons
Mich.	Emmet Co.	A. L. Hodge	"	109	7	52.3	Mrs. H. Anderson
Ohio	Washington Co.	Miss Erna Moore	"	124	10	58.8	Washington Co. Children's Home
"	Butler Road	Frank L. Rostocil	"	250	35	86.9	N. W. Lee & Son
Ill.	Lake County	A. Christianson	"	357	73	84.8	L. J. Hutchings
Wis.	Allenton—Kohlsville	L. M. Henderson	"	205	52	81.8	L. Pamperin
"	Rockfield	Wm. F. Liesener	"	274	36	85.8	Jacob B. Blast
Mo.	Webster Co.	Frank M. Herman	"	284	16	56.2	K. K. Black
N. H.	Merrimac Valley & Strafford Carroll	C. F. Emery	"	470	21	83.6	Baker Farm
Wis.	Eureka	I. W. Hause	"		41	66.4	Starr Bros.
Penn.	Troy	E. S. Fanning	"		38	74.2	W. D. Huntington

Association Notes

Orleans Co-operative, Indiana:—Three pure-bred Jersey sires were purchased during December. Cottonseed meal, 43 per cent protein, has been offered to the association in carload lots at $38 per ton. Four per cent market milk sold for $4 per cwt.

Wood County No. 2, Wisconsin:—The average production of the cows in this association for November was 415 lbs. milk containing 16.44 lbs. fat, the average test being 3.96%. Freshening cows and increased grain rations are steadily building up the production of most herds. This is not proving as profitable as it might, due to low-priced milk. Two meetings of the association were held during December.

Knox County, Illinois:—One farmer has purchased a milking machine, seven others are successfully using mechanical milkers, and many others are planning on the installation of milkers soon. Six unprofitable cows were shipped to Chicago during December. Two pure-breds and some exceptionally good grades have been purchased by members of the association. The average cow for December produced 682 lbs. of milk containing 28.1 lbs. fat. Market milk testing 3.5% sold for $4 per cwt. and 5c per point above. The creamery paid 40c per pound for fat. Milk retails for 15c per quart, butter for 65c per pound. Feeds are priced as follows: corn and cob meal, $1 per cwt.; ground oats, $1.50; wheat bran, $2.25; cottonseed meal, $3; oil meal, $3.25; Cow Chow, $2.50; molasses, $2; clover hay, $20 per ton; alfalfa hay, $30; corn silage, $8.

Jo Daviess County No. 2, Illinois:—Members are becoming more interested in better rations. During December $3.50 was paid for 3.6 per cent market milk and 3c per point above this test. Local feed prices are: corn, 60c per bushel; oats, 48c; bran, $2 per cwt.; oil meal, $3.25; mixed hay, $1.25; molasses feed, $1.70; Cow Chow, $1.75.

First Kane County, Illinois:—During December eight new members have been added to the association and their herds tested. Eleven unprofitable cows have been disposed of. The seven herds in the association now given balanced rations show an increase of 13% over last month in fat production. December market milk testing 3.5% sold for $2.60 per cwt. and 4c per point above.

Kane County No. 2, Illinois:—Eight unprofitable cows and a grade bull were sold in December. Four pure-bred bull calves and a 15-month bull were bought from an association in Wisconsin. Four pure-bred Holstein cows and two heifers were bought at a local sale. Bran was ordered by marketing association in car lots. "Blue", the grade Holstein that leads the association this month, has made 6,700 lbs. milk containing 290 lbs. fat in three months. Mr. H. W. Lees, who has the high herd for December, says that he owes everything to cow testing. Four years ago, when he took up cow testing work, his herd averaged 5,000 to 6,000 lbs. milk. Through his care to get better cows and through better feeding, care, and handling, his herd of about 35 cows is now on the 10,000-lb. list. The C. E. Warford herd averaged 1,095 lbs. milk, 42.71 lbs. fat and the high cow made 92.8 lbs. fat this month. Milk testing 3.5% sold for $2.60 per cwt. and 4c per lb. above. Milk retails for 12c per qt., butter for 57c per lb., and cheese for 40c per lb. Feed prices are: alfalfa, $30—$34 per ton; mixed hay, $28; clover, $24—$28; corn, 60c per bushel; oats, 45c per bushel; barley 66—70c; bran, $32 per ton, (to marketing association, $29 per ton); cottonseed meal, $45—$47; oil meal, $65—$67.

Macoupin County, Illinois:—During November 25 herds were tested, five of which are "one hundred per cent" pure-bred. Twenty-four unprofitable cows were sold and several pure-breds purchased. The November price for 3.5% milk was $3.10 per cwt. and 5c per point above.

Effingham County, Illinois:—Three unprofitable cows were disposed of. Four pure-bred cows were purchased.

The St. Anthony Hospital herd increased its average fat production by 7 lbs. because a balanced ration was fed instead of a poor grain mixture. Two members held sales to disperse parts of their herds. One sold 17 purebred cows which averaged $325, while the other sold 16 grades which averaged $60. Does it pay to raise purebreds? Dairymen received $2.45 per cwt. for 3.5% milk in December, plus 4c per point above this test. The creamery paid 45c per lb. for fat. Local feed prices are: corn, 60c per bushel; oats, 55c; bran, $2 per cwt.; cottonseed meal, $2.25; oil meal, $3.50; Purina Cow Chow, $3.28; alfalfa, $30 per ton; clover, $25; silage, $6.

Du Page County, Illinois:—The high herd, Mr. Geo. B. Walker's purebred and grade Holsteins, averaged 1,287.8 lbs. milk containing 44.4 lbs. fat. These cows were milked three times a day. Three members did seven-day work during December, with very creditable results. The second six months of the association starts in January and all members are continuing the work. The price paid for 3.5% milk during December was $2.60 per cwt. and 4c per point above this test. Milk retails for 14c per quart and butter for 60c per pound. Feed prices are: Alfalfa, $30 per ton; stover, $5; bundle corn, $10; silage, $7; barley, $40; oats, $32; bran, $35; oil meal, $68; gluten, $58; corn, $30; cottonseed meal, $51.

Amherst—Nelsonville, Wisconsin:—Three cows were sold for beef and ten young registered Guernsey bulls were sold during December. Good results are being secured by feeding balanced rations. The creamery paid 69c per pound for fat, and the following prices were charged for feeds: Bran, $38 per ton; Unicorn, $62; oil meal, $62; hay, $25; corn, $32.

Ft. Atkinson, Wisconsin:—Improvement in the quality of silage and better care of cattle is gradually bringing the association upward in production. More and more cream is being received by the creameries. In December condensery milk sold for $2.388, plus 4c for each point above the required 3.5%. The creameries paid 62—66c per pound for fat. The following are local feed prices: Alfalfa, $28 per ton; clover, $24; timothy, $22; marsh hay, $20; silage, 6; corn, $28; barley, $36; oil meal, $50—$56; bran, $30—$36; oats, 60c per bushel.

Wilton, Wisconsin:—A Guernsey cooperative bull association has been organized. The basket ball team of this association, called the "Pure-breds", will have a game January 8th, playing a Wilton city team. The creamery paid 72c per pound for fat and feeds were charged as follows: Oats, 45c per bushel; barley, 80c per bushel; pure wheat bran, $32 per ton; oil meal, $50—$54; Schumacher Feed, $42.

Rock Prairie, Wisconsin:—Two cows were sold to the butcher in December. One car of bran was purchased. December market milk sold for $2.60 per cwt. and 4c per point above 3.5%. Milk retails for 14c per quart; butter for 62c per pound; and cheese for 35c per pound. Feed prices are: Barley, $1.50 per cwt.; corn, $18 per ton; bran, $35; oil meal, $60.

Racine and Kenosha, Wisconsin:—One milking machine was installed during the month of December. Five unprofitable cows were sold to the butcher. Two members ran cows on seven-day test. Milk testing 3.5% sold for $3.25 per cwt. Bran sold for $34 per ton; ground oats, $37; corn, $36; ground barley, $39; oil meal, $60; cottonseed meal, $58; gluten feed, $50; clover hay, $25; alfalfa, $28; corn stover, $13; silage, $7.

Ellington, Wisconsin:—The condensery paid $2.40 per 100 lbs. of 4% milk. The creamery paid 56—61c per pound for fat and the cheese factory 60c per pound in December. Feed prices are: Clover hay, $18 per ton; alfalfa hay, $28; silage, $6; bran, $36; middlings, $36; oil meal, $60; gluten, $55; oats, 46c per bushel; corn, 70—80c per bushel; barley, 85c per bushel.

Whitewater, Wisconsin:—All members are now feeding balanced rations made up largely of home grown grains, buying only high protein feeds. December market milk testing 3.5% sold for $2.60 per cwt. The condensery paid 65c per pound for fat and the creamery paid the same price. Milk retails for 13c per quart and butter for 60c per pound. Feed prices are: Bran, $35 per ton; ground oats, $34; corn, $22; oil meal, $58; cottonseed meal, $49; alfalfa hay, $28.

West Bend, Wisconsin:—Two cows were sold to the butcher during December. Feed prices are: Barley, 90c per bushel; oats, 50c; corn, 80c; oil meal, $62 per ton; middlings, $35; bran, $35; wheat feed, $40; Pillsbury Dairy Ration, $45; silage, $7; hay, $25 to $30.

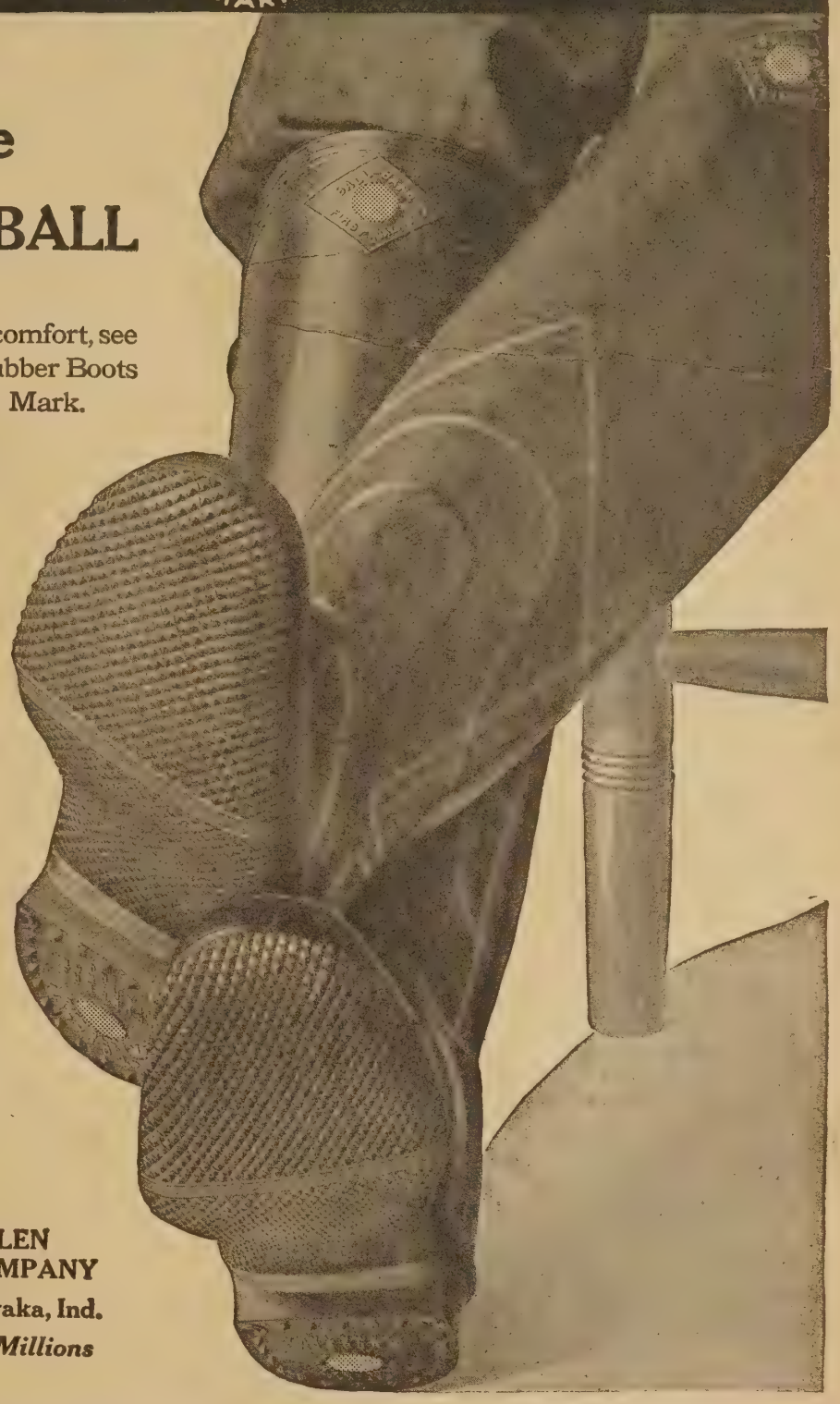
Canaan, Connecticut:—Five boarder cows were disposed of during December. Three per cent market milk sold for $3.34 per cwt. and 4c per point above this test. Feed prices are: Silage, $8 per ton; hay, $30; bran, $44; gluten, $61; cottonseed meal, $45; oil meal, $61.

Porter County, Indiana:—Milk production in December was well up to normal but the profit per herd was not so large, due to the drop in milk prices. At the present prices of feeds, however, the dairyman still finds that the most profitable market for roughages and feeds raised on the farm is through the dairy cow. Four grade cows and one pure-bred were bought, and twelve grades and one pure-bred were sold. Twelve boarder cows were disposed of. Price received for milk was $2.60 per cwt. Feed prices are: ground corn, $22 per ton; bran, $35; corn and cob meal, $18; ground oats, $25; cottonseed meal, $45; oil meal, $50; alfalfa hay, $25; clover hay, $20; corn silage, $5; gluten, $45.

Weiser—Payette Co-operative, Idaho:—All bulls in this association are pure-bred. The Glendale Herd sold well at Payette, December 8th, and most of the animals remained in Pay-

(Continued on page 67)

"BALL BAND" TRADE Red Ball MARK



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Fort Atkinson, Wisconsin

Founded 1885 by W. D. HOARD

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All foreign countries in the Postal Union $2.50 a year; not in the Postal Union $3.00, including postage.

Correspondents must not expect us to acknowledge the receipt of letters containing remittance for subscription. The receipt of Hoard's Dairyman is sufficient notification that money has been received. The label on the paper will show date to which subscription is paid. In case of renewals, if date on label is not changed within two weeks after remittance is sent, inform us at once.

We solicit advertisements of meritorious articles needed by the farmer. We try to keep our advertising columns clean and wholesome, that they may merit the patronage and confidence of our readers. Unwholesome, immoral, and quack medical advertising are excluded. A sincere effort is made to exclude frauds, irresponsible and unscrupulous firms. We will always take it as a favor to be notified whenever any advertiser's dealings with a subscriber are in bad faith or evidence a lack of business honor. Advertisers generally recognize the readers of Hoard's Dairyman as an up-to-date class of farmers, who farm with business-like methods, and we hold our columns for the patronage of only those with whom our readers can deal with profit and satisfaction.

ADVERTISING COPY must be received eight days previous to the date of publication. Advertising to be classified or changes in advertising must reach us twelve days previous to date of publication.

Entered at Fort Atkinson, Wis., as second class matter.

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Coming Events

Feb. 1-4—Manitoba Dairy Association will meet at Fort Garry Hotel, Winnipeg. Secretary, L. A. Gibson, Winnipeg.

Feb. 1-10—Mid-Winter Farmers' Course, Madison.

Feb. 1-10—Wisconsin Live Stock Breeders' Association, Madison. Geo. W. Davis, Secretary, Madison.

Feb. 4 & 5—State Live Stock Judging Tournament (roundup), Madison.

Feb. 7-12—Sixth National Tractor Show to be given in Columbus, Ohio.

Feb. 15-17. Michigan Allied Dairy Association, Grand Rapids. Secretary, H. D. Wendt, Lansing.

Feb. 16—18, 1921—Virginia Dairy Show and Annual Convention of the State Dairymen's Association held in Roanoke. Secretary, Frank A. Buchanan, Blacksburg, Va.

Forestry increases the farm income by growing timber on poor soils, steep slopes, rocky lands, and unused corners, thus making waste lands yield a profit.

Do Winning Jersey Juniors Fail to Come Back

"OF seventy-four first prize winning heifers or calves in the past thirteen National Dairy Shows, only seventeen are in the Register of Merit. . . . There is not an instance upon record of a heifer winning the junior championship at the National one year and coming back later as a mature cow and winning the grand championship."

In these two statements Wallace Macmonnies in the Jersey Bulletin questions the show ring standards by which winners have been selected in the Jersey heifer classes at the National Dairy Show. He asks, "Were the judges choosing for their prize heifers the useful, developing kind or the pretty, plump, early ripeners, which went no farther?"

In his investigation of first prize winning calves, yearlings, and two- and three-year-olds to discover an answer to his question, "Did they come back as mature cows and, in the show yard or at the pail, justify their youthful laurels?", Mr. Macmonnies studied the life records of blue ribbon animals at the National Dairy Show since its beginning in 1906. He does not discuss the relation between the approved type among aged cows and their productive capacity as indicated in Register of Merit records but only shows that junior champions neither develop into the material of which grand champions are made nor produce heavily at maturity.

Seventeen of these 74 first prize winners have Register of Merit records, the highest fat production being 651 lbs. All the records completed average 444 lbs. fat, which Mr. Macmonnies remarks is "nothing to boast of when there are whole cow testing associations of Jerseys with records approaching this in which many of the cattle are grades."

Not only have junior champions failed to wear the purple ribbons in their later years at National Dairy Shows but only two have such honors from state fairs at later dates. With two exceptions, no first prize winning calf or heifer at the National has ever won a like honor at a succeeding show. There are a few seconds, thirds, fourths, and fifths, but only two firsts. The animal which came nearest to repeating was Majesty's Crocus, a first prize junior yearling in 1911 and second prize aged cow in 1920. Fauvic's Nic Nac, a National first prize two-year-old in 1919, has made 500 lbs. of fat as a two-year-old and was a state fair and Eastern States Exposition Grand Champion in 1920.

Mr. Macmonnies lays the blame for the failure of Jersey junior champions to come back to the tendency among judges to give too great emphasis to bloom and fleshing in young animals. He says of the champions selected, "These fat little heifers, like the fat little bulls which win so frequently as yearlings and two-year-olds, are seldom heard from later. And as far as the fat little udders so frequently seen and seemingly demanded on our unbred heifer calves, I have yet to see the first one that developed into a great working vessel in later years."

The list of winners in the young classes from the first National Dairy Show is reviewed in this article. Some are unheard of after winning, some sold one or more times on the basis of their ribbons, a few won later at smaller shows and a few made fair records, but the great majority failed to "come back". The writer says of this, "Whether this is due to the fact that they were not exhibited or fell into hands in which they were not developed may or may not be the case, but in those instances in which they remained the property of the same breeders and were again exhibited, very few of them scored."

National Grange Notes

WASHINGTON, January 15—The Wadsworth-Kahn bill to create a Government corporation to operate the nitrate plant at Muscle Shoals, Ala., is unfinished business in the Senate as this is written.

The National Grange has gone on record at its last two annual sessions in favor of the continued operation of the nitrate plant at Muscle Shoals, Ala. The resolution adopted at the session of 1920 at Boston specifically states it is "for the production of nitrates for fertilizer or such other fertilizer manufacture as may be economically possible." This is provided for in the Kahn-Wadsworth bill. The plant exists at Muscle Shoals with a steam power equipment sufficient to operate it and with nitrates on hand which can be sold for enough to provide the $12,500,000 working capital which is required, without a dollar appropriation from the U. S. Treasury. The Kahn-Wadsworth bill when passed authorizes this to be done and this is the bill which the Grange asks Congress to pass. Every farmers' organization in the United States that is on record favors this same proposition.

⚜

No progress has been made in the last two weeks towards getting the Capper—Volstead collective marketing bill through conference. Members of the Conference Committee which is made up of Senators Nelson, Dillingham, and Overman and Representatives Volstead, Graham, and Sumner have not held a meeting, under an informal understanding that they would await conferences of the representatives of interested farmers' organizations before taking action. These conferences have been in progress and have reached the conclusion that the Senate amendment, aided by the Judiciary Committee of the Senate, has so modified the original purpose of the bill that it is not acceptable to any of the farmers' co-operative organizations unless this amendment is entirely eliminated by the conferees. This amendment states: "Nothing herein contained shall be deemed to authorize the creation of, or attempt to create, a monopoly, or to exempt any association organized hereunder from any proceedings instituted under the act entitled 'an act to supplement existing laws against unlawful restraints and monopolies, and for other purposes,' approved October 15, 1914, on account of unfair methods of competition in commerce."

The Conference Committee is to be urged to ask the Senate to recede on this amendment. The House amendment substituting the Federal Trade Commission for the Secretary of Agriculture as the supervisory power is also objectionable, and the conferees will be urged to ask the House to recede as to this amendment.

⚜

The Brauer plan for a billion dollar loan to Germany to be used for the purchase of American raw materials, has been under much discussion in agricultural and congressional circles. Members of the National Grange will remember Mr. W. W. Brauer, responsible for this plan, as having been in attendance at one session of the National Grange, to further his co-operative marketing plan, which is widely known. The German loan scheme is now before the United States Senate, having been brought to public attention by letters written by Mr. Brauer to various senators and members of committee. A Senate investigation is promised. Mr. Brauer states that he is authorized on behalf of the German government to place immediate orders for several hundred million dollars worth of American products if the loan can be arranged.

⚜

The War Finance Corporation bill was vetoed by President Wilson and promptly passed over the veto by both Houses of Congress. Secretary of the Treasury Houston acquiesced in the action of Congress and announced the day after the veto was overruled by the House that the War Finance Corporation was ready to do business. There has been no substantial advance in the price of farm products since that time.

Oregon Dairy Notes

HOARD'S DAIRYMAN:—Three neighboring counties in Oregon, Columbia County, Washington County, and Multnomah County, held simultaneous meetings during the week of January 10th. These meetings were directed by the county agents and Professor T. B. Fitts, dairy specialist of the Oregon Agricultural College. The program at Gresham consisted of many talks of a very comprehensive and instructive nature. Monday several speeches, which soil and rodent enemies would do well to heed, were given by Professor C. B. Ruzek, Professor of Soils, and I. N. Gabrielson, Federal Rodent Control Specialist. On Tuesday, farm crops day, appropriate talks relative to the increase of crop yields were given. Wednesday being poultry day, many interesting addresses were delivered concerning our feathered friends. Dairy day, Thursday, was the initiative for a number of inspiring addresses in regard to the dairy industry. The speakers were Professor E. B. Fitts, Edith Knight Hill, Sec. Oregon Dairy Council; M. S. Shrock, Oregon Dairymen's League; Julius Luscher, champion calf feeder, and R. V. Gunn, farm management specialist.

About 150 to 200 were in attendance at each of these sessions. The week was brought to a close by a banquet at which the speakers were K. A. Miller, Mayor of Gresham, and George A. Mansfield, President State Farm Bureau.

Oregon. E. K. HILL.

Treatment After Dehorning

HOARD'S DAIRYMAN:—I notice in a recent issue J. N. Q. asks where he can get medicated pads for the heads of cattle after dehorning them, to stop the bleeding and keep out the cold air. You advise pine tar and oakum held in place with a bandage. A piece of absorbent cotton will stop the bleeding immediately, is easy to apply and needs no bandage.

Merrimack, Wis. J. R. F.

Certified Milk Producers Meet

The production of certified milk is decidedly an important industry. At the annual meeting of the American Association at New York City in January a considerable number of members were present. These seemed to be largely from the eastern and middle states.

Dr. Ager of Brooklyn, a member of the Milk Commission, suggested methods of increasing the use and sale of certified. Few people know what certified milk is. This applies to the medical profession, urged Dr. Ager. All this was endorsed by Dr. Moak. Both of these men were engaged in the work of supervision sixteen years ago and from then on to the present.

Loton Horton of Sheffield Farms treated the members to a moving picture exhibition which he has prepared at an expense of some $8,000, and which he expects to loan out and to get into the city theaters. It shows certified milk from pasture to the mass of undernourished babies in the big city. It is really an attractive exhibit, and his company is financing its use to show the benefits of good milk.

F. W. Howe of Boston asserted that by nature milk was never intended to be pasteurized. All prefer raw milk as to taste, and there is almost no danger from raw milk if it is properly safeguarded. Preventive measures are always to be preferred to curative. In many cases water is treated to prevent spread of disease, but such water is not so palatable. The same principle applies to milk.

The publisher of the Wall Street Journal, C. W. Barron of Boston, gave a somewhat extended address on farm accounting. He insisted that the production of milk has never paid a profit and this is fully as true of certified milk as of any. Only by unpaid family labor has any profit been made. The government states that the dairy farmer gets less than a dollar a day for his labor, and the hours are long. When Mr. Hoover announced that he would cause an investigation to determine the cost of producing milk and then force a price on cost basis, Mr. Barron telegraphed him to get about it as quickly as possible and see what it does cost to produce milk. It was never done for the price would have had to be advanced, not reduced.

Mr. Barron from his own experience in producing certified milk has come to the conclusion that he must raise largely his own feeds and his own cows, and that these should be of pure breeding in order to get an income from stock. To keep up a herd of one hundred cows requires keeping 240 animals. Some cows are dry, but there must be many non-producers because of their under age. He added that certified milk should go no lower, and that all forces will finally remain above the pre-war level.

Professor Rettger of Yale spoke of the value of milk. The consumption is too low, it being but .6 of a pint. It's chemical composition is right, but we have a more important basis, largely that of the vitamines. One of these designated as "C" is easily destroyed by heat, and orange juice needs to be added to pasteurized milk. "B" is not thus destroyed. Then, proteins differ greatly, there being some eighteen varieties. Lysin is an essential, and milk contains the best forms of protein. Cereals, unless used with milk and cream, do not constitute sufficient sustenance for children.

In the experiments at the station in Connecticut, chicks with milk almost doubled the weight of those not having milk. Mortality in the flock was greatly reduced by the use of milk. Sometimes the milk sugar tends to produce bacteria which hold in check injurious organisms. We should use a quart or more per capita of milk rather than the small amount now consumed.

Dr. Shaw of Albany talked about the physicians' part with milk. He has used buttermilk and soured milk with children with good effects. Then he went on to speak of various races, their longevity, initiatives, and force. He added that milk has made this race. He spoke further, however, of the relatively small amount of milk consumed and urged that more must be used. If we have another war in twenty years there will be a failure of young men who can pass inspection unless more milk is used now in the diet of children. Then he asserted that cheap milk is really expensive milk.

Dr. Park of New York called up the sour milk matter with children. He has found that there is a difference in the bacteria of sour milk. Some are good and others are bad. Sour milk did not seem to be generally favored. A person who has had typhoid should not be employed in handling certified milk, for there is a possibility of his being a carrier.

The national society took an advance step in preparing for a paid secretary a little later on and for a fund to be used in promoting the use of certified milk. There was a feeling shown all through the two days that the use of certified is not encouraged to the extent that it should be.

It is planned to hold the next annual meeting in Chicago in connection with the cattle show and with the national meeting of milk commissions of the country. Resolutions from both societies have tended to bring them together. W. H. Lee of Orange, Conn., was re-elected president and H. B. Winters of Albany, secretary-treasurer. There was very general agreement that the meeting was a decided success. Like most of our state meetings this one has the encouragement and assistance from the state agricultural department.

New York. H. H. LYON.



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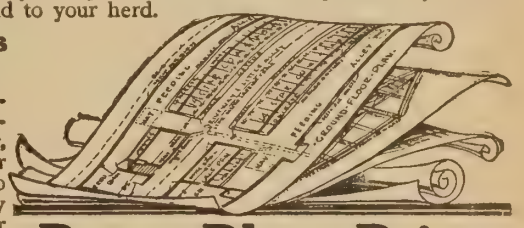
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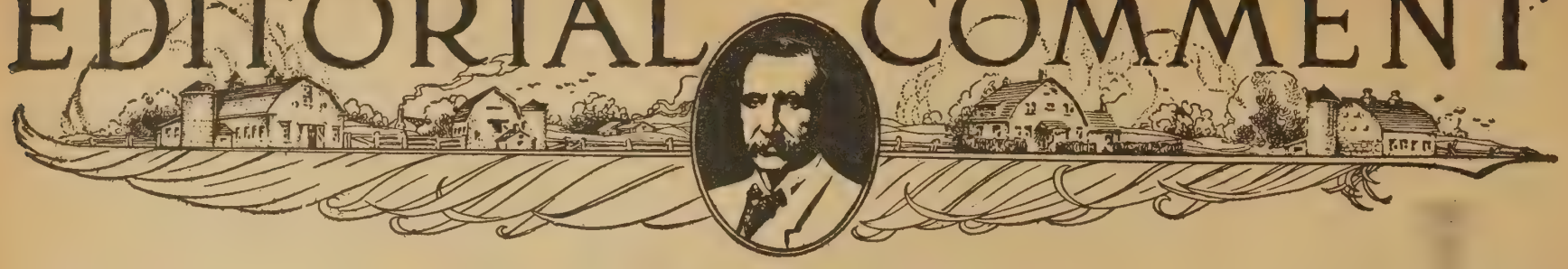
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$1,840 From Five Cows

A Maryland reader of Hoard's Dairyman reports unusual success with a herd of five cows. This herd, containing so small a number of cows, made a return last year of $1,840, or $368 per cow. The milk sold for $1,707, the other $133 coming from the sale of calves at veal prices. This is a small herd of cows, but the profits made from it greatly exceed those secured on many other farms from herds twice as large. There is more profit in one good cow than in a herd of poor ones. Mr. Kennedy G. Rogers, who owns this herd, has proved himself a successful caretaker of dairy animals.

EDITORIAL COMMENT

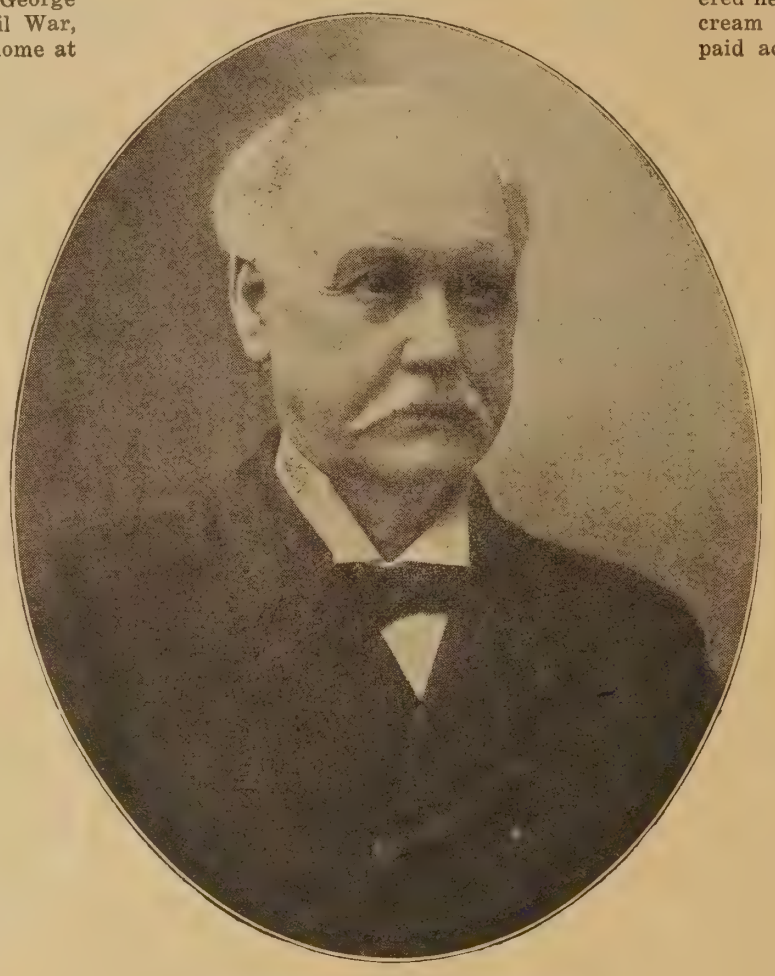


On Sunday evening, January 16th, Gen. George Washington Burchard, veteran of the Civil War, editor, and statesman, passed away in his home at Fort Atkinson, Wis. He was born in Oneida County, New York, December 26, 1835. When he was one year old his parents moved to Chautauqua County, New York, remaining there till 1850, when they moved to Waukesha, Wisconsin. He was graduated from Carroll College, Waukesha, Wis., in 1857 and after studying law at Poughkeepsie, New York, for one year was admitted to the bar. He practiced law until August, 1862, when he volunteered his service to his country. He entered the army as a private, but rose to the rank of colonel. His last assignment was as Provost Marshal General of the Department of Arkansas.

He returned to Wisconsin in September, 1866, and resumed the practice of law and in 1867 settled in Fort Atkinson, where he has since made his home. He did not confine himself to the practice of law for many years as his tastes and qualifications led him into public service and other fields of endeavor. It is not our purpose to discuss the good work he rendered to his state and nation through the several positions which he held, but rather to give something regarding his contribution to the development of the dairy industry.

He was farm minded. He liked the soil, its live stock, and not many years after he moved to Fort Atkinson he bought a farm and there he lived with his family till 1894. He had long been a personal friend of W. D. Hoard, former governor of Wisconsin and founder of Hoard's Dairyman, and being a keen student of dairy farming led Mr. Hoard to select him as his associate editor, a position he held for 20 years. Former Governor Hoard appointed Mr. Burchard Adjutant General of Wisconsin. In 1896-7 he was president of the Wisconsin Dairymen's Association and secretary of that organization from 1898 to 1907.

In all the positions which were committed to his trust he discharged his duties faithfully and well, but his work for the advancement of the dairy industry gave him the greatest satisfaction. He never tired of laying plans that would assist the dairy farmer in his efforts, for the dairy farmer's success was almost a personal achievement to him. Before the Babcock test was discovered he endeavored to perfect a system of testing cream that each patron of a creamery could be paid according to the quantity of fat delivered.



GEORGE W. BURCHARD

He worked out a system of measuring the fat in a given quantity of cream and it was generally used by creameries making butter from gathered cream. His measure was used in connection with the Curtis Churn test.

General Burchard became early associated with the activities of the Wisconsin Dairymen's Association. He was secretary of that organization when it established its first cow testing association and guided the development of this new work. He lived to see Wisconsin with 115 cow testing associations and leading all other states in the Union. This is a most constructive piece of work, but created little or no feverish enthusiasm. These associations do their work quietly though effectively and they characterize his temperament and conception of service. He did not believe in extravagant display or glittering statements of generalities, but he did believe in the renovating power of sound knowledge.

As associate editor of Hoard's Dairyman he had opportunity of rendering a large service to the dairy farmers of this country. He was not a prolific writer, but what he wrote was in clear, masterful English and went straight to the heart of his subject. In his editorial work he excelled as a critic. He knew what constituted evi dence. This made him a reliable and a capable counselor; it led professors of dairy husbandry to consult him regarding their investigations; and it assisted him in separating the wheat from the chaff. He was eminently fair and had no other concern but to determine the evidence of the material before him. He once wrote: "Every right implies a corresponding obligation; every privilege a corresponding duty."

Those who lived and labored with him loved him most, for they knew his motives, understood his purpose; and knew that he was genuine.

EMERGENCY TARIFF BILL

There are various opinions regarding the chances of the Emergency Tariff Bill passing the Senate. We have been informed upon what we consider reliable and well informed authority that the Senate will not pass this measure and, if it did, that the President would not approve it. On the other hand, we are informed by several representatives of dairy organizations that the Senate will pass the Emergency Tariff Bill and that the President is likely to approve it. We still believe, however, that the Emergency Tariff Bill has little chance of becoming a law.

Since we have been informed regarding the status of this bill, we have considered it largely as a little soothing syrup for the farmers, something to quiet them and make them behave while the other fellow gets what he desires. We dislike pretention, camouflage, for nothing is accomplished by such moves, except to lessen the public confidence in its representatives. This pretense to help the farmer creates considerable labor and expense, for a number of officials of dairy organizations were called to Washington and appeared before the Finance Committee and presented to it the rightful claims of the dairy farmers. Through their efforts the Emergency Tariff Bill has been amended. The measure now provides for a tax of eight cents a pound on butter and cheese, two cents on condensed milk, and five cents on milk sugar. Attempt is being made to have the bill provide a tariff of five cents on powdered milk.

No agricultural tariff bill is complete or fair that ignores dairy products, for every argument used for requiring a tariff on other commodities can, with equal force, be applied to dairy products.

SOUND AND WHOLESOME

The banker, the farmer, the laboring man, the professional man, the business man, each has his remedies for bringing the people back to sane ways of living and thinking. The different ideas which these men present for correcting our evils, for establishing proper relationships between all classes of industries and peoples and to create prosperity makes interesting and valuable reading. We need to do more thinking about the important things of life if we expect to get the most out of it or to build a great nation.

An article by Mr. Erie C. Hopwood, entitled, "Which Road?", published in the World's Work, sets forth some ideas which we may all consider, and we quote a paragraph from it:

"America needs more than anything else a new conception—or the revival of the old conception—of the sound and wholesome things of life. America needs reconsecration to the family fireside—more of the crackling backlog and less of the three-room flat with electric radio heater and "in-a-door" beds. America needs new yardsticks to measure worth; more sober progress and less paprika; more contemplation and less cylinders under the hood; more bread and milk and less mushrooms under glass; more of Mother Nature's pink on the cheeks and less out of a box; more sweetness and simplicity and dignity and loving kindness and less of the haunting, hectic race against time and money—a race which, run to the goal, brings neither profit nor peace."

As dairy farmers we can well consider the principles and practices which constitute good farming. We can lay more emphasis on the skill required to produce a great cow than the price paid for her. The largest success in farming does not lie merely in the accumulation of money, but in keeping the soil fertile, the breeding of high producing animals, the establishment of attractive and well constructed farm buildings, and, above all, ideal homes. The herds, the flocks, and the crops must be created upon the right basis with the view of contributing to a better farm life or the efforts of the farmer fail. It is not money, power, or distinction that builds great nations and makes people happy, but it is the doing of the right thing in the right way and at the right time. We must have a true conception of the things that are worth while and of justice and square dealing before we can expect a proper readjustment.

Testing Buttermilk—Pasteurizing Cream

What is the right average per cent of fat for skimmilk and buttermilk? I have two kinds of bottles, one of them with double neck and 25 divisions and the other one with big body and short single neck with 20-10 per cent divisions. Are both

bottles the same, or is one of them better than the other? For testing skimmilk and buttermilk, is the same amount of sulphuric acid to be used as for testing whole milk?

I pasteurize my cream to 85 centigrade degrees and then I keep it for 48 hours at ten degrees without using any starter. What do you think about that?

Lima, Peru. H. M.

Reply to an inquiry concerning the testing of buttermilk appeared in our issue for December 24th. It will be noted that it is the double necked bottle which is preferred.

The same amount of acid, 20 cubic centimeters, is used in testing both skimmilk and buttermilk and the same method of testing is followed except that greater care must be exercised in securing the sample of buttermilk. In testing whole milk only 17.6 c.c. of acid are used. Professor Hunziker, in his book on "The Butter Industry", gives the following rules for making a test of skimmilk and buttermilk:

"Measure the properly mixed skimmilk into the test bottles with the 17.6 c.c. pipette used for milk testing. Add 20 c.c. of sulphuric acid. For best results add the acid in several installments and shake until all the lumps of curd have completely disappeared. Whirl in tester for 10 minutes.

"Special attention should be given when the bottles are placed into the tester. Test bottles in which the lower end of the funnelneck extends perpendicularly along the side of the bulb to the bottom of the bottle should be so placed that the funnelneck faces the center of the tester, otherwise the fat rises into the funnelneck. Test bottles in which the lower end of the funnelneck extends diagonally to the bottom of the bottle should be so placed that the graduated neck faces the center of the tester. This will prevent excessive breakage of this type of bottles. The tester should run perfectly smooth in order to prevent excessive breakage, as these bottles are of very delicate construction.

"Add distilled water or rain water at a temperature of 140°F. or over to the bottom of the neck of the bottle; whirl 5 minutes. Add hot water to near top of neck; whirl 10 minutes and read."

With proper operation of the cream separator, there should not ordinarily be a loss of more than 5-100 of 1%, and more often it should not leave more than 1-100 of 1% fat in the skimmilk. Where buttermilk does not show over 2-10 of 1% fat, it is considered that good work has been done in the creamery. If the loss is much greater than this, attention should be given to the buttermaking operation in order to correct it.

We see no objection to the pasteurization of the cream in the manner mentioned if this is done by the flash process. If the milk is held at 85 degrees Centigrade for the usual twenty to thirty minutes under the holding process it is likely to give a cooled flavor to the cream which would be undesirable. Where cream is heated to 85 degrees Centigrade, care must be exercised that proper apparatus is available so that the cream is all heated to this point and none of it is allowed to stay in contact for a sufficient length of time to give a scorched flavor to the product.

Beets vs. Mangels

I want any information you can give me concerning the value of the sugar beet for cow feed as compared with the mangels. I raised an acre of mangels this year, producing about 18 tons. It has been suggested that the sugar beet would give me better results, the same acreage producing more milk.

Kempton, Ind. J. A. K.

The sugar beet is a good bit richer in nutrient content than the mangel. In one hundred pounds of beets there are about 16.4 lbs. of dry matter, while in mangels there are about 9.4 lbs. In total digestible nutrients, one hundred pounds of beets contains 14 lbs. while the total in one hundred pounds of mangels is 7.4 lbs. The chief difference in the nutrient value of these two feeds is in the high carbohydrate content of the sugar beet.

In actual feeding practice, our observation has been that the results secured from these two feeds are not in proportion to their content of dry matter, mangels apparently giving about as good results as beets. Perhaps this is because these feeds have a great value in their succulence, in which the two are equal, as well as in their content of nutrients.

On the basis of feeding value alone, the beets are undoubtedly better, but the yield per acre of mangels is so much greater than that of beets that under usual conditions the mangels are a more profitable crop for dairy feeding.

Hitching Horses to Plow

Please tell me how I can hitch three horses to a two-horse plow and not create a side draft.

McLean, Va. B. H. W.

Wayne Dinsmore, secretary of the Horse Association of America, replies to the above inquiry as follows:

The only way three horses can be attached to a two-horse plow without creating side draft is to hitch them as a spiked team—two horses behind and one in front—arranging the equalizers so that the one horse in front will pull just as much as each of the two horses behind. He will walk on the solid ground next to the furrow.

Silage and Abortion

Will you please let me know if silage will cause cows to lose their calves, or injure the breeding power of a sire?

St. Charles, Minn. W. H. M.

Silage will not cause cows to lose their calves, nor will it necessarily injure the breeding powers of the herd sire. There are many live stock men who hesitate to feed silage to the bull for fear that it may cause him to become fat and logy. However, most dairy farmers feed their bulls a limited quantity of silage, particularly if they are supplying him a good legume hay and some high protein feeds. We would recommend that the herd sire receive not to exceed fifteen or twenty pounds of silage per day, together with the amount of alfalfa or clover hay he can consume and a sufficient amount of the regular herd ration to keep him in good breeding condition.

There are always cropping up, here and there, these various arguments against the liberal use of silage, not only that it may cause abortion but also that it is the occasion for nearly all the ailments of cattle. The best answer to these statements is that good dairy farmers everywhere are feeding silage to their cattle and they are well satisfied with the results.

Condensed Milk for Babies

We have an inquiry asking for the comparative values of raw and condensed milk for infant feeding. Can you give us this information or tell us where we can get it?

New York, N. Y. C. J.

Fresh cow's milk from a healthy herd is considered the best substitute for mother's milk in feeding babies. We believe that all physicians and child specialists agree to this general statement. There are occasions, possibly, when it may be desired to make use of some other form of milk or prepared foods, but general reliance should be placed upon fresh milk. If milk can be procured from a certified dairy that is known to be free from disease, it will probably prove most satisfactory, although with the ordinary city supply we would not advocate the use of anything but pasteurized milk.

Condensed milk has been used for the feeding of babies under certain conditions, but it is not considered wise to use it over an extended period. The condensed milk carries a very high percentage of sugar which tends to the production of fat rather than muscle. It is not wise to continue its feeding as babies are liable to become fat but do not gain in strength and vigor. Where it is used at all, the general recommendation is that it be replaced with milk after a short time. Evaporated milk may be used and it is especially desirable when there is no good milk supply available or in emergencies such as travelling.

Further information as to this, together with a more complete discussion of the several substitutes for mother's milk, can be secured by writing the Children's Bureau, U. S. Department of Labor, Washington, D. C.; ask in particular for the pamphlet entitled "Milk Indispensable for Children". This pamphlet contains a general discussion of the use of milk in its various forms, including fresh milk, condensed milk, powdered milk, etc.

Identifying Grass

I am sending you two seed heads of a grass growing here. Please give me the name of it and explain the nature of the plant together with its feeding value as compared with some of the other or more well known hay grasses such as timothy and the various clovers.

Phillipsburg, N. J. M. E. S.

The grass received for identification is common Redtop (Agrostis alba). This grass ranks next to Kentucky blue grass in its importance in the northern section of the country for natural pasture conditions. Redtop is of special merit on moist or wet soils and will often be seen growing vigorously in shallow ponds which later on become dry. It shows no marked preference for any particular soil, but it does its best on moist loams and clays, in fact it is perhaps the best grass for hard clay soils. It will do very well on soils that are too acid or sour to maintain a good turf of Kentucky blue grass.

Redtop is a very hardy perennial and it is seldom known to winterkill. It will form a good turf for pasture purposes and when seeded with alsike clover, the two make an ideal mixture for low, moist soils. Although not strictly a hay grass like timothy, it will give fair yields of hay when growing under ideal conditions. For this purpose, however, it is better seeded with other grasses and clovers.

Its feeding value as a hay is about like timothy and horses are quite fond of it. Its use in rotations, however, is limited to those soil conditions which will not support timothy, blue grass, and the clovers.

Fertilizing Land for Corn and Potatoes

I have a piece of land which has been pastured the past two years and covered with stable manure each year; previous to this it was mowed for hay for one year. I had alfalfa mixed with timothy on it but the alfalfa was an uneven stand. Next year I wish to plant corn on this field. I got about one-half of it plowed last fall. I would like to know whether it would be a good thing to use acid phosphate next year when I plant the corn or would a mixed fertilizer be better? I would get an attachment to my corn drill and apply the fertilizer in that way. Would this fertilizer help to keep away the worms? This piece of land is slightly rolling.

What fertilizer could I use in connection with potatoes on this field?

Schleisingerville, Wis. E. D. G.

In our opinion it is very doubtful if it is necessary to resort to the use of commercial fertilizer for corn on this field. The land having been in sod for the past three years and having received two applications of stable manure should be in good condition for growing a crop of corn. However, not knowing the kind of yields this field has been giving in the past, it is impossible for us to say whether or not it would be a good practice to use fertilizer for the corn which our inquirer expects to grow this coming season.

There are results which indicate that an application of from 100 lbs. to 200 lbs. of a mixed fertilizer, such as a 2-12-2 applied at the time the corn is planted is very beneficial to the early growth of the crop. We know of no evidence that fertilizer of this kind will help to keep the worms away from the corn. It might be possible, it would seem, if the fertilizer is applied to the hills or to the corn in the rows.

Fertilizers that are relatively high in potash seem to have given the best results with potatoes, such as a 4-8-10.

Weights and Yields by Breeds

Please give the average weight of all the dairy cattle breeds at matured age, their average per cent of fat, and their average yearly milk production.

Milford Center, Ohio. S. T.

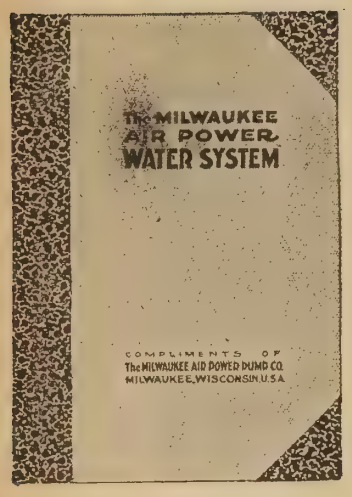
The following table gives the average weight of the several breeds, the average fat test of their milk, and their average yearly milk flow.

Breed	Weight, lbs. bulls	Weight, lbs. cows	Fat, %	Yearly milk produced, lbs.
Ayrshires	1400—2000	1000	3.85—4.	6500 to 7500
Brown Swiss	1500—2000	1200—1400	4.	6500 to 7500
Guernsey	1500—1900	1000—1100	5.	6000 to 6300
Holstein	1800—2200	1200	3.3 —3.5	8500 to 9000
Jersey	1200—1700	800— 850	5. —5.5	5500 to 6000

Dehorning Cattle

HOARD'S DAIRYMAN:—In a recent issue of your paper you gave directions for dehorning cattle. I will give a way that has been successful with me in preventing excessive bleeding and is also used by my veterinarian. Take a cord similar to binding twine and wind it around the head at the base of the horns as tightly as possible, two or three times around. Then pass a string under that twine on each side and over the top of the head and draw the two strings up as tightly as possible, and there will be very little bleeding.

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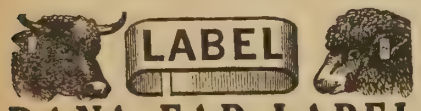


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Washington, D. C., Weekly News

(Continued from page 44)

Council, who with others emphasized the necessity of heavy protective tariff against oriental oils, in addition to dairy product tariff protection; Hon. J. M. Hackney of Minnesota, who spoke for the dairy cattle owners, especially for the Holstein-Friesian Association of America, and Professor McKay of the N. A. C. B. M.

The hearing lasted from two to five p. m. and was marked by considerable cross questioning, especially by Senators Simmons and Nugent of the Democratic side of the committee.

While in Washington several of the representatives of the dairy industry went before the sub-committee on agricultural appropriations, to urge the appropriations asked for the Dairy Division of the Department of Agriculture for its research work, and its new barns and laboratories at the Beltsville experimental farm. They were assured of the interest of the committee, and as liberal appropriation as financial conditions would permit.

⚜

The Senate Finance Committee met on Friday and voted to open the bill to amendments, adding dairy products, sugar, a change in cotton schedules, and some other items. On motion of Senator Calder of New York, the schedules were fixed at six cents per pound for butter and butter substitutes, six cents for cheese, two cents per pound for condensed milk, five cents for sugar of milk, two cents per gallon for whole milk, and five cents per gallon for cream. These are the Payne—Aldrich schedules exactly.

Producer interests were not satisfied with these schedules for the emergency bill, and on Saturday morning, on motion of Senator La Follette, an effort was made to secure a change to ten cents per pound on butter, substitutes, and cheese. The effort resulted in a compromise to eight cents on butter, cheese, and butter substitutes.

The bill to be reported will therefore contain this eight-cent item on butter, butter substitutes, and cheese. No change has been made in the whole milk, cream, or processed milk items as brought in by Senator Calder, re-enacting the Payne—Aldrich rates. Powdered milk is not included, as this item was not named in the Payne—Aldrich schedules not being an article of commerce at that time.

⚜

The most important lesson of this entire experience is the necessity of securing more and better data, and for milk producer and co-operative butter and cheese interests to get together and prepare their case for the regular tariff hearings which will begin January 21, and continue intermittently until the proposed tariff law is enacted.

⚜

Chairman Potter of the House Committee on Foreign Affairs will introduce a joint resolution providing for the American invitation to foreign governments to participate in an International Dairy Congress in this country in 1922, within a few days. The whole matter, placed before Congress as told in Hoard's Dairyman some weeks ago, has been referred to this committee, and as the result of many endorsements of the project received by the committee, prompt action is anticipated.

⚜

Milo D. Campbell, President of the National Federation of Milk Producers, has opened an office in Washington, to remain through the present session of Congress, in the interest of dairy and co-operative legislation. Mr. Campbell will devote his first energies to getting the Capper-Volstead Collective Bargaining bill straightened out, and passed if possible. This bill is now in conference, with a strong effort to be made to eliminate the objectionable Senate anti-monopoly amendments. Mr. Campbell is also much interested in tariff legislation, and will undoubtedly soon take an active hand in this work. His office will be at the Occidental hotel, the same building in which the American Farm Bureau Federation Washington office is to be found.

⚜

Representative Haugen of Iowa, and Senator Gronna of North Dakota have introduced identical bills to control grain gambling. They propose to establish a system of dealing in grain futures, similar and parallel to the Cotton Futures Act, establishing definite conditions of future contract and delivery of grain, and prohibiting all other future sales except to be followed by actual delivery of the commodity. The bill is looked on as a definite step in advance in the way of constructive commercial legislation.

Tennessee Jersey Record

Sadie Heath, a Jersey cow owned by Edroth Jersey Farm, Tennessee, has made a new milk record for the breed in that state. In 361 days she has produced 11,939.8 lbs. of milk containing 673.7 lbs. of butterfat. She exceeded the record by the previous state champion by 500 lbs. of milk and lacked only 3.7 lbs. of butterfat of equalling the record butterfat production. Her highest monthly fat production was 68.99 lbs. fat and her lowest was 38.86 lbs. When she completed her test, she had been milking for 36 consecutive months. She began her record at the age of 9 years and 9 months. Her ration consisted of 12 lbs. daily of a mixture of 3 parts of corn, 2 parts of oats, and 1 part of oil meal. She refused to eat silage, but was furnished all the clover hay she would consume, usually eating 12 to 15 lbs.

First New York State Holstein Sale

137 Animals Sell for $490 Average

A state Holstein sale is no new thing in many sections but it is in New York. The state association was organized in its present form a year ago and one of the purposes of that association showed plainly in the first state sale held at Rochester, January 12—13. It was planned and advertised for a good sale of clean, high class cattle, which was exactly what it proved to be. It was such a sale as will give buyers increased confidence in New York Holstein breeders.

Prices did not rule as high as might normally have been expected, particularly on bulls, but we venture the opinion that had similar sales been held for several years previous, this one would have brought out a better average and that succeeding state sales of this character will bring better prices.

R. E. Chapin & Son topped the sale with Bonalevo Quality Parthenea, a splendid producing daughter of King Quality. As a 4-year-old she has just completed a 36.05-lb. 7-day record with 719 lbs. of milk. She produced 2,921 lbs. of milk in 30 days and even on the sale grounds produced over 100 lbs. daily on her semi-official test. W. H. Mace and Geo. N. Smith were the principal contending bidders for her, the former securing her for $3,950. Mr. Smith dropped out with a $3,900 bid.

Dygert Bros. did almost as well on their 36-lb. 6-year-old cow, Clycola Korndyke, an excellent individual, granddaughter of Pontiac Korndyke. She was purchased for $3,600 by Brock & Jenks with W. S. Moscrip bidding for Maaikenshof Farm, the last contending bidder.

Ormsby Korndyke Lad 11th from the Beaver Dam Stock Farm was the highest priced bull at $1,025. He is a son of O. K. L. from a 30-lb. cow now doing nicely on semi-official test. He was purchased by Geo. Abbott of New York.

Kelley, Haeger, and Baxter did the selling with Wood in the box.

Prizes of $200, $100, and $50 were offered by the state association to the county or district club having the best consignments judged on the basis of individuality and condition. Just before the sale R. E. (Bob) Haeger passed on the consignments, putting Chemung, Jefferson, and Oneida counties ahead in the order named.

Following is a list of all animals selling for $500 or more and names of the purchasers:

A. M. Cook, New York	
Meadow Lark Ophela Pontiac	$750
W. H. Mace, New York	
Bonalevo Quality Parthenea	$3,950
H. F. Farrington, New York	
King Quality Butter Boy	$600
Julius Schmid, New York	
Bonalevo Maxie Mark Seven	$530
John H. Hemmings, New York	
Mina Ladoga	$530
Maaikenshof, New York	
No. 34	$1000
Queen Pontiac Gale 2d	800
Nancy Kornstic Pontiac	760
Korndyke Hengerveld Edwina	825
Korndyke Edwina Reliance	500
Korndyke Pietertje Teresa	700
E. A. Powell, New York	
Clever Model Glista	$1025
Chas. H. Divoll, Massachusetts	
Glista Corena	$1225
Jos. H. Divoll, Massachusetts	
Johanna Ormsby Countess	$500
Brock & Jenks, New York	
Clycola Korndyke	$3600
Topsy Korndyke Segis	1550
No. 42½	525
J. E. Dalrymple, New York	
King Korndyke Clycola	$775
Fred Daniels, New York	
No. 47	$785
G. A. Abbott, New York	
S. F. K. Pontiac Grindetea	$510
Bertha Korndyke Ponto	500
Ormsby Korndyke Lad 11th	1025
Jas. N. Allen, New York	
Korndyke Hengerveld Viola	$655
LaMotte Breeze & Son, New York	
North Country Dutchland Lad	$500
Wheatfield Farm, New York	
Korndyke Fayne Butter Boy Mink	$560
Manor Keyes Ingalls	610
F. I. Judd & Son, New York	
Edith Segs Korndyke	$1275
Jabez Smith & Son, New York	
Correct Nancy	1200
Detroit Creamery Co,. Michigan	
Correct Bessie	$500
Albert Roy, New York	
May Sylvia Alcartra	$2600
C. R. Savidge, Pennsylvania	
K. V. K. Agnes Johanna	$580
John Gray, New York	
King Valdessa Jewel Korndyke	$500
E. A. Miller, New York	
Katie Paul Wayne	$1450
Geo. H. Weaver, New York	
Rebecca Posch 2d	$500
Harry Yates, New York	
Foforit Posch Korndyke 2d	$500

Tolstrup Goes to South Carolina

M. R. Tolstrup has been appointed associate professor of dairying in Clemson College, South Carolina. Obtaining his Bachelor of Science degree in the Iowa State College in 1911, he spent one year as an instructor in the South Dakota Agricultural College. He then returned to Ames where he received the degree of Master of Science in Dairying in 1913. He served at Iowa State College as Assistant Professor of Dairying and then went to the U. S. Bureau of Markets for work in Vermont. Here he did valuable work along the line of marketing agricultural products, especially dairy and maple products. Upon tendering his resignation to the Bureau of Markets, Mr. Tolstrup engaged in the creamery business in Minnesota. After a year in commercial work he accepted his present position at Clemson College as Associate Professor of Dairying in charge of manufacturing.

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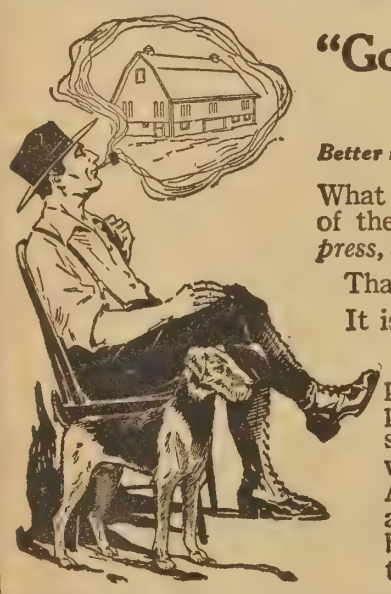
The Climax can shown herewith is a splendid can for wagon use, for delivering milk and cream to the creamery, etc.

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5 gal.	11 lbs.	$3.80
8 gal.	15 lbs.	$4.60
10 gal.	17 lbs.	$4.90

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Contains four *full-size* working plans for building four up-to-date, practical barns, with complete specifications for each. These plans were drawn for us by some of America's best farm architects, and represent the most approved barn architecture and construction up to date.

We are manufacturers of Cypress lumber—genuine "Tide-Water" Cypress, which is "made-to-order" lumber for barns. Take our advice (we know) and

Build Your New Barn of *CYPRESS*

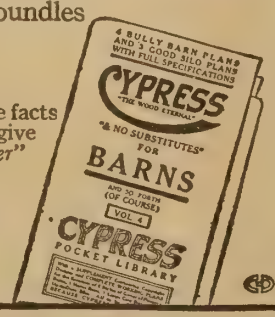
and be very sure that it is genuine "Tide-Water" Cypress, "the Wood Eternal," which defies decay, and does away with repair bills. Identify it by our trade-mark "arrow," which is branded in the ends of all boards and on all bundles of small pieces.

Send for FREE Plan Book

described above and read it carefully. You want the facts before you start to build a barn. This book will give them to you, *and show why genuine "Tide-Water" Cypress is best for YOU*—(never mind about us).

SOUTHERN CYPRESS MFRS. ASSN.

103 Perdido Bldg., New Orleans, La., or
103 Heard Bank Bldg., Jacksonville, Fla.



THE DENMARK OF TODAY

(Continued from page 43)

ceiving six to seven cents per quart depending upon the quality.

At the present time practically all of the half million heads of households engaged in agriculture are in one or more organizations. All branches of the farm industry are as well organized as the dairy. Since no co-operative society handles more than one activity, there is a separate organization formed for every sphere of action. A Danish farmer could belong to 53 societies, 39 of which are co-operative, and not have their activities overlap. Those having the largest membership are the dairy with 180,000, bacon factories with 156,000, and co-operative stores with 244,000. The local societies are united into provincial societies and all of the co-operative societies were organized in 1917 under one central organization called the Central Co-operative Committee of Denmark. Together with the Royal Agricultural Society and the local agricultural societies they formed last year the Agricultural Union.

Organized Farmers

"The aim of the Agricultural Union," said L. Frederiksen, the secretary, "is to promote co-operation between Danish technical and economical organizations which bear relation to agriculture and the co-operative movement; to be ready to serve the government and parliament in questions concerning agriculture and to submit motions concerning their interest; and to fight against anti-social trusts and monopolies.

"We believe that this is a step in advance for the farmers' interests. The prosperity of the farmers caused by the war has not hurt co-operation but has advanced it further. I believe there is scarcely a farmer today who is not a member of some organization."

"I should say the farmers are well organized in this country," declared a business man to me. "It is so well organized, in fact, and at the present time in the hands of such capable men, that it is impossible for any outsider to get a hand in their business. On the whole it has been the best thing for the prosperity of the country."

"Co-operation has been the salvation of the farmers of Denmark," stated an American farmer of Danish birth who had spent the last four months at his old home. "It seemed to me that the country had advanced and prospered more in the last ten years than it had in the previous twenty."

Experimentation on the Farms

Not only are the farmers organized among themselves but the department of agriculture has its work identified so closely with them that the farmers have entire confidence in it and are eager to use the results which are secured. A visitor to the agricultural experimental laboratory is rather surprised to find no dairy or herd to be used for experimental purposes. All of the actual work is done on farms and in creameries and the results brought here and tabulated. In 1875 when Fjord began his experiments involving the use of ice in dairies which extended to cream raising and skimming by various methods of cooling, he found it necessary to have these tests made in dairies all over the country and this method has been used ever since.

It is due chiefly to this that, with later experiments, the separator, pasteurizer, and improved methods of ripening cream were introduced so quickly throughout the country. Three times each year the laboratory calls for butter from each creamery and has it scored by competent judges. The dairies are then informed of the quality so that any defect may be remedied and at the same time a review is obtained of the whole country's butter production. It is in this laboratory that Dr. B. Bang has carried out his research work in tuberculosis, but by the experimental work on the farms he has been able to work out his world famous system of control.

In order to be in constant touch with practical work, the laboratory holds annual meetings where the plans for experiments and their results are discussed with the practical creamery men and farmers. During the four-year period, 1901 to 1905, there were 4,390 field experiments, while from 1911 to 1915 there were 12,234, and from 1916 to 1919 there were 9,209 of these.

Firms supplying more than two-thirds of the seed have voluntarily placed themselves under the government seed control in Copenhagen which is now the oldest seed testing laboratory in the world. During the last year over 28,000 samples were tested here. A commission has been appointed as counsel, as regards seed control, to the agricultural department in which there are two trained seed experts, two farmers, and two representatives of the seed firm associations.

"It will be the continued policy of our government to encourage agriculture in every way possible," declared Mr. Mygdal. "Certain subsidies will be granted for this purpose but the great incentive for improvement must come from within. Our farmers have been compelled to co-operate because



GUERNSEY COW, IMP. PRIMROSE II DES BEAUCHAMPS, HAS A RECORD OF 681 LBS. FAT IN CLASS AA
OWNED BY WOODEND FARM, MINNESOTA

of the small size of their holdings but, because of this, improvement has been possible. Education is necessary to build up co-operation and we have supplied this through our government counselors and our agricultural high schools."

The people's high schools and the agricultural high schools are said to be mainsprings of the co-operative system for here it is discussed in all its phases by the students and the graduates become leaders of the movement.

Butter and Bacon Most Important

About 50 years ago the farmers of Denmark, unable to make a living selling grain, Europe at that time being flooded with cheap grain from America, turned to milking cows and raising pigs. With the development of the co-operative creameries and bacon factories, butter and bacon became the two main products for export. The whole attention of the country was turned toward the production of these two articles, the greater part of which goes to the English market. Every effort was made to produce the particular quality of butter and bacon required by that people. The surplus butter export of Denmark in 1914 was very nearly equal to one-fourth of all the creamery butter manufactured in United States last year. By 1890, of all butter imported into England, 41.6 per cent came from Denmark and in 1914, 43.4 per cent. In 1914 the Danish bacon export was 53 per cent of the total bacon import to England.

The agricultural interests not only specialized on these products but standardized them as well. The Lur brand was introduced in 1900 by a society to identify all Danish butter and within five years all the dairies made use of this brand. In 1911, the change was introduced so that in addition to being a brand of nationality it became a brand of quality, the government keeping control by supervision and testing three or more times each year. The English people know that when they secure Lur brand they are getting butter that is made from pasteurized cream, that it does not contain more than 16 per cent moisture and is of good quality. At the same time a similar mark was ordered for use on all Danish bacon which was for export trade. This mark guaranteed it to be from hogs examined by government veterinarians and found to be free from any signs of tuberculosis.

The farmers of the Middle West, now face to face with the competition of cheap grain, meat, and butter from other parts of the world, have a problem similar to that which the Danes overcame by getting together and producing certain products with which others could scarcely compete. Professor Boggild, who was very active in the beginning of the co-operative movement, who has traveled in this country and has studied carefully our system of agriculture, was asked if he believed it possible for the farmers to organize in this country as effectively as they had in Denmark.

"I rather doubt it," he answered and then added with a smile, "in your country the business men like to tell the farmers too much of what they ought to do."

More Than 10,000 Guernsey Records

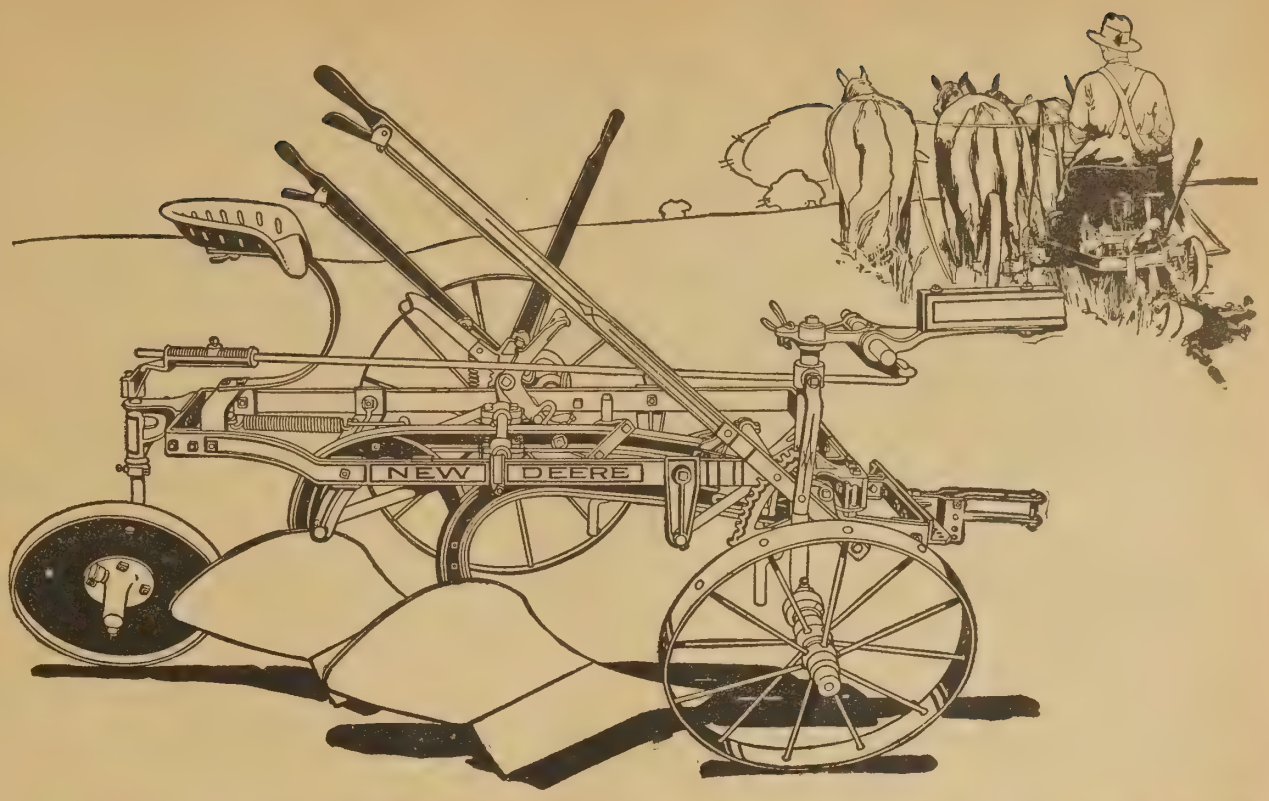
On December 15, 1920, the number of Advanced Register records completed by Guernsey cows exceeded the 10,000 mark. A total of 10,033 records had been completed by 8,469 cows. Six cows had completed five records each; twenty-six had completed four records; 196 had completed three records; and 564 had completed two records. The average production of all records completed by Guernseys of all ages was 9,068.27 pounds of milk, 454.06 pounds fat, with an average test of 5.005 per cent. Of the total number of records, 37.6 per cent were completed by cows two years of age.

The system of yearly testing for the Advanced Register, which has been adopted in only slightly modified form by all dairy breed associations, was first established by The American Guernsey Cattle Club in May, 1901, almost a score of years ago. The first cow to complete an Advanced Register record was Glenwood Girl 6th 9113, whose record was 12,187.33 pounds of milk and 572.30 pounds butterfat.—AMERICAN GUERNSEY CATTLE CLUB.



IMP. FERN'S OXFORD NOBLE

Jersey bull sold by Tom Dempsey of Ohio for Messrs. Holman and Neel Bros. of Georgia to P. H. B. Frelinghuysen of New Jersey for $25,000.



Costs Less Because - It Lasts Longer

IT is the use of a plow that tells its real cost. The plow that gives extra years of good service costs less in the long run. The success of the New Deere Gang is based on that truth. The most widely used wheel plow for 26 years, it has earned the reputation for giving unusually good service an unusually long time.



Get This Big Free Book

We will be glad to send you, free, a folder illustrating and describing the New Deere Gang. Also our big free book —"Better Farm Implements"— 114 pages—describes full line of high grade farm implements and machinery—gives valuable information on implement operation. Write today. Address John Deere, Moline, Ill. Ask for package DG-414.

NEW DEERE GANG

Steel used in the New Deere Gang is unusually high in carbon—it is much harder, tougher and stronger than the steel that goes into ordinary plows. That's a big reason why the New Deere Gang lasts much longer.

Its genuine John Deere bottoms scour, pulverize and make a good seed bed—do the work the way the farmer wants it done. There is a type for every soil. Made of the best plow bottom materials, these bottoms are unusually long-lived.

Makes Uniform Seed Beds. Double bail construction causes the bottoms to reach plowing depth almost instantly and maintain even depth. Even width of furrows is insured by a handy lever adjustment, controlling the front furrow wheel.

Pulls Light. All-wheel-carried—no landside friction—no dragging of the bottoms. And, remember, the clean scouring qualities and general high grade construction of John Deere bottoms are great aids to light draft.

A Boy Can Operate It. Foot lever and auxiliary hand lever make it easy to lift the bottoms under all conditions.

Quick Detachable Shares. Loosen one nut to remove a share; tighten the same nut and share is on tight.

Tell your John Deere dealer to show you the New Deere Gang. Inspect its features that insure good work, ease of operation and long life. You will find it the gang plow of real economy.

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THE TRADE MARK OF QUALITY MADE FAMOUS BY GOOD IMPLEMENTS



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ANTI-COW-KICKER

Save your temper, your cows, your milk. Does not excite the cow, nor disturb the flow of milk. Indispensible for breaking heifers, cows with sore teats, or vicious kickers. Cannot wear out. Put on or off in 15 seconds. Guaranteed to be an absolutely perfect anti-kicker, or put on loosely as hobble for cow, horse or mule. Price $1.15 Postage extra. Weight 2 lbs. Send for it today, when you need it you won't have time.

DAIRY EQUIPMENT CO.,
Dept. H. Topeka, Kansas.

Learn Auctioneering

at World's Original and Greatest School and become independent with no capital invested. Every branch of the business taught. Write today for free catalog. Jones Nat'l School of Auctioneering, 38 N. Sacramento Blvd., Chicago, Ill. Carey M. Jones, Pres.

It's all in the package

EVERYTHING else equal, people buy what looks best to them. People have been educated up to the parchment wrapper idea. It looks clean—and it *is*. It looks as though it keeps butter better, fresher, sweeter, more wholesome—and it *does*.

Where people have the choice they *buy* the better wrapped butter naturally, where they'd have to *be sold* the same butter, unattractively wrapped.

Buy Paterson Vegetable Parchment Wrappers in lots of 5000 or more, and we'll print advertisements on them displaying your brand and trade mark to the very best advantage and guaranteed not to stain the butter.

And then watch your butter sales grow.

PATERSON PARCHMENT PAPER CO.
PASSAIC, N. J.

Paterson vegetable parchment wrappers



DRIED BEET PULP

ATTRACTIVE PRICE NOW IN EFFECT

Ask Your Feed Dealer

The Larrowe Milling Co.
Detroit, Mich.

Do Your Own SHREDDING with a ROSENTHAL Corn Husker and Shredder



Most economical and satisfactory way of handling your corn crop. No delay, no extra help. Do it in your own spare time. Two sizes for individual use, 6 to 15 h. p. Also make three larger sizes for custom work. Over 20 years in the field. Write for catalog and Free Farmers Account Book. State h. p. of your engine.

SOLD ON TRIAL YOU TAKE NO RISK

ROSENTHAL CORN HUSKER CO. Box 20 Milw., Wis
Also Makers of Feed Cutters and Silo Fillers

***Shall Your Boy Know* Modern Farming?**

The Riggs Agricultural High School

For boys 14 to 17 years old prepares for Agricultural colleges. The best development of the youth. Exceptional opportunity for instruction in practical carpentry. The farm of 175 acres is fully equipped. Every facility for outdoor sports and healthful recreation is afforded. Gymnasium. Send for booklet.

F. B. RIGGS, Headmaster,
Lakeville, Connecticut.

Phosphoric Acid

Finely Ground Raw Rock Phosphate is the cheapest source. Your inquiries solicited.

M. H. Gray, Mt. Pleasant, Tennessee

GENUINE CHAMPION Improves Milk Quality

Cools milk—removes odors—halts germ growth—stops waste and loss—saves its low cost in one week. If your dealer cannot supply you, write for free folder.
Champion Milk Cooler Co., Dept. D, Cortland, N. Y.

Only $2 DOWN ONE YEAR TO PAY



$44 Buys the New Butterfly Jr. No. 2½ Light running, easy cleaning, close skimming, durable.

NEW BUTTERFLY Separators are guaranteed a lifetime against defects in material and workmanship. Made also in four larger sizes up to No. 8 shown here; sold on

30 DAYS' FREE TRIAL

and on a plan whereby they earn their own cost and more by what they save. Postal brings Free Catalog Folder. Buy from the manufacturer and save money. (1)

ALBAUGH-DOVER CO., 2161 Marshall Bl. Chicago

Illinois Agricultural Association Holds Sixth Annual Meeting

E. L. BILL, ILLINOIS

More than eight hundred farmers met at the La Salle Hotel, Chicago, January 13 and 14 for the sixth annual meeting of the Illinois Agricultural Association.

The past year the I. A. A. increased membership from 65,000 to 106,000; has created 10 working departments and gathered together an office force of 48 persons on full time and 64 field workers on part time pay. The first vigorous spurt of organization is over and the period of solid work and definite accomplishments is here.

"Better Marketing" the Convention Password

Practically all of the first day's program was a recitation of work of the past year. Marketing of farm crops is considered the biggest business problem of the Illinois farmer. Four marketing departments, Live stock, Grain, Fruit and Vegetable, and Dairy Products are established under the directorship of competent authorities. Their chief aim is to create marketing methods that will be economical, net producers a legitimate return, and at the same time be fair to consumers. Marketing has been recognized as being of equal importance to production for a permanent agriculture, and the reports of these departments show that marketing will take more time, harder work, and deeper patience to solve than other problems.

In the opening address, President Howard Leonard of Eureka, said that marketing must come first in the work of the Association. A study of the transportation system to create an efficient service at a cost not out of proportion to the service is second. And to aid the general assembly to make laws that are just and equitable come third. "Other factors that must stand close to the top of the list," said Mr. Leonard, "are education—and publicity of our aims to our own people."

Freight Bills as Well as Chinch Bugs Eat the Farmer's Corn

Clifford Thorne, director transportation department of the American Farm Bureau Federation, declared it to be unfair for the second greatest industry in this country, the railroads, to be assured by law of a return of 5½ or 6 per cent, when the first great and largest industry, agriculture, is assured nothing and is getting very little. Of the one thousand delegates, not one indicated that he was making 5½ per cent on the investment in his farm the past year, only a few indicated that they made that much interest on the investment during the war. Mr. Thorne said that organized agriculture must safeguard their interests just as the railroads have done, must have transportation experts and an adequate department to gather statistics at any time, to be able to represent the farmers of the country at any time.

Dean Davenport Urges Scientific Research

"Our first problem," said Dean E. Davenport of the University of Illinois who opened the second day session, "is to make our agriculture profitable when competing with world markets, in which we can claim little advantage now that we are a creditor nation. Our next problem is to engage and hold upon the land our typical American citizen, and our third great problem is to establish and maintain on a paying basis a permanent production." The I. A. A. has taken a giant stride in this third accomplishment in the Rock Phosphate and Limestone Department which has in its infancy of organization delivered 700 carloads of fertilizer at a saving of $25,000 and laid the foundation for an unlimited future. "Agriculture in the most of the world is an empirical art," continued Dean Davenport, "empirical not because so many principles underline its practice but because these principles are so many, so overlapping, and so interlocking that the individual man has been unable to disentangle the combination.

Dean Davenport further spoke for a law requiring tenant and land owner to put back into the land some of the fertility taken out for the sake of farming posterity. More generous credit systems for land buyers and a fairer federal tax for public improvements were also dwelt upon by the speaker.

M. L. Mosher Speaks from the Heart of the Organization—the Farm Bureau

"Ten years ago there were no Farm Bureaus with employed men working on these jobs," said M. L. Mosher, president of the state and national county agents associations, in the speech he made before the annual meeting. "Nine years ago there were about 20 county farm bureaus working largely as individual units. When the I. A. A. was organized for business there were about a dozen states in which the farm bureaus were federated into state associations. One year ago the American Farm Bureau Federation was organized. The whole farm bureau movement is new.

"Now there are approximately 150 farm advisers and assistants in Illinois, and there is no other such small group of men who come into as close a personal touch with the entire membership of 106,000 farmers as do the farm advisers. There are approximately 2,000 county agents in the United States who come in personal contact with the 1,500,000 farmers federated in the American Farm Bureau Federation.

"Our great job requires, first of all, co-operation among the individual farmers under the leadership of county officials—then among the counties under the leadership of the state—lastly among the states under the leadership of the national officers."

Election of Officers and Committeemen

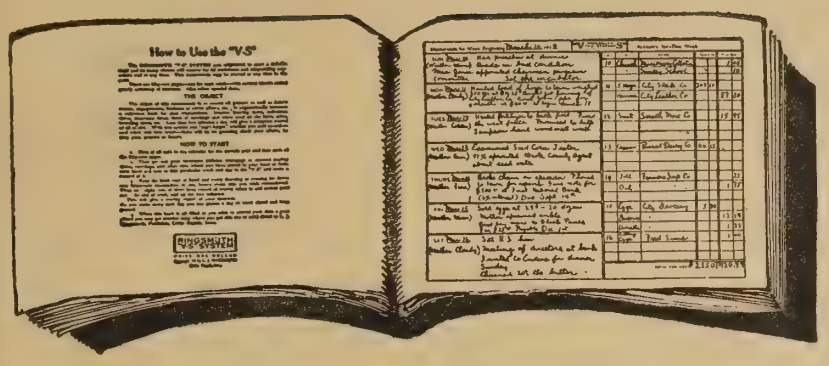
January 13 was election night. Howard Leonard of Eureka, Woodford County, was chosen president by acclamation. Z. M. Holmes of Mossville, Peoria County, was re-elected vice president.

Farmers Share Their Food

President J. R. Howard closed his speech with a suggestion that the farmers of America might well contribute enough corn to prevent any person in the wide world from starving to death. "The world is out of joint," said President Howard, "when we have such a surplus that they do not offer the cost of production for food and yet in the same breath declare that half of the world is hungry. Let us say to Hoover's European Relief and to China that we will contribute out of our stores if the other

(Continued on page 69)

Your choice—*without charge*



The Ringsmith "V-S" Farm Account Book

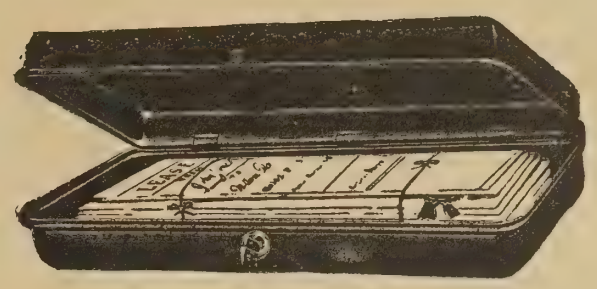
IT pays—and pays well—to know where you "are at". Uncle Sam's income tax law applies to practically every dairy farmer. Heavy penalties (fines of from $20.00 to $1,000.00) can be imposed for failure to make returns or for fraudulent statements.

And "ignorance of the law is no excuse".

Don't **guess** how much you received for your milk or your hogs or wheat or other crops! Don't **guess** how much you paid out for interest, rental, hired help, repairs, etc! Don't guess — it pays to know!

How can you **know** your returns are correct unless you keep track from day to day of cash received and cash paid out?

It isn't necessary to start a complicated system of bookkeeping to know where you are at—not when you use the Ringsmuth "V—S"! Any twelve year old boy could use it—yet it is complete enough for all practical purposes. It contains places for keeping track of all your farm cash operations from day to day with monthly and yearly summary, has a place for inventory at beginning and end of year—and also contains a digest of what is expected of you under the income tax law. It is just exactly the simple, yet thorough, account book you have been looking for.



A Safe Place to Keep Your Valuable Papers

WHAT happens—usually—when you take out an insurance policy or a lease? What have you done with your Liberty Bonds and your War Saving Stamps—and your other valuable papers—papers that cannot be replaced?

If you are anything like the man I am pretty well acquainted with, you handed them to Mother and said: "Here, Mother, take care of these papers," and Mother proceeded to tuck them away in a corner of the desk or somewhere, where only she could ever find them! Which is all right! Bless Mother's heart! She is a mighty good person to watch such things! But why not get one of these steel boxes for her? She'll probably hide the box, but your papers will all be in the same place any way!

These boxes are made of good heavy steel plate, with strong lock and two keys. They are an ideal place for keeping Liberty Bonds, War Saving Stamps, Insurance Policies and any other papers you wish to safely keep.

Neither of these articles is for sale. There is no price set on them! But we will gladly send either one to any reader who will go to the trouble of getting just two subscriptions for Hoard's Dairyman, and send them to us. These subscriptions may be either one year for $1.00 or three years for $2.00—new or renewal. Your own renewal may be included, but does not count unless accompanied by at least one other.

Both articles will be sent for a list of just three subscriptions.

Use the coupon below or write the same thing on a sheet of paper.

COUPON

HOARD'S DAIRYMAN,
Fort Atkinson, Wisconsin.

In accorance with the offer in your January 28 issue, I am enclosing $..... Send Hoard's Dairyman to these people and send me the.....

Your name.....

P. O.....

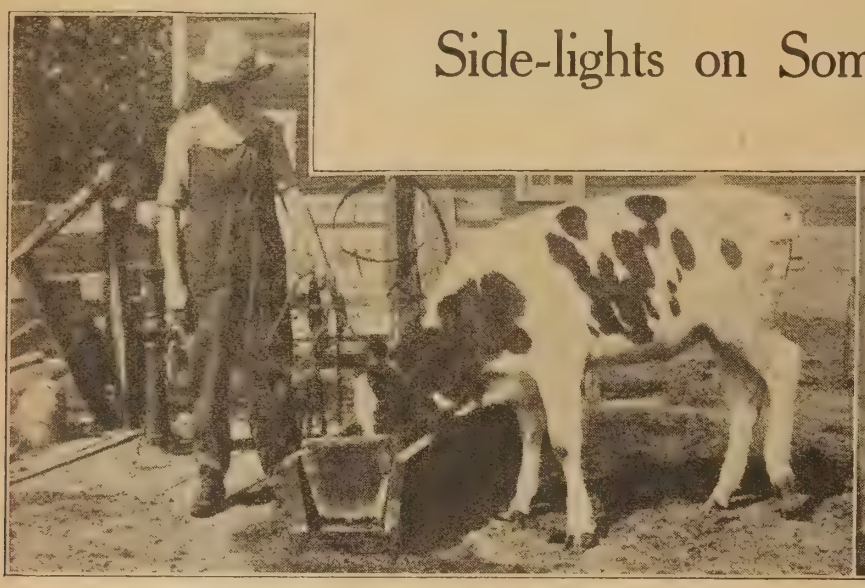
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HOARDS DAIRYMAN JUNIORS

A DEPARTMENT FOR THE DAIRY FARM BOY

Side-lights on Some of Our Juniors



A JUNIOR—BOY OR GIRL?—WHO BELIEVES IN HOLSTEINS



A COMBINATION HARD TO BEAT—THE BOY AND HIS PIG



AMY STEVENS OF SHELBY, OHIO, LIKES TO WORK WITH DAD'S PURE-BREDS



A MALE QUARTET AND THE PRIZES THEY WON



EDWIN AND DORIS ACKERMAN OF ALMENA, WIS., ON THEIR WAY TO SCHOOL



A CALF CLUB THAT EXHIBITED TWENTY-ONE CALVES AT THE WISCONSIN STATE FAIR



TENNESSEE JUNIORS GETTING PRIMED ON JERSEY CATTLE



ENJOYING THE FRUITS OF THEIR LABORS



GRANDFATHER NEVER OUTGROWS HIS JUNIOR DAYS



What Do They Cost?

THAT is the wrong way to go about it. Some things that cost five dollars are worth one dollar and some that cost one are worth five. Ask, rather, what are Circle A Cork Brick worth? The answer is, "What are the health and security of your cows worth?"

Circle A Cork Brick make stall floors warm, resilient, non-slippery and sanitary. Cows that use them are protected from garget, rheumatism and sore hoofs, from injuries due to slips and falls and infection from unsanitary floors. Circle A Cork Brick are worth what that protection is worth to you.

What they cost is another matter. Write us the number and size of your stalls and we will tell you all about cork brick floors, and send you a copy, free, of the book, "Better Stall Floors," and a sample. Get the facts before you decide.

Armstrong Cork & Insulation Company
112 Twenty-fourth Street
Pittsburgh, Pa.

Circle A Cork Brick
For All Stall Floors

PUBLIC AUCTION

A 600-ACRE IOWA FARM

At front door of Court House, in

Marshalltown, Iowa

Saturday, Feb'y 5, 1921

at 2 P. M.

This farm lies in a body, eight miles from Marshalltown, the County Seat, on a graveled road.
Adjoins the town of Albion, Marshall County, Iowa. Splendid community, fine school and churches.
Large farm house and good tenant house. Matured groves. Large basement barn with ample granary. Cattle shed 60x120, hog house, cribs, garage and icehouse.
Running water. Windmill and deep well with supply tank and water piped to buildings.
Excellent shipping facilities. M. & St. L. depot and stockyards at Albion adjoin the farm. C. & N. W. and C. G. W. at Marshalltown.
Good blue grass timber pasture and considerable native hard wood timber.
Has been used as a stock farm for more than thirty years and is in a high state of cultivation.
One of the best stock, or dairy, propositions in Central Iowa.
Possession March 1, 1921.
Sold under order of Court to settle estate.

Address:—G. A. Mote, Sole Referee, or F. L. Meeker, Attorney for estate. or E. N. Farber, Attorney, Marshalltown, Iowa

—FISH—

Free, our new January price list. All varieties fancy new, frozen, smoked, spiced, salted, and canned lake and ocean fish. **Quality finest ever, prices lowest imaginable.** It will pay you to write for our new price list before ordering elsewhere.

JOHNSON FISH CO., Dept. 8, Green Bay, Wis.

Junior Letters

Hoard's Dairyman Juniors:—I am staying with my uncle. He keeps a country store. But my cousin lives on a farm and has some cows. The breed is Guernsey. We have one big red cow and two horses. Their names are Doch and Prince. We have one big old sow. We are going to butcher her soon. She will weigh 500 lbs. dressed. We have about 50 chickens, some Rhode Island Reds. The rest are mixed. I have two rabbits. They are Belgian hares. Next summer I am going to keep about 4 does and 2 bucks. I am going to get a white one, a black one, and a Belgian hare. I have their winter home made.

I would like to have the juniors write to me. My address is R. F. D. No. 2, South Boardman, Mich. Lyle Shuert.

Hoard's Dairyman Juniors:—I live on a 120-acre farm in Minnesota, 3½ miles southwest of Elk River. If any of the junior live near Elk River they may know where I live. I am 14 years old and am finishing my 8th grade this year. Most all the juniors are owners of some stock, and I am the proud owner of a pure-bred Berkshire pig. She is eight months old. I intend to keep her till she is a year old and then I am going to sell her and buy another. And, believe me, it is going to be a Berkshire, too. Well, this is a long letter for the first time so I will close.

Minnesota. Mildred Johnson.

Hoard's Dairyman Juniors:—We have about forty head of cattle. We have some small calves. We have some cows that are going to freshen soon. We raised about 350 bushels of potatoes. We dug our potatoes with a digger. We have six head of horses. We bought some Jerseys last spring at the sale. We paid $800 for one cow. I did not join the pig and calf club as I did not have a good calf. I am in the sixth grade this year. I passed in all my studies last year. If any of the juniors want to write to me my address is R. F. D. 4, Box 9, Tomah, Wis. John L. Hill.

Hoard's Dairyman Juniors:—We sold our Holstein and Jersey mixed cow for $125 and still have two Jerseys left. I bought a load of loose alfalfa hay two weeks ago for $32 a ton and a ton of wheat hay at $22. I feed the cows about 12 lbs. a day of beet pulp, bran, ground barley, cottonseed meal, and cocoanut meal with alfalfa hay and pasture.

I am going to get a pure-bred Duroc Jersey sow, weaned, for $50. The boar was bought in the East for $250 when nine months old. I don't have much time to do much work except Saturday because I have to leave at 7:30 in the morning for school and don't get home until 5.

California. Meredith E. Owen.

Hoard's Dairyman Juniors:—We have 23 cows and 5 horses. One of the horses is small and was never broke right. We hitched her up to the corn cultivator this spring. She ran away so we put her in the pasture.

I have a lot of fun with my fox terrier dog, Bud. He killed two weasels this summer. There are no rats left since this summer and fall.

The day after Thanksgiving our school had a basket social and entertainment. The two rooms cleared $100 from the basket social.

I am 10 years old and in the sixth grade.

I would be glad to hear from some of the juniors. My address is R. R. 1, Waukegan, Illinois. Robert Dupins.

Hoard's Dairyman Juniors:—We have 43 head of Guernsey cattle. I like to do chores and milk. We have about forty chickens. I am eleven years old and in the fifth grade at school. I can drive a team. We have five horses. We have a Ford car but can not run it. We have a tractor and electric lights. I have one brother and two sisters; their names are Billie, Edna, and Willie. I live on a 140-acre farm. Today I did not go to school because it is storming too much. We are having a heavy snow storm. This will be all for this time. I would like to have some of the juniors write to me. My address is Box 69, R. 8, Green Bay, Wis. Raymond Pemperin.

Hoard's Dairyman Juniors:—We have thirteen cows, three heifer calves, one pure-bred sire, and three horses. I have a dog and three cats. I have one grade calf of my own. We live on an 80-acre farm. I am ten years old. I read the juniors' letters. I like them very much. I wish some of the juniors would write to me.

Wisconsin. Robert Gilbol.

Hoard's Dairyman Juniors:—I am a boy 12 years old. I live on a ranch near Ashland, Oregon, near the head of the Rogue River Valley, famed throughout the world for its fine fruit, live stock, and the finest salmon fishing in the United States.

I have a calf that I paid $275 for. She is a pure-bred Shorthorn. Her name is Leafitype. Her dam's name is Cloverleaftel and her sire's, Sixtype. She is 1 year, 8 months old and is due to calve in June. I go to school in a jitney buss. I am in the 8th A grade and will enter high school in January.

Wishing all the juniors good luck.

Oregon. George K. Lowe.



Born Cooks and Others

Until recently the woman on the farm, though a born cook and a peerless housekeeper, has often been handicapped by a lack of information concerning certain new methods that have been adopted in the cities.

To some extent this has been true in the case of Jell-O, which in the cities has for several years been the most popular preparation for desserts and salads.

As rapidly as possible steps have been taken to spread among all women complete knowledge of the subject.

In Domestic Science and Home Economics classes, in city and country, trained women have demonstrated the simple and economical Jell-O way, and recipe books are being distributed thoroughly. As Jell-O is now sold in practically every general store in the country, farmers' wives are enabled to share the privilege enjoyed by their city sisters.

The Jell-O Book, containing recipes for all kinds of plain and elaborate desserts and salads, and explaining the easiest and cheapest way to make them, will be sent free to every woman who writes and asks us for it. It is a book which every housewife in America should possess.

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Concrete adds to the value and appearance of your farm. It is easy to put in your own concrete improvements with the Wynn Barrel Mixer. It saves money for you and ends the back-breaking task of mixing by hand. The Wynn is made for farmers use. Simple, strong and easy to move. Mixes 2½ cu. ft. at a batch—as good a mix as any high priced big contractor's machine. One man can run it—will keep 6 men busy. Easily attached to any 1 or 1½ H. P. engine. Will save its cost on the first jobs. Write for description.



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STOCK FOR SALE

Registered Holstein females, open heifers, bred heifers and nearby springers that have quality. Bred to good sires. Do not write but come and investigate. C. S. MULKS & SON, Whitewater, Wis. 1*

If you are in need of pure-bred Holsteins of any age or grade Holsteins it would pay you to see me as I have from 1 to 3 carloads on hand all the time. If I do not have what you want, I will help you find them as I know where to go. R. D. LEE, Cazenovia, N. Y. 3*

Holstein heifer and bull calves. Pure-bred, registered and high grade. Splendid individuals and breedings. Delivered to you, $25 and up. Your inquiry will be given our best attention. BROWNCROFT FARMS, McGraw, N. Y. 5*

I have usually 100 head of registered and high grade Holsteins on hand for sale. Also registered and imported Percheron and Belgian horses. RALPH HUDSON. Milton Junction, Wis. 12*

For Sale—At Elmwood Stock Farm, high grade Holstein cows, fresh and springers, by the carload. JOHN MURPHY, Mukwonago, Wis. 3*

"The Willows" offers fifty high grade Holstein cows for sale. S. D. SHAMBEAU, Waupaca, Wis. 12*

High Grade Holstein heifer calves, two to four weeks old, from tuberculin tested herds, $30 each, crated. Will ship C. O. D. WAUKESHA CO. HOLSTEIN-FRIESIAN BREEDERS' ASSOCIATION, Waukesha, Wis. 9*

High Grade Holstein and Guernsey calves, $25 crated. Safe delivery guaranteed. BROWN & COLLINS, Lima Center, Wis. 16*

Serviceable grandsons of Lola Segis Pontiac Homestead for sale, he a 34-lb., 1,000-lb. son of Piebe Laura Ollie Homestead King. Their dams are daughters of Joe Oak De Kol Fobes. Well grown, good individuals. Your choice, $150. R. W. MEAD, Stillwater, Minnesota. 10*

High Grade Holstein calves 6 to 8 weeks old, $30.00 each. We pay express and ship C. O. D. SPREADING OAK FARM, Whitewater, Wis. 11-tf.

For Sale—30 high grade Holstein milkers and springers. Will sell one or all. FRED JOHNSON, Waupaca, Wisconsin. 23*

Closing out herd of grade Holsteins, $100.00 each. H. A. KUHTZ, Waukesha, Wisconsin. 24*

Holsteins—37-lb. herd sire, young bulls, cows, heifer calves. PHILIP LEHNER, Princeton, Wis. 1-3

Holstein bull, ready for service, 2 dams averaged 106 lbs. milk 1 day, 40.67 lbs. butter 7 days. $200. Terms. ROY HARRIMAN, Appleton, Wisconsin. 25-6

You take no chances when you order your Holstein heifer calves from me as I ship C. O. D. and pay express. Also a few real producing cows cheap. E. F. THOMAS, Oconomowoc, Wisconsin. 26-8

Bull for Sale—14 months old, good individual, well grown, ready for service. Two nearest dams average 34.55. Bulls for sale by 37.45-, 1,127.85-lb. sire, tested and untested dams. Good individuals nearly ready for service. CLARENCE J. PESTER, Whitewater, Wisconsin. 26-3

For Sale—Bulls ready for service by Illona Dark Mystic, whose sire is 32-lb. grandson of K. P. Pontiac Lass. No. 1 from 19.58-lb. 2-year-old daughter of 27.43-lb. cow. Price $250. No. 2 out of 21.27-lb. junior 4-year-old. Price $200. GEO. B. WALKER, Elmhurst, Illinois. 1-2

We have serviceable bulls, also bull calves, all out of good record dams for sale at real farmers' prices. Investigate and convince yourself. We always satisfy. DATE HOLSTEIN FARMS, Baroda, Mich. 1-4

Do you want the very best? I offer beautifully marked, high grade Holstein heifer calves at only $20. Registered bull calves, $40. Will ship C. O. D. and if calves don't satisfy don't take them. J. M. McFARLAND, Watertown, Wisconsin. 1-2

Grandsons of Homestead Junior and of 37th for sale, from A. R. O. dams, of all ages. Pure-bred heifers and cows, bred. High grade heifer calves from producing dams a specialty. S. E. JONES, Watertown, Wisconsin. 1-4

For Sale—My entire herd of choice high grade Holsteins, mostly bred to and sired by thirty-pound bull. There is one full load of the best large heifers in southern Wisconsin, uniformly marked, about three-fourths white. C. L. SIMMONS, Belmont, Wis. 1*

For Sale—Two registered Holstein cows, extra good ones. NELS S. SANDAGER, Hills, Minn. 2-3

If you want to buy high grade or pure-bred Holsteins, write BOX 528, care Hoard's Dairyman. 2-2

High grade Holstein calves, either sex, $20.00. Registered bulls, $40.00. Registered heifers priced to sell. Shipped C. O. D. safe delivery guaranteed. PAUL McFARLAND, Route 7, Watertown, Wisconsin. 2-4

$700 will buy four registered Holstein cows, 3 and 5 years of age. Freshen in January and February. F. O. PARDEE, Route 5, Manchester, Michigan.

Three Holstein bulls, fit for service, sired by sons of King Segis Pontiac. W. R. GATES, Fort Atkinson, Wisconsin. 2*

Bonus Lea Butter Boy Burke, 6 months of age, nicely marked, good individual, 40-lb. sire, 25-lb. dam. Price $350.00. FLOYD D. ROTE, Belvidere, Ill.

A Federally Accredited Herd for sale. Will sell whole or part. Thirty-lb. prospects. Will bear closest inspection. Price very reasonable. Inquiries answered promptly. Address BOX 588, care Hoard's Dairyman. 2-2

For Sale—Twenty high grade Holstein cows, fresh and close springers. Five Holstein calves, six weeks old, cheap if taken at once. L. W. MITCHELL, Whitewater, Wisconsin. 2-6

Registered Holstein bull, son of Sir Ormsby Skylark, 25-lb. dam. Born Nov. 24, 1917. Splendid individual. CHAS. SEEBACH, Traer, Iowa. 2-2

Alfalfa Valley Stock Farm offers two serviceable Holstein bulls: No. 1 Dam's record—420 lbs. fat, 12,477 lbs. milk. Price $140. No. 2. Dam's record at 2 years, 11 months, 500 lbs. fat, 16,439 lbs. milk. Price $200. Both nicely marked and good individuals. R. H. SCHUSTER, Oregon, Wisconsin.

Guernseys for Sale—Members of the Ohio Guernsey Breeders' Association own more than 2,000 registered females. Also some of the finest bulls of the breed. Think of the progeny that results each year. Write for sale list of males and females. OHIO GUERNSEY BREEDERS' ASSOCIATION, Box 602, Sylvania, Ohio. 4*

Serviceable and younger grandsons of Beauty Eagle, 846 lbs. fat, and of Bonny Boy of Riverdale. Out of heavy producing cows. Farmers' prices. LA BELLE KNOLL FARM, Oconomowoc, Wisconsin. 14*

For Sale—Guernsey bulls, some of serviceable age. Sired by May King's Vrangue of Ingleside and Cinderella's King of Mound City and from dams with good A. R. records. CHAS. A. WILKINS, Platteville, Wisconsin. 17*

STOCK FOR SALE

For Sale—At Tamarack Farm. Three registered Guernsey bulls, one three years old from imported cow; one two years old; one bull calf six months old from imported cow and Craigamoor's Beau Regal, whose dam has finished a test of 679.4 B. F. Also ten high grade Guernsey heifers. All have passed government tuberculin test. Address A. W. BROWN, Rhinelander, Wisconsin. 16*

My entire herd of grade Guernseys for sale. Also a few choice heifer calves at $30.00 delivered. SHADY HILL FARM, Whitewater, Wis. 23*

Guernsey heifer calves. Can ship you 10 at once about 4 weeks old. Calves out of my own herd, so know what I am shipping. $30 each crated. F. O. B. Waukesha. WERN FARMS, Waukesha, Wis. 18*

George-Washington Farms' Guernseys. Choice young bulls of serviceable age. GEORGE-WASHINGTON FARMS, Mankato, Minnesota. 19*

Guernsey bulls of May Rose breeding with records up to 700 lbs. fat in B. B. Beautiful heifers (grades) in calf, also few Holstein springers. H. A. KUHTZ, Waukesha, Wisconsin. 19*

Guernseys—All ages, both registered and grade. H. A. MAIN Sec'y, Jefferson Co. Guernsey Breeders' Association, Fort Atkinson, Wisconsin. 20*

For bargains on May Rose bulls with type and production, write KUHTZ BROS., Waukesha, Wis. 21*

Guernseys—High grade Guernsey calves, either sex, four to six weeks old, bred for production of milk and butter. Thirty dollars apiece delivered to any station, express charges paid here. Send orders or write. LAKE VIEW GUERNSEY PLACE, Whitewater, Wisconsin. 26-tf

Two serviceable Guernsey bulls for sale. Dams Advance Registry records average over 600 lbs. fat. HOMER RUNDELL, Livingston, Wis. 24*

For Sale—Registered Guernsey bull calves, good producing dams at farmers' price. OTTO KRUEGER, 427 East Broadway, Toledo, Ohio. 24*

Extra good bull calves—I have ten fine, well grown out bull calves for sale. This ad good for $25.00 for the first five men sending this ad to me and buying a bull. Tested dams and fully guaranteed. FRISSDALE FARM, Hopkins, Minnesota. 25-4

Guernseys for Sale—From Federally Accredited herd. Bull calves, two bulls ready for service, sired by Clara's Sequel and out of high testing dams. Also ten pure-bred females. LLOYD RUNDELL, Roberts, St. Croix County, Wisconsin. 26*

Guernsey females—Six pure-bred Guernsey cows. Good type, size and production. Fully guaranteed. Fine foundation stock. Come at once. FRISSDALE FARM, Hopkins, Minnesota. 25-4

Two serviceable Guernsey bulls, and some younger, for sale at reasonable prices. JOHN NELSON, Perrydale Farm, Harshaw, Wisconsin. 1-3

For Sale—Registered Guernseys. Both sexes. Herd under Federal Supervision and free from disease. CLOVERNOOK FARM, Whitefish Bay, Milwaukee County, Wisconsin. 1-4

May Rose Guernsey bulls, serviceable age, from record dams or on test, sired by Pencoyd's Golden May Secret and Heiress' King of the May. If you are short of cash we will take your note if it's good. Send for sale list. ORA BREITRICK, Appleton, Wisconsin. 1-2

Registered Guernsey bulls. Good breeding. One of serviceable age, two younger. Will sell them at a bargain. ALOIS A. BINDL, Spring Green, Wis. 1-2

Serviceable Guernsey bull for sale. Dam has 501 lbs. double letter record. $125 buys bull calf whose five nearest dams average 489 lbs. fat. May Rose breeding. SEYMOUR FARM, Osseo, Wis. 1-3

Guernsey calves six weeks old, $20. F. O. B. Knapp. THOMAS HAGERTY, Knapp, Wisconsin. 2*

Several pure-bred Guernsey heifers, well bred and from good cows. Priced to sell. Also a few cows. W. R. DUNLOP, West Grove, Pennsylvania.

Registered Guernsey bulls and heifers. FARVIEW FARMS, Brodhead, Green County, Wisconsin. 2-8

For Sale—Registered Guernsey bull, ten months old. $60.00. W. G. MEYERS, Dallas, Pennsylvania.

Two-year-old registered Guernsey bull for sale. PETER JOHANSEN, Route 2, Ringsted, Iowa. 2-3

$250.00 buys 18 months, own brother of heifer making 550 lbs. in class F. Sire, grandson of Ne Plus Ultra—dam, A. R. Bull calves similar breeding from A. R. dams, $100.00—$200.00. Write today. Satisfaction guaranteed. LEWIS TOAN, Batavia, N. Y.

Pedigrees tabulated for Jersey cattle. Sale catalogues, etc. Write for prices. H. F. ROCKWELL, Mondovi, Wisconsin. 2-2

STOCK WANTED

Want high grade Holstein cows, good producers. Due to freshen March. In exchange for new Overland car run less than 1,200 miles. In A-1 condition. What have you got? BERNHARD THARALDSON, Webster, Minnesota.

Wanted—Lists of registered and grade Holstein cows and heifers for sale. Report to any bank in Wisconsin or write to BANKER-FARMER EXCHANGE, 1822 Chadbourne Ave., Madison, Wis. 2-spl

STOCK BUYER

Registered dairy cattle bought and sold. EDWARD A. WALTER, 111 Monroe St., Chicago. 18*

DOGS

German Shepherd, airedales, collies, and old English Shepherd dogs. Brood matrons, puppies, farm helpers. 10 cents for instructive list. W. R. WATSON, Box 520, Oakland, Iowa. 20*

For Sale—Collie pups, sable and white, three months old. Pedigrees furnished eligible to registry. DANIEL GRAVES, Bradshaw, Nebraska.

POULTRY

Highest prices paid for live and dressed poultry, wild rabbits, pigeons, veal, hides, etc. Quick returns, fair treatment. C. E. McNEILL & CO., 325 W. So. Water St., Chicago. 24*

For Choice Single Comb Rhode Island Red Cockerels of the Winnebago strain write EDWARD NITSCHKE, Burnett, Wisconsin. 1-4

Single Comb White Leghorn eggs for hatching. FRED SCHROETER, Grafton, Wisconsin. 2-4

SILOS

For Sale—12x28 Kalamazoo stave silo, never erected. Kalamazoo silo filler. DELWIN UTTER, Lake Beulah, Wisconsin.

SWINE

Duroc-bred gilts and boar. Prize winners. PHILIP LEHNER, Princeton, Wisconsin. 1-3

Berkshire fall pigs. Sired by a grandson of Epochal and Hillside's Emancipator. BRUNO HOPPE, Cedarburg, Wisconsin. 1-2

For Sale—Pure-bred big type Poland China pigs, three months old, both sex, at farmers' prices. S. O. WEBSTER, Route 2, South Haven, Michigan. 1-2

Hoard's Dairyman readers use pure-bred bulls. Scrubs don't pay. How about breeding up the hogs? We offer choice fall pigs. Skimmilk fed at $25.00 each. BURNETT CO. PEDIGREE SWINE ASSN., Grantsburg, Wisconsin.

HAY

Alfalfa Hay—100 cars good green hay cured without rain. Irrigated. Wire or write for price. W. H. McCORMICK SEED HOUSE, Billings, Montana. 26-8

Alfalfa and prairie hay for sale. Prompt shipments. Personally inspected loading. Wire or write GUNN HAY CO., Lexington, Nebr. Reference Lexington State Bank. 11*

Number one and choice alfalfa hay and seed ready for shipment. Address A. L. DAMON & COMPANY, Inc., Rapid City, South Dakota. 8*

Alfalfa Hay for Sale—Write or wire for delivered prices. ALBERT MILLER & COMPANY, 192 North Clark St., Chicago. 17*

Alfalfa. We handle nothing but the very best quality. Write or wire JAMES BROTHERS, Rapid City, S. D., for delivered prices. 20-10

SEEDS

Want to Buy—Medium red clover, alsike, and timothy seed. DADMUN BROS., Whitewater, Wis. 23*

Pure Grass Seeds at ½ of last year's prices, also seed corn, soy beans, seed grains, etc. Bargain list free. BECKMAN'S SEED FARM, Cokato, Minn. 24-6

Alfalfa, $10.00 bu; timothy, $3.00; Kaffir, $1.25; Canesced, $1.00; sweet clover, $11.00; Sudan, $6.50 cwt.; sacks free. Satisfaction or money back. RELIABLE SEED CO., Salina, Kansas. 26-3

Farmers, ranchmen and dairymen. Order your Grimm and Cossack alfalfa seed direct from the grower. All seed recleaned and guaranteed. Ask for samples. WM. H. K. WILLIAMS, Triangle Ranch, Cottonwood, South Dakota. 26*

Jacques' Seed Corn—Early maturity, high yield, perfect germination. Grown in Clark County, North Wisconsin twelve years. My Golden Glow ripens in 100 days, yields 60 bushels shelled corn per acre. My North Wisconsin Yellow Dent ripens in 90 days, yields 50 bushels shelled corn per acre. Picked before frost, thoroughly fire dried. Careful tests show 98% to 100% germination. Money refunded if corn is unsatisfactory. Write for folder and prices to WM. H. JACQUES, Neillsville, Wisconsin. 1-13

Wisconsin grown alsike clover seed. FRED SCHROETER, Grafton, Wisconsin. 2-4

Kudzu—More nutritious and productive than alfalfa; requires no lime, no inoculation; grows any climate. Write for information. CHEROKEE FARMS, Monticello, Florida. 2-2

For Sale—Eureka Ensilage seed corn. Grow one-third more tonnage than other corns. Sacks free. $3.00 per bushel. Other varieties also. EARL W. HAMMOND, Rockport, Indiana. 2*

Grimm alfalfa, soy beans, clovers, grasses, Iowar and Iowa 103 oats, field seeds all kinds. Ask for price list. DAVIS SEED CO., Dept. H, St. Peter, Minnesota. 2-7

MACHINERY

Want the cheapest, handiest belt power? Then ask me about my Little Twister Power Transmitter for Ford and Dodge cars. FRANK R. WEISGERBER, Salina, Kansas. 16*

For Sale Cheap—A small lot of standard make Swedish Cream Separators, 400 pounds capacity, $29.00, 500 pounds capacity, $34.00, 700 pounds capacity, $39.00. These are all new machines, wonderful bargains. THOMAS TAFFEE, Box 355, Lansing, Mich. 18*

First check for $125.00 takes my 2-unit Sharples Milker. Good as new, a snap. O. H. WEBER, Oconomowoc, Wisconsin. 1-2

Empire Three Double-Unit Milking Machine, with pump and tank complete, used thirty days, good as new, cost $610.00. First check $300.00 takes it. QUINEILO FARMS, 297 East Water, Milwaukee. 1-2

For Sale—De Laval Clarifier No. 100 in good condition, 10 months in use, $100.00. PRIMROSE FARM, Ardmore, Oklahoma. 1-3

For Sale—One double-unit Empire, pump, tank and pipe complete for 14 cows. Check for $165.00 takes it. JOHN BURCKHARDT, 46 S. Main St., Fond du Lac, Wisconsin.

For Sale—Small "Minnetonna" churn and butter worker combined. Like new. Capacity 80 lbs. cream. Increasing business reason for selling. G. P. SAUER, 1053 So. Howland Ave., Kenosha ,Wisconsin.

Reconstruction prices on Perfection Empire; Hinman; and Victory Milkers. Extra units. Complete milkers. Maytag Multi-Motor Washers—New Stock. FELIX JULIUS, Stockton, Illinois.

For Sale—Double-unit Empire milking machine including pipe and fittings for twenty cows. Cheap at $100.00. V. C. DEVILBISS, Homewood, Kansas. 2-2

For Sale, or will trade for dairy cows Twin City Tractor, 16x30. Best tractor made and good as new. Cost me $2,600 for tractor, $275 4-bottom plow. Will make a good proposition. JOHN SWIGART, 2149 Parkwood Ave., Toledo, Ohio. 2-3

For Sale—Perfection single-unit Milker. New. $110.00. E. G. WALKER, Monroe City, Mo. 2-2

FEEDS

Buy your condensed buttermilk for hogs and poultry at FRED C. MANSFIELD COMPANY, Johnson Creek, Wisconsin. 26-4

TANNING

Let us tan your hide: Cow, horse, or calf skins for coat or robe. Catalog on request. THE CROSBY FRISIAN FUR CO., Rochester, N. Y. 1-52

PRINTING

Hoard's Dairyman Art Department designs your letter head free. Just tell us your breeds of stock. Book of 5,000 Farm, Ranch and Cottage names 25 cents. Ask for samples of letter heads, envelopes, shipping tags, cards, milk tickets, etc. Poor stationery is more of a damage than a help. Be sure and give correct post office address, including state. Address HOARD'S DAIRYMAN, Art Dept., Fort Atkinson, Wisconsin. 8-tf

WANTED TO RENT

Wanted to rent by two young men, dairy farm consisting of 100 to 120 acres, within a radius of 100 miles from Milwaukee. Farm must have silos and good buildings as we intend to buy in the later years. Address BOX 583, care Hoard's Dairyman. 1-2

Wanted—Farm to work on shares, equipped with stock and machinery. Own help. FRED WOLF, 282 Pleasant St., Milwaukee, Wisconsin.

PARTNER WANTED

Partner wanted to operate 200-acre farm on share plan. Must have own help and be capable. Holsteins or Guernseys. Fine location in city limits. Good buildings. Close to school, church and cheese factory. Address BOX 398, care Hoard's Dairyman. 13-*

EXCHANGE

Wanted—To exchange 50 acres river bottom alfalfa land in ideal fruit and dairy section of California at $10,600—3,000.00 down—for small farm in central states as second payment. R. W. SHARP, 601 N. Fourth St., Fresno, California. 2*

FARMS FOR SALE

For Sale— Choice dairy farms in the dairy center of the world. R. B. HELLEN, Jefferson, Wis. 1*

For Sale—Choice Ohio farms. All sizes and prices, some great bargains. Write for list. I. J. MILLER, JR., Conneaut, Ashtabula Co., Ohio. 22*

Farms, ask French if he has what you want. Write him and state your wants. Reference any bank here. J. R. FRENCH, Cortland, N. Y. 24-13

Landology special number just out, containing 1921 facts of clover land in Marinette County, Wisconsin. If for a home or as an investment you are thinking of buying good farm lands where farmers grow rich, send at once for this special number of Landology. It is free on request. Address SKIDMORE-RIEHLE LAND CO., 47 Skidmore-Riehl Bldg., Marinette, Wisconsin. 25-12

For Sale—Stock and dairy farm, 157 acres, buildings, stock and machinery all in good condition, six miles north from Sheboygan, Wisconsin. For particulars write owner, OTTO GERBING, Route 1, Sheboygan, Wisconsin. 26-4

Rose Valley Farm—137 acres; 17 miles macadam roads to City Hall, Philadelphia; owner's residence, electric lights, hot water heat, open fireplaces; beautiful lawn and shade; extended view; large stable and carriage house; modern cow barn, 48 head; tenant houses; purest water in abundance; all necessary buildings; macadam roads each side and through farm; $50,000 less than cost of buildings. FARM 2024 N. 10TH ST., Philadelphia, Pa. 26*

Free Wisconsin Bulletins, soil, climate, crops. IMMIGRATION BUREAU, Wisconsin Dept. of Agriculture, Capitol Drawer 125, Madison, Wisconsin. 26-13

Hardwood cut-over land, silt loam, clay sub-soil. Neither sandy nor gravelly; close to town; good roads; good schools; in the heart of the dairy country. You deal directly with the owners. No agents and no commissions. Easy terms. Also improved farms. Write for map and Booklet No. 4. NORTH WESTERN LUMBER CO., Land Department, Stanley, Wisconsin. 1*

Free map and list land bargains near Twin Cities. BAKER S-76, St. Croix Falls, Wisconsin. 6-spl

Westerners are here, more coming! There's a reason. Investigate! NEW YORK FARM AGENCY, Westfield, N. Y. 20-spl

Modern dairy farm on good road in Waukesha County, 200 acres, comfortable brick dwelling, furnace heat, running water, horse barn, two large connected modern dairy barns, two silos, tile milk house. Complete breeding establishment. Convenient to Waukesha and Milwaukee. Price reasonable. R. E. BENSON, Dousman, Wisconsin. 26-spl

Southern Michigan—Sixty acres, 2 miles from town, fertile clay loam, never rented, 50 acres under plow, balance timber and pasture, fine orchard, good buildings. Every respect a good farm and a fine home. $7,500, $1,500 down. MICHIGAN FARMS AGENCY, Box 928, East Lansing. 26-spl

For Sale—One of the best farms in Waushara County, 120 acres or more; improved; modern; equipped; fine location. $100.00 per acre; exchange for city residence. Write MRS. J. F. LEACH, Wautoma, Wisconsin. 2-5

For Sale—Dairy farm of 40 acres, 3 miles from city limits, all fenced. Good 5-room house, cement porch screened in. Silo, windmill, chicken houses. Would like to sell implements and cattle with farm. Springfield is only 39 miles from St. Louis. A beautiful city of 45,000, very clean and healthy, also progressive. Exceptionally nice climate. Will sell very reasonable account old age. J. R. MAC CABE, Route 6, Box 288, Springfield, Missouri.

For Sale—Good 200-acre dairy farm with fine set of buildings, silo, etc., including all stock, crops and machinery. This farm is well equipped and well located. Possession can be given at once. C. H. WEAST, Waukesha, Wisconsin. 2-2

Good dairy farm in Grant County, Wisconsin. Sacrifice if taken at once. Address BOX 593, care Hoard's Dairyman.

Widow must sell 147-acre farm with horse, 5 cows, machinery, implements, vehicles, harnesses, equipment, etc.; near R. R. town; 100 acres fertile tillage; 25-cow pasture; valuable woodland; fruit; good 7-room house and 11-cow barn, piggery, poultry house, etc.; $2,400 takes everything, easy terms. Details page 28 Strout's Illustrated Catalog 1,200 Bargains. Free. STROUT FARM AGENCY, 150 DL Nassau St., New York City.

Happyland in Upper Wisconsin offers greatest year 'round profits. Here is America's Cloverland—wonderful dairy country. Crops always big. Plenty of rainfall. Good water, lakes and rivers everywhere. Fine, seasonable hunting and fishing. Splendid roads. Congenial neighbors. Schools, co-operative societies and churches. Healthful climate. Large cities nearby. Terms easy—small cash payment—balance in ten years. We help you locate and prosper—show you how to build a home and clear land. You can make good money and enjoy ideal living conditions while paying. Be independent for life. Write for free booklet "A Farm and Home in Happyland." Gives complete information and U. S. Government certified figures on crops, soil, rainfall, and climate. EDWARD HINES FARM LAND CO., 1313 Otis Bldg., Chicago. 1-spl

Colorado dairy for sale. Modern dairy farm and herd adjoining the city limits of Ordway, Colorado, in the irrigated section of the Arkansas valley, where the finest of alfalfa is grown. Farm consists of 31 acres of irrigated land fenced and cross fenced with full water rights under Twin Lakes system. Improvements 4-room house, barn room for 30 cows, milk room, feed bin, shed 16x50, calf shed, bull pen, feed racks and bunks, city water piped to house, barn and tank. Herd consists of 72 cows and heifers, 50 milking, 12 yearling heifers, 10 dry cows. The herd bull is Juliana De Kol Portia No. 21529, 4 years old, ¾ white, second prize Colorado State Fair. All relatives are 30-lb. cows and better. Must sell at once. I need the money, price $50,000.00. For particulars address P. O. BOX 369, Ordway, Colorado.

Want to correspond directly with a man who is interested in Minnesota's best dairy land. 160 acres. SCHNEIDER BROS., Plainview, Minnesota.

Co-operative Land Sale Ass'n. Buy farms direct from owners. Send for free circular and descriptive matter. No commission to anyone, no real estate agents. A. E. WADE, Sec., Weldona, Colorado. 2-4

Farms in Southern Maryland, the Garden of Eden; long growing season; short mild winters; ideal stock and dairy country; fine roads; close to big markets. Catalogue on request. CLINTON FARM AGENCY, Clinton, Maryland.

AGENTS WANTED

Wanted—Milking machine agents in some extra choice territory. Live man for spare time or full time. Page Milkers, hand operated, $123 (just the thing for small herds); power models $225 and up. Easy to make good money calling on neighbors. Large territory if you can handle it. Must know cows and milking. If interested write quick to BURTON PAGE CO., Dept. A, 661 W. Lake St., Chicago, Illinois.

Farmer-agents wanted to represent reputable molasses concern. Must be familiar with use of stock molasses. Liberal commission to responsible parties. Those with autos preferred. Apply NATIONAL MOLASSES CORP., 207 Walnut Place, Philadelphia, Pennsylvania. 2-2

Yes Sir, we have a special opportunity for you during spare time, an opportunity to do some good work in your neighborhood, for the betterment of dairy farming, that will pay you in cash for the effort you put forth. Write for our "Special Opportunity Getting Together" folder. Address HOARD'S DAIRYMAN, Fort Atkinson, Wis. 2-tf

STANCHIONS

Crumb's Stanchions are guaranteed to please the purchaser. They are shipped subject to trial in the buyer's stable. They are right. Send for booklet. WALLACE B. CRUMB, Box H, Forestville, Conn. 2-10

I am in the market for the following stable equipment: thirty to fifty stanchions, with water buckets to go with them and about 200 feet of track and litter carrier. W. R. DUNLOP, West Grove, Pa.

FARMS FOR RENT

For Rent—Two hundred and forty-acre farm, joining city limits of Duluth, about one mile from street car line. Stable room for one hundred head of cattle. Modern cow barn just completed 36x116, fifty-one James stanchions, water system, drinking cups for each cow, bull pen and calf pen. Large haymow and granary. Good horse barn, capacity nine horses, also box stall, haymow and granary. New machine shed 26x60. Good hog house, ice house and milk house, one good house, vegetable cellar 20x60. About seventy-five head of high grade Holstein cows and heifers. Approximately fifty cows will be Milking during season 1921. One fine registered Holstein bull, seven good horses, completely equipped with modern machinery. About one hundred acres mostly new seeded timothy and alsike, about one hundred forty acres under cultivation, balance good pasture. Land a rich loam, spring creek running through farm. Prefer to sell all personal property. Rent and terms will be reasonable to the right party. Duluth offers an exceptionally good market for anything produced on the farm. Address BOX 587, care Hoard's Dairyman.

Wanted—Good, responsible share man, one who can furnish references. Have 200 acres of good work land, shed room for 20 acres tobacco. Good house and good buildings all electric lighted. Farm is seven miles from Edgerton, 1½ miles from creamery. ALFRED THRONSON, Route 3, Edgerton, Wisconsin. 1-3

Renter wanted—To buy half interest in all stock and feed and operate 160-acre dairy farm. High grade Holstein cattle. Can give possession any time. GERALD TOWNSEND, Poynette, Wisconsin.

On account of their being unable to realize expected funds from the sale of their property, three men who were to become new tenants on farms in our organizations March first have been compelled to cancel their leases. These farms run in size from 50 to 300 acres and are now for rent as dairy farms on a share basis. We will furnish the pure-bred Holstein cows or, in case of exceptionally good dairy farmers, will sell them a half interest in the cattle on such long-time terms that the young stock raised will pay for their half interest. In either case tenant is to furnish machinery, horses and all labor. For further paticulars address WOODLAWN FARMS, Sterling, Illinois.

For Rent—A farm of 400 acres of choice land close to Chicago and joins fine suburbs. Suitable for dairy, grain, truck or stock farming. Completely furnished with tools, machinery, stock, feed, etc. Will rent to good party who will buy the personal property at a bargain. A choice opportunity for the right party. OWNER, 315 Clinton Ave., Oak Park, Illinois.

For rent or sale, 1,600 acres Red River Valley, fully-equipped with buildings, machinery, etc. THE BANKERS' INVESTMENT TRUST, 905-6-7 Pioneer Bldg., St. Paul, Minnesota.

For Rent—Excellent 80-acre farm near Marshfield, Wisconsin, forty under plow, twenty-five in stump-pasture, balance timber. Fair buildings on place. Best of references required. T. G. BREAW, Waukesha, Wisconsin. 2-2

FARMS WANTED

You want cash for your farm. Your local man has tried selling. You have spent money on advertising schemes. For result describe size, building, stock, price and mortgage. WALTER MILLER, 320 Brumder Bldg., Milwaukee, Wisconsin.

HONEY AND CHEESE

Honey and cheese of superior quality in family size packages. Price list free. I. B. ROSA, Monroe, Wis. 21*

SILOS

Silo, 12x24 Washington Fir Kalamazoo silo, 1 piece, complete hip roof. New. Never erected. Price reasonable. ALBERT C. WOLLIN, Johnson Creek, Wisconsin. 26-spl

TOBACCO

Tobacco—Kentucky's Best Natural Leaf, chewing or smoking, 5 pounds, $2.00; 12 pounds, $4.50. Postpaid. DALTON DORON, Mayfield, Kentucky. 2-2

MISCELLANEOUS

Firemen, Brakemen, railroads everywhere, beginners $200, later $300. RAILWAY ASSOCIATION, Desk W5, Brooklyn, New York. 26-3

$2.00 will buy guaranteed Ford inner tubes; sent C. O. D. subject to inspection. Address BOX 590, care Hoard's Dairyman.



Advertising in this department is 7c per word. Remit in advance.

POSITIONS WANTED

Do you want herdsmen, dairymen, poultry men, farm assistants, greenhouse men, farm foremen or other farm help? We have a few well trained men available on March 1st. BERNHARD OSTROLENK, National Farm School, Farm School, Pa. 26-3

Farm Superintendent—Scientific, practical, energetic, desires position on large modern farm or estate and will put same on paying basis. Experienced in Advanced Registry, pure-bred stock, modern farming, tractors, orcharding, road and building construction. Married, no family. Excellent references. Address BOX 544, care Hoard's Dairyman. 25-4

Position wanted as farm manager. Single, agricultural college training, lifetime experience with live stock and crop production, up-to-date with farm implement and tractors, 10 years in managerial capacity, best of references. Address BOX 509, care Hoard's Dairyman. 22-8

Dairy manager—Married, six years' experience running dairy farm with most profitable results. Best references. Right man to make your dairy pay. Write offer. GASTON RIGAUX, General Delivery, Moline, Illinois. 25*

Want position with Holstein breeder as herdsman. Highly experienced in the handling of cows, feeding in the different lines of work, raising calves. Can furnish best of reference. Address BOX 572, care Hoard's Dairyman. 1-2

Experienced, reliable, protestant, American, aged 30, wants steady place on modern dairy or creamery close to school. Have wife, 2 children. Prefer California. State wages and particulars first letter. DON E. SMITH, Craig, Mo. 1-2

Manager open for position April 1st; 44 years, married, no children; 24 years practical experience in all branches of dairy farming and the breeding of pure-breds. A practical man who has handled large propositions successfully, understanding the laws of heredity, breeding, selling, pedigrees and feeding for records. Leaving on account of changing owners, Jerseys preferred. Address BOX 571, care Hoard's Dairyman. 1-4

Wanted—Position as housekeeper for widower or bachelors. Neat, experienced. Best references. Address BOX 592, care Hoard's Dairyman.

Wanted—Managing position by live dairyman who will make your dairy pay. An American, single, age thirty, University training and a life's experience in dairy farming from seed selection to the production and sale of pure-bred cattle. Address BOX 599, care Hoard's Dairyman.

Experienced herdsman, married, wants position with Jerseys or Guernseys doing A. R. work. A-1 calf man. Have had training under competent veterinarian. Best references. Address BOX 596, care Hoard's Dairyman.

POSITIONS WANTED

Position Wanted—By young, married man, lifetime experience in dairying and scientific feeding. Have made several large records for year, and seven days. Will consider high-class proposition only. State wages and particulars in first letter. M. D. GREEN, 1025 West Pike St., Clarksburg, W. Va.

Experienced married man wishes position as manager or herdsman on modern dairy farm. A. R. O., abortion and sterility. State full particulars. ROUTE 2, BOX 72, Roscoe, Illinois.

Wanted—By man, age 20, job on farm. A-1 experience. Would like to begin February 1st. State wages. First-class man, good milker. MAX ALBRECHT, 891 Grant Street, Milwaukee, Wisconsin.

Young, well experienced farmer, steady worker, married, one child, wants position to take charge of small farm. Best reference. Prefer Illinois. Would also consider good farm on shares, where everything is furnished. GUSTAV DIEKMANN, Porter Farm, Walworth, Wisconsin.

Swiss—Married, small family, wants place by year for farm work or farm foreman. If needed, wife will cook for help. Commence March 15 or April 1. Address BOX 591, care Hoard's Dairyman.

Wanted—Position on farm, by man and wife, by March 1st. Lifetime experience. State particulars. Address BOX 597, care Hoard's Dairyman.

Position Wanted—As herdsman or farm manager. Jersey or Guernsey grades preferred. Wide experience in work with both. Address BOX 595, care Hoard's Dairyman.

Wanted—By capable, experienced woman, to run boarding house on farm. Prefer states of Michigan or Ohio. Good reference. Address BOX 594, care Hoard's Dairyman.

Want position as working manager of dairy or stock farm, shares or salary. J. K., 747 Gardner Street, Chicago, Illinois.

Farm manager, German descent, married, age 34, ten years' experience here, not afraid of work, wants position April first or sooner. Competent to get or keep farm or estate in first-class condition and produce results. Convincing references. Eastern states preferred. BOX 601, care Hoard's Dairyman.

Wanted—Position on dairy farm by young college trained man, 22. Life experience. GLEN BRAWNER, Fairfield, Iowa.

Position Wanted—By single man on dairy farm where wholesale and retail milk business is carried on. Understand modern ways handling milk, having had $65,000 year's business for past 5 years. Understand care of pure-breds. Could act as manager or foreman. State full particulars in first letter. M. E. O'NEILL, 43 Magazine St., Springfield, Mass.

Wanted—Position as working foreman on dairy or general farm. Single, middle aged. State salary in first letter. J. C. BOTTS, Woodstock, Illinois.

Position wanted as farm manager for widow. Good farmer and mechanic. Forty, single, reliable, Protestant. Willing teach boy. ALBERTS, 2009 5th Ave., Rock Island, Illinois.

Working manager on dairy farm. Agricultural college training and life experience. Swedish descent. Married. Salary or shares. Address BOX 602, care Hoard's Dairyman.

Position wanted on dairy farm at once by married man. Life time experience. Can furnish good references. State wages willing to pay and all particulars. BOX 600, care Hoard's Dairyman. 2-2

Position Wanted—Single man many years in charge of dairy herds as milker, feeder and calf raiser. State your best proposition for attention, salary, board and room. M. L. RILEY, Barrington, Illinois.

Single young man, age thirty-two, steady, reliable, experienced general farm hand, wants position with breeder of pure-bred dairy cattle. L. W. ERICKSON, 5021 No. Ashland Ave., Chicago, Illinois.

Position Wanted—By experienced dairyman and creamery manager. Some ice cream experience. Will accept suborbinate position. L. A. BUCHANAN, 309 E. Main St., Bradford, Pennsylvania. 2-2

Position wanted as farm manager or shares. Married, have two boys to help. No capital. ALBERT NEHMER, Route 9, Watertown, Wisconsin.

Wanted—Superintendent's position. Will come on trial. No money if not satisfactory. Write for particulars. Address BOX 604, care Hoard's Dairyman.

Wanted—Herdsman's position. To prove ability, will work first month on one-third pay if not satisfactory. Write for particulars, also state particulars and wages willing to pay. Address BOX 603, care Hoard's Dairyman.

HELP WANTED

Wanted—Railway mail clerks, $135 month. Vacancy list free. Write. FRANKLIN INSTITUTE, Dept. G 118, Rochester, N. Y. 25-5

Wanted—Middle aged herdsman to take charge of modern dairy barn. Prefer married man with no children. G. J. THOMAS, Sioux Falls, South Dakota. 25*

Wanted—Married man for general farm work and caring for stock, very little milking; wife to board one extra man; position open March 1st. Good wages, permanent position. A. C. RAMSEYER, Smithville, Wayne Co., Ohio. 26-3

Wanted—Herdsman skilled in compounding rations and handling cows on Official Test. None need apply who have not to their credit a cow with a 30-lb. seven-day record or a 1,000-lb. semi-official record. Address BOX 570, care Hoard's Dairyman. 1-3

Clean cut and experienced single man about 30 years of age, for herdsman with pure-bred Holsteins. Must have good references and be a good A. R. O. feeder, with ability to make good records. Salary $85.00 per month and board. Address GRANT E. VOLLAND, Mgr., Date Holstein Farms, Baroda, Michigan. 1-2

Wanted—Herdsman to begin work in February. Call or write. References required. GEO. L. SCHLOUGH, Pinehurst Farms, Wheeler, Wisconsin. 1-3

Wanted—Single man for general work on Holstein farm: Year round position. R. E. L. SMITH, Barber, Virginia. 1-2

Wanted—Neat, experienced housekeeper, must be good cook. State wages, experience, age and nationality in first letter. A. B. HAWKINS, Cascade, Iowa. 1-2

Wanted—Married man for farm foreman. One who can handle and prepare for show registered Duroc hogs and registered Aberdeen Angus cattle. $90.00 a month. If not a worker do not apply. C. D. JOHNSON, Frankfort, South Dakota. 1-2

Wanted—Married man to feed and milk in dairy of twenty-five cows. One helper, house, garden and fuel at hand. State wages expected, experience and references in first letter. F. C. MOODY, Box 721, Helena, Arkansas.

Wanted—Man who understands fully selling, buying, breeding, pure-bred stock. BANKERS' INVESTMENT TRUST, 905-6-7 Pioneer Bldg., St. Paul, Minnesota.

Wanted—At once. Single man to work on dairy farm. Must be dry hand milker, good feeder and steady worker. Will hire by year or month with bonus at end of year. Give experience, references and salary desired in first letter. L. R. FROST, Avoca, Iowa.

Farm Foreman Wanted—720-acre farm. Registered Holstein cattle and Poland China hogs. Modern improvements and splendid equipment. Man must be good farmer and able to handle men, horses, tractors and all farm machinery and board help. Give age, nationality, experience, wages and reference. CORWIN FARMS, Rock Valley, Iowa.

Herdsman Wanted—Married man to feed and care for pure-bred Guernsey herd where A. R. work is done. Must have experience. State age, wages and reference first letter. Rather have man come and look over proposition. DALE E. RUNDELL, Ore Hill Farm, Livingston, Wisconsin. 2-2

Wanted—Herdsman, married man, experienced in handling cattle. Man who likes to work with cattle. Willing to take part in developing a herd. Give experience or training, recommendations and salary. DAIRY DEPARTMENT, University of Tennessee, Knoxville, Tennessee.

HELP WANTED

Farm Couple Wanted—Man and wife above 30 years (no children) to be fully responsible on a 200-acre publically located dairy farm, where home and every detail is now, and must be maintained first-class; dairy and other machinery modern and electrically equipped where practical; product wholesaled exclusively—everything furnished and supplied. This is a plain, practical gentleman's place, requring a conscientious, competent, dependable couple who want a permanent position, who can care for and handle the necessary help, and know how a first-class place should be conducted. Give experience, qualifications, ages and present employment. JOHN S. SELL, Greensburg, Westmoreland County, Pennsylvania. 2*

Wanted—Married, experienced farmer and dairyman. Use milking machine. Good house furnished; excellent living conditions. Give wages and recommendations first letter. S. J. STRONG, Hydro, Oklahoma.

Wanted—Reliable milker, $60.00 per month and board. Machines used. OTTO QUAST, Corvallis, Montana. 2-2

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Types and Breeds of Farm Animals Enlarged and Brought Up-to-date

A revised edition of Professor Charles S. Plumb's "Types and Breeds of Farm Animals" is published by Ginn and Company. It is nearly fifty per cent larger than the first form of this text published in 1906 and contains much new material. Two hundred seventy-eight new illustrations are used.

This book is the standard text on breed types. Within its covers is found a clear, readable discussion of every important breed, its origin, development, and present adaptation. No other volume gives so complete discussions of farm types. Its information is presented in four parts, given to the horse, to cattle, to sheep and goats, and to swine.



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HOARD'S DAIRYMAN would like to offer you a proposition to look after our subscription interests in your community during your spare time.

It would be light, pleasant work among your old neighbors; and we can make it really profitable, too.

Write and tell us about the territory around you and how much you could take care of, and we'll make you a proposition.

Hoard's Dairyman, Fort Atkinson, Wis.

Duroc Jerseys

Rock County Duroc Jersey Breeders' Sale
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Janesville, Wisconsin
Monday, February 7th

F. H. Arnold, Sec., Janesville, Wis.

Manager

of proven ability in making Register of Merit and Advanced Registry tests wishes to get in touch with owner of first class herd of either Jerseys or Guernseys who appreciates records of production, show winnings and wants his herd to pay. Interview desired. Address Box 598, care Hoard's Dairyman.



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26 head registered Holstein cows and calves. Also some grades. Tuberculin tested Jan. 18th.
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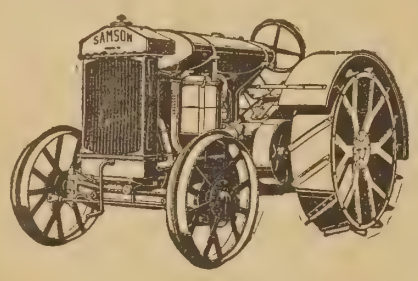
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Finer crops result. They command the best market prices—*all at lower cost.* The Samson also provides the most economical and most dependable power for belt-driven machinery.

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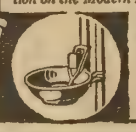


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WITH pure, rich milk analyzing 87% water—and with your winter herd *getting only ¼ to ⅓ of their natural water requirement from* ice *outdoor tanks,* you can see where cold weather cow-thirst is one of the biggest causes of your year-after-year winter milk shortages. With

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your cows drink "to their hearts' content" day and night. Result—*20 to 25% more milk from every cow all through the housed-in season.* And no more frozen tanks—no tank-heater make-shifts—no more twice-a-day "herding out" periods. *Write for Full Information on the Modern Miracle.*



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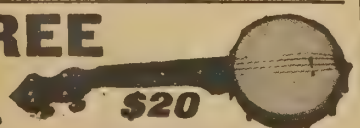


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with this wonderful new Libbey Automatic Water Bowl. Animal moves lever, opening water valve, when it starts to drink. Lever swings back, closing valve, when animal stops drinking.

15% More Milk

Milk is 87% water, and cows cannot give their greatest yield unless they have plenty of water constantly within reach. Farmers who use Libbey Bowls report an increase of 15% to 20%, which soon pays for the bowls.

Libbey Automatic Water Bowls

are the most sanitary and successful ever invented. Each bowl controls its own water supply, operated entirely by cow, and may be put at different heights, or in any stall or pen. No float tank required. Cannot overflow; cannot get out of order. Almost no water left in bowl to become stagnant. They save labor and feed and increase milk. Prevent spread of contagious diseases, as each cow has her own bowl and no water can pass from one to another, as with old-style bowls. Very simple and easy to install. Write for circular and prices, also FREE DAILY MILK AND FEED RECORD.

If interested in Stanchions, Stalls, Carriers, etc., ask for free General Catalog.

C. A. LIBBEY COMPANY
195 Marion Street Oshkosh, Wisconsin

The Human Side of Cow Testing

(Continued from page 47)

fifty wheat cakes, Wilbur getting on the outside of most of them. His mood seemed to improve with every helping, but he still said little, appearing quite thoughtful. After breakfast I explained that I would need a place where I might test the samples I had taken, whereupon he insisted that I work in the kitchen. Accordingly I set about my testing, he going to his work in the field. At noon I assumed the role of cook again, making some more of his beloved biscuits.

"I wish you would tell me how you make those biscuits," he said, covering his sixth with butter and honey. "I have tried to make them, but they always turned out hard enough to kill an ox."

"That sounds as if you had been forgetting to use baking powder," I volunteered, and so he had. For this culinary tip he seemed deeply grateful, and from then on we got along beautifully. After dinner he took a real interest in the results of the tests, and listened attentively to the few suggestions that I offered.

"I don't mind telling you now, kid," he said, not yet admitting that I have any other name, "that before you came I didn't intend to let you on the place. I had made up my mind that I couldn't stop to bother with such tomfoolery. But when you came and made those good biscuits and pancakes for me, I decided that you must be a pretty decent sort of a fellow after all. So you can come each month after this, and I'll keep the weights for you just as you want me to."

After spending another hour or two with him, he took me to my next stop. There and at the next few places on my route I learned, by piecing together bits of information from various sources, the reason back of my peculiar treatment at Wilbur's and the humor William Kent saw in starting me out there. Several times was I asked, "How did you get along at Wilbur's?" and many were the looks of amazement when I said that all had gone smoothly. Wilbur's wife, it seems, divorced him recently, since which he has been in a very unhappy mood. Though formerly he had agreed to enter the association, after his wife left him he gave everyone to understand that he "wouldn't let that tester on the place." Accordingly the other members of the association decided to make a thorough tryout of Horace Evans, cow tester, by sending him there first. I hope that they are satisfied with the result! I realize now, of course, that by my kitchen activities at Wilbur's I have unwittingly signed an agreement to get three meals a month for him, but I shall count that fully worth while if it is the way by which a good herd replaces those scrubs of his.

As ever,
Horace.

(Editor's Note:—This is the first of a series of six letters prepared by Frank M. Chase. The next will appear in an early issue.)

Farmers of Fulton County, Illinois, Vaccinate Own Hogs

During 1920 farmers in Fulton County, Illinois, vaccinated 22,000 head of hogs at a saving estimated at $13,000. It was demonstrated that hogs weighing 30 to 90 lbs. could be vaccinated for 38 cents each. The charges formerly made for such vaccinations varied from 75 cents to $1.00. The serum furnished the farmers through their farm bureau has cost approximately $9,000. The same amount at former prices would have cost $22,000.

County Agent B. H. Taylor writes: "Not only has the saving effected by the farm bureau system of vaccinating been important but the farmers have secured better results in avoiding breaks and in avoiding abscesses where they have vaccinated their own hogs than where veterinarians have heretofore done the sam work. It has been found that the vaccination has been carefully done by farmers who work upon their own herds. Furthermore, farmers have observed that work done by veterinarians in vaccinating hogs in Fulton County has been much more carefully done than previously."

Bulletins of the Week

Neglect of Details in Care of Milking Machines Results in Low Grade Milk, summarized by J. D. Luckett from bulletin by J. W. Bright. Bulletin 472, New York Experiment Station, Geneva, N. Y.

Seed Potatoes Improved by Close Planting, summarized by J. D. Luckett, from bulletin by F. C. Stewart. Bulletin 474, New York Experiment Station, Geneva, N. Y.

Tractors in Connecticut, by W. T. Ackerman. Bulletin 25, Connecticut Agricultural College, Storrs, Conn.

Meadows for the Northern States, by C. V. Piper and L. Carrier. Farmers' Bulletin 1170, U. S. Dept. of Agr., Washington, D. C.

Sale Announcements

Feb. 1, 1921—Holsteins. Watertown Holstein Bull Sale at Watertown, Wis. Francis Darcey, Sale Manager.
Feb. 10—Holsteins. Shepardville, Mich. Chas. Ridenour, R. 2, Ovid, Mich.
Feb. 15—Holsteins. Spring Creek Holstein Farm Dispersal, Russell Trumpy, Clarno, Wis.
Feb. 26—Holsteins. John Wuethrich's Holstein Sale at Greenwood, Wis.
Mar. 15-16—Holsteins. Fletcher Bros. Dispersion at Fond du Lac, Wis.
Mar. 15-16—Holsteins. Wisconsin Breeders' Sale at Fond du Lac, Wis. S. H. Bird, Mgr.
Mar. 24—Holsteins. Mankato Holstein Co. First Annual Sale at Mankato, Minn. Minnesota Holstein Breeders' Association, Sale Mgr.
Mar. 28—Holsteins. Isaac DeMunck & Sons, Plymouth, Wis. I. DeMunck, Sale Mgr.
Mar. 29—Holsteins. Fred Gessert, Plymouth, Wis. Fred Gessert, Sale Mgr.
Mar. 29-30, 1921—Holsteins. Watertown Holstein Sales Co., Watertown, Wis. F. Darcey, Sec.
Mar. 31-April 1—Holsteins. H. J. Goelzer's Sixth Sale at Plymouth, Wis. E. E. Goelzer, Mgr.
April 7, 1921—Holsteins. Central Wisconsin Holstein Breeders' Ass'n. 13th Semi-annual Consignment Sale at Marshfield Sales Pavilion, Marshfield, Wis. R. A. Peterson, Wisconsin Rapids, Wis., Sale Mgr.
April 21—Brown Swiss. Illinois Brown Swiss Breeders' Association Annual Spring Sale, Morton, Illinois. Chester G. Starr, Pekin.
April 25-26—Holsteins. Waukesha County Holstein-Friesian Association Sale at Waukesha, Wis. W. L. Baird, Sec'y.
May 2—Holsteins. Walworth County Holstein Breeders' Association Eighth Semi-annual Sale at Elkhorn, Wis. Ben Bachhuber, Mgr.
May 3—Holsteins. Clark County Quality Sale at Owen, Wis. J. Wuethrich, Sale Mgr.
May 9, 1921—Holsteins. Brown County Holstein Breeders' Sale at De Pere, Wisconsin.
May 12—Holsteins. Jefferson County Holstein-Friesian Breeders' Ass'n. second consignment sale. A. F. Gafke, Sec'y.
May 12—Holsteins. Marathon Co. Holstein Breeders' Association Sale at Wausau, Wis. Francis Darcey, Watertown, Wis., Mgr.
May 13—Holsteins. Chippewa Falls, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 17—Holsteins. State Fair Grounds, Milwaukee, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 18—Jerseys. Monroe County Jersey Breeders' Consignment Sale at Tomah, Wis.
May 25—Guernseys. Portage County Guernsey Breeders' Ass'n. Sale of pure-bred cattle at Stevens Point, Wis. R. K. McDonald, Sec'y.
May 26—Holsteins. Marshfield, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
June 9—Holsteins. First Annual Bred Heifer Sale, Thorp, Wisconsin. W. H. Krause.

Association Notes

(Continued from page 51)

ette County. The top price was $800. December 3.4% market milk sold for 35c per gallon. The creamery paid 43c per pound for fat. Milk retails for 14c per quart, butter for 45c per pound, and cheese for 35c per pound.

McGregor, Iowa:—One pure-bred bull was bought to replace a grade. Three unprofitable cows were weeded out of one herd. Cottonseed meal is being fed this year where it was never fed before. All of the members are well pleased with the results. Milk retails for 12c per quart and butter for 70c per pound. Feed prices are: Silage, $6 per ton; mixed hay, $15; alfalfa, $28; cottonseed meal, $60; oil meal, $65; bran, $39; oats, $35c per bushel; barley, 68c; corn, 60c.

Pioneer, Minnesota:—Market milk in December sold for $4.83 per cwt. The creamery paid 71c per pound for fat. Butter retails for 55c per pound. Feed prices are: Silage, $4—$5 per ton; hay, $8—$14; bran, $34—$40; oil meal, $49—$70; molasses, $65; beets, $8; corn, 45—50c per bushel; oats, 35—40c; barley, 50—55c.

Emmet County, Michigan:—December market milk sold for $3.75 per cwt. The creamery paid 52c per pound for fat. Local prices for feeds are: Corn meal, $42 per ton; bran, $40; corn and cob meal, $40; ground oats, $40; clover hay, $25; silage, $8; oil meal, $45.

Butler Road, Ohio:—Four cows were weeded out this month. Some official testing is being done and feed is bought in carload lots. December market milk testing 3.5% sold for $3.65 per cwt. and 5c per point above. The condensery paid 54c per pound for fat and $2.90 per cwt. for milk. Milk retails for 15c per quart and butter for 50c per pound. Feed prices are: Oilmeal, $48 per ton; cottonseed meal, $54; bran, $36; corn, $18; International Feeds, $48; oats, $1.90 per cwt.

Lake County, Illinois:—This association is a one hundred per cent pure-bred bull association. Each member has one or more silos and most of the farms produce enough alfalfa hay for their dairy cows. Seventeen of the 24 herds tested are wholly or partly pure-bred. One member, Mr. Kane, had his herd tested for tuberculosis for the second time during the month. The first test showed a few reactors, but the second time every animal passed the test. Milk prices vary from $2.60 per cwt. for 3.5% milk to $5 per cwt. for Jersey milk. Feed prices for December: Silage, $8 per ton; hay, $24—$28; corn and cob meal, $20; ground oats, $30; bran, $34; oil meal, $58; cottonseed meal, $55.

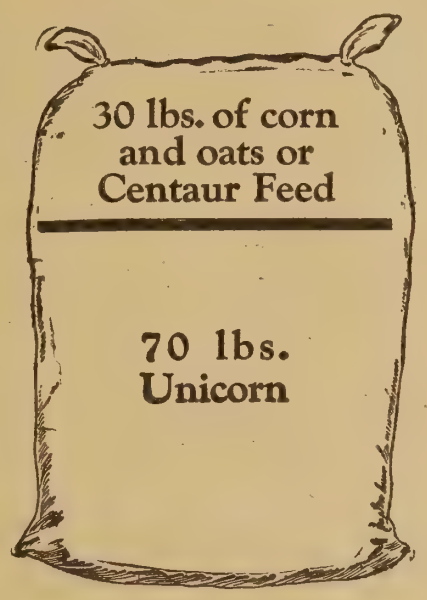
Allenton—Kohlsville, Wisconsin:—During December 16 cows were sold to buyers from Nebraska. One member has installed drinking cups for his cows; this leaves but one member in the association without them. All herds are headed by pure-bred sires.

Webster County, Missouri:—In December the creamery paid 40c per pound for fat. Feed prices are: cottonseed meal, $50 per ton; bran, $38; corn, 75c per bushel; oats, 60c per bushel; silage, $7 per ton; clover hay, $15.

Merrimac Valley and Strafford—Carroll, New Hampshire:—One new pure-bred bull was purchased in December. An auction sale of surplus stock was held at one farm. Market milk testing 3.7% sold for $4.38 per cwt. and 4c per point above. The creamery paid 76c per pound for fat. Milk retails for 15—17c per quart. Feed prices are: Silage, $10 per ton; hay, $25; bran, $45; corn meal, $45; oil meal, $63; cottonseed meal, $49; gluten, $60—63; ground oats, $54; New Hampshire Dairy, $66.

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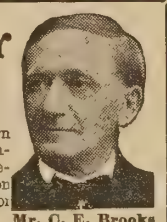
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Sterility From Infection

Infection by the Bacillus abortus of Bang, which causes the "abortion disease", is by far the commonest cause of sterility. It induces chronic inflammation or metritis of the womb and that condition technically is termed catarrhal endometritis. Such infection is also the common cause of failure to come in heat (estrum), irregular periods of heat, constant heat (nymphomania), and retention of the afterbirth.

The chronic womb trouble mentioned causes more or less abnormal discharge from the vagina. This arises from the diseased condition of the lining membrane of the womb, and that creates conditions unfavorable to the life and development of the egg, or germ cell (ovum), or, later, the embryo fetus. These abnormal secretions of the womb are, indeed, deadly both to the female germ cells and male sperm cells which unite to cause conception. In sterility cases due to infection the lining membrane of the Fallopian tubes becomes similarly diseased and in time the ovaries may also be affected so that they do not function normally.

When retention of the afterbirth has resulted from infection of the womb by the Bacillus abortus, pus infection due to other invading germs commonly results or may occur after removal of the afterbirth, if disinfection of the treated parts has been inadequate or inefficient. Pus gathers in a womb so affected and conception cannot occur in that condition.

When infection involves the Fallopian tubes, thickening of the walls may prevent access of the sperm cells of the male, or descent of an ovum from the ovaries and steriliy results.

When the ovaries are invaded, conjointly with abortion bacillus infection of the womb, degeneration results, characterized by formation of cysts filled with fluid and apparently springing from the Graafian vesicles in which ova mature. Another result is failure of the "yellow body" (corpus luteum) normally to dislodge so that it becomes persistent. Sterility is also present in that condition.

From what has been said it should be apparent that mere irrigation or douching of the vagina cannot possibly suffice as treatment in sterility due to infection, nor will mere opening of the mouth of the womb suffice. To succeed in remedying the condition the veterinarian must attack it at its source; in other words, he must open the womb with special instruments and cleanse and disinfect it repeatedly until endometritis subsides or pyometra is cured. Incidentally he will have to remove a mummified fetus, if that happens to be the cause of sterility.

These treatments will not suffice if the ovaries are involved and so the veterinarian always is careful to examine the ovaries by way of the rectum and if necessary rupture cysts or remove any corpus luteum that happens to persist.

Until such expert treatment can be given, the vagina may be flushed out daily with a gallon of blood-warm, boiled water containing 2 tablespoonfuls of table salt; or with a solution of 30 grains of permanganate of potash to the gallon, if the discharges are abnormal.

Itching Skin

Last spring I purchased a mare. At first I noticed her rub the root of her tail and mane against the stall. I treated her for worms without results. Called a veterinarian who said she had mange and left a bottle of disinfectant to wash her with. I used Kreso Dip also, but no results. At present she doesn't rub her mane or tail but turns around in the stall and bites herself on the back and sides. I don't like to clip her as the weather is quite cold and my stable isn't very warm. I have given her sulphur and various other things for her blood.

New York. W. C. G.

Pin worms in the rectum are probably causing some of the irritation. To destroy them, inject into the rectum two-thirds of a pailful of warm water containing two ounces of powdered sulphate of iron (copperas). Repeat the treatment in a week, if thought necessary. Work or exercise the mare daily. If she does not work, do not feed any grain. Make carrots a part of the ration. Scrub tail and mane clean and when dry saturate roots of hair with a mixture of two ounces of flowers of sulphur, one-half ounce of coal tar dip, and one pint of cottonseed oil or sweet oil. Repeat the applications every three days. Treat other affected parts of the body in the same way. Groom daily.

Nodular Disease

Would be pleased to know the cause of lumps in the intestines of sheep. I butchered some sheep that had lumps the size of large peas on the intestines. Upon pressure they would discharge a very thick, yellowish matter. The heart, liver, lungs, and kidneys appeared normal. The sheep affected with the lumps appeared to be thrifty. Is this meat fit to eat?

Fayette, Mich. C. L.

The meat is fit for use. The nodes contain a worm known as "esophagastoma columbianum", in one stage of its existence, and constitute the disease commonly termed "knotty guts" and technically "nodular disease of the intestines". There is no remedy as the nodes are in the wall of the intestine, but the usual preventive measures against invasion of worms make them less common. The nodes rarely do any appreciable harm and are found prevalent in thousands of healthy, fat sheep slaughtered in the abattoirs of the large cities at this time of the year.

Mammitis

I am having trouble with some of my cows. I am feeding these well and they gave me 40 lbs. of milk per day, before they went this way. These cows went wrong in quarters which swell very badly and the milk becomes thick and lumpy. They do not eat very much ground feed. I am feeding ground oats and barley and two pounds of linseed meal per feed twice a day, and silage three times a day which amounts to thirty-five pounds per cow. Have also been feeding them good clover hay and corn.

Cambria, Wis. M. J. R.

Change the method of feeding. An excess of protein often induces mammitis (garget) but germ infection either starts or complicates all severe attacks. Those due to pus-forming germs usually ruin the glands for future milk production. Use a balanced ration such as has been prescribed in this paper many times or use bulletins and leaflets on the subject to be had from the State Agricultural Experiment Station at Madison. Allow a pound of concentrate mixture for each 3½ or 4 lbs. of milk yielded daily. The feed of oil meal is excessive. Treat mammitis according to instructions often given in the veterinary department of the paper.

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Illinois Agricultural Association Holds Sixth Annual Meeting

(Continued from page 60)

two-thirds of the public will provide transportation for shipping it out of the country." No sooner had President Howard placed the suggestion before the assembly than Robert N. Clarke of Stronghurst, as chairman of the grain marketing committee, mounted the platform and said, "God has been good to us. We have plenty and more. Let us market our surplus in the Relief and take our pay in love." Faster than the secretary could take the list, Whiteside county led, followed by 37 others pledging from one to five carloads each, giving a total of 43 carloads, 70,000 bushels. President Howard Leonard then read telegrams from Indiana, Missouri, and Ohio pledging those states to co-operate fully. It is now up to Hoover and the Chinese people.

Resolutions

Principal resolutions passed called for the inauguration of a comprehensive system of highway maintenance on farm to market roads and opposed the construction of only a few expensive roads benefiting tourists and pleasure seekers.

Recommending to Illinois Congressmen the passing of an appropriation for Federal railroad work of not less than one hundred million dollars per year for the two fiscal years ending June 30, 1922 and 1923 and in the present session so that the funds may be available before the adjournment of the Illinois legislature.

Rural Police Favored

Recommendations for adequate protection against criminals and violators of the law were passed.

Education Upheld

Feasible consolidation of rural school districts and an appropriation of whatever may be necessary to maintain the University of Illinois, especially the Department of Agriculture, were educational features proposed.

Patch Up the Old Binder

The manufacturers of farm machinery were scored for maintaining war prices when commodities in other lines have been reduced and the price of farm crops in some instances shows a depreciation of more than 100 per cent. It was recommended that farmers conserve on old machinery by repairing.

Endorse Co-operative Marketing

Handling the commodities of the farms in a co-operative way to distribute the foodstuffs of the nation from the producer to the consumer more efficiently, was endorsed.

Ask for Better Transportation

The transportation agencies of food products were called upon to adopt more efficient and economical handling of commodities. Conservation of power was recommended and the use of water transportation wherever practicable to reduce congestion in distribution and to lower cost thereof.

Oppose Organized Strikes

"We deplore violent labor disturbances with their attendant strikes, lock-outs, etc., with their enormous economic waste, and call upon capital and organized labor for a more sympathetic and comprehensive study of one another's labor problems with the view of settling their disputes peaceably."

Keep Up Soil Fertility

Maintaining the soil in its present state of efficiency and increasing it wherever possible was strongly urged, and attention called to the relative value of food in comparison with other commodities as contributing to the welfare, prosperity, and happiness of the people.

Even milk of human kindness, if stirred too much, turns sour.—Exchange.

MARKETS

CHICAGO, Jan. 21—Butter—Creamery, extras, 46c; standards, 45c; dairy, firsts, 38@45c; seconds, 30@37c.

Eggs—Ordinary, 56@58c; firsts, 60c.

Cheese—Twins, 23¼c; Young Americas, 26½c.

MILWAUKEE, Wis., Jan. 21—Butter—Creamery—tubs, 50c; prints, 51c; extra firsts, 47@48c; firsts, 44@46c.

Eggs—Current receipts, country candled, cases returned, 63@65c; checks, 42@44c; dirties, 45@47c; refrigerators, April or Mays not recandled for city trade, 62@64c.

Cheese—Twins, 25½@26c; Daisies, 25c; Longhorns, 27@27½c; fancy Brick, 21½c; Limburger, 1 lb., 22c; 2 lbs., 23c.

NEW YORK Jan. 21—Cheese—Firm; state milk, common to specials, 20@29c; skims, common to specials, 10@20c.

Butter—Steady; receipts, 7,167 lbs.; creamery, extras, 51c; state dairy, tubs, 30@50c; imitation creamery, prints, nominal.

Eggs—Easier; receipts, 12,116 cases; nearby white fancy, 78@79c; nearby mixed fancy, 68@76c; fresh firsts, 70@74c.

COWS
that Weigh 1600 to 2000 Lbs.

Milk 90 to 100 Lbs. a Day
Splendid Conformation — Great Producers

Such are the daughters of
Prince Hengerveld Segis

That Go Into Our Dispersion Sale

Feb. 15,'21, Sterling, Ill.

Every Animal Bred, Born and Raised on This Farm

100 HEAD

The best of fifteen years of breeding. The Home Farm is sold. This is an absolute dispersion sale of The Home Farm herd. No greater lot of Holsteins were ever offered at public auction from one farm. Tuberculin tested. Sixty-day retest.

Send for Catalog. It tells the story.

Col. Perry, Col. Haeger, Auctioneers. S. T. Wood in Box.

WOODLAWN FARM CO.
Sterling Illinois

LONE TREE FARM
GREEN LAKE, WIS.
Has in its Herd 15 A. R. Guernseys and 11 R. of M. Jerseys
And Carries About 16 Cows on Test.
To inquiries for BULL CALVES we give full, honest particulars and stand behind every animal sold.
Jersey Sire—A Son of Pogis 99th. Guernsey Sire, Langwater Islander.

Clip Cows and Horses



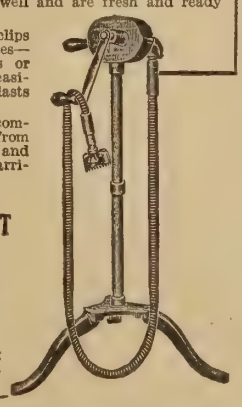
The Stewart No. 1 Clipping Machine is a necessity in farm equipment.

Clip your dairy cows on udders and flanks as an aid to clean milk production. Clip every few weeks as long as cows are stabled. Practiced by progressive dairymen.

Clip the cows all over in the spring before turning out to pasture — gives them a healthy skin that keeps them in condition and they produce better.

Clip cows before freshening. Clip to drive out lice and ticks.

Clip your horses or mules this spring — keep them healthy for the heavy spring work. Clipped horses dry off quickly, rest well and are fresh and ready each morning.



The Stewart No. 1 clips cows, horses and mules—no change in knives or adjustments. Runs easily—strongly built—lasts a lifetime.

At your dealer's, complete, $14; or direct from us by sending $2 and paying balance on arrival.

CHICAGO FLEXIBLE SHAFT COMPANY
Dept. A156
5600 Roosevelt Road
CHICAGO

If you have sheep, write for Catalog No. 69 of Stewart Machines.

Lyman's GRIMM ALFALFA

Get Genuine *LYMAN'S GRIMM* —99% pure by test. Will not Winterkill. Produces large yields of high feeding value every year without replanting. 40% less seed is required for a stand.

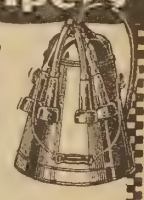
Free Booklet "How I Discovered Grimm Alfalfa."

A. B. LYMAN Who Introduced Grimm Alfalfa 325 WATER ST. EXCELSIOR, MINN.

The Great United Line of Farm Helpers

United Milker
Really Sucks Like a Calf

Pump-pulsator type of machine. Gives complete vacuum release on teat—the smooth, natural way.





"SEE-THRU" TEAT CUP—an exclusive feature. You know when all teats are milking. Simplest, most efficient made.

UNITED ENGINE
1 3-4 to 12 H. P.—Ideal for any farm work—wonderful value. Investigate it.



SEPARATOR



160 to 900 lbs. capacity—Guaranteed.

UNITED WASHER
With famous Full-Swing Dolly. High quality—low price.



UNITED FEED MILL
Great capacity—pulls easy—self sharpening—oscillating burrs.



Write for complete information on United Line—America's Greatest Values in Farm Helpers. Ask your Dealer.

UNITED ENGINE COMPANY
Dept. 151 (26) Lansing, Mich.

ALFALFA HAY
AND
DAIRY FEEDS
CLOSE PRICES — PROMPT SERVICE

THE GOLDWOOD—AMRINE CO.
St. Joseph, Mo. 312 Am. Nat'l Bk. Bldg.
Kansas City, Mo. 312 Victor Bldg.

The Farm Management Department of the South Dakota State College is putting out a new farm account book. This is the only book which has the recommendation of the United States Commission of Internal Revenue. It combines simplicity and convenience and is of much assistance in preparing income tax reports. The plan is to have it put out by state agricultural colleges, through county agents, and other interested extension workers.

Jersey Cattle Notes

For week ending Jan. 7:

Number of animals registered: Bulls, 142; cows, 414; total, 556. Number of transfers recorded: Bulls, 166; cows, 640; total, 806.

JERSEYS

DO YOU—

Want to make a profit from your dairy? If so you need high producing Jerseys.
Send for literature about

The Champion Producing Sophia Tormentor Family

We have bulls and bull calves for sale, rich in the blood of The Champion Cows and Champion Sires.
If you want a bull or bull calf, write us size of your herd, tell us the price you want to pay, and we will send you pedigree and full description of some for your consideration.

HOOD FARMS, Inc.
Lowell - - Mass.

N. B. If you mention "Hoard's Dairyman" we will send you colored postal of The World's Champion Sophie 19th of Hood Farm.
JIMMY DODGE, Mgr.

Bull Clubs

We are in excellent shape to furnish several very high class Jersey bulls ready for service.
These bulls are out of Register of Merit dams with excellent records, sired by bulls backed with the largest production of the breed.
The World's Champion producing blood in these bulls insures their siring large cows of correct type and big profitable producers.
If you are in need of one bull or several bulls, we would appreciate your writing us about the quality and priced animal you need, and this will save time, money and correspondence.

AYREDALE STOCK FARM
F. W. Ayer, Prop., Bangor, Maine

Bulls—JERSEY—Bulls

A splendid lot of Majesty bulls out of Register of Merit dams for sale at very low prices. We must sell to make room for our winter and spring calves. These bulls are from three months to two years old and sell with full guarantee to be breeders. We have a Federal Accredited Herd. For pedigrees, descriptions and prices, write Thos. T. Bacheller, Jr., Mgr.

ELMS JERSEY FARM
M. D. Munn Forest Lake, Minnesota

For Better Jerseys

We do not retain in our herd any cow which under favorable conditions will not produce 500 lbs. of butterfat (600 lbs. butter) in 1 yr. on official test.

We have a few young bulls for sale.

THORNBURY FARM
LIBERTYVILLE, ILLINOIS
W. A. BREWERTON, Owner L. A. BENT, Mgr.

Montpelier Jerseys

Three young bulls ready for service. Trace three times to Oxford Lad. Fine typy individuals. Right in every way.
Montpelier Manor Farms, Laurel, Md.

POLLED JERSEYS

Breeders' names and Spillman's "Inheritance of the Poll Character in Cattle" mailed free.
CHAS. S. HATFIELD, Secy. R4, Box 5, Springfield, Ohio.

Jersey Bull Calves and Heifers

Herd Bulls: Champion Torono's Son
Whose Son sold at auction $7,500
Owl's-Over-the-Top and Golden Maid's Victors Jolly
100 head—no reactors
ULSTERDORP FARMS Highland, N. Y.

Two Owl-Interest Bulls

Six months old, solid color, fine individuals. ¾ Sibley Farm blood. Great producing strain. Not a cow or heifer in our herd but has or will make R. M. with good records. Two 2-year-old sisters of these youngsters last summer gave in a month 43 and 47 lbs. fat respectively, a 3-year-old 53 lbs., and a 4-year-old 57 lbs. Herd in Federal Accredited List. We will sell these youngsters for little more than they have cost to feed.

SHUGAH VALLEY FARM
Rush Chellis & Son, Claremont, N. H.

Jersey Cows For Sale

FROM FEDERAL ACCREDITED HERD
I have six cows for sale with Register of Merit records from 400 to 500 lbs. butterfat, age from 3 to 8 years. Prices from $250.00 up. One of these is a daughter of Noble's Fawn Prince, record 493 lbs. Five will freshen between January 5th and April 15th. These are all good individuals of right type.
P. G. WARMINGTON, Honey Creek, Wis.

JERSEYS—DUROCS

TWO YOUNG BULLS. Splendid individuals. Out of splendid cows—sired by splendid sires. $100 to $150. Also some bred heifers and heifer calves.
F. R. Constance & Sons, Waupaca, Wis.

Hillcrest Jerseys

Bull calf born March, 1920. Sired by Imp. grandson of Golden Fern's Noble. Priced right for quick sale. Write
ROLLIE VANDERVORT, TOMAH, WIS.

Register Merit Jersey Herd

At Head, Mona's Jacoba Premier grandson: Pogis 89th of Hood Farm. Dam, Mona's Jacoba, record 806 lbs. butter: Granddaughter Jacoba Irene, young stock; St. Lambert breeding for sale. R. C. Green & Son, Albion, Wis.

Dunn and St. Croix Counties Jersey Breeders' Ass'n

have a few choice bulls and several pure-bred and grade cows and heifers for sale.
S. A. B. AUSMAN, Secy. Elk Mound, Wis.

Serviceable Bulls From R. M. Dams

We have a few very good individuals 6 to 13 months of Majesty and Raleigh breeding. A tuberculosis free herd. Every animal guaranteed right.
Your inquiry promptly answered.
E. E. HILL & SONS, Tomah, Wis.

Valley Farm is Offering

Several bulls, 6 to 12 months old, from R. M. cows. Sired by Golden Maid's Viscount and Kilda's Royal Majesty, two of the best Island bred bulls living. At prices to sell. Write
FRED STUBLEY, Black Earth, Wis.

Six Splendid Jersey Bulls

FOR SALE. Good type, well bred and well grown, 12 to 18 mos. old, from dams in R. of M. or on test. Rich in the blood of H. F. Torono, Figgis, H. F. Pogis 9th, Pedro, Loretta D, King Sappho King and Golden Maid's Prince.
J. Q. EMERY & SON. Edgerton, Wisconsin

AYRSHIRES



THEY
"STAND UP" AT THE PAIL
"STAND OUT" IN THE SHOW RING
AND
"STAND APART" FROM THE OTHER DAIRY BREEDS

AYRSHIRE BREEDERS ASSOCIATION
BRANDON ..... VERMONT



For Sale—Eight New Milk Cows

These cows have type, breeding and are real producers. Guaranteed right in every way. If you are looking for good cows, come and see them or write for particulars.

W. M. KNIGHT, OAK GROVE JERSEY FARM
U. S. Accredited Herd. Eagle, Waukesha Co., Wisconsin.

Linndale Farm Ayrshires

"Are bred for Production"

Bull calves out of A. R. cows and sired by sons of World Record cows, for sale.

Our { Breeding, Conformation and Prices } are right.

See what we offer before you buy.

JOHN LINN & SONS,
Manhattan, Kansas.

Lippitt Farm Ayrshires

For the first time we offer females for sale. They are producers with type.

Write for prices to Hope, R. I.

Bensalem Ayrshires

For Sale:—Bull Calves from our best A. R. Dams, and sired by "Queen's Favorite", whose Dam, "Bloomer's Queen", holds the World's Record as an Ayrshire Four-year-old with 21,820 lbs. milk, 1,009 lbs. butter. Grandam of Sire, Auchenbrain Brown Kate, Ex-world's Champion, 23,022 lbs. milk, 1,080 lbs. butter.
FRIENDS HOSPITAL, Frankford, Phila., Penn.

BLACKBURN FARM

HOME OF
Addington's Champion

Grandfathers—Nox'emall and Finlayston
Father—Rena's Champion, 17 A. R. Daughters
Mother—Addington Queen 3d, two Mature Records each over 19,000 lbs.

For Sale—
4-year-old cow—Fresh Dec. 12, 1920
2-year-old heifer—Fresh Jan. 16, 1921
Also Young Stock
Tuberculin Free Herd
Sewickley, Pennsylvania

Weymouth Farms

"Ayrshires of Quality"

All cows on Advanced Registry Test. Herd Tuberculin Tested.

We can supply you a herd sire of choicest breeding.

MARTIN A. TOWLE, Mgr.
NORTH WEYMOUTH, MASS.

Pure-bred Ayrshire Cattle For Sale

Best of breeding. Calves sired by a Grandson of Brown Kate, record 1,080 lbs. butter in year.
Wm. Nisbet & Sons, Richland Center, Wis.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

ALTA CREST AYRSHIRES

Special Offering of

Ayrshire Bull Calves

Imported — Home Bred

which we believe to be the greatest lot of Ayrshire Youngsters ever offered by any breeding establishment in America.

Write for Sale List

Animals of all ages for sale. Over 200 head in the Herd. New Importation direct from Scotland to arrive August 1, 1920.

ALTA CREST FARMS,
Arthur H. Sagendorph William Hunter
SPENCER, MASSACHUSETTS

World's Champion Ayrshires

Fully Accredited Tuberculosis Free
— 200 Head in Herd



AUCHENBRAIN WHITE BEAUTY 2D
A. R. 14,721 lbs. milk, 4.33%
In 13 years, 112,486 lbs. milk and 13 calves
110 animals in herd are descended from this cow

The 1st, 2nd, 6th and 7th highest records were made here. Four cows average 22,823 lbs. milk, 1,046 lbs. butter. 100 A. R. records made here average 13,246 lbs. milk. Choice stock of all ages for sale at pre-war prices. Special — Young bulls line bred to Auchenbrain White Beauty 2d.
PENSHURST FARM, Narberth, Pa.
(7 miles from Philadelphia)

Delchester Farms Ayrshires

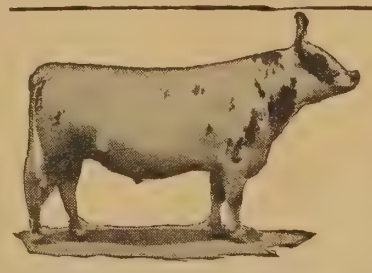
Tell us your wants and we can supply them at prices you can afford to pay.
Aged cows, bred to Glenury, an A. R. son of Finlayston.
Aged cows, bred to Rena's Baron of Highland, an outstanding son of Baron's Best of Bargenoch.
Heifers, bred to these two great sires.
Young heifers.
Bull calves.
All the above stock carries some of the best producing blood of the breed with A. R. ancestry on both sides.

Herd free from tuberculosis

DELCHESTER FARMS
Edgemont, Del. Co., Penn. - Thomas W. Clark, Supt.

Ayrshire Stock

of all ages for sale. Satisfaction guaranteed
L. W. McCONNELL, Wellington, Ohio



We Have For Sale

the well bred Ayrshire bull, Bargenoch "Drexel" (18474) Imported. Bred by John Logan, Bargenoch, Scotland. Born Feb. 2nd, 1919. Color white and red. Sire, Bargenoch Magnificent (9579). Sire of Bargenoch "Royal Champion" sold at Bargenoch sale, 1919, for $7,267.00.

Dam, Bargenoch Victoria (37003). Scotch record: 9,221 lbs. milk, 4.23% fat in 43 weeks; 11,070 lbs. milk, 4.50% fat in 47 weeks.

BARCLAY FARMS, John Cochrane, Manager, ROSEMONT, PENNSYLVANIA

Middlesex Meadows Ayrshires

NANCY WHITEHALL, World's Jr. 4-yr.-old Champion Ayrshire, has just completed another record of 22,075 lbs. milk, 858 lbs. butterfat. Her bull calf, *NANCY'S CHANCELLOR OF MIDDLESEX*, born September, 1919, by a show ring champion with great milk production behind him, is a winner in the show ring this year, and is now being used on all the Middlesex Meadows Farm heifers. He is offered for sale for immediate delivery. Guaranteed a breeder and right in every way. Price $2,000.

A. Henry Higginson

South Lincoln, Mass.



Economy in Production ← GUERNSEYS → Quality of Products



Guernsey products still win. The Liberty Fair in California, the New Hampshire State Dairymen's Convention, and the Maine State Dairymen's Convention are among the latest bodies to award highest honors to Guernsey products. The supremacy of Guernsey milk and cream is indisputable. Write for our free literature.

THE AMERICAN GUERNSEY CATTLE CLUB, Box H22, Peterboro, N. H.

We Offer For Sale

Simplicity's Winner of Iowanola (54404)

Born August 25, 1918. A show bull. First prize in class and member 2nd prize get of sire, Waterloo Dairy Congress, 1920.

Sire, Cherub's Winner (34180). The sire of all the animals that won all of the cups and trophies awarded at the N. D. S., 1920.

Dam, Simplicity of Haddon (47876), A. R. 7607. Record: 9,042.9 lbs. milk, 434.17 lbs. fat. A big, strong, typy cow, a very easy milker and a good breeder.

Write for further information. We have a few younger bulls.

Mountain Bros., Carrier 403, Des Moines, Ia.

Guernsey Bulls For Sale

Polly's Anchor No. 42845, born August 24, 1916, and Imp. Bluebird of Lakeside No. 45329, born June 15, 1917. Good, straight bulls, very gentle and sure breeders.

For Sale by

RADISSON FARM, ANOKA, MINN.

Shorewood Farm Offers

Sons of Ladysmith's Cherub, three times National grand champion. One of his first daughters to finish made 591 lbs. fat in Class G. Others equally as promising now on test.

These bull calves are from 3 months to serviceable age out of dams with records up to 777 lbs. fat. They combine size, and type with persistent production.

SHOREWOOD FARM, Crystal Bay, Minn.

Guernseys

Best May Rose breeding. Both sexes and all ages from an Accredited Herd. Write your wants and send for lists.

E. S. Person, Minot, N. D.

Hillswold Farm

Shrewbury, Mass.

Registered Guernsey bull calves for sale. Dams in Advanced Registry and tuberculin tested. Prices right, and animals guaranteed to suit. **W. A. Cloues, Mgr.**

Meadowland Guernseys

Sixty-five females, priced conservatively, are offered from which to make selections.

MEADOWLAND FARM, Litchfield, Conn.

Major Oliver S. Johnson



The Dairy Auctioneer

—

Tipton, Ia.

California Cow Competition

The California Cow Competition which was begun September 1, 1920, will be run for seventeen months, closing January 31, 1922. In the first three months of the competition, 193 cows have been entered from 29 different herds. Applications are being received daily and it is hoped that a large enrollment will be made before April 1, 1921.

Seventy-seven cows have produced over 50 pounds of butterfat for one or more months. The highest production was that by a grade Shorthorn owned by Earl Graham, the production being 2,099 pounds milk, 113.3 pounds fat. A pure-bred Holstein and a grade have each produced over 100 pounds of fat in a month. In November 100 cows exceeded 50 pounds fat, 92 produced an average of 54.06 pounds fat in October, and 43 produced an average of 56.63 pounds in September.

Koshkonong Place Guernseys

Herd Bull: ANTON'S KING CECIL
(6 May Rose crosses).

BULL CALVES 6 mos. to 1 yr. old from A. R. daughters of

Jury and Gilt-Edge of K. P.

Herd on Federal Accredited list.

A. R. HOARD, - Fort Atkinson, Wis.

CITY HOME FARM GUERNSEYS

Fine registered Guernsey bulls of serviceable age and younger of most fashionable breeding. Priced right. Can also spare a few fine females.

F. W. MEYER BARRON, WIS.

SARNIA FARM GUERNSEYS

We are offering several very high class bull calves, 1 to 10 months old, nearly all out of A. R. cows. Send for sale list and circular giving pedigrees and pictures of the herd sires. Place your order now for bred heifers from 1920 importations.

Charles L. Hill & Son, - Rosendale, Wis.

Guernsey Cows

I am offering for sale several head of Registered Guernsey cows of excellent breeding. They are the natural increase of my herd. Also have young bulls sired by Pencoyd's Secret Premier No. 49474. These bulls are splendid individuals, showing type and production.

Herd under Federal Inspection

OTTO W. POST, ENSENOR, N. Y.
R. R. Station, Owasco Lake

Harbor Hill Guernseys

Masher's Galore 8572 A. R.

Increased the Average Production Credit of 12 A. R. daughters out of A. R. dams by 181 lbs. We offer his double grandson out of another daughter also making a better record than her dam.

C. H. Hechler, Superintendent
Box 30, Roslyn New York

Forestdale Farm

3 Bully Baby Bulls 8 Handsome Healthy Heifers — 2 to 18 months

from Superior Standard Sires, also a few A. R. matrons. May Rose Breeding. Tuberculin tested. $250 lowest price.

R. D. DeForest, Amsterdam, N. Y.

Do You Want A Guernsey Bull

Closely related to Pergue's Crescent A. R. with a record of 13,316.9 lbs. milk and over 582 lbs. fat in Class EE and dropping two calves within the year, entitling her to second place in her class? Some excellent young bulls closely related to Pergue's Crescent ready to head your herd. Write for descriptive circular, or come and see them.

Ernest W. Sass, Box H, Streator, La Salle County, Illinois.

Guernsey Bulls

Our last 9 official records average over 510 lbs. fat, including all ages. Our herd sire has 8 A. R. daughters, including one with 572 lbs. fat in Class GG. His three nearest dams average 822 lbs. fat. Send for pedigrees and prices on young bulls with this backing.

Folly Farm, Box 587, Libertyville, Ill.

GRASSLAND FARMS GUERNSEYS

Choicely bred males and females for sale. (The natural increase of the herd.)

Herd federal tested for tuberculosis. Send for sales list. Satisfaction guaranteed.

Taconic, Conn., Litchfield Co., (C. N. E. R. R.)

Falcon's Grenadier (65834)

Dropped Feb. 12, 1920

Sire: *Falcon's Proud Warrior* (*47559*). Pronounced by many experts as "the greatest son of Langwater Warrior".

Dam: *Stockbridge Olive* (*30883*), from a noted family of high producers. Olive has an A. R. record of 11,503.2 lbs. milk, 617.36 lbs. fat and dropped two calves during the year.

Grenadier is a high class, well grown bull; priced very conservatively at $600 f. o. b., Litchfield.

Write about him today.

Falcon's Flight Farms, Litchfield, Conn.

READY FOR SERVICE



DISTURBER OF PROSPECT 61173
DROPPED OCTOBER 4, 1919

Sire — Anton's King Confidence No. 43517. Dam — Sally of Prospect No. 49680. A. R. 5593. Besides having six May Rose crosses this young fellow is a wonder for type and individuality. His sire's dam has a record of 764.65 lbs. of butterfat as a junior four-year-old. Disturber is priced to sell quick and guaranteed in every way.

Hoard's Dairyman Farm

Fort Atkinson - - Wisconsin

Just What You Want!

An 8 months old bull calf. Partly white, light fawn, very fine individual.

SIRE—Cream Cup's King Regent of Allenwood 33889, by Allenwood King Regent 23641 and Allenwood Cream Cup 41291 who has a record of 436.89 lbs. fat Class G.

DAM—King Regent's Fanny of Allenwood 2d 73637, now on test in Class FF and will finish between 500 and 600 lbs. fat and has milked as high as 49 lbs. in one day. She is a daughter of Noble Regent 31691 and King Regent's Fanny of Allenwood 58290 who has a record of 347.64 lbs. fat at 2 years.

CORIUM FARM, F. J. Rueping, Owner, Fond Du Lac, Wisconsin.

Guernseys For Sale

Pure-breds — A large number of bulls, bull calves, cows, heifers and heifer calves.

Grades — Cows, heifers and heifer calves. Listed for sale through the banks of Wisconsin. Send us your wants.

Other Live Stock: Breeders are listing with us other dairy cattle, beef cattle, horses, sheep, and swine. Write us if you want stock. We will answer promptly.

BANKER FARMER EXCHANGE,

D. H. Otis, Director. 1822 Chadbourne Ave., Madison, Wis.

Young Bulls For Sale From A. R. Dams

I am offering several young sons of Golden Noble of Craigmoor A. R. He is a son of Langwater Raritan A. R. and from Imp. Daisy Moon 4th (639 lbs. fat).

These bulls are from A. R. dams with records up to 648 lbs. fat.

They are from 3 months to a year old. For prices and pedigrees call or write

Maple Heights Guernsey Farm

Frank E. Swan, Wauwatosa, Wis.

Federal Accredited Herd.

CityViewFarm GUERNSEYS

FOR SALE: Typy May Rose bulls out of A. R. cows or cows on test with records up to 615 lbs. fat AA Sired by Bell Buoy of Linda Vista, 17 A. R. daughters, and Langwater Good News. Some of these bulls trace 18 times to May Rose II and are priced to sell.

O. R. SCHWALEN. Roberts, Wis.

Wern Farm Guernseys

I am offering for sale 20 head of choice Grade Guernsey springers coming with first and second calf. Also have two bulls highly bred along May Rose lines just ready for service, that I will sell. For full particulars, write, wire, or come and see the stock.

Wern Farm. Waukesha, Wis.

MAPLE HILL FARMS

May Rose bulls for sale from 2 to 16 months old with A. R. backing.

Fruit Bros., - Waukesha, Wis.

Tilden Farms Guernseys

FOR SALE: Several typy, May Rose bulls out of A. R. cows and sired by Hope's May Rose of Maple Hill (35903), whose dam is a class leader with 776 pounds of butterfat at 3 years. Also several choice pure-bred females and a few excellent grade cows. Herd on Federal Accredited list.

TILDEN FARMS

James H. Murphy, Mgr. Delavan, Wisconsin

Tratt Guernsey Herd

Herd headed by Bob Rilma's Monogram whose dam and grandam have A. R. records averaging 887.5 lbs. fat.

Bull calves for sale by him out of cows with good A. R. records.

Write for pedigrees and prices.

RALPH TRATT, WHITEWATER, WIS.

Homestead Farm

Offers a number of good cows. All safe in calf, mostly with A. R. records. Also thirteen young bulls, from one month up to sixteen months of age. Some of these are very choice. Write for sale list.

W. G. JAMISON & SONS, Appleton, Wis.

GORDONDALE

Guernsey bulls of serviceable age offered for sale, also younger ones. They carry May Rose breeding, are from A. R. dams and have splendid A. R. backing Ask us about them.

Herd under Federal Supervision.

L. E. GORDON, JR.,

Nelsonville, Portage Co., Wisconsin.

Here's Your Opportunity!

Good Grade Cows in car lots. Pure-bred Males, Females with type and good producing ability. Investigate.

Fox River Valley Guernsey Breeders' Association
Harry Leppla, Sec'y, Appleton, Wis.

Registered Holstein Bulls

4 Yearlings, 7-4 to 6 months old
$100.00 and up if taken soon

All sired by 30-pound bulls. Out of A. R. O. dams with records made on the farm running from a 17-lb. two-year-old to 21-lb. two-year-old, and aged cows from 22 to 30 pounds. We have 13 granddaughters of King of the Pontiacs in our herd and one of his sons out of a 30-lb. dam. Also a grandson of Pontiac Korndyke out of 1,105-lb. dam, 30 pounds, 7 days.

C. A. PARKS, Mgr. Assumption, Ill.

BULL CALF FOR SALE

Sire is a 27-lb. son of Johanna McKinley Segis, the 40-lb. bull that sold for $25,000. Dam is a granddaughter of Pearl of the Dairy's Joe De Kol with 78 A. R. O. daughters. Marking ⅞ white.

Long Distance Phone 389.

DUETT ROBINSON, R. 3, Capron Ill.

Woodell Farm

Offers a Few Serviceable Bulls

Sired by a son of King Segis Pontiac Superior and out of A. R. O. dams. They are good ones, priced reasonable. Write us today about them. We will answer you promptly.

Harry M. Wood, Prop., Delavan, Ill.
F. E. Washbon, Herdsman.

Buffalo Creek Farm Holsteins

This yearly record bull calf for sale, born Nov. 28, 1919.

Name, King Lavera Ormsby No. 297926. Sire: King Pietertje Homestead Ormsby No. 221488. Dam: Lavera Hortensia Bawn 2d, No. 124734, with a record of 26,010.2 lbs. of milk and 1,050.55 lbs. of butter in a year. Write for price and pedigree. This calf won 5th premium at the Dairy Show.

Herd under Federal Supervision.

H. L. BINGHAM, Supt., Arlington Heights, Ill.

57 BULLS

From four to eighteen months of age. All pure-bred, registered Holsteins carrying the blood lines, close up, of some of the greatest families of the breed. Send for new bull catalog just out giving description, pedigree, and price. If interested in females, ask for female catalog. Over 600 head in our herds.

WOODLAWN FARM, STERLING, ILL.

Whitehurst Farms

BULLS FOR SALE FROM SEMI-OFFICIAL DAMS. Priced Right.

A. F. Randolph, Prop., Canton, Ill.

Edinboro Lake Farm

Show Type HOLSTEINS Production

Six state yearly record champions 1918-19.

We offer bull calves by Sir Paul Veeman Hengerveld and Sir Ormsby Skylark Fredericka, out of yearly record dams with type.

Edinboro, Pa.

ORIGIN FARM

HORNLESS HOLSTEINS, Registered and A. R. O. Animals, all ages, for sale. Federally Tested.

GEO. E. STEVENSON, Scranton, Penna.

Son of a 37-Lb. Ormsby Bull

Dam: three-fourths sister to an 870-lb. junior 2-year-old. Mostly white, $150. Herd under Federal Supervision.

BLUEBELL FARM, RICEVILLE, IOWA.

VERY HIGHLY BRED YOUNG Holstein-Friesian BULLS

and two heifer calves are offered for sale cheap. All are registered, tuberculin tested and sound. Write or see "LIVE FAIR" VIEW, Waverly, Iowa. Otto Brandenburg, Mgr

THE TRAVERSE HERD

We have what you want in

BULL CALVES

the large, fine growthy type, guaranteed right in every way. They are from high producing A. R. O. ancestors. Dams' records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.

Traverse City State Hospital, - Traverse City, Michigan

The Pontiac Herd

"Where the Champions come from"

Offer Bull Calves sired by sons of *Pontiac Korndyke, Hengerveld De Kol, Pontiac Dutchland, or Admiral Walker Pietertje.*

Do you want a Pontiac in your herd?

PONTIAC STATE HOSPITAL, Pontiac, Mich

$225 Buys a Registered Holstein Bull — 14 Months Old

A good individual, large sized, perfect top line and about ⅞ white. His dam is one of my largest and best cows, with a large square udder and exceptionally straight top line.

She has just completed a 7-day Official test, making 24.2 lbs. butter and 505.3 lbs. milk.

His sire is a 29-lb. bull of good breeding and individuality.

A Bargain for Someone

I have also some very choice bull calves of excellent breeding from dams with A. R. O. records of 20, 23, 24 and 26 lbs. of butter in 7 days.

I. M. SHORMAN, Route 4, Fowlerville, Michigan



S. I. P. S. ATTAIN

$500 BUYS THIS BULL!

He Won First at the Delaware State Fair This Past Season

His sire is a 30-lb. bull. His dam made, as a two-year-old, 20.52 lbs. butter in 7 days and 753.37 lbs. in 365 days, she by a 30-lb. bull and out of a cow with 26 lbs. in 7 days and 685.81 lbs. in 305 days.

WINTERTHUR FARMS Winterthur, Del.

Federal Accredited Herd



"SPOT"

Elf Aaggie Fayne Johanna
Milk 27949 lbs.
Butter 1001 lbs.

Breeders of Holstein Cattle

2 WORLD
4 STATE } RECORD COWS IN OUR HERD

Holstein Bull Calves For Sale

A Few Exceptional Individuals Ready for Service

Write for Bull Sale List. LISLE FARMS CO., LISLE, ILL.



Brookings Cornucopia No. 71138

WE WILL TRUST YOU FOR A BULL

Realizing that money conditions are a little close we are offering a year's time on calves bought from us. Our calves are Sired by Brookings Cornucopia, a 35.36 bull, Admiral Walker Prilly, a 32-pound bull with 42 A. R. O. daughters; King Pontiac Bettina, 31-pound son of King of the Pontiacs.

These calves are from A. R. O. cows and cows with and without records. Ages 6 weeks to yearlings. Prices, $50.00 to $150.00 depending on age and breeding. One year to pay.

Pettis County Holstein-Friesian Co., C. M. Long, Sec'y, Sedalia, Mo.

Lord Netherland Rag Apple

Son of Ex-Champion 4-yr.-old Heads Our Herd

Five of his six nearest sires have 40-lb. daughters. Four of his six nearest dams have 31-lb. daughters. His two nearest dams average over 40-lbs.

We have his first sons for sale.

LAWRENCE PAUMIER, - - (Stark Co.) - - Louisville, Ohio

ZEHRINGHURST HOLSTEIN FRIESIANS

A Few Splendid Young Bulls

for sale that have show ring type, that are backed by 7-day and yearly records and by the best productive breeding in Ohio. They are from an accredited herd, are guaranteed right and are priced to sell.

Zehringhurst Farm, Germantown, O. Oscar O. Zehring, Prop.

HOLSTEIN CATTLE

Messrs. Robinson & Schultz, Independence, Kansas, write:

"Three years ago in September we bought a Holstein cow for $240. This cow has produced $2,520 worth of milk in three years, and it cost us $800 to feed her. Her four heifers are worth $2,200. This cow has brought a net profit into our herd of $3,400."

Send for Free Booklets

The Holstein-Friesian Association of America

101 American Building Brattleboro, Vermont

Here He Is — A Son of King Pietertje Ormsby Piebe For You



KING PIETERTJE ORMSBY PIEBE, 20TH

His dam, Kirby Martha 2d, made 32.36 lbs. butter in 7 days and 978.58 lbs. in a year, as a 4-year-old.

His sire, K. P. O. P., is as you know, the best long-distance bred bull in the country.

King Pietertje Ormsby Piebe 20th is a showy calf like most of his brothers. His 2 nearest dams average 1,184 lbs. butter and 24,288.8 lbs. milk, both as 4-year-olds.

Write for more information. His price is right and we offer him on easy terms.

Hargrove & Arnold Norwalk, Iowa

Herd Under Federal Supervision

SIR JOHANNA FAYNE



42147

now has 9 daughters 20,000 pounds or over. All of his yearly tested daughters, 3½ years old or over average 21,465.1 pounds milk and 831.45 pounds butter. 17 daughters average 20,000 pounds. A few young sons left at reasonable prices. Herd under Federal Supervision.

IOWANA FARMS
DAVENPORT, IOWA



Home Farm Wayne Sir Clyde

This Typy Son of Woodcrest Sir Clyde

was third in his class at the North Iowa Fair; he was born January, 1920. Dam is a daughter of K. K. S. V. 24th with an 18-lb. 1st calf record; will finish her year with about 550 lbs. butter. His sire's dam is a 33-lb. cow with 970 lbs. in a year and his dam's dam a 29.7-lb. cow with 600 lbs. in a year as a 3-year-old. He is very moderately priced; send today for pedigree.

W. B. BARNEY & SONS, Chapin, Iowa

A Bull Sale of Genuine Quality

At WATERTOWN, WIS.

Tuesday, February 1st

50 Serviceable Bulls

Among them you will find 29 grandsons of King of the Pontiacs, a bull from a 27-lb. four-year-old sired by a 33-lb. son of King of the Sadie Vales, another from a 22-lb. two-year-old (this dam now on test going at a 30-lb. gait), a son of a 25-lb. 4-year-old, second dam 27 lbs., a son of a 25-lb. 3-year-old, a son of a 75-lb. yearly record cow, sired by Woodcrest Clyde, 33 lbs. You will also find bulls from good record dams sired by the following sires: Finderne Fayne Holingen Valdessa, who is by King Valdessa, 40 lbs., and from a 37-lb. dam with 1,395 lbs. butter in a year from 24,612 lbs. milk; King Agatha Pontiac Lass, a 30-lb. grandson of K. P. Pontiac Lass, 44 lbs.; King Canary Oak De Kol, a 34-lb. grandson of Canary Paul Fobes Homestead; Carnation Segis McKinley, a 30-lb. son of Johanna McKinley Segis; King Segis Champion Rue, a 30-lb. son of King Segis Champion Alcartra Ormsby Oak Homestead, a 32-lb. grandson of Canary Paul Fobes Homestead.

As the above indicates we have assembled a class of bulls that will tend to create value in the herds to which they are introduced.

We have bulls that will interest discriminating pure-bred men and that will appeal to men with grade herds. This Sale was prompted by a desire to facilitate the tedious and difficult task of procuring a satisfactory herd sire. We have fifty—one will suit you. You make the price.

All bulls tuberculin tested. Catalogs at Sale.

Watertown Holstein Sales Co.
Francis Darcey, Sec'y, Watertown, Wis

Just a Few Good Bulls Left

THEY ARE SONS OF

Sir Pietertje Ormsby Mercedes 41st

the son of S. P. O. M. and Spring Brook Bess Burke
and of

King Pontiac Artis Sadie Vale

a 34-lb. son of K. K. S. V.

These youngsters are of different ages—one or two ready for service. They are from our good foundation cows that have good 7-day records and have made or are making good yearly records. There is one of them that is just what you want. His price is reasonable and he is guaranteed right.

Gustave Pabst's Hollyhock Farms
Fred J. Southcott, Manager **Dousman, Wisconsin**

---

4 Serviceable Bulls

ALL SONS OF THE 1235-LB. YEARLY SIRE

Sir Korndyke Bess

The Dams' yearly records all over 800 lbs.

R. E. Benson - - Dousman, Wisconsin



Yearly Records

Choice Young Bulls

from one to fourteen months old for sale. Sired by Cloverlawn Johanna Piebe whose five nearest dams average 1,070 lbs. of butter, 23,809 lbs. of milk a year. Herd numbers 140 head, forty cows with yearly records. State exactly what you want.

JOHN PULS, - HARTFORD, WISCONSIN

Spring Creek Holstein Farm Dispersal

20 — Registered Holsteins — 20

FEB. 15, 1921, at 1 P. M. on farm 80 rods from station. These are "Top Notchers", the result of years of careful selection and breeding. Send for catalogue.

RUSSELL TRUMPY. Owner. **Clarno, Green Co., Wis.**

Col. Edgar Eels, Auctioneer.

Mr. Holstein Breeder—

You are Invited to

Pinehurst Farms

at any and all times. Come if you want a herd sire or foundation females. Come if you don't want to buy. We believe you will be interested in Sir Ormsby Beauty Pontiac Segis and his get and in our herd of producing females, many of them now doing very well on 7-day and year test.

You will be welcome and remember if you should buy from us, we stand back of every animal sold.

Pinehurst Farms Co., Sheboygan Falls, Wis.

Bull Calves For Sale

Out of A. R. O. Dams up to 27 lbs.

Herd Federally Tested

WM. MEISEGEIER
R. 4, Barron, Wisconsin

A. R. O. BULLS—2 Weeks to a Year Old

At Bargain Prices

They are sons of Rag Apple Pontiac, a 30-lb. grandson of King of the Pontiacs, from well bred dams with records up to 27 lbs. in 7 days. Write today for prices and pedigrees. I'll answer your inquiry promptly.

W. W. Quackenbush, - West Salem, Wis.

HOLSTEIN BULLS AND HEIFERS ! !

To make room in our barn we offer a dozen or more heifers from 1 month to 3 years of age. They are backed by some of the best families of the breed. Also a few bulls sired by King Korndyke Veeman, whose two nearest dams average over 37 lbs. butter in 7 days. Come and see them or write to

WISCONSIN STAR STOCK FARM, ED. M. SHULTZ, HARTFORD, WIS.

Serviceable Bulls For Sale

Sired by Pabst Pontiac Hengerveld, a son of King Pontiac Champion from Pabst Hengerveld Colanthus (31.5 lbs. butter in 7 days, 1,057 lbs. in a year.

These are nicely marked, well grown youngsters out of good producing dams. Several are ready for service, others are younger.

Write today.

John Alexander, Baraboo, Wis.

Wayside Stock Farm

OFFERS

4 Serviceable Bulls

ONE is from a 28.30-lb. cow and by a 38-lb. sire.

TWO is from a 27.25-lb. Jr. 3-year-old and by a 86-lb. son of Champion Echo Sylvia Pontiac

THREE is from a 19.40-lb. 2-year-old and by a 33-lb. son of King of the Sadie Vales.

FOUR is from a 15-lb. 2-year-old daughter of a 27-lb. 3-year-old and by the 36-lb. grandson of May Echo Sylvia. Three of them have 5 nearest dams averaging over 30 lbs.

Be quick if you want one.

A. L. Williams Estate, Fond du Lac, Wis.

Sons of a 36-lb.—1315-lb. Sire

They are sons of Dutchland Creamelle Denver Prince. His sire is a 30-lb. 1,028-lb. grandson of Colantha Johanna Lad and his dam, the highest record daughter of the same sire, with 36 lbs. in 7 days, 1,315 lbs. in a year.

They are from tested (records up to 20 lbs.) and untested dams — Good producers rich in the blood of Mooie Mutual De Kol and King Segis Pontiac.

The calves are from 2 to 8 months old. Priced right.

Jefferson County Asylum, Jefferson, Wis.
W. E. Voigt, Supt.

1000---HERD---1000

Quality Holsteins

GRADES AND PURE-BREDS

Just now we have a splendid lot of grade heifers. Write for our pure-bred bull list.

Jefferson County Holstein-Friesian Breeders' Association,
A. F. Gafke, Secretary, Jefferson, Wis.

$100 to $200 Buys A Bull From A Good Record Dam

Am offering several for those prices sired by a 26-lb. bull and from A. R. O. dams with records up to 25.46 lbs.

Write at once. They'll go fast.

H. W. Crawford, R. 5, Campbellsport, Wis.

Bull Ready For Service

Nicely marked and a good individual. Dam 20 lbs. butter at just 3 years. Next dam a 23-lb. 4-year-old. Two nearest dams of his sire average over 32 lbs. and ten nearest dams over 29 lbs. in 7 days Not a break in a three-generation pedigree. Priced to sell. Call or write

Halsey J. Sedgwick, Limeridge, Wis.

A 20-Mo.-Old Service Sire

out of a 26-lb. daughter of King Korndyke Veeman Wayne and sired by a 26-lb. son of King Segis Pontiac. A fine individual—Well grown—Well marked—Well bred. A few younger bulls out of record dams and priced right. Herd tuberculin tested. Come and see these at any time.

RIDGEHURST STOCK FARM.
Glen C. Ramsey. Ft. Atkinson, Wis.

DON'T PUT OFF

Seeing your friends and having them join in for a club of subscribers.

---

31 Lb. Herd Bull For Sale

Dam 590 lbs. milk, 31.02 in 7 days; 19,631 lbs. milk, 829 lbs. butter in a year. Sired by a noted bull with 7-day and yearly records. He is ⅞ white, straight top line, weighs 2,000 lbs. His get have nice udders, good individuals and light colors. Priced to sell. Can use a few nice females towards him. Come or write.

Kirkpatrick Bros., Reedsburg, Wis.

5-10 WELL BRED HEIFERS

SEVERAL GOOD YOUNG BULLS

are what we are offering just now. The heifers are registered two-year-olds, bred to freshen this fall. The bulls, old enough for service, are from A. R. O. dams and by Sir Ormsby Homestead Butter Boy, a 35-lb. bull. One is by a 42-lb. grandson of S. P. O. M. Come and see them.

ANDREW FRANK, FOX LAKE, WIS.

WAUPACA COUNTY HOLSTEINS

The Home of Healthy Holsteins
More Federal Accredited Herds than any other County in Wisconsin
200 Grades and Pure-breds ready for immediate shipment

WAUPACA COUNTY HOLSTEIN-FRIESIAN BREEDERS' ASSOCIATION, A. B. Rowe, Secretary, Waupaca, Wis.

Dispersal Sale

OF

Registered

Holstein Cattle

February 10, 1921

¾ mile South and ½ mile West of

Shepardsville, Mich.

on G. T. R. R.

Including Seven Females and Six Males

One of these cows has a record of 31.68 lbs. butter in seven days. There will be two of her granddaughters and two of her sons in this sale.

Charles Ridenour, R. 2, Ovid, Mich.

HEAD YOUR HERD

With This Grandson of S. P. O. M.

His sire is S. P. O. M. 36—you know him. His dam is Valley Pauline Paul, a 24.25-lb. cow.
His 2 nearest dams average 29.42.
He was born Sept. 10 and is just the kind of an individual you want for your next herd sire. Write us about him.

Brown Bros., **Waverly, S. D.**

Fairhurst Herd

On the Accredited List

We offer young bulls, fine individuals and well grown. Sired by 33-lb. bull and from dams with records up to 30 lbs. Write for pedigree and price.

KITTLE BROS., **Holland, Ohio.**

BULL CALF

Sire's dam, butter, 1 yr., 848 lbs.; her daughter, 1,055 lbs. Grandsire's dam, 987 lbs. at 11 yrs.; her full sister, 1,344 lbs.; another, same dam, 1,322 lbs. Dam, Miss Pietertje Alexina 3d, sister to Miss Pietertje Alexina 2d, 1,290.91 lbs. A dandy calf, priced right. Write quick to

McKAY BROS., - - CADDOA, COL.

A Federal and State Accredited Herd Offers—

two serviceable sons of M. M. Rag Apple Oak Denver, a grandson of the 36-lb. cow, Dutchland Colantha Denver (1,315 lbs. butter, 25,431 lbs. milk in a year).

No. 1—Born Oct. 7, '19. Dam's record 16.04 lbs. as a heifer; second dam 24.79 lbs.; third dam 28.88 lbs. Bull mostly white, very good individual. Price $250.

No. 2—Born Nov. 5, '19. Dam's record 19.75 lbs.; second dam 18.75 lbs.; third dam 21.45 lbs. Half white. A show bull. Price $200.

For complete information and pedigree write

A. M. Anderson, **Whitewater, Wis.**

Cows and Heifers

A Few Good Bulls

Because I am overstocked, I am offering some very good registered females for sale. They either have A. R. O. records or are from A. R. O. dams.

Can also offer some excellent young bulls by a 33-lb. sire and from A. R. O. dams with records up to 28 lbs.

Every animal sold is guaranteed to be as represented.

Write or come and see for yourself.

J. D. McDonald **West Salem, Wis.**

Bull For Sale — Born January 2, 1920

Dam:—A 22.62-lb. granddaughter of Johanna McKinley Segis. She has several good daughters in the herd with records up to 33.48 lbs. butter in 7 days and 112 lbs. milk in one day.
Sire:—A son of Molly Johanna Korndyke, former world's record 2-year-old with 30.62 lbs. butter in 7 days. Write for pedigree and price.

W. J. McROBERT, **Waupun, Wis.**

ORMSBY BULL - Born Feb. 28, 1919

Sire, King Ormsby Pontiac De Nijlander, whose two nearest dams average over 30 lbs.
Dam, Aaltje Hengerveld Tritomia Segis. A. R. O. 17 lbs. at 3 yrs., next dam 29.68 in 7 days. Color light, fine individual. Ready for service. Price $300.

Fairview Stock Farm Whitewater, Wis., W. G. Marshall, Prop.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

THE RED RIVER VALLEY HOLSTEIN SALE

CROOKSTON · Feb. 9, 1921 · MINN

The First Holstein Sale of the New Year

OFFERS—

Foundation Cattle of Breeding and Type in Demand all Over the Country

50—FEMALES—50

Among the 50 Females Consigned:

A daughter of Sir Pietertje Ormsby Mercedes 41st bred to Sir Pietertje Ormsby Mercedes 37th.

A daughter of Sir Pietertje Ormsby Mercedes 22d bred to Sir Pietertje Ormsby Mercedes 37th.

A daughter of Sir Pietertje Ormsby Mercedes 36th, famous son of Sir Pietertje Ormsby Mercedes and Aaggie Wayne Peep.

Two daughters of King Korndyke Pontiac Lass, a son of the first 44-lb. cow.

A daughter of Sir Ormsby Banostine Champion bred to King Segis Pontiac Count and whose grandams average over 1,300 lbs. butter.

Four granddaughters of Sir Pietertje Ormsby Mercedes 41st.

A daughter of King Segis Pontiac Fayne Star, out of a 31-lb. dam.

A daughter of Great Joh Lyons out of a 30-lb. dam.

A daughter of Johanna Bonheur Champion bred to Sir Pietertje Ormsby Mercedes 41st.

A daughter of King Korndyke Colantha Ormsby bred to Sir Pietertje Ormsby Mercedes 37th.

A daughter of King Pietertje Ormsby Piebe out of a full sister to Bess Burke Ormsby bred to Sir Pietertje Ormsby Mercedes 41st.

A daughter of Sir Korndyke Wren, and others of **real foundation stuff.**

Among the Twelve Males:

A son of Sir Pietertje Ormsby Mercedes 41st out of a 20-lb. 2-year-old daughter of Sir Pietertje Ormsby Mercedes 39th.

A son of Sir Pietertje Ormsby Mercedes 31st, out of a daughter of Sir Pietertje Ormsby Mercedes 41st.

A son of Dutchland Aaggie Tidy Prince out of the 35-lb. foundation cow, Heilo Kappijne.

A son of King Piebe Ormsby Mercedes, and others rich in the blood of famous Minnesota Holsteins.

Be Present For The Smoker on The Evening of February 8th. Good Program

Minnesota Holstein-Friesian Breeders' Ass'n

SALES MANAGERS

Room 406-Market Bank Bldg. **Minneapolis, Minn.**

Minnesota Holstein Breeders' Association

Be sure that you buy Minnesota Holsteins from state association members. They are responsible. For list of members and other information address

THE SECRETARY, 406 MARKET BANK BUILDING, MINNEAPOLIS, MINN.

Holsteins at Private Sale!

By Members of

The Clay County Holstein Club, Moorhead, Minn.

40 — Females — 40

Some of the best in the state. Daughters of SIR PIETERTJE ORMSBY MERCEDES from cows with records up to 1,190 lbs. in a year. Cows with yearly records up to 1,163 lbs. All bred to high record bulls including SIR PIETERTJE ORMSBY MERCEDES 37TH and 41ST.

23 — Bulls — 23

Bulls for the man with a grade herd; bulls for the small breeder and bulls qualified to head any herd in the land. Several sons of SIR PIETERTJE ORMSBY MERCEDES 37TH and 41ST from dams up to 1,000 lbs. and over.

Send for Catalog

G. R. Melin, Secretary — **Moorhead, Minnesota**

(There are more 1,000-lb. cows in Clay County than in all other counties in Minnesota Combined)

Yearling Bull Ready For Service

His sire is a son of the world famous "IT" whose dam held the world's record for a year. His dam is a double granddaughter of Pontiac Aaggie Korndyke, the famous sire of long distance champions. Price $150.

G. G. Burlingame, Cazenovia, New York.

High Grade Holstein Calves

This is the ideal time of year to start them and have them ready for pasture next spring. ⅞ pure-bred Holstein calves, $20 and $25 each. Ship C. O. D. if you wish. Safe arrival and satisfaction guaranteed. Everything in the line of registered heifers. Write your wants.

ELM GROVE STOCK FARM,
Box 253. Cortland, N. Y.

Holstein Bull

Tuberculin tested and ready for service. Sired by King of the Changelings, a 33-lb. son of King of the Pontiacs. Dam, a daughter of a 33-lb. sire and has an A. R. O. record of 15.57 lbs. butter in 7 days at two years of age, averaging almost 4%. He is well grown and a splendid individual. First check of $175 takes him.

HARRY W. PETZOLD, Owego, Tioga Co., N. Y.

4 Holstein Bulls for Sale

All by King Segis Pontiac Cor-Will, 190512, whose sire is King Segis Pontiac, 44444, and whose dam is an A. R. O. daughter of Pontiac Korndyke. Also two fine young registered cows, one a granddaughter of Pontiac Korndyke.

Wm. N. Osborn, Wanatah, Ind.

Mankato Holstein Farms

Offer a Son of

King Colantha Ormsby Bess, A Sir Pietertje Bess Burke combination. Nine dams average over 1,000 lbs.

Dam is going at better than 800 lbs. butter for the year. Has over 25 lbs. butter in 7 days.

This calf was Grand Champion over all bulls at a Southern Minnesota district fair.

Several bulls at prices warranting their use in grade herds.

Write or better still come and see them

(A Federal Accredited Herd)

Marlow & Randall, Mankato, Minn.

Baby Bull For Sale

Grandson of Sir Ormsby Hengerveld Korndyke. Dam, a 16-lb. four-year-old. Price for immediate sale $100.

V. R. Holmes, Anoka, Minn.

MONEY

Is Hard to Get. So Are the Right Kind of Bulls!

We have both. Don't go without the bull you need just because money is tight. LET US HELP YOU. We also have a few females. WRITE FOR OUR BARGAIN LIST AND PAYMENT PLAN. Every milking animal in our herd has an official record. We need the barn room. Take advantage of this opportunity. SATISFACTION GUARANTEED.

GRAHAMHOLM FARMS, Holstein-Friesians
Federally Accredited.
H. R. Searles, Mgr., Rochester, Minn.

6 Good Cows For Sale

THE MINNESOTA KIND

They are all by a 36-lb. sire, are bred to a son of King Korndyke Colantha Ormsby, and are due to freshen this fall and winter. They are from 3 to 5 years old and absolutely straight and right. Lack of barn room forces us to sell. Write or come and see them.

E. J. Brosious, - Stillwater, Minn.

RICHLY BRED HOLSTEIN BULL CALVES

out of A. R. dams and sired by our two richly bred herd sires — **King Piebe Ormsby Mercedes,** a 35-lb. son of Sir Korndyke Bess and every dam in pedigree over 22 lbs. and **King Pietertje Mercedes Ormsby,** a son of Sir Pietertje Ormsby Mercedes and out of a 19-lb. senior two-year-old dam.

Herd tuberculin tested. Write for information or visit herd.

P. FROST SPAULDING FARM CO.
C. L. Spaulding, Mgr., Warren, Minn.

Sir Korndyke Ormsby De Kol 15th—21 Months Old

His sire is a son of Sir Korndyke Hengerveld De Kol; 51 A. R. O. daughters. one of whom has a 7-day record of 39.56 lbs. and several above 1000 lbs.

His dam has a record of 23.778 lbs. and now on yearly test.

Geo. H. Elwell, - Minneapolis, Minn.

Lake Shore Farm

Offers May 22nd, 1920, bull calf. 795 lbs. butter over 20,000 lbs. milk is his dam's yearly record. King Segis breeding, light color. Price for January $250.

E. J. OPPLIGER, Box 20, Forest Lake, Minn.

COME TO BISCAY

for your next purchase of pure-bred or grade Holstein cattle, mature or young stock. Large selection, also a few select male calves to offer. Located near station

BISCAY SALES CO., BISCAY, MINN.

Minnesota Holsteins



Miss Korndyke Akkrummer Ormsby 30-lb. 4-year-old. 39.67 lbs. butter at full age. Owned and developed by J. B. Irwin.

For Your Next Herd Sire

get a son of Sir Ormsby Banostine Champion, son of Duchess Skylark Ormsby, world record cow. We have some good ones for sale from dams with good 7-day and year records.

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the highest record bull in southern Minnesota, heads our herd. His sire, Piebe Laura Ollie Homestead King, has more daughters that as 2-yr.-olds have produced 20,000 lbs. milk in a year than any other. His dam, a 34-lb. 4-year-old daughter of King Segis Pontiac Count, has 3 records averaging 33 lbs. and has made over 1,000 lbs. in 1 year. We have a few serviceable bulls and younger from A. R. O. dams for sale.

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We don't want your money until we have pr ven to you that the Melotte is the best separator on the market. We don't want you to sign any papers. No money down, no deposit, no guarantee, no formalities. Please understand that you are under no obligation. We make this liberal offer because we know a test will convince you. Send the coupon now for full details.

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In order to convince you quickly that the Belgian Imported Melotte is, by far, the best cream separator that it is possible for you to buy anywhere in the world—we will send one direct to your farm on a 30-day absolute and unconditional Free Trial. Use it for 30 days just as if it were your own machine. Put it to every possible test that you can think of. Compare it with any or all others. See how easily the Melotte is kept clean and sanitary—how much easier it is to operate. After you have tried it 30 days and you know it is the separator you want to buy, pay $7.50 down and the balance in small monthly payments as low as

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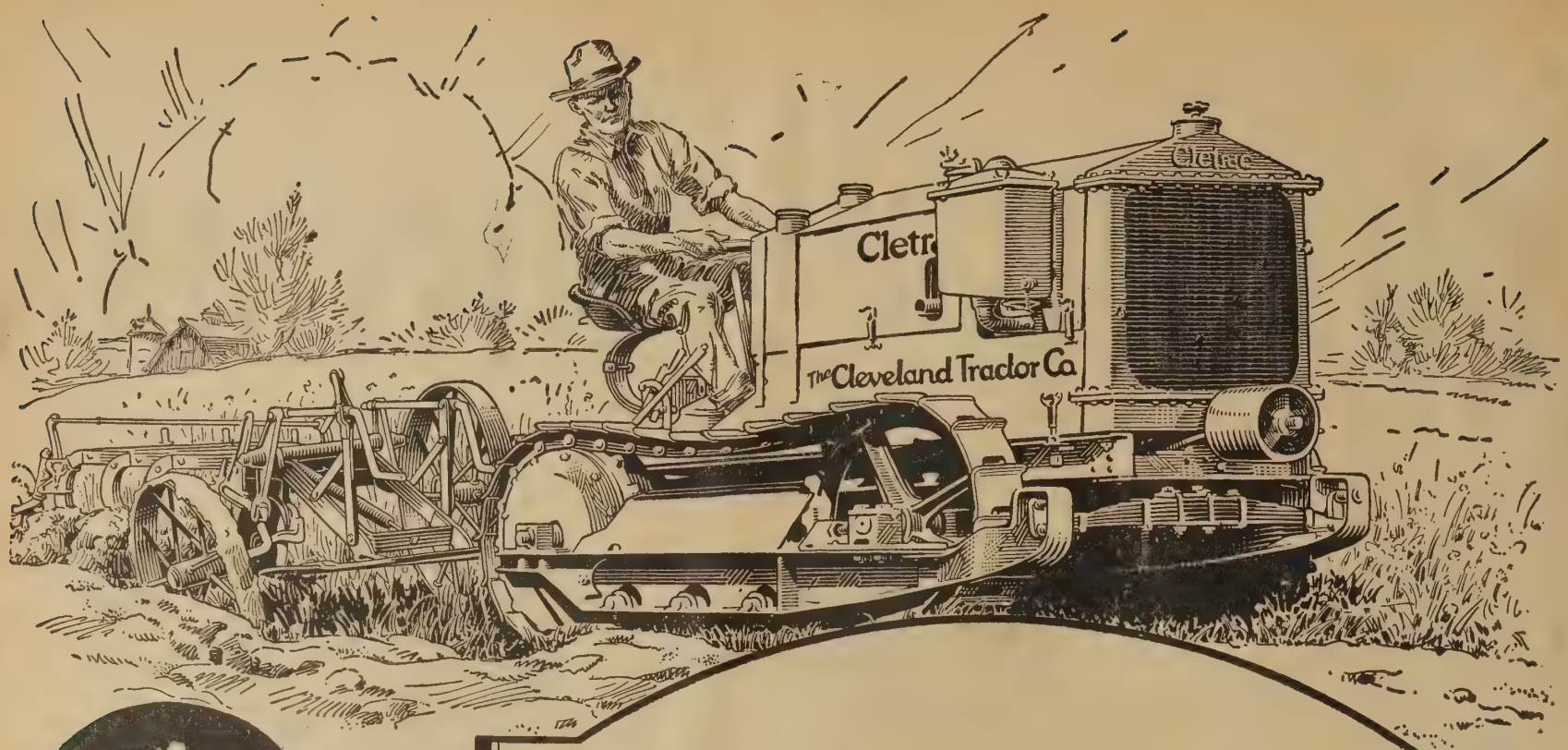
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HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING



Fort Atkinson, Wisconsin Volume LXI, No. 3 February 4, 1921



First in the Fields

Cletrac Farmers A Week Ahead In Spring

CLETRAC farmers are first in the fields every year. Even a late wet Spring doesn't worry them—their Cletracs get right into the fields and start the work a week ahead of their neighbors.

Cletrac's tank-type tracks ride easily over the soft, wet ground. They do not dig in or mire in the soggy spots. Cletrac jumps right into its fast, steady pace the first day out and keeps going.

With a Cletrac it's easy to get the plowing and fitting done in time for those few days when conditions are just right for planting.

"*Selecting Your Tractor*" tells you all about this and why Cletrac reduces the cost of raising farm produce. Send for a copy and see your local Cletrac dealer.



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EASY ON A TRACK THE CLETRAC WAY

SPECIFICATIONS

Horsepower: 12 at drawbar, 20 at belt-pulley.
Length: 96 inches.
Width: 50 inches.
Height: 52 inches.
Weight: 3420 pounds.
Turning Circle: 12 feet.
Traction Surface: About 800 square inches.
Center to Center of Tracks: 38 inches.
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Hold Back anything needed Here

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A COW can give milk to her fullest capacity only when fed the right proportion or balance of milk-making materials. Milk is made up of protein, carbohydrates, fat, minerals and water, in proportions that practically speaking can't be varied. Instead of making imperfect milk, a poorly fed cow gives less milk.

Cows seldom get enough protein or enough calcium

For that reason, a large part of the roughage and home-grown grains is often wasted. You have to give your cows twice as much grain feeds as when you feed Purina Cow Chow.

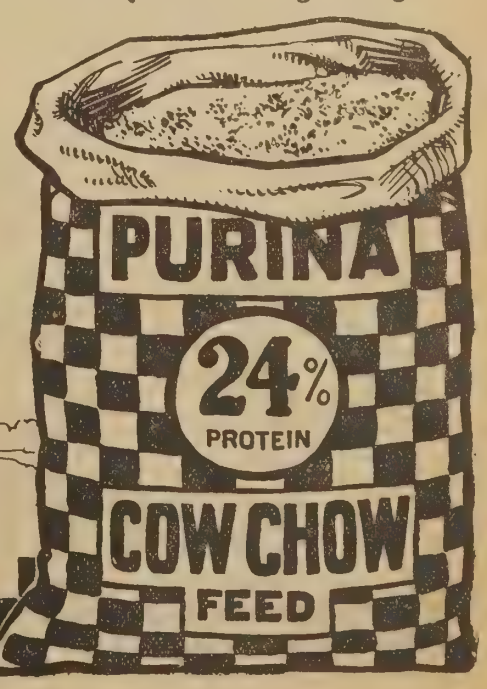
Feed your corn, oats and barley with

Purina Cow Chow

While grains are too low in protein to be valuable milk producers, with the addition of Purina Cow Chow, these grains will be balanced with the right amount of protein—and what is more important, the *right kind* of protein.

Put Purina Cow Chow to the test, and your milk scales will give you the best of reasons for continuing it, no matter what the price of home-grown feed. "A B C of Milk Making" shows how to balance home-grown rations—get it free.

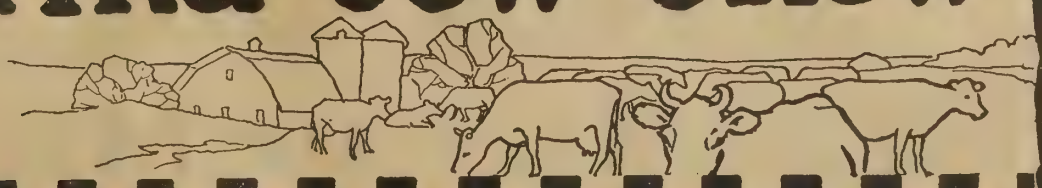
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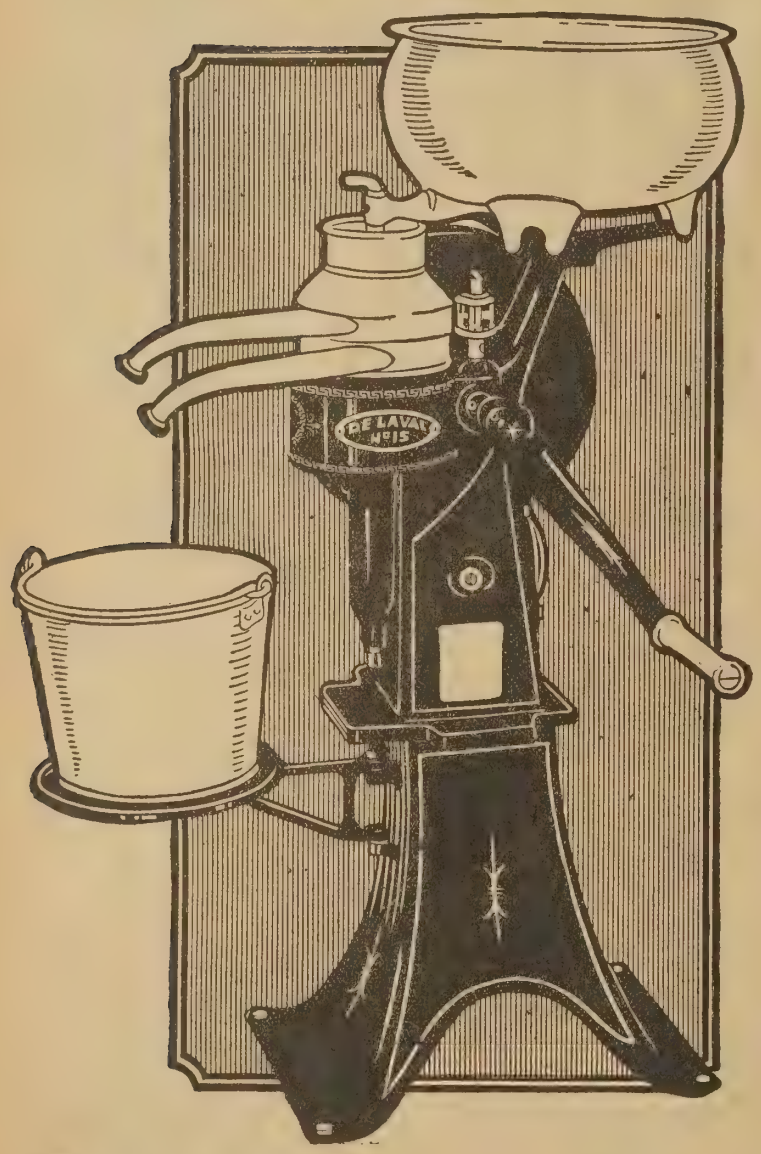
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A DE LAVAL Cream Separator is the best paying investment any cow owner can possibly make.

It saves twice a day, 730 times a year, over any other system or inferior separator—in quantity and quality of product, time and labor.

Its cost represents an investment of about 5 cents a day for ten years, including cost of operation and interest on the investment. With simple care it will give good service not only for 10 but for 20 to 30 years; it practically never wears out.

Such an investment may save you from 25 cents to $1.00 or more a day, according to the number of cows, returning from 500% to 2000% profit on the investment. Every day you delay the purchase of a De Laval you waste and lose money.

Today a De Laval Cream Separator, considering its improvements and quality of construction, is one of the cheapest things you can buy. With cheaper feeds and butter-fat at present prices there is more profit today in butter-fat than there was a year ago. Relatively, a De Laval is cheaper than it was a year ago.

See your nearest De Laval agent now about getting a new De Laval. Even though you have only one good cow, it will pay you to own one.

The De Laval Separator Company

NEW YORK	CHICAGO	SAN FRANCISCO
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Sooner or later you will use a De Laval Cream Separator or Milker

HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING

Volume LXI — FORT ATKINSON, WIS., FEBRUARY 4, 1921 — Number 3

WHAT MIGHT HAVE BEEN

Mrs. Willcox paints a vivid picture of a final meeting of 1921 New Year Resolutions, as they pass out, broken and unkept. They come together, tell the story of their short lives, and depart, to await the annual resolution revival at the beginning of another year. Perhaps some of your own resolutions, made only a month ago, attended this strange gathering.

HELEN S. K. WILLCOX, NEW YORK

IT was many days after the making of 1921 good resolutions that a company of elusive, ethereal ghosts gathered together one cold winter's night to talk about that most interesting subject to either man or shade—himself. An old-appearing, decrepit shadow advanced to the center of the ring and addressed his fellows thus, "It is a pity, indeed," he began quaveringly, "that fine, upstanding resolutions, such as we were on the first day of January, should have degenerated into nothing but careless memories and ghosts of what we had promised to become. But down through the ages it is ever so. At the beginning of the year, man determines to turn over a new leaf and attend to his rightful commissions thereafter instead of adding to his omissions. He fully intends to live up to his fresh standard, but alas! alas! We who are gathered here are touching examples of the already broken, forgotten resolutions of young 1921. But enough of such pessimism! We must on to our business, which is for each broken resolution, once a new, good resolution, to describe himself, tell how and why he was broken, and then fade away forevermore. Tell us, Dairyman John Jones' resolution, why you are with us tonight instead of now fulfilling your destiny."

The resolution who arose at this bidding was originally a tall, impressive figure who had now become bowed down and shrunken to a caricature of himself. "I am the renouncing-oleo resolution," murmured this ghost with a tired, weary sigh, "but John Jones only kept me for a week. The next time he went down to the store his cupidity overcame his loyalty to his own product and his fellow dairymen, consequently he returned with ten pounds of substitute, and he and his family have eaten it ever since. The grave pity of it is that John Jones is a member of the Dairymen's League and has virtually promised his organization and neighbors to refrain from betraying them in this fashion, even to seemingly save a few pennies a pound. Do you wonder that I am glad to get his disgrace and his weakness off my mind when you stop to think that I represent many thousand similar broken resolutions where farmers today still insist on conducting their business on a Dr. Jekel and Mr. Hyde basis, insisting on enjoying the power and protection of their organizations, while at the same time they knife them in the back by supporting that industry's most insidious enemy, the butter substitutes? I am thankful to fade away, friends, but my last prayer is that such men as John Jones, who created me only to break me, shall some day see the error of their ways or, better, feel their errors in a financial way, the only way such men can be reached. I bid you all a sad adieu!" With which words the renouncing-oleo resolution vanished into oblivion.

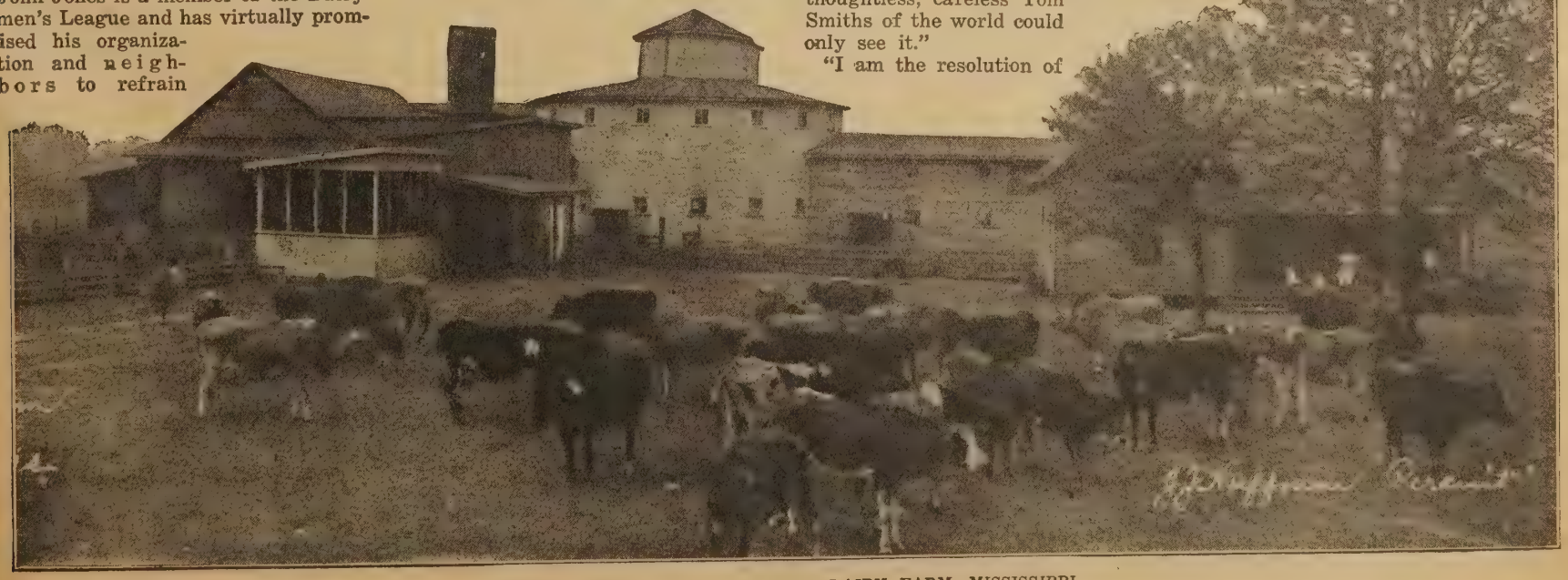
"I am the broken pool-signing resolution," sighed another shade sorrowfully. "Will Brown and many thousands of others like him said they would agree to sign the proposed pool in January, advocated by all friends and leaders of the great Dairymen's League. They had put it off for many reasons: prejudice, ignorance, unfounded fear of the untried, but Will Brown and his big company resolved to sign me and keep me at the beginning of 1921. But when January arrived these doubters and conscientious objectors and progress-hamperers again refused to make the pool a fact. Dairymen in the eastern states are losing millions of dollars and undreamed-of power and efficiency because they are unsupported by the whole organization. Some day I shall be revived, perhaps, and will then be the means of happily adjusting the now demoralized dairy world. But not until the twenty-five thousand Will Browns can have more faith and courage. I, too, must depart until men have a greater vision. Good bye, friends!" and he was gone.

"I am Tom Smith's resolution," spoke another ghost gloomily, "and I represent the thousands of broken promises of farmers who were going to put their machinery under cover from the elements this winter—but all of whom have as yet failed to keep their promises. If Tom Smith alone had carelessly forgotten to keep faith with himself and his long-suffering machinery, his deflection would not have amounted to much, but when you multiply him by thousands upon thousands of farmers who can least afford to take losses caused by the breakdown of their tools from such treatment, then my passing is vastly important to the whole world. I represent much wealth lost and misused; many faithful, inanimate things thrown out long before their time from lack of proper protection and because of almost criminal exposure. I know that, as a resolution, I am not as important and necessary as those who have spoken first, yet you must admit that it would have been far, far better to have kept me — if the thoughtless, careless Tom Smiths of the world could only see it."

"I am the resolution of Dave Green," now came a whispering voice timidly, "and I was made with the idea of making farm work and life a little easier for Mrs. Dave Green. Dave said that this year he certainly was going to lay a new kitchen floor over the old splintery, wide-cracked one. He was going to put running water in the house, too—he has it in the barn, you know. And he was going to build an inside toilet and get the wife a washing machine and a lot of little, inexpensive, labor-saving devices. Dave could afford it. He isn't poor by any means and his barns and stock are among the best in the country. But my being here at our too early post mortem shows that Dave couldn't live up to his good resolution. His wife is patiently waiting for some of the promised changes to take place, but she doesn't know Dave as well as I do. Dave fathered my ancestors for years back—and not one of them, where the house is concerned, ever lived and became a fact instead of a resolution. Mrs. Dave will not get her just dues in 1921."

"I am Bill Barr's resolution," began another with ill-concealed grief. "I represent the thousands of herds in the country which were to have been improved by a pure-bred sire or the introduction of a registered female or two into now profitless dairies. All the Bill Barrs said that they certainly would not put off the good work another year, but, like Dave Green, one excuse serves as well as the next to the born procrastinator and I already know my fate as surely as if all of 1921 had rolled past. The worthless

(Continued on page 111)



JERSEY HERD ON B. T. CLARK'S DAIRY FARM, MISSISSIPPI

A BILLION FOR HIGHWAYS

H. COLIN CAMPBELL, ILLINOIS

BEFORE this article gets in the form of printed page no doubt the more than $1,000,000,000 of road money that has been available in the United States for some time will have jumped to about a round billion and a quarter. Even should that surmise not prove true, it will still remain a fact that never before in the history of any country have such huge funds been awaiting transferences from state, county, or other treasuries into modern highways.

And we forget so soon in the rush of things in this counrty, that it seems almost incredible that only seven or eight years have elapsed since organized propaganda for permanent highways began to take root in this country. About that time Vermilion County, Illinois, was agitating and soon after stepped out in the limelight with complete plans and the funds for a county system of about 150 miles of permanent roads. Other communities have since eclipsed Vermilion County in the funds raised for similar purposes, and in a number of cases in the actual mileage of concrete or other paved roads actually open to traffic at the present time. And while we may have forgotten, the fact remains that Vermilion County has gone down into history by proving that permanent roads can be made a reality, and the way to do it is to raise the money necessary and then stop talking about roads and build them.

All along the once almost impassable highways in Vermilion County are the most modern farm homes on the most modern farms. These have been the result of the paved roads, which have made marketing a matter of disregard for miles, weather, and season, because every day is just the same to the concrete road.

So much for a little bit of road history. Types of construction are still being discussed, but the advantages of permanent highways have ceased to be a matter of argument. The factor that has had the most to do with this change is the motor vehicle, whether pleasure or car truck, and the number of these registered in the country has several times doubled in the last ten years. Nearly 8,000,000 trucks and pleasure cars are now hammering at the roads in the United States.

Since our rural roads have profited from improvement, the farmer has become the heaviest purchaser of motor vehicles, for with paved highways under and ahead of them, distance of the market means nothing if the road is perfect all the way. In fact, he may not have to go to market for the cities, as well as the rural districts, are packed with motor cars and the pleasure seeker in his touring car combines a quest for fresh eggs, dairy produce, and vegetables with every out-of-town trip. This is the reason why along many of our paved highways we see the wayside marketing stands and city consumers bargaining with country producers.

Just as argument for and against the advantages of good roads has stopped, so has argument for and against the immediate benefits that might be expected from them stopped also. The farmer knows now that after the day's work he can take out the car and get the family into town in time to see the movies and back home to bed as early as he wishes.



FROM COAST TO COAST. A CONCRETE HIGHWAY IN WEST VIRGINIA AND A LIKE HIGHWAY IN OREGON

Educational advantages, often claimed and often doubted as possible, are now evident in the consolidated schools that have followed paved county road systems. Children go to school every day, regardless of season or weather, because the consolidated school bus stops at every farm doorway and picks them up. Practically all of the former one-room district schools in many counties throughout the United States have been abolished and instead there has been built a graded consolidated school with educational facilities comparable to the best that only the larger cities heretofore could offer.

Much to the disappointment of many communities, road building, even where funds have been available for several years, has been seriously hindered by the war and the many disturbing conditions which have followed. The principal of these has been the undependability and insufficiency of rail transportation necessary to move the required materials. It is for that reason that a very large portion of the nearly 100,000,000 square yards of concrete pavements that have been placed under contract during the past two years have lagged toward completion. Yet even in the face of this fact, accomplishments have been wonderful and the value of the roads that have been finished is so well proved that everyone has been hopeful and is patiently waiting for his road. It is likely that the volume of construction that next year will witness will stand without parallel.

One of the simplest ways that has been worked out within the past three or four years to take care of the cost of extensive improved highway systems has been to allot revenues received from motor vehicle license fees to the cost of road construction and maintenance. Even the increased fees that have been made necessary where this practice has been adopted or is at the present time proposed, are so little that they are only a small percentage of the amount that it has been positively proved paved highways save in reducing the gasoline consumption of motor vehicles over good distances. One gallon of gasoline goes twice as far on the concrete road as on the best earth road. Anyone can do his own figuring as to the profit derived from this source, for gasoline is no longer cheap. Other savings, difficult to compute but none the less real, no doubt exceed in the aggregate the amount represented by gasoline saved. Certainly on the even, dustless, paved surface there is less wear and tear to any kind of vehicle, and tires as well as mechanical parts must have much longer life.

Wisconsin, the home of Hoard's Dairyman, has more than 500 miles of concrete roads, and in many places in the state this type is built to the exclusion of all others. For instance, no so-called permanent road improvement other than concrete pavement is laid in Milwaukee County. In 1919 all road contracts for permanent paving that were let in Wisconsin were for concrete.

But since our readers might be skeptical as to whether what Wisconsin does would be a good thing for them to do, it might be well to cite an example or two as to the experience of some other state or locality. They have lots of concrete roads in Indiana, and everywhere along one of these modern stretches, if time is taken to chat with farmers or small town merchants, the sentiment will be found unanimous for the paved highway.

On a recent trip to Indiana, I took occasion to question bankers, farmers, merchants, and even a lawyer as to what benefits in their opinion had come from their concrete roads. The banker, of course, is likely to be a safe person to counsel with on the subject of investments, and everywhere that concrete roads have been built, this type of construction is looked upon as an investment because of its proved earning power in the form of time and gasoline saving.

The president of one of the largest banks in Wayne County, Ind., attributes a great deal of the increase of business his bank has enjoyed to the highly improved roads radiating from the county seat. He says that the bank has increased its number of customers because of the better highway transportation facilities. Also the area from which their banking patronage is drawn has increased in accordance with the radius of good roads. In his opinion, farm lands in the county have increased on an average of $25 to $40 an acre, and this particular amount of increase extends back from the road one mile on each side. In other words, the paving has increased the wealth of the land immediately adjoining the roads, $32,000 a mile; but farmers back from the concrete highway as far as five miles have felt that their land has been given added value. Real estate men confirm this.

One farmer interviewed puts it this way: "If we don't like the markets at our nearest town, we simply drive on to another one and look for a market that does suit us. Time is one of the least of our troubles now. Very often we ship our stock by truck to Indianapolis, sixty miles away, and get good returns for sending it that way, particularly because of the condition of the roads. Shrinkage is less and the rural telephone gives us the market tips which the roads enable us to take immediate advantage of. There is no such thing as missing the most favorable market conditions."

Another said: "Farmers did not count their own time a few years ago. It used to be that corn was 25 cents a bushel and hogs $3 a hundred. It used to be that $15 a month would hire a good hand and John D. used to sell gasoline for 5 cents a gallon. Land used to be worth $50 an acre but those old, easy going days are only a dream now. If you get the money out of a farm nowadays you have got to move," and suiting the action to the word he let in his



ONE OF NEW YORK'S PERMANENT HIGHWAYS

(Continued on page 94)

Orchards, Hay, and Cows

F. L. BALLARD, OREGON

ONE of the most productive districts in the Northwest is that portion of the Snake River Valley including the counties of Payette and Washington in Idaho and Malheur on the Oregon side of the Snake river. Six to eight tons of alfalfa hay are ordinary yields there, six tons being near the average yield, while yields of ten tons are sometimes secured. Corn yields fifteen and frequently twenty tons of ensilage per acre. Unlike many parts of the Northwest, the big eastern types of corn can be grown successfully in the Snake River Valley. There are fields of sunflowers being grown for ensilage which conservative estimates place at thirty-five to forty tons.

Yet in this entire area, difficult to equal in forage production, there is comparatively little live stock. Raising hay for range cattle and sheep, together with considerable attention to the development of the fruit industry, has retarded rapid increase in numbers of farm live stock. Lower prices this year for hay, however, coupled with the excellent market for butterfat, afforded by the Farmers' Co-operative Creamery of Payette, has turned the attention of the farmers to the possibilities of more live stock and the dairy industry seems on the whole the most promising for the district and is attracting most attention. This is partially because of the success of those who have been entering that line of farming during the past few seasons.

In order to promote interest in more live stock, the farm bureau officials in the counties above mentioned recently joined in plans for a joint tour of the district to visit successful live stock breeders and to lay the groundwork for future live stock improvement plans. The excursion was attended by 300 farmers and farmers' wives. Visits were made to the Sargent Jersey herd of Payette, the Yager Shorthorn herd also in Payette, the Holstein herd at the Weiser, Idaho, Technical Institute, the Rambouillet breeding plant of A. G. Butterfield of Weiser, and the farm flocks of Frank Northrup in Malheur County. A stop was also made to look over one of the four registered Jersey bulls owned by the Payette Bull Association. This association comprises four blocks which now own four excellent bulls from the Dickson herd at Shedd, Oregon.

A picnic was held at Oregon Trail Park in Weiser and addresses were made by live stock chairmen of the three farm bureaus and by representatives of the Oregon Agricultural College and the University of Idaho.

Interest in dairying and the farm flock, in combination, proved most highly developed. A large number of farmers in the Payette section, formerly devoting their entire time to fruit raising, now keep a few dairy cows to consume the alfalfa raised in the orchards and properly to diversify their business. They have been so successful that the diversification idea is spreading. Hay growers are also finding that it pays them to produce butterfat rather than to sell their hay.

An important factor in dairy development in this district is the co-operative creamery previously mentioned. This creamery started business in 1916 with a single employee, now employs sixteen persons, operates in a $16,000 modern plant, and nearly doubles its business this year. It has always paid dividends, acquired a sinking fund, and has for the past three years paid an average of four cents a pound above any other available market to Payette farmers for their butterfat.

The creamery is also active in assisting in live stock improvement. Under its direction several carloads of good grade Jerseys from the Willamette Valley, Oregon, have been brought to the county.

H. Gregory of Payette has been president of the creamery since its organization and J. R. Brown, formerly a student at the Oregon Agricultural College, has been manager from the start.



ALFALFA IS GROWN IN THE ORCHARDS IN THE SNAKE RIVER VALLEY



THREE FULL CROPS OF ALFALFA ARE CUT EACH YEAR IN THE SNAKE RIVER VALLEY, WITH AN AVERAGE YIELD OF SIX TONS PER ACRE

THE HUMAN SIDE OF COW TESTING

Horace Evans, Tester for the Plainfield Association, Tells His Former College Roommate How Stanley Miller Won Out

September 20.

DEAR MIKE:—Doubtless you have heard many times that every dog has his day. To this I should like to add that every man has his story; at least, it is a dull life that has no story. The truth in this observation is being driven home to me every day, and were I to single out the one best thing about the cow tester's job it would be the opportunity that it affords for becoming closely acquainted with farmers in their own homes, and to learn the interesting stories of their lives. These stories do not come easily and are not for the ears of everyone. The cow tester, however, if he but gains the confidence of the farmer, is in an excellent position to obtain them. The privilege of doing so is among the richest rewards of his job.

I do not wish to pose as a philosopher, Mike, but the foregoing got into my system, I think, because of a talk which I had with Stanley Miller last night. It was my third visit to Stanley's farm and, while I had set him down as perhaps the most progressive of the younger members of the association, our relations had not before reached the point where an exchange of life experiences was fitting. Last night, however, he seemed in a reflective mood and, seeing that I was eager to listen, related the story of his life. Probably it appealed to me particularly because, as you will see, his experience coincides in a small way with mine, and because it contained numerous suggestions that I hope I may have the courage to take to heart. As there may be something in it of interest and possible use to you also, I am going to pass the story on.

Stanley is a genuine back-to-the-lander; one of the kind that is showing that this particular species of migration can be successful. He was born and raised in Chicago and scarcely knew what a farm looked like until about five years ago. When the age at which you and I started to agricultural college, he began a longer course as a clerk in a small mail order house. He worked there six years. At last, however, he grew tired of handling farmers' orders for things that appeared to him as luxuries, and which it seemed he never would be able to buy. The spirit of restlessness grew stronger in him until finally he resolved to become a farmer.

In handling the numerous orders that came his way during those six years, he saw more than figures and the names of articles of merchandise. He took a great deal of interest in determining, by the kind of things ordered, what kind of farming the customer was doing. He knew that when a man bought a separator and a few milk pails the chances were reasonably good that he was in the dairy business. Likewise he noticed that the orders received from a certain district were indicative, in a general way, of the kind of farming carried on in that section, whether dairying, truck gardening, or grain raising. What was more important, however, was that about the time he was becoming deeply interested in farming he began to notice that the orders from the dairy districts came in more regularly the year 'round than from anywhere else; from which he deduced that dairymen have a more regular income than other farmers and that their buying capacity is usually greater. That settled Stanley; if he

(Continued on page 106)



PRIZE WINNING HOLSTEINS SHOWN AT THE 1920 TENNESSEE STATE FAIR BY KNAPP SCHOOL FARM OF THAT STATE

This herd is strong in type and liberal in its production. Every cow has an Advanced Registry record and the herd is accredited federally as free from tuberculosis.

Washington, D. C., Weekly News

[SPECIAL TO HOARD'S DAIRYMAN]

Washington, Jan. 24—A letter addressed by Attorney General A. Mitchell Palmer, to Secretary of the Treasury David F. Houston and dated December 31, on the subject of adulterated butter, came to public attention in some unknown way on January 19th. This is the much discussed opinion which holds that butter made of "neutralized" cream is adulterated, and subject to the ten cent a pound internal revenue tax, under the statute of May 9, 1902, and reads as follows:

Dec. 31, 1920.

Dear Mr. Secretary:

Further replying to your letter of October 11, 1920, in which you request my opinion on, and answers to, the following questions:

(1) Is a grade of butter produced from decomposed or rancid cream, which has been neutralized with chemicals before churning, adulterated butter within the meaning of Section 4, Act of May 9, 1902, and, therefore, taxable as such? and,

(2) Is a grade of butter produced from cream which is high in acid and has a bad odor, and which has been neutralized with chemicals before churning, adulterated butter within the meaning of Section 4, Act of May 9, 1902, and, therefore, taxable as such?

I have the honor to advise that under the definitions of "butter", "adulterated butter", and "process or renovated butter", the grade of butter produced as described in each of the two methods presented in the question is "adulterated butter" taxable as such.

"Butter" is described in Section 1 of the act of August 2, 1886, 24 Stat., 209, known as the oleomargarine act, as follows:

The word "butter" shall be understood to mean the food product usually known as butter, and which is made exclusively from milk or cream, or both, with or without common salt, and with or without additional coloring matter.

The Act of May 9, 1902, 32 Stat., 194, reads:

"Adulterated butter" is hereby defined to mean a grade of butter produced by mixing, re-working, re-churning any milk or cream, refining or in any way producing uniform, purified, or improved product from different lots or parcels of melted butter or butterfat, in which any acid, alkali, chemical, or any substance whatever is introduced or used for the purpose or with the effect of deodorizing or removing therefrom rancidity, or any butter or butterfat with which there is mixed any substance foreign to butter as herein defined, with intent or effect of cheapening in cost the product, or any butter in the manufacture or manipulation of which any process or material is used with intent or effect of causing the absorption or abnormal activities of water, milk, or cream; and then continues:

"Process butter" or "renovated butter" is hereby defined to mean butter which has been subjected to any process by which it is melted, clarified, and made to resemble genuine butter, always excepting "adulterated butter" as defined by this act.

The act of June 30, 1904, 34 Stat. 94, known as the Food and Drugs Act provides:

Section 7. That for the purpose of this act, an article shall be deemed to be adulterated in the case of food if it consists in whole or in part of a filthy, decomposed or putrid animal or vegetable substance.

However, assuming that butter is being legally manufactured and sold, the sole question is whether it should be taxed as adulterated butter or as process butter.

It cannot be considered "butter" as it is not made "exclusively from milk or cream, or both, with or without common salt, and with or without additional coloring matter." It is not process or renovated butter, as, under the decision in the case of District of Columbia vs. Coburn, 35 App. D. C., 324, process butter is defined as being:

Produced from rancid or adulterated butter by melting such butter, removing the curd, brine, and scum, blowing air through the butterfat remaining, and then churning the melted fat with an admixture of milk. The mixture is then chilled, ripened, worked and salted.

I conclude, therefore, that Congress intended to include such butter within the definition of "adulterated butter" under Section 4, of the Act of 1902, ante, since it appears to be a purified or improved butter which is the result of processes during which substances have been introduced and used for the purpose and with the effect of deodorizing, and removing rancidity.

Respectfully,
Signed, A. MITCHELL PALMER,
Attorney General.

This ruling is now in the hands of Commissioner of Internal Revenue M. W. Williams, former solicitor for the Department of Agriculture, to be enforced. The ruling was not given publicity in any recognized or official way, but the story "leaked" in some way and was printed on Jan. 19, in a sensational Washington newspaper. At about the same time certain oleomargarine manufacturers secured part or all of the information, and began using it in a campaign of propaganda designed to increase the sale of oleomargarine. Copies of circulars of this kind have been received in Washington.

The Ways and Means Committee reached dairy products in their tariff hearings on Monday, Jan. 24. A part of the forenoon and most of the afternoon session of the committee was devoted to these schedules.

President Campbell, representing the milk producers, made the formal argument for protection for the entire industry, and filed a brief in which he asked for the following schedule of tariff rates to be used as the minimum demands of the entire national dairy industry:

Fresh milk, six cents a gallon.
Cream, 20% ad valorem.
Condensed milk, 4 cents a pound.
Evaporated milk, 3 cents a pound.
Powdered milk, whole, 6 cents a pound.
Powdered milk, skim, 3 cents a pound.
Cheese, eight cents a pound.
Butter, ten cents a pound.

Mr. Campbell's statement and brief was a carefully prepared summary of conditions in the dairy industry in general, tracing the results of the post-war business depression, with special attention to the effect of the large imports of butter, and the smaller, but threatening imports of milk, cream, and milk products. In his brief he showed the relative cost of production in the most seriously competing countries, and the low freight rates which makes it possible to lay down foreign dairy products in New York, Boston, or Philadelphia, with less cost for packages, freight, and other transportation charges than must be paid for middle western products.

Mr. Gearon, representing the New York Mercantile Exchange, explained that that organization had adopted a resolution setting six cents as their belief, but admitted that this was based entirely on the difference in price levels in New York at the time between Danish and domestic butter.

Professor Warren of Cornell University, who is mentioned as the probable head of the proposed department of statistics of the American Farm Bureau Federation, was a strong witness heard at some length by the committee for general agricultural tariff protection. His argument was based in studies in European purchasing power, which he said indicated that for some years to come Europe could not buy from her own great agricultural areas or from the rest of the world, hence those products must seek American markets, and would do at any price which they would bring here. Because of this, he held, a tariff must be enacted or else American agriculture would suffer from such competition as never before existed.

The Packer control bill passed the Senate late Monday afternoon by a vote of 46 to 33. This ends twelve years of contest on this measure in the Senate. The bill now goes to the House, where there is about one chance in a hundred that it will get consideration before the end of the session.

Waukesha Holstein Breeders in 14th Winter Meeting

The Waukesha County, Wis., Holstein-Friesian Breeders' Association held its fourteenth annual winter meeting January 21. About three hundred members and friends attended the business meeting and program and banqueted together at the noon hour.

W. L. Baird, secretary and treasurer, reported the work of the association for the year ended. He listed a total of $1,233.37 as receipts and $1,119.28 as expenses, which leaves $114.09 on hand. In 1920 the private sales made through the association amounted to $94,541. Five public sales were held in which cattle sold for $156,256.15.

G. R. Rice, secretary of the Milwaukee Milk Producers' Association, spoke on the work of that organization. He showed the advantages to producers which come in marketing co-operatively and explained the operation of his association in selling its members' milk to Milwaukee distributors. He reviewed the changes which have been made in handling milk in that city which have benefited the producer.

F. T. Price of the Holstein-Friesian World discussed the topic, "Advertising Needs of the Present". He emphasized the fact that the present is a buyer's market and not a seller's—that the breeder who disposes of his surplus to advantage must now be a salesman—not simply an order-taker. He said: "The market today requires a different type of advertising copy. Copy is of utmost importance. It creates the desire in the prospective purchaser's mind for more information on the product advertised. It requires a follow-up system in order to obtain results. The advertising situation for the past few years has been simplified to a considerable extent by the condition of the market. There was an exceptional demand and mere announcements made the sales. Today the buyer's desires must be aroused, salesmanship must be employed, arguments advanced as to why the buyer should purchase. Before, the reason lay with him. He wanted the animals. Today, the reason must be made clear by copy."

A. J. Glover, editor of Hoard's Dairyman, called upon the breeders to give more attention to the art of producing superior animals and less to selling for high prices. He showed the harm which is done in the sale of diseased and inferior cattle and the benefits resulting from the sale of good cattle, especially to beginners. He pointed out the fallacy of attempting to set prices on the basis of cost of production and outlined a system of co-operative marketing through farmer owned plants. The buyer is not at fault, he said, when he takes the farmer's product at the lowest price he can make; it is up to the farmer to protect himself by providing plants for handling his output so he can secure the best price the marketing conditions will permit.

L. L. Oldham, secretary of the Wisconsin Holstein-Friesian Breeders' Association, spoke briefly of the work of that organization. F. L. Thomas, newly elected agricultural agent of Waukesha County, was also heard.

Emery Back in the Harness

After a retirement of six years, Mr. J. Q. Emery resumes the duties of Dairy and Food Commissioner for the state of Wisconsin by appointment of the Governor and unanimous approval by the State Senate. His appointment was urged by the dairy interests of the state that desire the enforcement of its food and dairy laws for in his thirteen years of service from 1903 to 1915 he made an enviable record.

It was under Mr. Emery's administration, and largely by reason of his ability and fighting qualities, that our laws were strengthened and court interpretations secured that made the Dairy and Food Commissioner feared and hated by those who sought to market imitation food and dairy products in violation of the law. He was never accused of being lax in the enforcement of laws, or of showing favoritism and special privilege to any individual. He stood for the production of honest goods, honest manufacture, and honest marketing. He believed that laws were passed to be enforced, and that if enforcement disclosed they did injustice they would be repealed. He felt it to be his duty to carry into effect the laws enacted by the people of the state through their properly chosen representatives.

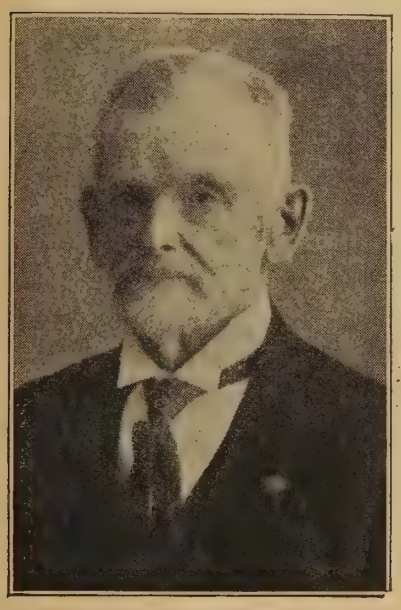
If Wisconsin is to build a dairy industry that will bring the largest returns to producers and manufacturers, it must be built on honest, clean, and quality production. The dairy and food commissioner's office touches the industry from the production of the milk on the farm to the time it reaches the consumer's table, seeking to give honest products an honest market. Mr. Emery's past experience makes it possible for him to take up the work of his office with understanding and to carry it forward without hesitation or vacillation. He needs the active co-operation of the dairy interests if his work is to be most effective, and this they will gladly extend to him.

C. P. GOODRICH

ON January 22, 1921, death claimed Wisconsin's leading and pioneer dairy farmer, Charles Perry Goodrich. Mr. Goodrich was born in Stockbridge, Madison Co., N. Y., February 8th, 1831, and came to Jefferson Co., Wisconsin, in 1846 with his parents. His father purchased a part of his farm and homesteaded the rest.

His family were truly pioneers of Wisconsin and only those who passed through that period know of its hardships and privations. The opportunities for attending school were limited and only those who had a strong desire for knowledge acquired an education. Mr Goodrich had the type of mind that sought information and appreciated its advantages. This led him to do much reading and to make close observations, and by such effort he equipped himself for his life's work.

Dairy farming became his chief occupation and his advanced position



C. P. GOODRICH

upon matters pertaining to dairy husbandry brought him recognition from the leading dairy authorities, not only of Wisconsin but of the United States. He was a farmer in Wisconsin when wheat was its chief crop and he appreciated fully its evil results. He hailed the coming of the dairy cow, for he knew this meant permanency and prosperity to the agriculture of Wisconsin. She not only meant a larger financial return to the farmers, but a conservation of the fertility of the soil. He often stated that "a farmer who leaves his soil poorer than he found it is a robber, for no one owns the land he occupies. It is simply committed to the owner's trust for a period of time and the coming generations are entitled to receive it in as good condition as it was when the farmer acquired its use." This was an advanced position upon the relationship of the farmer to his land and shows his conception of the responsibility the farmer of today carries for the farmer of tomorrow.

He revealed in other ways that he was an advanced thinker. His close association and study of cows led him to conclude there was a great difference in the profit each returned. Before the days of the Babcock test he weighed each cow's milk, set the milk in separate pans, and in this way tried to ascertain the yearly production of each cow in his herd. When the Babcock test came he accepted it and, we believe, was the first dairy farmer to use it.

He not only sought larger returns by applying practices which would make his acres yield large crops and his herd produce more fat, but by establishing a better market for his butter. Selling his butter to grocery stores and receiving the same price for it as was paid for inferior quality and taking groceries in return did not satisfy him. He trained himself to make good butter and then he put it up in firkins and found a market for it in Chicago. This brought him a cash return and a much better price for his product. He had the initiative in solving his own marketing problem.

Mr. Goodrich's unusual work as a farmer led those in charge of the farm institutes in Wisconsin to seek his service. He was sixty years old when he began this service. He was fifty when he made his first talk before a farmers' meeting. He reminded us several times that that was the hardest job he ever tackled. He became, however, a most convincing and interesting speaker, and we doubt if there was any man in Wisconsin who wielded a greater influence with farmers.

He believed in his subject and he never hesitated to speak his mind. Platitudes and talking for popular applause were inconceivable to him, for he went straight to his subject and let the chips fall where they would.

Outside his dairy farming activities he devoted himself for twenty years to surveying, and also for forty years was a contributing editor to Hoard's Dairyman. In this capacity we were brought closely together, and in our interviews we found him with a keen understanding of the problems of the dairy farmer and with a deep interest in his welfare. His last communications to Hoard's Dairyman were a series of articles upon the early history of dairying in Wisconsin and no one knew better than he the meaning of this industry to the agriculture of that state.

He was a soldier of the Civil War and his shrewdness for doing the hazardous work placed upon him brought to him special recognition from his officers.

Even at the advanced age of nearly ninety years his mind was alert to business, new discoveries, and advancement. At the time of his death, he was president of the James Manufacturing Co. and from the beginning of this institution he took a keen part in its development.

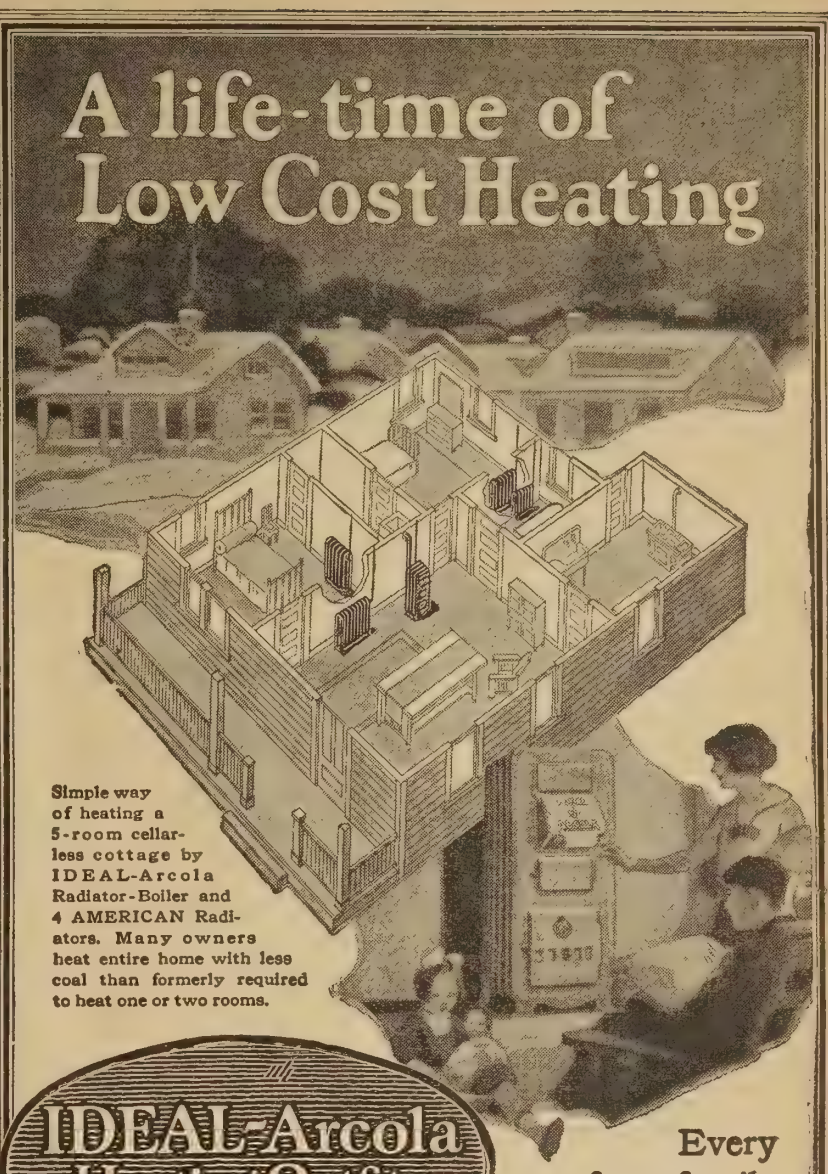
The life of this man shows what can be accomplished by reading, right application, and hard work. He exemplified a true Christian character, for he gave a reliable, intelligent, and fearless service to all activities in which he was engaged.

My Fancy of Falcon's Flight

By completing a production of 18,214.7 lbs. milk, 979.11 lbs. fat, the Guernsey cow, My Fancy of Falcon's Flight, owned by G. W. St. Amant, Massachusetts, takes eighth place among the breed's heaviest producers. She is a half sister to Countess Prue, champion of the breed, being by the same sire, Bell-founder. She was purchased in January, 1919, from Falcon's Flight Farms, Connecticut, for $5,000 and completed her record there.

Pruning may be done at odd times on warm days and in fact all through the winter.

A life-time of Low Cost Heating

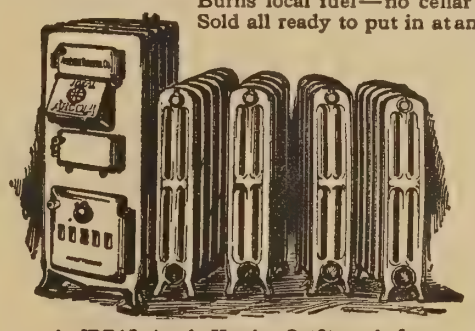


Simple way of heating a 5-room cellarless cottage by IDEAL-Arcola Radiator-Boiler and 4 AMERICAN Radiators. Many owners heat entire home with less coal than formerly required to heat one or two rooms.

IDEAL-Arcola Heating Outfits

Every farm family can now enjoy Hot Water Heat

—the kind that fine modern city residences have. IDEAL-Arcola Heating Outfits have made the cost *low enough* for the most modest farm home, to fit the house and pocket-book of any farmer. Nothing that can be put in a farm home will give so much pleasure, comfort and good health as an IDEAL-Arcola Heating Outfit. Burns local fuel—no cellar or running water needed. Sold all ready to put in at any time without disturbance.



An IDEAL-Arcola Heating Outfit, ready for installing anywhere, anytime by all dealers.

An IDEAL-Arcola Heating Outfit is not only the cheapest in the long run (never wears or rusts out) but will actually give you *more* and *better* heat with less bother, work and fuel than any other device. Install an IDEAL-Arcola Heating Outfit and have the delightful, soft hot water heat which protects the health of your family and makes all winter days delightful on the farm.

Illustrated catalog showing open views of IDEAL-Arcola Heating Outfit installations in 4, 5, 6 or 7 room house sent free. Write today.

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Makers of the world-famous IDEAL Boilers and AMERICAN Radiators

Water in the Stable a Necessity



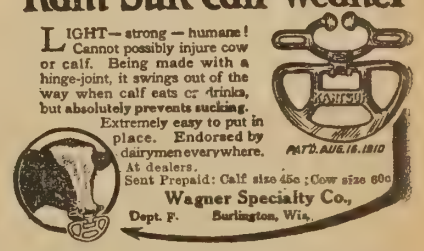
THE "BUCKLEY" DEVICE

Is the leader. Why not use the best? Write to the manufacturers for a descriptive circular.

Poughkeepsie Foundry & Machine Co.,
POUGHKEEPSIE, N. Y.

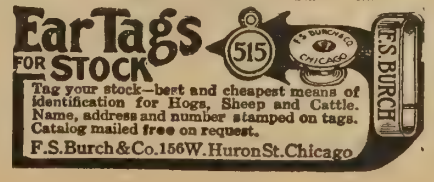
"Kant-Suk" Calf Weaner

LIGHT—strong—humane! Cannot possibly injure cow or calf. Being made with a hinge-joint, it swings out of the way when calf eats or drinks, but absolutely prevents sucking. Extremely easy to put in place. Endorsed by dairymen everywhere. At dealers. Sent Prepaid: Calf size 45c; Cow size 60c



Wagner Specialty Co.,
Dept. F. Burlington, Wis.

Ear Tags FOR STOCK



Tag your stock—best and cheapest means of identification for Hogs, Sheep and Cattle. Name, address and number stamped on tags. Catalog mailed free on request.
F.S. Burch & Co. 156 W. Huron St. Chicago

Free Catalog in colors explains how you can save money on Farm Truck or Road Wagons, also steel or wood wheels to fit any running gear. Send for it today.



Electric Wheel Co.
31 Elm St., Quincy, Ill.



"Dandelion Butter Color" Is Big Prize Winner

Be sure and use Dandelion Brand Butter Color and give your butter that June golden shade which brings top prices —pleasing the eye and tempting the palate.

The High Scores of 1920

In many of the State Buttermakers' Shows, first awards were won by users of old reliable "Dandelion Brand." You can't miss by giving a trial to the butter color which helps 90% of the successful buttermakers of America.

Never gets rancid. Doesn't affect flavor.
Doesn't color the buttermilk. Leaves no sediment.
Colors more butter to the gallon.

Dandelion Brand Butter Color is purely vegetable and fully meets requirements of all Food laws—State and National. Ask your jobber for prices.

WELLS & RICHARDSON CO., Inc. BURLINGTON, VERMONT

Cream City

SANITARY MILK CANS

"The cans with the strong straight breasts"

will give you the best of service because they have NO WEAK POINTS. Like a chain, a can is no stronger than its weakest point.

Cream City Cans ARE DURABLE, very durable, SANITARY, Heavily tinned and retinned. Of correct capacity 8 Patterns

All parts are heavily RETINNED after being made up. All seams are smoothly flooded with solder

The weight of the can rests on the shoulder of the bottom hoop. No strain on the rivets

The body of the can is of heavy enough stock to stand the wear and tear of daily use

Strongest possible concealed or open breast hoop construction

Breasts cannot be dented easily, due to this strong STRAIT BREAST Construction



WRITE FOR CATALOG
ESTABLISHED 1881
GEUDER, PAESCHKE & FREY CO.
MILWAUKEE, WIS.

Co-operative Buying and Selling in Business Insurance

W. J. HAGAR, NEW YORK

FIVE years ago a farmer living in the eastern end of Montgomery County, New York State, might have been able to buy feed from which and with which he could mix a good cow feed. Sometimes he could get what he wanted; more often he could not. Rather than take what the market offered, he got in the habit of buying a ready mixed feed. Sometimes he secured near his money's worth; usually he did not.

Today this farmer can stop at his own co-operative association and buy either the ingredients of a good ration; get advice as to proper mixture to feed; or, if he does not care to mix a ration himself, buy a ready mixed ration of guaranteed constituents in guaranteed proportions compounded in accordance with the state college's directions. These feeds are purchased in carload lots by his own employees to insure low prices. The money comes from his loaned credit. The capital used in conducting this business is all secured in the following manner: A man joins the association by paying a dollar membership and a dollar annual dues. This is all the cash he invests. He gives his note in the sum of a hundred dollars payable to the association. This note is endorsed by the officers of the association which is incorporated under a state law, and these notes are deposited at a bank which loans up to eighty per cent of the face value of the note. Interest for use of money is paid by the association out of its commission earnings.

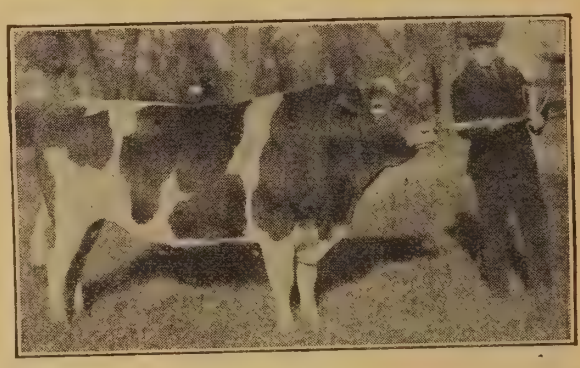
This co-operative association handles all kinds of feed, flour, hay, wire, binding twine, harness, machinery on order, etc. It is the sales agent as well as the purchasing agent for each and every member. Through the effort of this sales agency the selling price of hay has been advanced approximately five dollars per ton. Time was when hay buyers bought at their own figure. Now the association sets the figure and the others have to come up to it or pass it to get hay. The co-operative association was really organized to sell hay. Hence its name: The Montgomery County Co-operative Hay and Produce Association, Inc. The hay association has been in use since the fall of 1918. It was organized by the county farm bureau as a demonstration in marketing. The manager of the association for the past three years up to September has been the county agent. He resigned from this position to assume the management of the Co-operative Association. The assistant manager was assistant farm bureau manager for a year in the same county. He has been with the Co-operative Association for two years. These two young men under the direction of a capable board of directors manage the business of the association.

During the first two weeks in September the members sold fifty carloads of hay netting them, through their association, from twenty-eight to thirty-two dollars per ton. The member phones or otherwise tells the manager that he is ready to sell. The manager visits the farm, inspects the hay, sometimes in the mow but always after pressing, and markets the hay to the general satisfaction of the member. It is thought that for the duration of service of the association hay has netted three to eight dollars more to the grower than before the association served.

It will thus be seen that the farmers have insured the receipt of a fair price for their hay, their chief cash crop next to milk. They have also insured good feed at reasonable prices. They buy other necessities at rock bottom prices. They employ two agricultural college and organizational trained men as managers whom they call upon for such service as they can give. These members are almost unanimously farm bureau members so they have the regular county agent to assist them. Their association is in close contact with the State Department of Farms and Markets as well as with the Federal Department of Markets. These farmers believe in helping themselves and getting as many others as possible to help them.

The president of the Co-operative Association is also the president of the county farm bureau. Under his supervision the bureau has nearly maintained its membership in spite of the doubling of the membership fee. He fathered the organization of one of the first co-operative bull associations in the East, some twenty farmers together buying a ten-thousand-dollar bull to head their herds of pure-bred Holsteins. This association, too, is financed on the membership note plan. The notes of the bull association and of the hay association are held by the Montgomery County Trust Company of Amsterdam, the largest city of the county. This bank has also financed two calf clubs, projects of the farm bureau, and a pig club. It is one of the most alive banks in the East and the most alive one in the county. It recognizes the value of agriculture and uses its influence in the promotion of this industry as freely if not more so than in the promotion of the manufacturing interests with which the county abounds.

There are times of trial, too, in the running of the hay association. It is to the interest of the competing hay handlers to annihilate this co-operative industry. It prevents their taking toll of more than a dollar and a half a ton in ordinary business conditions. In times of chance, however, when the farmers lack the nerve to play the commission market and when the co-operative association refuses to play it, then the hay buyers give the association a hard heat. Some farmers there are who will use every advantage to make a dollar more; use their neighbor as well as themselves;



Elmer Brown, student at the Iowa State College, holding the Guernsey herd sire for the college, Lady Gree's May King of Jean Du Luth. Mr. Brown fitted this bull and showed him in the "Little International" held at the college, and won the Ray Arnold trophy.

use their association; use anything to make an extra dollar. Happily for the association that few such are among its members. The association is used by non-members as a lever with which to elevate the price of the ordinary hay buyer. They get many of the advantages of the association in this way. However, they pay non-member prices for whatever they buy.

The most recent service offered by the association is to deliver by auto truck to the most distant members, especially to the ones living in territory about to be developed and served by a branch office, cow feed and grain by-products. All kinds of feed can be delivered to their farms at a lower price than they are paying their local feed men and drawing the stuff home besides.

All kinds of seed are handled by the co-operative; no seed, however, but that recommended by the state college through the farm bureaus. The association is trying to extend the kind of service the farm bureau has preached for all the years it has existed. Such service should be appreciated and supported to the limit. The maintenance of such an association is the only insurance to farm business—profitable farm business and provident agriculture.

Much Grain and Little Roughage

Makes Milk Costs High Fed to Poor Cows

A clean-cut cross section of southern dairying is placed in relief by the United States Department of Agriculture in its report of milk production studies in the New Orleans district. The data presented are astonishing to those not familiar with the production of milk on Louisiana and Mississippi farms. To those engaged in dairying in that section, the facts should be distinctly informing.

For two years production costs have been kept on seventeen herds containing about 450 cows. During the winter of 1919-20 the cost of producing 100 lbs. of milk on these farms was $5.57. In the summer of 1919 it was $3.51; in the winter of 1918-19, $4.97; and in the summer of 1918, $2.91. During the first year the 452 cows on which records were kept averaged 2,994 lbs. milk containing 137.7 lbs. fat; the second year the average was 3,263 lbs. milk, 147 lbs. fat. The cost of production varied greatly in different herds, being twice as much in some as in others. During the second winter one herd made milk at a cost of $3.22; in another it cost $6.96.

Among the facts regarding southern dairying which the data bring out, according to the Department, are that "compared with other milk producing sections of the country the quantity of grain fed during the six months' winter period was very large, the quantity of roughage was unusually small, the production of the cows was remarkably low, in fact, considerably below the average for the whole United States."

It was found in the two winter periods covered by the test that the production of 100 lbs. of milk required: 72.4 lbs. grain, 38.3 lbs. hay and other roughage, 78.4 lbs. silage and other succulents, .3 of a pound of bedding; 15.5 cents for pasture, 9.5 cents for hauling and grinding grain; 5.8 hours labor, .9 of an hour of horse labor, and $1.22 for such charges as interest, taxes, depreciation, etc. In the summer the requirements included 52.5 lbs. grain, 1.9 lbs. hay and other roughage, 8.1 lbs. silage and other succulent feed, 5 hours labor, .7 of an hour of horse labor, 19.7 cents for pasture, 5 cents for hauling and grinding grain, and 80.3 cents for other costs. Credit was given in calculating the cost of 100 lbs. of milk for .033 of the value of a calf and 127.7 lbs. of manure in the winter and .023 of the value of a calf and 78.2 lbs. of manure in the summer.

Specifications for Open-type Ice House Uninsulated

The accompanying plan illustrates a small frame ice house such as is recommended by the Rochester (N. Y.) health board.

FLOOR—Should consist of 12 inches of crushed stone or coarse gravel well tamped into place.

WALLS—The walls consist of 2 by 4-inch studs spaced about 2 feet center to center and erected on 6 by 8 inch sills. On the inner side of the studs are placed 1-inch rough boards with a ¼-inch space between. The object of the open construction is to dry out the outer layers of sawdust around the ice.

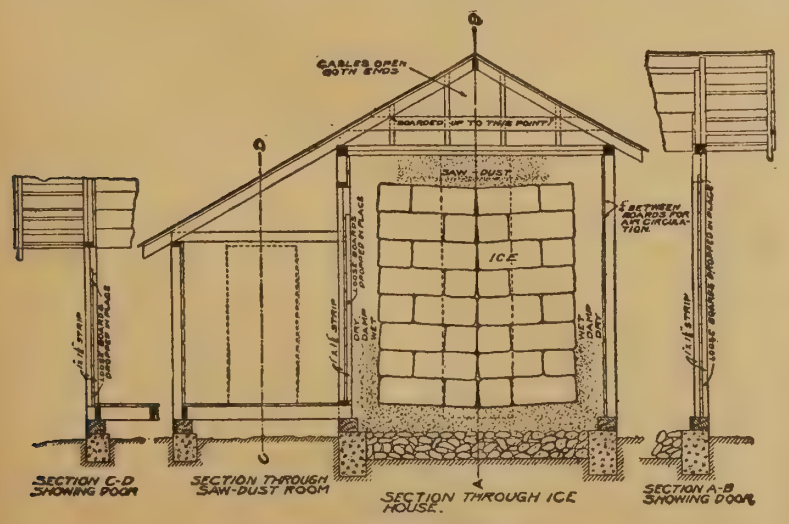
CEILING—No ceiling is provided. The gables are left open to permit circulation of air over the ice.

DOORS—Doors are constructed as shown and consist of loose boards dropped into place.

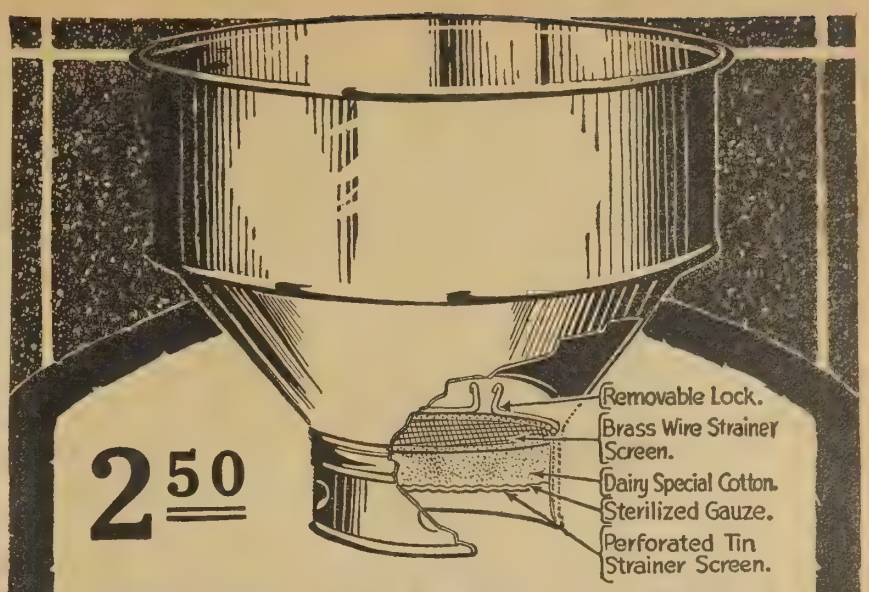
DRAINAGE—Drainage is provided by sloping the floor toward the center of the house. If the house is built on porous soil no drain will be needed; otherwise one of the forms of drainage described under post ice houses should be used.

ROOF—The roof is constructed with an overhang of about 2 feet to prevent rain from blowing in on the top of the ice.

SAWDUST ROOM—A storage room for sawdust should be constructed.—Taken from Farmers' Bulletin 1078.



OPEN TYPE ICE HOUSE



2.50

FILTER YOUR MILK

CP CHAPMAN STRAINER AND FILTER

A combined strainer and filter for the price of strainer only. To use the Chapman as filter, insert a layer of cotton and sheet of gauze between the two screens.

The filter will remove bacteria, dandruff, hair, blood corpuscles, straw and other substances that a strainer only can't catch. Thus will greatly improve the quality and flavor of the milk and prevent it from souring quickly.

Can be quickly taken apart for cleaning.

Consists of heavily tinned charcoal steel bowl, ring lock, fine mesh brass screen and perforated tin screen. Cotton and gauze furnished at extra prices below.

Strainer and Filter Complete $2.50

Postage extra, 30c

Wgt. 2 lbs. Size 12" in diameter.

Dairy Special Absorbent Cotton

Single lb. lots, 60c a lb., in 25-lb. lots, 55c a lb., in 50-lb. lots, 50c a lb., in 100-lb. lots, 47½c a lb.

Dairy Special Sterilized Gauze

Less 100 yards ..... 12½c per yard
100 to 150 yards ..... 10c per yard
500 yards and over ..... 8½c per yard

Above prices guaranteed until March 4th only. Send for Big Dairy Mail Sales Catalogue.

The Creamery Package Mfg. Company

68 W. Kinzie St., Chicago, Ill.

Sanitary, Economical, Durable

Mechanical Refrigeration

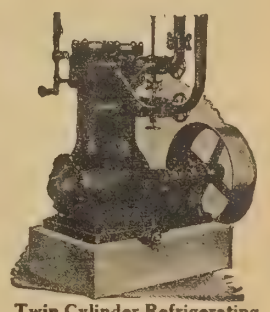
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This small Twin Cylinder Refrigerator is constructed from the Purchaser's point of view. It is reasonable in first cost. Economical to operate. Simple in construction. Easily understood. Needs very little attention. Is always ready for services.



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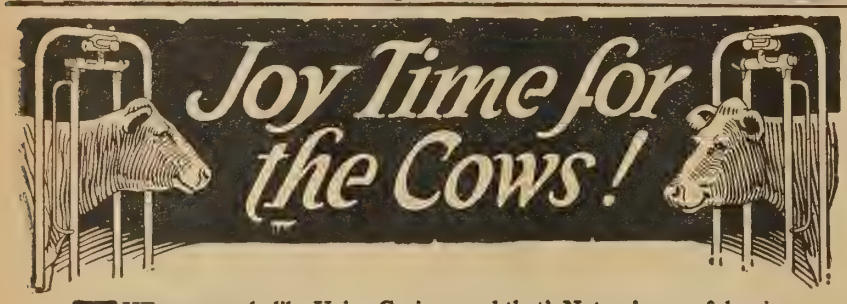
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He knows the sterling value of Honorbilts. He knows too that they are customer makers and customer holders for they never disappoint.

Honorbilt dress shoes of today contain the same honest quality leather of which they were made 39 years ago. The name Honorbilt has always stood for the utmost in shoe service.

Honorbilt dress shoes and work shoes—shoes for the whole family—are sold by leading dealers everywhere. Look for the name Honorbilt on the soles.

F. Mayer Boot & Shoe Co., Milwaukee, Wis.



THE cows surely like Union Grains—and that's Nature's way of showing that it's good for them. It contains just the right elements to make cows happy and healthy, with the big flow of milk that it is sure to bring.

Hundreds of the most successful dairymen who are feed experts themselves use Union Grains because in careful tests in which they weighed the milk and figured the cost of feed—Union Grains proved itself more economical.

It saves the time and trouble of mixing, too, and makes it possible to use that time to better advantage. Feed Union Grains and you know the feed is always right. Know where you make and where you lose money by keeping a Ubiko Cost Sheet. It will tell you which feeds and which cows pay best. Write for it. It's free.

We also make Ubiko Calf Meal, Ubiko Stock Feed, Ubiko Pig Meal and Ubiko Poultry Feeds.

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BALANCED RATIONS

For All Farm Stock

UNION GRAINS

Cow Testing Associations

RECORDS, PRICES OF FEEDS, FAT, AND MILK

Following is the summary of reports received during the week and up to the time of going to press of this issue:

State	Association	Tester	Month	No. of cows tested	No. of cows producing over 40 lbs. fat	Fat production of high cow	Owner
Pa.	Clinton–Wayne	K. S. Bailey	Dec.	265	16	55.6	W. F. Hauenstein
"	Canton	B. E. Whitney	"	413	73	90.0	Fred Bohlayer
"	Rome	Frank Beebe	"	375	13	56.7	T. A. Vaugh
"	Laurel Hill	Wm. H. Cole	"	374	30	53.7	R. F. Huff
"	Wyalusing	Glen Ruland	"	328	55	90.4	C. W. Newman
"	Towanda—Wilmot	Leslie Warren	"	325	18	74.1	Paul Jennings
Ohio	Barnesville	Clyde F. Lewis	"	209	38	67.0	L. J. Taber
"	Delaware Co.	E. L. Creager	Nov.	239	35	66.6	Ed. Slocum
"	Delaware Co.	E. L. Creager	Dec.	242	43	87.7	Ed. Slocum
Mich.	Kent Co. Co-op.	M. J. Farmer	"	231	34	78.5	Spangenberg Bros.
Wis.	Empire—Osceola	P. Simonson	"	256	41	81.9	A. Hodorff
"	Roberts—Hammond	H. R. Kops	"		29	68.4	John Imree
"	Monticello	H. T. Albrecht	"	475	49	94.5	Pierce Bros.
Ill.	Orangeville	James R. Lane	"	450	51	86.0	C. Lichtenwalner
Tenn.	Rutherford Co.	W. H. Oliver	"	115	19	66.0	C. N. Hoynes
Kans.	Bourbon Co. Co-op.	T. A. Trull	"	321	5	48.4	H. P. Mosher
Ia.	Monona—Farmersburg	Ernest Lihn	"	428	53	70.6	W. J. Allert
Colo.	Arkansas Valley	D. H. Burwell	"	250	58	102.9	L. W. Markham
"	Douglas Co.	R. E. Sherman	"	418	46	87.3	Norman D'Arcy
"	Logan Co. High School Jr.	H. A. Sandhouse	"	34		62.4	C. E. Mueller
"	Platte, Boulder & St. Vrain Valleys	L. L. Simpson	"	329	39	68.5	M. Harper
Wash.	Southwest Wash.	L. E. Mabon	"	220	17	108.0	A. L. Gile

Association Notes

Clinton-Wayne, Pennsylvania—Several meetings have been held by the Dairymen's League Branch and the dairymen are signing without any hesitation. One carload of oil meal was bought co-operatively by the members and the Grange in December. A county-wide farm bureau drive for members is on. Each man will receive a poster to indicate that he is a member. Three per cent market milk in December sold for $3.18 per cwt. and 4c per point above this test. The creamery paid 63c per lb. for fat. Milk retails for 12c per quart. Feed prices are: bran, $43 per ton; gluten, $60; cottonseed meal, $65; oil meal, $47; corn and oats, $44.

Canton, Pennsylvania—There was a general tendency during the autumn in this district to wait until a level had been established in feed prices before purchasing large quantities. The milk situation is still a source of worry to the dairymen of this section, but the majority have faith in the success of their industry. December market milk testing 3% sold for $3.08 per cwt. and 4c per point above. The creamery paid 73c per lb. for fat. Milk retails for 14c per quart and butter for 60c per lb. Local prices for feed are: cottonseed meal, $50 per ton; oil meal, $57; gluten, $60; bran, $45; corn meal, $45; ground oats, $45; hominy, $45; Unicorn Dairy Feed, $64.

Rome, Pennsylvania—Feed is now being procured through the Dairymen's League at a great saving. In the vicinity of Le Raysville a co-operative creamery has been organized and began operations January 15, 1921. Three per cent market milk in November sold for $3.65 per cwt. and 4c per point above. The creamery paid 64c per lb. for fat. Milk retails for 13c per quart, butter for 60c per lb., and cheese for 35c. Feed prices are: hay, $18 per ton; corn silage, $6; gluten, $60; oil meal, $70; wheat bran, $55; corn, $40; oats, $40.

Barnesville, Ohio—December market milk testing 3.5% sold for $3.50 to $4.00 per cwt. and 5c per point above. Milk retails for 15c per quart. The following prices were paid for feeds: Larro, $3.20 per cwt.; bran, $2.30; oil meal, $3.10; cottonseed meal, $3.10; hominy, $2.50; corn, $1.80; oats, $2; beet pulp, $3; gluten, $2.75.

Kent County, Michigan—Many members of this association have made application to have their herds tested for tuberculosis by the state veterinarian. They desire to place their herds on the Federal Accredited List. The majority of members are feeding home mixed rations. During December $3.60 was paid for 100 lbs. of 3.5% market milk. The condensery paid 50c per lb. for fat and the creamery paid 51c to 61c per lb. Milk retails for 15c per quart and butter for 48—55c per lb. Local feed prices are: Unicorn, $62.50 per ton; cottonseed meal, $52; oil meal, $68; corn meal, $45; ground oats, $40; bran, $37; gluten, $50; clover hay, $22; alfalfa, $30; timothy, $25; corn silage, $8; oat straw, $10; corn stover, $10.

Empire-Osceola, Wisconsin:—Local feed prices for December were: silage, $8 per ton; alfalfa, $20; clover, $20; clover chaff, $12; bran, $35; hominy, $42; oil meal, $50; cottonseed meal, $50; oats, $28; barley, $34; corn meal $32.

Roberts-Hammond, Wisconsin:—Two farmers have installed milking machines and three others have installed drinking cups. Several head of stock were disposed of through the stockyards.

Monticello, Wisconsin—One member has increased his herd average of butterfat production from 22.5 lbs. to 28 lbs. by feeding a little grain. The December price for 3.5% market milk was $2 to $2.25 per cwt. and 4c per point above. The creamery paid 45c to 50c per lb. for fat. Milk retails for 10c per quart and butter for 60c per lb. Feed prices are: oats, 50c per bushel; corn, 90c; bran, $35 per ton; oil meal, $54; silage, $8; hay, $30.

Orangeville, Illinois—This association is one hundred per cent in the use of pure-bred bulls and in the equipment of silos. All of the members are now feeding balanced rations and have bought bran and oil meal co-operatively. The men are now planning on a large plant where they will make condensed milk, cheese, and butter. This will mean more money for them as well as more satisfaction. December market milk testing 3.5% sold for $2.20 per cwt. and 4c per point above.

Rutherford County, Tennessee—Every member is learning the value of proper feeding and as a result most of them are feeding balanced rations. More cows are being entered on the R. of M. test each month. One member has shipped all of his unprofitable cows to the butcher and thereby increased his monthly average. December feed prices are: oats,

$2.50 per cwt.; cottonseed meal, $1.80; corn, $1.10.

Bourbon County Co-operative, Kansas—About six unprofitable cows have been disposed of during December. Two car-loads of cottonseed meal have been purchased through the Farm Bureau at a cost of $33 per ton. One pure-bred Holstein bull was bought by the Bourbon County Holstein-Friesian Company to be used on the unit near Fort Scott. His sire is Sir Ormsby Skylark. Cows showed quite an increase in December over November, due to better feeding and the nice weather conditions. There seems to be an abundance of feed in the country and it is expected cows will hold up well this winter. December market milk testing 4% sold for 26c per gallon. The condensery paid 60c per lb. for fat, plus 6c per 100 lbs. milk, and the creamery paid 40c per lb. for fat. Milk retails for 12½c per quart, butter for 50c per lb., and cheese for 35c per lb. Feed prices are: silage, $8 per ton; cottonseed meal, $33; corn, 40c per bushel; oats, 45c.

Monona-Farmersburg, Iowa—Three pure-bred bulls were bought during December, and six cows were sold to the butcher. Eleven herds had averages above 30 lbs. fat. The creamery paid 70c per lb. for fat. Local feed prices are: silage, $4 per ton; mixed hay, $20; alfalfa, $36; corn stover, $5; corn and cob meal, $20; oats, $25; bran, $37.50; cottonseed meal, $53; oil meal, $60.

In December, 1919, the average production for this association was 540 lbs. milk, 23.96 lbs. fat, 30 cows making over 40 lbs. fat. In December, 1920, 53 cows went over 40 lbs. fat, the association average being 630 lbs. milk, 27.50 lbs. fat. While in January, 1920, there were 18 grade or scrub sires, this new year finds the association free from this kind of animal, 27 pure-bred bulls in service in the herds. Twelve new silos have been bought by members in the past year; several more will go up before filling time. Five members have started with registered females. Four carloads of cottonseed meal were shipped in, two cars of alfalfa (with two more ordered), and the local dealers are carrying feeds now which they never had before. While the testing year does not start until May 1st, a number of applications for membership are being received.

Arkansas Valley, Colorado—In December $2.25 was paid for 100 lbs. of 3.5% milk. Milk retails for 12½c per quart. Feed prices are: alfalfa, $10 per ton; silage, $5; alfalfa meal, $27; fodder, $2.50; cane hay, $6; beet pulp, $2 per cwt.; tops, 50c; bran, $1.20; cottonseed meal, $3; shorts, $1.70; speltz, $1.25; oats, $1.20; barley chop, $1.30; barley, $1.20; corn chop, $1.40; corn, $1.30; maize, 90c.

Douglas County, Colorado—Feed prices for December are: alfalfa, $14—$16 per ton; silage, $8; bran, $1.65—$2.50 per cwt.; cottonseed meal, $2.50—$4.25; linseed meal, $4—$4.50; oats, $1.50—$2; rolled barley, $3; corn chop, $1.70—$2.50.

An Object Lesson in Testing

HOARD'S DAIRYMAN:—The Jersey on the right in the picture, Chieftain's Little Belle, of the Kinsley Brothers Register of Merit Jersey herd of Iowa, was the high cow in Iowa cow testing associations in 1919 and has finished 1920 in second place, falling just four pounds of butterfat short of making first place a second time. Her butterfat record for 1919 was 520 pounds and for 1920, 651 pounds.

The record of this Jersey is about

(Continued on page 108)



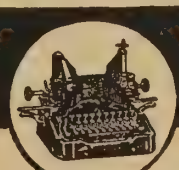
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After all, pictures of the children, just every day pictures in and about the home are the ones we care for most. Such pictures are easily made with a Kodak or Brownie and the expense is less than you think.

Ask your dealer or write us for a catalogue of Kodaks and Brownies.

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A brand new Oliver Typewriter at a $36 saving. And we send it for free trial. If you keep it, pay us only $4 per month. You can now afford it. Our new booklet, "The Typewriter on the Farm," explains all the uses, how to systematize your accounts and correspondence. It shows how easy it is to type with an Oliver.

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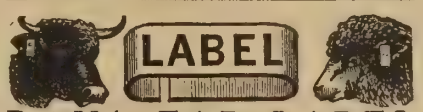
are the best. Being made of aluminum they are **brighter, lighter, stronger and more durable** than any other. Fit any part of the ear. Nothing to catch on feed trough or other obstacle. Your name, address and any series of numbers on each tag. **Sample tag**, catalog and prices **mailed free.** Ask for them.

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Save your temper, your cows, your milk. Does not excite the cow, nor disturb the flow of milk. Indispensible for breaking heifers, cows with sore teats, or vicious kickers. Cannot wear out. Put on or off in 15 seconds. Guaranteed to be an absolutely perfect anti-kicker, or put on loosely as hobble for cow, horse or mule. Price $1.15 Postage extra. Weight 2 lbs. Send for it **today**, when you need it you won't have time.

DAIRY EQUIPMENT CO.,
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Stamped with owner's name or address and serial numbers. Send for free samples.
C. H. Dana Co., 55 Main St., W. Lebanon, N. H.

Barn Blue Prints Worth $10.00 FREE

Made Especially for Your Needs

Just specify on the coupon below the number of cows, young stock and horses you want to house and the experts in our Plan Department will send you a practical set of blue prints (elevation, floor plan and outside) of a barn suited to your requirements. And it doesn't cost you a cent. This is our "get acquainted" offer.

320-Page Bound STAR EQUIPMENT Catalog FREE

This big, handsome catalog is mighty useful to refer to when you're planning new buildings, or improvements—contains a world of valuable information. We want you to have one.

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Gentlemen:—Please send me free a special set of barn plans.
I am thinking of BUILDING / REMODELING ? a barn

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I have.....cows.....young stock.....horses

Name.....

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EDITORIAL COMMENT



In Wisconsin farm tenancy seems to lead to ownership. Studies by the Wisconsin Experiment Station indicate that tenancy is a stepping stone to ownership. In recent years, ownership is delayed to a later period in a man's life. It has been found that in the first purchase of land, five-sixths of the money required was furnished by relatives or by retired farmers in the community. It is emphasized that even though this fact relieves the strain on local banks and other credit institutions, very much better results could be accomplished if the credit of young farmers could be taken care of through an organization of credit effort.

SIGN YOUR NAME

"I am in the market for a young bull. Dam above 25 lbs. with yearly backing. I am a farmer and want a bull that will improve my herd. Have you anything that will fill the bill, priced right?"

So writes a reader to an advertiser using the columns of Hoard's Dairyman. A good prospect for a sale? No—for the writer did not sign his name! Therefore the advertiser cannot reply. The advertiser writes this office, "We get loads of letters like this and then the writers wonder why we never answer."

A good many readers write us each year who fail to sign their names. We are anxious to reply to inquiries quickly, giving accurate, useful information. Sometimes the nature of the questions indicates that an early answer is very much desired. We would gladly furnish it, but cannot. When you "take your pen in hand", you must identify yourself to the one receiving the letter if you are to get a reply. Sign your name.

TOO MUCH INFORMATION

Certain companies buying milk from farmers do not care to have their patrons read Hoard's Dairyman. A field man of one of these institutions recently made the statement that if we would neglect to give our readers certain information, especially that pertaining to the prices of milk and its products, he would urge all of its patrons to become subscribers. He also stated that the readers of Hoard's Dairyman cause him the most trouble.

It is our purpose to be accurate and fair. We do not believe we are to build a permanent dairy industry upon any other basis than that of justice. To keep milk producers ignorant of facts to which they are entitled so they may secure proper prices for their products or select the best market is, to us, a crime. What we need, above all things among the dairy farmers, is more light. Any institution that attempts to keep its patrons in ignorance and desires a dairy paper to print only such material as it thinks the dairy farmer ought to have, is placing itself in the class with autocrats who believe no knowledge should be given to the people except that which they think is good for them.

It is not our purpose to cater to large corporations or even to our readers but it is our aim, and it will ever be, to render service and to give reliable information concerning the production of milk and methods of marketing to the best advantage and the prices of dairy products in the various sections of the United States. We consider it our duty to give all the information necessary for the farmer to protect his own interest and to direct his business intelligently. We would consider ourselves traitors to our subscribers if we withheld information which would be to their advantage, in order to benefit the companies that buy their products.

We see no reason why all dairy enterprises should not be conducted upon a fair business basis. There is no necessity for secrets or for withholding information. The farmer appreciates that the company which buys his product is entitled to a profit for if there were no profit the company would soon pass out of existence, and this is not to the farmer's advantage. There would be less suspicion and a better relationship between the purchaser of milk and the producer if all companies would see fit to take their patrons into their confidence. We cannot conceive of anything more contemptible than an institution's attempt to keep patrons in ignorance of facts to which they are rightly entitled.

ORGANIZATION OR PRODUCTION

The subject of farm organization and its purposes receive more than passing attention by many farmers meeting this winter. It has been announced by a few interested in farm institutes that the subjects of feeding the cow, crop rotation, soil fertility, and other allied subjects are temporarily set aside, but not permanently.

For the time being and under present conditions it may be well for farmers' meetings to devote their attention entirely to farm organizations and to have pointed out to them what these farm organizations can and cannot do. It is well that all farmers should have a thorough understanding of the purpose and object of their organization. It should be borne in mind, however, that it would be a serious mistake to neglect farm subjects which have to do with better methods of farming, more economic production, and better systems of marketing farm products. We must not forget that the farmer himself controls to a very large extent the profit he makes from his efforts on the farm. While organization is necessary to improve agricultural conditions, to give opportunity to carry into practice plans for agricultural development, yet the stubborn fact remains that the quality of management of the farm is of more importance to successful agriculture.

There is a tendency, in fact more than a tendency, upon the part of a large number of not only farmers but other people, to be constantly depending upon their government and their organizations to solve their problems, to bring them economic relief and to increase the profits of their endeavor. It is the function of the government to protect its people and property and to give opportunity for freedom that all people may gather the fruits of their labor and develop their industries without being hampered by individuals or corporations. The farmers may well look to their organizations to do things for them which they themselves cannot do individually but there is such a thing as depending upon these agencies too much, for the farmer is largely responsible for the success in the operation of his farm.

THE INTRADERMIC TEST

The subcutaneous tuberculin test has been in general use for 25 or more years and has generally been accepted as being the most reliable. The objection to this test, however, is that it requires more time to apply it than the intradermic test, but there has been a hesitancy upon the part of those studying the different methods of tuberculin tested cattle to generally recommend the use of this latter test. We are happy, however, to note that the past two or three years the use of the intradermic test has made rapid progress and many well informed veterinarians believe it to be as accurate as the subcutaneous test.

The Bureau of Animal Industry, in testing thousands of cattle during the past year and using both the subcutaneous and the intradermic tests, has found that they worked closely together. In the tabulation of many thousands of tests, 94% of the animals which gave reaction to the subcutaneous test showed lesions upon post mortem, while of the many thousands tested by the intradermic test which responded to it, 93½% showed lesions. This is strong evidence that the intradermic test is quite as efficient as the subcutaneous test. If the intradermic test ultimately proves to be as reliable as the subcutaneous test, then our tuberculin testing of cattle has been simplified and much more work can be done toward the eradication of tuberculosis.

We believe with our present knowledge of the efficiency of the intradermic test it may well be applied the first time to herds desiring to become accredited or free from tuberculosis and if no reactors are found they may be considered free from the disease. If there are reactors to this test, they can be checked by the application of the subcutaneous test, especially if circumstances warrant the application of another test.

THE FARM BUREAU

The New Year's greetings extended to the county agents throughout the United States by the Department of Agriculture States Relations Service contain a brief statement of the history of the farm bureau and the county agent. We quote:

"The New Year brings the tenth birthday of county agent work in the northern and western states. It was on March 20, 1911, that J. H. Barron began his work in Broome County, New York, as county agent of the United States Department of Agriculture in a small area around Binghamton, as manager of the farm bureau of the chamber of commerce. The Delaware, Lackawanna, and Western Railway, the Binghamton Chamber of Commerce, and the United States Department of Agriculture furnished the funds for the employment of this agent, share and share alike. The Grange was the point of contact with farmers."

This shows that the business interests as well as the Department of Agriculture and the Grange saw the necessity of county agent work. Funds were raised by the chamber of commerce, the railways, and the Department of Agriculture so that the services of a county leader or manager could be secured. The work done by the county agent was so satisfactory and gave such good results that other counties took it up and upon the same plan. As time went on it was discovered by leading farmers that this was not the proper basis upon which farm bureaus should be organized or county agents employed, as it did not place the welfare of agriculture entirely in the hands of the men following this occupation.

Recently the present plan of forming county farm bureaus was accepted as being the best and that the farmers should contribute a sufficient membership fee to provide adequate funds for carrying on the organization and that no one shall become a member of the county farm bureau unless he owns a farm or is a renter of a farm. This has placed the county farm bureau in the hands of men interested in the development of agriculture and who profit directly by its success. We think this change is wise and since it is made we have given this organization our editorial support for we believe that if agriculture is to be saved, developed, and placed in the position which it should hold, it must be done through the efforts of the men who own and occupy the land. No outside agencies, no matter how good their intentions may be, will ever be able to accomplish as much for agriculture as those who have financial investments in it.

Pasteurization and the Cream Line

We are putting out a clarified, pasteurized, and standardized 4% milk. This milk has the usual cream line that follows pasteurization to 145 degrees.

There is on this market another so-called pasteurized 4% milk with the cream line which appears to the eye to contain almost twice as much butterfat as ours, but which on numerous analyses has proven to contain from 6-10 to 1% less butterfat than ours.

Can you advise us by what mechanical process, if any, this result is obtained? If you can refer us

to any authority on the subject, that would throw light on this problem, we would appreciate it.

Texas. Subscriber.

The depth of the cream line in milk bottles of pasteurized milk of any given percentage of fat depends on two fundamental factors, namely those that control the completeness and rapidity with which the fat rises to the top in the bottle and those that control the volume of non-fatty milk constituents carried into and held in the cream line.

The first factor, that which deals with the readiness and completeness of the fat separation, depends largely on such items of manufacture as the temperature and manner of heating the milk in the pasteurizing process.

The second factor, that which deals with the volume of non-fatty milk constituents in the cream line, is influenced largely by the manner of heating and cooling and the rapidity with which the fat comes to the top.

The second factor is the dominating one. The butterfat alone occupies very little space and would make the cream line very shallow if it were not for the relatively large amount of non-fatty material contained in the cream line. Thus, in a standard one-quart milk bottle filled with 4% milk there will normally show a cream line approximately three inches deep, assuming that the bottle is filled completely full. In 4% milk the volume of the pure butterfat stands to the volume of the normal cream line as about 1 to 3.6. In other words, of every 3.6 parts of cream line there is only one part of fat so that, for instance, in the standard one-quart milk bottle, if the normal three-inch cream line were poured off and in the place of it the pure butterfat contained in a quart of 4% milk were added, the depth of the layer of pure butterfat would be only ⅝ inch. The extremely shallow cream line in case of pure butterfat here is in part, of course, due to the widening of the diameter of the bottle in the lower section of the neck, but even if measured in the top of the neck, where the neck is narrowest, the cream line consisting of pure butterfat would not exceed 1⅝ inches.

The above facts show very clearly that in order to secure a maximum depth of cream line, it is necessary to handle the cream in such a manner as to cause the fat globules to rise to the surface exhaustively and particularly also to insure the carrying up into, and holding in the cream line the maximum amount of non-fatty constituents.

Temperature of Pasteurization:—The temperature to which the milk is heated is exceedingly important. Up to a certain point, heating increases the cream line and beyond a certain point heating again decreases the cream line. This fact is brought out in the following tables in which the milk was heated to temperatures ranging from 131 degrees F. to 147.2 degrees F. At each temperature a sample of milk from the same batch was also subjected to the cream line study without heating.

Table I—Effect of Pasteurization on "Cream Line" of Milk

Hours	131°F. P. cm.	131°F. R. cm.	134.6°F. P. cm.	134.6°F. R. cm.	138.2°F. P. cm.	138.2°F. R. cm.	141.8°F. P. cm.	141.8°F. R. cm.
1	10.3	1.	11.3	.8	14.3	.8	15.3	1.
2	12.	5.5	13.5	4.3	14.8	4.3	15.3	4.
3	12.	7.	13.	6.	14.	6.	14.8	6.
4	11.5	7.	12.8	6.5	14.	6.5	14.3	6.5
5	11.3	7.	12.5	6.8	13.8	6.8	14.3	6.8
6	11.	7.	12.5	6.8	13.5	6.8	13.8	6.8
22	10.	7.3	11.	7.3	12.	7.3	12.5	7.3

Table II—Effect of Pasteurization on "Cream Line" of Milk

Hours	141.8°F. cm. P.	141.8°F. cm. R.	143.6°F. cm. P.	143.6°F. cm. R.	145.4°F. cm. P.	145.4°F. cm. R.	147.2°F. cm. P.	147.2°F. cm. R.
1	13.3	0.	9.8	0.	3.3	0.	0.	0.
2	13.3	3.8	11.	2.8	6.8	1.5	2.	2.3
3	12.5	5.5	11.	4.	7.3	3.8	3.3	4.3
4	12.3	6.	11.	5.	7.5	4.5	3.8	4.8
5	12.	6.	11.	5.	7.5	5.	3.8	4.8
6	12.	6.	11.	5.3	7.5	5.3	4.	4.8
10	12.	7.	11.	5.8	7.5	5.5	4.8	5.8
21	11.	7.	10.3	6.	7.5	6.	5.	6.

(Note—"P" means pasteurized milk, "R" means raw milk of the same batch. The Figures under "P" and "R" represent the measurements of the "cream line" in cubic centimeters.)

These tables show that both the depth of the cream line and the rapidity with which it is formed, increased up to a temperature of 141.8 degrees F. At all temperatures used up to 141.8 degrees F. the formation of the cream line was complete after the second hour and at 138.2 degrees F. to 141.8 degrees F. the separation was complete after one hour standing. In the raw milk, the cream line even at the tenth hour was still incomplete. The rapidity of the formation of the cream line decreased at temperatures higher than 141.8 degrees F., but even at 145.4 degrees F. it still was greater than that in the raw milk. At temperatures above 145.4 degrees F. the cream line dropped below that in the raw milk. In all cases up to 145.4 degrees F. the cream line not only formed more rapidly in the pasteurized milk than in the raw milk, but the layer of cream was very much deeper than in the raw milk.

The reason why, in the heated milk, the cream line forms more rapidly and shows a greater depth than in the unheated milk, may be explained by the fact that the heating destroys some of the viscosity of the milk and makes it more fluid. This diminishes the resistance which the fat globules have to overcome in their upward passage. It therefore facilitates more complete separation and permits the fat globules to move upward more rapidly. The greater speed with which the fat globules come to the top in the heated milk also enables them to carry with them larger portions of non-fatty constituents of the milk, further increasing the depth of the cream line. It is a noteworthy fact that in these heated milks the cream line reached its maximum depth in from one to two hours and after that it lost some of its depth, while in the raw milk the cream line formed very slowly and it increased in depth up to the 21st hour. In the heated milk the fat globules came to the top so rapidly and enmeshed so much of the non-fatty constituents that they formed a rather loose cream line which, upon longer standing, due to the force of gravity, packed together more firmly and possibly dropped some of the more loosely held non-fatty constituents.

The reason why the cream line diminishes when the temperature rises above 145 degrees F. must be attributed to the fact that above this temperature there occurred copious coagulation of the albumen. This has a tendency to act like a net-work in the milk, hindering the fat globules from rising to the surface and the contraction of the albumen particles, due to heat, also makes them heavier so that the law of gravity prevents them from being carried upward into the cream line.

The above facts would indicate that 145 degrees F. is approximately the highest temperature that will produce a cream line deeper than that which can be obtained from the raw milk, and that the cream line can be greatly increased by heating the milk to a temperature a few degrees less than 145 degrees F.

Manner of Heating:—But the manner of heating the milk to the desired temperature is quite as important as the actual degree of heat to which the milk is heated and here is where a great many operators unknowingly destroy the cream line. If, in raising the temperature to 145 degrees F. the coil in the vat, or any other heating surface used, is heated to a high temperature such as 180 to 200 degrees F., the milk is affected similarly as if the whole body of the milk were heated to that temperature, the albumen in the milk that comes in contact with the hot heating surface is precipitated and to that extent it hinders the fat globules from rising to the surface and it diminishes the non-fatty constituents which are carried into the cream line. Experience has shown that the temperature of the heating surface should never exceed about 7 degrees F. above the actual pasteurizing temperature.

Manner of Cooling:—Experience has also demonstrated that if the cooling of the pasteurized cream at temperatures between about 70 and 100 degrees F. is greatly retarded or interrupted, it is impossible to secure a good cream line, while, if the cooling to 70 degrees F. or below is rapid and continuous, the cream line is in no way diminished.

The reason here appears to be the granulation or crystallization of the butterfat due to holding the milk at temperatures between the solidification point and melting point of the butterfat for a considerable length of time. When the butterfat granulates or crystallizes in this manner, it relinquishes much of the non-fatty constituents. Crystallization purifies the substance which crystallizes. In this manner the volume of non-fatty constituents which the fat globules are capable of carrying into the cream line is very greatly decreased.

On the other hand, if the milk is cooled rapidly and there is no interruption in the cooling at temperatures between about 70 and 100 degrees F., this granulation does not seem to take place. The fat solidifies but it doesn't really granulate in the sense of crystallization. The fat solidified in this manner incorporates the natural amount of non-fatty constitutents and carries them into the cream line.

This same phenomenon also invariably produces mealy butter in the case of cream when the cream after pasteurization is cooled very slowly and particularly when the cooling is interrupted between about 70 and 100 degrees F., the resulting butter is almost sure to be mealy, and the cause of this again lies in the granulation of the butterfat during the slow cooling process. The granulated and almost pure fat is not smooth and soft and plastic as is the fat which solidifies without granulation and which therefore contains the usual amount of non-fatty constituents. The almost pure fat has a mealy and sandy texture. For this reason renovated butter, which is made from melted fat, recrystallized or granulated, is always mealy and grainy in its texture.

Summary:—Summing up then, it is safe to state that in order to secure maximum depth of cream line from any given batch of milk, the temperature of pasteurization should be held to or slightly below 145 degrees F., the temperature of the heating surface of the pasteurizer should not be allowed to exceed the pasteurizing temperature by more than about 7 degrees F., and the cooling of the pasteurized milk should be done rapidly, particularly from 100 degrees F. down to about 70.

Attention to the above three points makes possible maximum exhaustiveness of separation of the fat, maximum speed of the upward passage of the fat globules, and maximum incorporation in the cream line of non-fatty milk constituents, all of which factors are indispensable in our efforts to secure maximum depth of cream line.

The above factors all deal with the handling of the milk after it arrives at the milk plant. There are other factors which obviously influence the depth of the cream line, which are inherent in the milk and which are not under the control of the factory, such as percentage of fat and size of fat globules, etc. Inasmuch as both of these vary with the breed and period of lactation, they might become the cause of a marked difference in the cream line of milk from factories located at different places, but in the case of factories receiving their milk from practically the same territory, as appears to be the case as cited by your inquirer, these uncontrollable factors would not be apt to have any material effect.

Illinois. O. F. HUNZIKER.

There are various factors which affect the depth and clearness of the cream line in a bottle of market milk. Among these are:

1. Temperature to which the milk was heated in pasteurization.
2. Type of apparatus used.
3. Temperature and time of holding.
4. The amount of agitation to which the milk has been subjected (especially after being heated).

For the best results as to cream line the milk should be heated to not over 145 degrees F. for not over 30 minutes, and even then the milk will have a more or less diminished cream line over the raw milk, depending on the system used. Agitation of the milk, such as is caused by clarifying, pumping, passing through pipes, etc., has a tendency to injure the cream line. Agitation of the milk after it has been heated to the pasteurizing temperature is especially injurious to the creaming ability of the milk. The milk should be cooled immediately after the holding process is over with as little agitation as possible. Where vat pasteurizers are used better cream line results are obtained by the use of a separate cooler. For best results milk should be placed in a cold room after pasteurizing and cooling.

I am unable to say what the depth of the cream line should be in a quart of 4 per cent market milk, both on account of the variations in the milk itself and the types of bottles used.

The Iowa Experiment Station carried on some interesting experiments regarding creaming ability of milk, the results of which are reported in Research Bulletin No. 31. Nessler tubes were used and the depth of the cream line expressed in sixteenths of an inch on a nine-inch layer of milk. A series of samples of mixed raw milk varied from 18 to 28, while the butterfat content varied from 3.3 to 4.1. There was no close relationship between the depth of the cream line and the per cent of fat, and the creaming ability of 1 per cent of fat varied from 4.5 to 6.8.

In regard to the use of viscogen the Iowa bulletin states as follows:

"Viscogen commonly increases the depth of the cream layer of milk and sometimes this increase is an enormous one. The use of viscogen to improve the creaming ability of milk can not be considered as a legitimate method of increasing the depth of the cream layer."

U. S. Dairy Division. C. E. CLEMENT.

Hoard's Dairyman

Fort Atkinson, Wisconsin

Founded 1885 by W. D. HOARD

W. D. HOARD & SONS CO., Publishers
H. L. HOARD, A. R. HOARD, F. W. HOARD
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Subscription Rates

Subscription in United States and Mexico $1.00 per year; 3 years, $2.00; Canada, $1.50 per year.

FOREIGN SUBSCRIPTIONS may be sent through news dealers and book sellers in all foreign countries.

All foreign countries in the Postal Union $2.50 a year; not in the Postal Union $3.00, including postage.

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We solicit advertisements of meritorious articles needed by the farmer. We try to keep our advertising columns clean and wholesome, that they may merit the patronage and confidence of our readers. Unwholesome, immoral, and quack medical advertising are excluded. A sincere effort is made to exclude frauds, irresponsible and unscrupulous firms. We will always take it as a favor to be notified whenever any advertiser's dealings with a subscriber are in bad faith or evidence a lack of business honor. Advertisers generally recognize the readers of Hoard's Dairyman as an up-to-date class of farmers, who farm with businesslike methods, and we hold our columns for the patronage of only those with whom our readers can deal with profit and satisfaction.

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Entered at Fort Atkinson, Wis., as second class matter.

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Coming Events

Feb. 7-12—Sixth National Tractor Show to be given in Columbus, Ohio.

Feb. 16—18, 1921—Virginia Dairy Show and Annual Convention of the State Dairymen's Association held in Roanoke. Secretary, Frank A. Buchanan, Blacksburg, Va.

Index Ready

The index for the sixtieth volume of Hoard's Dairyman is ready for distribution. Anyone desiring this index may receive a copy upon application. Those who have bound the issues of Volume LX will find them of greater service if they have an index to locate the information it contains.

Declines and Gains in Value of Farm Products

The value of farm crops of 1920 and of the farm animal products and animals sold and slaughtered, as finally determined by the Bureau of Crop Estimates, United States Department of Agriculture, is $19,856,000,000 or $5,105,000,000 below the total of 1919. The drop is almost entirely confined to crops, among which the chief declines in value are: Corn, $1,662,000,000; cotton lint and seed, $1,300,000,000; wheat, $854,000,000; hay, tame and wild, $325,000,000; tobacco, $248,000,000; and oats, $161,000,000.

On the other hand, as many as 10 crops gained in value, chief of which are oranges, with a gain of $32,000,000, and sugar beets, $24,000,000. Other items of gain are cabbage, $11,000,000; cowpeas, $10,000,000; sorghum cane sold and syrup made, $7,000,000. Small gains were made by soy beans, sugar beet seed, maple sugar and syrup, and onions. Apparently, the products of the farm wood lot have gained $223,000,000 in value in the comparison with 1919.

After offsetting gains against losses, the net crop-value reduction in 1920 below 1919 is $4,868,000,000, while only $237,000,000 is found in the total of farm animal products and farm animals sold and slaughtered. The wool decline is as yet unrealized, but it is reckoned at $37,000,000. Of the animals sold and slaughtered, the decline for cattle and calves is $223,000,000, and for swine, $427,000,000. But on the other side of the account, dairy products gained $311,000,000, and poultry raised and eggs produced, $160,000,000.

It is the rule that, in the upward and downward movements of prices, farm animals and animal products lag behind corps. So extreme was the lag in the price of animals and animal products in 1920, on account of the extraordinary fall in the prices of crops within a short period of time, that the total crop value of 1920 is reckoned to be only 56 per cent of the total value of all farm products. In the estimates for a long series of years, this is the first crop value estimate that has fallen below 60 per cent of the total of all products.—U. S. Dept. of Agriculture.

Mississippi Jersey Club

The Mississippi Jersey Cattle Club held its most successful annual meeting in Jackson, January 20th. The breeders were very enthusiastic, from the address of welcome until the last speaker had finished at the banquet.

In his welcoming address, Mayor Scott of Jackson, who is also chairman of the Board of Directors of the Mississippi State Fair, announced that the fair would give $1,500 as premium money this fall if the American Jersey Cattle Club would give $250, and the Mississippi Jersey Cattle Club $250. His proposition was immediately accepted, as the state club felt confident the National Club would give their $250.

The secretary's report showed the Club in good, strong, healthy condition, with a good increase in the number of members. After this report, it was decided that a special drive shall be made to secure new members.

Professor J. S. Moore, of the Mississippi A. & M. College, who knows the good that comes from Register of Merit testing, made a wonderful talk on that subject and said "Our peculiar task of transforming Mississippi from a one crop, all cotton state, to one of the leading dairy states makes a fieldman for the Jersey especially necessary." In commenting upon this, R. C. Vance, representing the American Jersey Cattle Club, made the prediction that Mississippi Jersey breeders have enjoyed their last year of unmolested supremacy. Considerable discussion followed on the advisability of employing a fieldman, the plan being generally favored. The matter was left to a committee.

Officers elected for the ensuing year are: J. C. Matthews, president; James Stone, vice-president; Tom Humphries, secretary and treasurer; and M. J. L. Hoye, George Wheatley, W. P. Long, and W. A. Rogers, directors.

TOM S. HUMPHRIES, Sec'y.

New England Ayrshire Fieldman

The Ayrshire Cattle Breeders' Association of New England has engaged Warren F. Burlingame of Massachusetts as field agent and salesman. He is a product of a New England Farm, a public, high school, and college graduate.

Mr. Burlingame has been engaged to act in the dual capacity of fieldman and salesman. His work as fieldman will cover the usual run of work of the fieldman of a breeders' association; to encourage the breeding and development of the Ayrshire cow. We realize at this time that there are many farmers who are either just entering or contemplating entering the farm, dairy, and breeding business. A surprising and gratifying preponderance of these are looking with favor to Ayrshire cattle. It will be the work of Mr. Burlingame to locate these people; to serve them and cooperate with them to the mutual advantage of themselves and members of the association.

The salesman feature of our fieldman's work we believe to be the first attempt along this line of any breeding association. We believe we are going to bring the buyer and the seller of Ayrshire cattle together in a highly efficient, businesslike manner. It will be the duty of our fieldman, as salesman, to get the breeders to further advertise and place before the public the Ayrshire cow; to see that the many inquiries now received concerning our breed shall increase still more rapidly, and to see that each inquiry is personally followed up and the wants of the inquirer satisfied.

W. GRANT FANCHES, Secretary.

Washington Dairy Notes

HOARD'S DAIRYMAN:—At a meeting of King County Farm Bureau (Washington) recently held in Seattle, preliminary plans were made for a campaign to be conducted beginning the second week in March to induce a greater consumption of milk by country children. Reports from country school districts are said to indicate that a great number of children are underweight because the diet is not suited to their requirements. In the majority of these cases, it has been found, little or no milk has been used. Adding a sufficient amount of milk to the diet has produced beneficial results. It is proposed to bring these facts to the attention of the parents; schools, churches, and other agencies will be asked to co-operate with the farm bureau project leaders in every community. Efforts will be made to induce every family where there are children to make provision for a daily supply of fresh milk.

About 350 farmers attended the second annual sale at New Westminister held under the auspices of the British Columbia branch of the Holstein-Friesian Association of Canada at Queen's Park. Prices generally were not up to expectation.

The annual report of the Guernsey Breeders' Association of Yakima County shows $8,878.49 was spent by the valley breeders for the importation of Guernsey stock during the last year. Sales through the association totaled $11,980. The breeders were well pleased with the report and have made arrangements for an active membership campaign.

At a meeting of the Washington Jersey Cattle Club recently held in Seattle, Mr. E. L. Brewer and R. I. Tanner were appointed to meet representatives from Oregon and California at a conference where the proposal to engage a field secretary for the three states will be discussed. It is believed that such an official would serve to co-ordinate the efforts of the Jersey breeders in these three states.

The Washington Jersey Cattle Club ranks as the second largest breeding organization in the state, numbering over 200 members, owning in excess of 3,000 registered cattle. At the Seattle meeting the following officers were elected: President, Cyrus Gates; vice-president, Mrs. Warren Lincoln; secretary and treasurer, C. A. Phipps; directors: E. L. Brewer, C. S. Griffith, E. W. Trezise, N. C. Sears, and B. A. Grant.

Washington. ALTON D. HURLEY.

Tuberculosis Eradication in Northern Michigan

Plans are under way for a well organized drive against bovine tuberculosis in Northern Michigan. Last August Holstein breeders met at the Loeb Farm where Dr. T. S. Rich explained eradication work for this disease. He discussed the progress then being made in Gogebic County in the Upper Peninsula.

Live stock men in Grand Traverse, Antrim, Charlevoix, and Emmet Counties immediately began plans to make a four county drive against this disease, and at a meeting in September at the Loeb Farm a tentative appropriation of $1,000 was made from each county. At a later meeting it was agreed that in this work each county shall share equally in the veterinary expenses. Many applications have already been made for having herds tested under this plan. Rules and regulations are set forth by the state and federal governments and will be carried out in this eradication so that the herds may be put on the accredited list.

Acid Rations Do Not Affect Milk

Experimental evidence now proves that receivers of milk who have objected to the product from farms where silage is fed, on the claim that such milk is too high in its acid content, have been mistaken. Sulphuric acid has been fed to cows at the Wisconsin Station in addition to their regular ration and no change whatever has been noted in the acid content of the milk. As much as 120 cubic centimeters of strong sulphuric acid has been fed to a cow in one day. This was given with a ration of silage, corn stover, mixed clover hay, and a grain mixture. Under such feeding the milk showed practically a neutral reaction. This is strong evidence that no cow will consume sufficient silage to receive enough acid to give an abnormal acid content to the milk which she produces.

New York Butter Market

NEW YORK CITY, JANUARY 25:—The arrival of shipments of Danish butter aggregating 2¼ million pounds during the past week had a very depressing effect on the market. The effect of the shipments, which were known to be on the water, has been felt since the holidays as there has been a noticeable weakening in all butter markets since the first week in January. While the price decline during the past ten days has been nominal, being about 2c, there has been a very noticeable absence of activity which forbodes other declines. The fact that fully a million more pounds of Danish butter are on the water at present does not engender confidence in the immediate future of the butter market. Unless there is a cessation of Danish butter shipments soon a very decided slump in butter prices must materialize.

Butter dealers were greatly encouraged lately when the Senate Finance Committee incorporated a tariff charge of 8c per pound on foreign butter in the emergency tariff bill pending before Congress. Of late, however, a feeling that the bill will not be passed has developed. However, the present Congress is now considering a permanent tariff bill and indications are that a tariff of six or eight cents per pound on imported butter will be incorporated in the bill. While that will do nothing to relieve the present condition in butter markets, it will undoubtedly prevent an influx of foreign butter into this country later in the year.

Another development of interest to creamery operators and butter handlers is a ruling announced by the federal attorney general on Saturday of last week. The ruling is that butter manufactureed from neutralized cream is an adulterated product and therefor is subject to a tax of 10c per pound. In addition all such butter must be marked and branded, must be put up in tubs containing not less than ten pounds, and all dealers, whether wholesale or retail, who handle that class of butter, are subject to a special tax. The justice of the ruling is a subject for debate and it is very probable that attempts to enforce it will be contended which will undoubtedly result in a great amount of litigation.

Creamery operators are constantly inquiring whether or not the butter dealer has an opinion regarding the prices of butter during the coming spring and summer months. The prevailing opinion seems to be that lower prices than those which have prevailed during those months of the last two or three years must be expected. Few feel that prices will reach a pre-war level because it is thought that it will take several years for the country to reach a normal condition so far as commodity prices are concerned. The importation of foreign butter is a factor which will have a decided bearing on butter prices in this country. It is very apparent at present that Denmark considers the United States a very desirable market for much of its surplus butter. England, however, will take greater quantities during the coming season than during the months just passed, which will undoubtedly reduce the quantities shipped to America. The normal supply of domestic butter is low which makes it seem probable that a strong active market will prevail during the months to come unless the country is flooded with foreign butter.

On Monday of last week, extras were quoted at 51¾@52c. On the following day, an unexpected weakness developed and the price declined ½c. There has been little recovery of strength since that day and occasional declines of ½c materialized until on Monday of this week the low price of 49@49½c was reached. Today, however, there was a little recovery, for some unknown reason, and the price advanced ½c. However, there is a noticeable lack of activity which augurs ill for the price advance. Established quotations today are: Extras (92 score), 50c; higher scoring than extras (93 score or higher), 50½@51c; firsts (90—91 score), 46@49c; firsts (88—89 score), 42@45c; and seconds (83—97 score), 35@40c. W. B. LIVERANCE.

Indiana Dairymen Meet

Resolutions asking that dairy products be put on the list in the emergency tariff measure proposed in Congress and that stringent legislation be enacted to govern the manufacture of substitutes for dairy products were adopted at the annual meeting of the Indiana State Dairy Association held at Purdue University, January 13. The organization also went on record as favoring an extensive educational campaign to encourage the greater use of dairy products. The following officers were chosen:

President, W. L. Hanning; vice-president, W. O. Mills; and secretary-treasurer, C. R. George.

One of the most interesting phases of the meeting of the dairy association was the dairy products banquet. Mrs. Curtis Hodges, a leader in the school lunch work for children in Indianapolis, told of the remarkable results achieved by giving the boys and girls milk in their diet. During November, more than 14,000 children were served daily. The feature of the evening was the funeral of the "scrub bull." Purdue students acted as pallbearers and mourners, carrying in a big black box with the name "Scrub Bull", in white letters, on the side. P. H. Crane read the obituary and W. H. Senour, a live Indiana dairy leader, preached the sermon before the notorious scrub went to his grave. D. B. Johnson, veteran dairyman and present member of the legislature, spoke of the growth of dairying in Indiana. The program closed with a movie of the Gossard Breeding Estates.

The Indiana Jersey Cattle Club held its meeting January 14, and elected the following officers: B. H. Scranton, president; Mrs. M. A. Covode, vice-president; and C. Earl Smith, secretary-treasurer.

P. H. Crane was named president; F. F. Johnson, vice-president; and R. L. George, secretary-treasurer of the Indiana Guernsey Cattle Club.

C. C. Richards was chosen president of the Indiana Ayrshire Breeders' Association, at the annual meeting; O. E. Reed was named vice-president; and L. W. Hart, secretary-treasurer.

Members of the Indiana Holstein-Friesian Breeders' Association elected A. B. Morgan, president; D. V. Whiteleather, vice-president; and H. A. Moss, secretary-treasurer.

National Dairy Union Finances

Balance on hand Dec. 1, 1920	$3,239.82
Total receipts	1,562.82
	$4,802.64
Total disbursements	394.76
Balance on hand Jan. 3, 1921	$4,407.88

This is to certify I have today audited the books for George Caven, Treasurer of the National Dairy Union, and find the receipts from Dec. 1, 1920, to Dec. 31, 1920, to be $1,562.82, and the amount paid out for which he holds vouchers, the sum of 394.76, leaving a balance on hand Jan. 3, 1921, of $4,407.88.

F. P. COLLYER, Auditor.

Filled the ice-house yet?



"I couldn't afford not to buy!"

Two farmers were talking over the outlook for this year. "I've just bought a new E-B plow," said one, "and I'm figuring on a new cultivator. Expect to place my order this week."

"What's the hurry?" asked the other. "Do you think this is a good time to buy?"

"Well, I thought at first I couldn't afford them, right now," said the first, "but when I began to think about profits this year I decided *I couldn't afford NOT to buy.* As I see it, there's only one way to be sure of a successful year—to plow and plant as many acres as I can take care of, and make every day count for bigger crops at less expense. That means better implements—tools I can depend on to save me time and do the work thoroughly. The old machines may have pulled me through last year, but they won't stand another season's use."

Can you afford to put off buying this year? It's worth thinking about seriously. Let your E-B dealer show you the time and labor-saving features in E-B tools. You'll see how they can help you farm more profitably.

Emerson-Brantingham Implement Co., Inc.

Established 1852 Rockford, Illinois

A Complete Line of Farm Machinery Manufactured and Guaranteed by One Company

Pure Wool

Knitting Yarns, Quilt Batting and Blankets

Direct from manufacturer at prices that will save money for you, Mr. Farmer.

All Our Products are made from 100% Pure New Wool

Satisfaction guaranteed or your money back. Write for FREE Sample Color Card and Prices.

We do Custom Carding, Spinning and Weaving at reasonable prices.

EXTRA—Have you any Wool?

Why not let us weave it into Blankets for you?

Write for particulars

Merrill Woolen Mills Co.

105 Blaine St., Merrill, Wis.

Do Your Own SHREDDING with a ROSENTHAL Corn Husker and Shredder



Most economical and satisfactory way of handling your corn crop. No delay, no extra help. Do it in your own spare time. Two sizes for individual use, 6 to 15 h. p. Also make two larger sizes for custom work. Over 20 years in the field. Write for catalog and prices. State h. p. of your engine.

SOLD ON TRIAL YOU TAKE NO RISK

ROSENTHAL CORN HUSKER CO., Box 20 Milwaukee, Wis.

Also Makers of Feed Cutters and Silo Fillers

DON'T PUT OFF

Seeing your friends and having them join in for a club of subscribers.



Bankers and Fertilizers

Bankers are keen judges of what is "good" and what is "bad" in the business of farming. The Federal Land Banks, and bankers in general, consider good fertilizers a sound investment always. The world must have food—a new supply must be grown annually—over-production and low prices one year usually mean smaller production and higher prices the next.

They are quick to recognize the progressiveness of the farmer who, too, reasons it out that way and orders his fertilizers with an eye to the future. It strengthens his credit. It is good business—for him and for them.

And that is the sort of farmer who insists on *good* fertilizers. **A A C** Fertilizers *are* good fertilizers. They are a farm asset that never fails to make farming a better business—each crop a better crop—than it would be without them.

When you use **A A C** Fertilizers you put into your agricultural efforts the results of over half a century of crop and soil study, of thousands of field tests—fertilizers *made right* from the best ingredients the four corners of the earth can provide.

Write for—

***Suggestions** as to the best fertilizers for your soils.*
***Booklet** "How to Get the Most out of Fertilizers".*
***The A A C Agency** if we have no dealer near you.*

The American Agricultural Chemical Company

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Cools Milk—Halts Growth of germs in milk—removes odors—insures uniform products. Saves its cost in one week. Write for Free Folder.
Champion Milk Cooler Co., Dept. D, Cortland, N.Y.

A Billion for Highways

(Continued from page 82)

clutch and disappeared down the concrete road at perilously near the speed limit.

More than anything else such a conversation goes to prove that farmers are rapidly changing from the "happy go lucky" methods that they employed a few years ago which in large measure accounts for the growing sentiment for good roads that is spreading over the country. A few years ago the country marveled when E. H. Harriman built a bridge across Great Salt Lake and abandoned the old railroad tracks that bordered the lake for many miles. Mr. Harriman insisted that the saving in time trains would accomplish would be worth more than the money it took to build the bridge. Experience proved him right. The farmer who is willing to make huge investments to save him time is working on the same theory as did the railroad wizard, for in transportation time is money to farmers and railroad presidents alike. Perhaps it would be well to close the case for the farmers at this point and consider the facts turned in by other lines of business.

John D. Nixon owns a bakery and meat market on this Indiana road at the little village of Centerville. "And do paved roads affect your business?" Mr. Nixon was asked. Then followed a snappy talk that would have warmed the heart of any real business man.

"When a paved road goes through a small town the merchant has to show some real pep or he will lose business," is Mr. Nixon's reply, "but if he will really run the business as it should be run he will profit hugely, for paving makes business travel either in the direction of the merchant's own store or to the stores of a livelier competitor."

"But won't business go to a large town in the place of a smaller one?" he was asked.

"It has not been my experience. Centerville, my own town, has a population of 1,000. Richmond, only eight miles from me, has 30,000. Earlham College, which has seven or eight hundred students, is right in the edge of Richmond and a Richmond baker used to furnish bread to the institution. I got the contract on a basis of service—took it away from the bigger town. Very often when a meal is beginning and the steward is afraid there will not be enough bread to serve, he 'phones me and I get there before the students are ready for dessert. I travel seven miles to get there but I couldn't give that service over any bad roads. Incidentally that single contract with Earlham College amounts to more than $500 a month." That very morning Nixon had taken his car and trailer and gone out into the country. He was in search of beef—found what he wanted and was back at his place of business in two hours. He figured that on that particular trip he had made $34 because of being able to fill an order on very short notice. The farmer was paid a good price for the beef and every one who had a part in the transaction was satisfied.

If you will ask the questions, Will the money come back? Will it be both principal and interest? Does paving pay? you will get from the community a single reply "It does," and they stand ready to prove out of their own experience that it does pay them.

Approximately 4,320 acres of land were restored to the Government during the last fiscal year, as a result of land-claim cases handled by the Office of the Solicitor for the United States Department of Agriculture. The timber stand on this land is estimated at 22,235,000 feet, valued at $88,840.

SOW SALZER'S SEEDS



And especially, sow the seed of hay and forage crops that has passed the Salzer test for purity, vigor and freedom from noxious weeds.

These are the crops, which more than any other, depend on the care of the seedsman in selecting fertile seed that is true to type, and in the thoroughness with which that seed is cleaned and recleaned. You can trust us on both these points. You can not possibly get any seed that will grade higher in any respect than that which we send out to our customers.

We are American Headquarters for Field Seeds, particularly the following:

Alfalfa, Clover, Timothy, Sudan, White Sweet Clover, Billion Dollar Grass, Grass and Clover Mixtures, Corn, Wheat, Oats, Barley and Potatoes.

We are also headquarters for vegetable and flower seeds for home and market garden. Our trial and propagating grounds at Cliffwood are equipped with almost every facility known to the science of seed improvement. This advantage enables us to guarantee all vegetable and flower seeds to be satisfactory to you in every respect, or we will refund full purchase price.

Write for new catalog showing hundreds of Salzer's Choicest Strains in true colors. A postcard will bring it.

JOHN A. SALZER SEED COMPANY
Box 155, La Crosse, Wis.

SALE **New 1921 Prices**

You should act quickly if you want to share in these 1921 prices. Savings on nearly everything you wear, eat or use. Everything for the home, the car, or the farm. Satisfaction guaranteed or money back. If you have mislaid your Montgomery Ward sale book, borrow one or write for another.

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from JEVNE'S and SAVE 10c per pound
We Pay Parcel Post. We sell only High Grade Coffee and Tea
Send for our Money-Saving Price List, or better still
Send $1.45 for 5 lbs. JEVNE'S ECONOMY COFFEE
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Dairying Thirty Years Ago

Taken from the Issue of Hoard's Dairyman of February 6, 1891

We, this week, present the Dairyman to its readers "dressed", as the printer says, in new clothes. Happily we have made the exchange, and trust the new type may have excellent "staying" qualities; for we have an ambition to make the impression of our types on our paper as bright and clean as the character of the reading is truthful, elevating, and helpful.

⚜

E. A. H., of Galena, Ill., asks if a cow will give more milk for a period, say, of four years, if she is allowed to have a calf as often as possible. Our own judgment is that cows should be bred regularly once a year, and given at least 60 days' rest from milking service. Handled in this way, with wise care and feeding, we believe a cow will make the largest possible use of herself. Of course, cows differ individually in talent the same as men, and often have a stubborn way of doing just as they have a mind to. Some cows rarely dry up, but milk right along from one calving to another. Every dairyman, when he breaks a heifer, should have a care to make of her a long season milker by milking her the first and second season up to within 60 days of calving. This will establish a milking habit which has a great deal to do with the amount a cow is to give in a year.

⚜

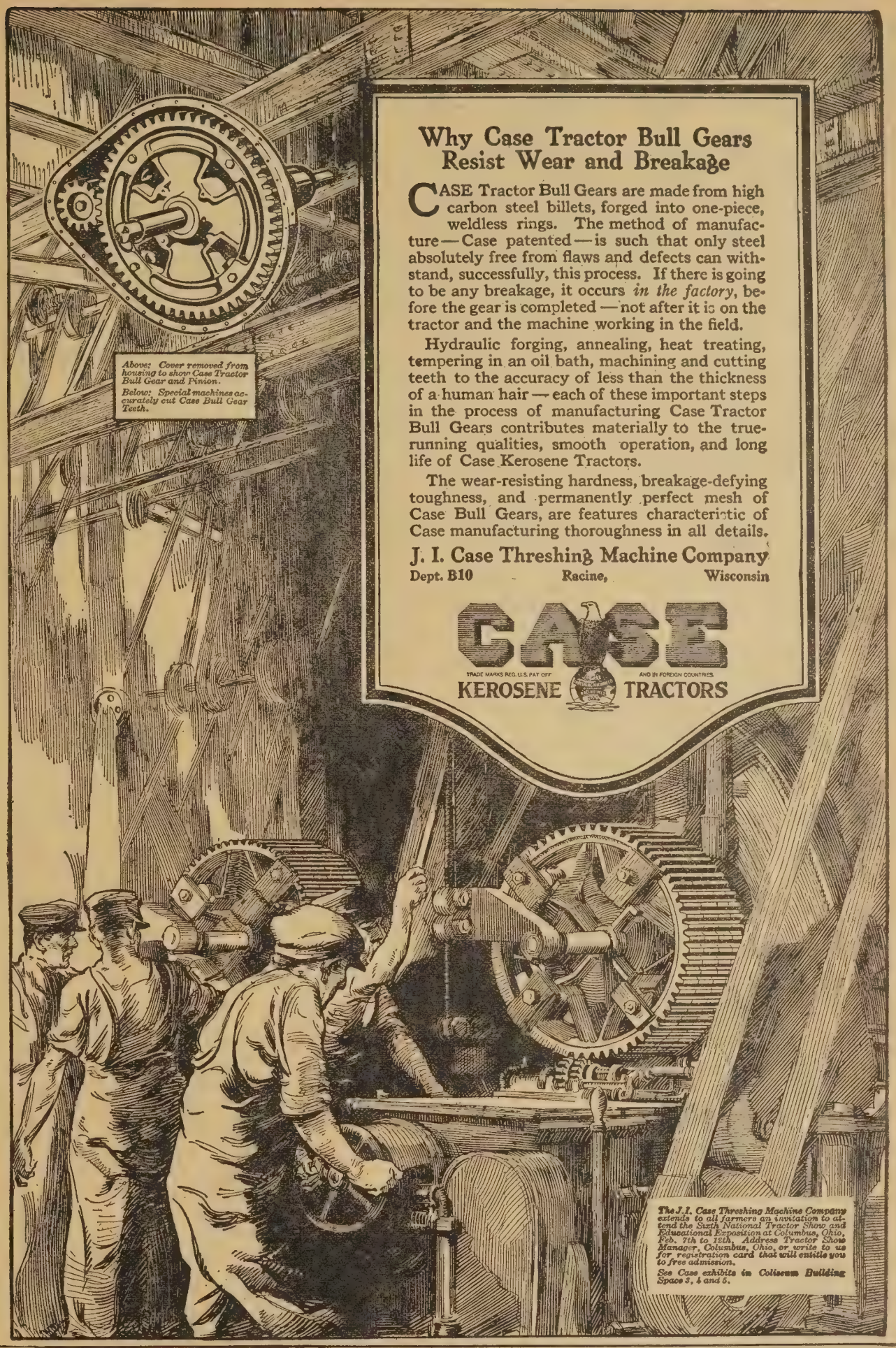
At a recent meeting of farmers, in California, a sensible lecturer said: "Mind is more than muscle. A mule has four times the muscle of a man; use the muscle of the mule. I was in St. Joseph, Michigan, and saw asparagus for sale. One lot was roughly put up in boxes to be returned. Another in neat white boxes, which did not cost half of the other, was put up in bunches, tied by red tape in neat bows, tied no doubt by a woman, and brought 40 per cent more, cost less than the other." Curiosity led him to the home of the man and found him doing less hard work and showing more general prosperity than his average neighbors. "I also knew a milk dealer who kept an account with his cows, each having a separate account, and the cow that did not show a profit was sold to the farmer who did not keep books." He asked all the farmers present who kept farm accounts or even a cash account to raise their hands. Not a hand was raised.

Dairy Markets

Elgin, Ill., Feb. 2, 1891—Market quiet 25.

New York, Jan. 21—Butter—It is difficult to give shippers a clear idea of the condition of affairs here during the week just closing. At the close a few Elgin marks are exceeding quotation in a regular way 27 cents. Extra Iowa, etc., is slow at 19 cents, and choice marks of Iowa and Nebraska are offering quite freely at 16½@18c. Cheese—The market has shown a slight hardening tendency on nearly all grades and the business of the week has been quite satisfactory. To home trade 10¼ cents is a very general price, with some small lots reaching 10⅜c; fine factories are selling at 9¾@10c; and good to prime at 9¼@9½c; small size full cream of fancy quality are firm at 10½@10¾c; fine Chenango Co. part skims reach 9c and choice lots are firm at 8@8½c; Ohio flats in demand and fine lots bring 10c.

There just doesn't seem to be any place in this efficiency-demanding age for the scrub—hen, cow, tree, or folks.



Why Case Tractor Bull Gears Resist Wear and Breakage

CASE Tractor Bull Gears are made from high carbon steel billets, forged into one-piece, weldless rings. The method of manufacture—Case patented—is such that only steel absolutely free from flaws and defects can withstand, successfully, this process. If there is going to be any breakage, it occurs *in the factory*, before the gear is completed—not after it is on the tractor and the machine working in the field.

Hydraulic forging, annealing, heat treating, tempering in an oil bath, machining and cutting teeth to the accuracy of less than the thickness of a human hair—each of these important steps in the process of manufacturing Case Tractor Bull Gears contributes materially to the true-running qualities, smooth operation, and long life of Case Kerosene Tractors.

The wear-resisting hardness, breakage-defying toughness, and permanently perfect mesh of Case Bull Gears, are features characteristic of Case manufacturing thoroughness in all details.

J. I. Case Threshing Machine Company
Dept. B10 Racine, Wisconsin

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TRADE MARKS REG. U.S. PAT. OFF. AND IN FOREIGN COUNTRIES
KEROSENE TRACTORS

Drying Destroys Vitamines

It has been shown that the drying of any food partially or completely destroys the particular vitamine which is effective in preventing and curing scurvy. Experiments by the Wisconsin Station prove that milk powder made by spraying milk into highly heated air has lost that vitamine property, while that powder which is dried by the drum process is not altogether without this vitamine value. This would indicate that the vitamine is not destroyed by the drying process so much as through oxidation and that if drying processes can be conducted in the absence of oxygen, the chance for preserving this particular vitamine is very much greater.

DRIED BEET PULP

ATTRACTIVE PRICE NOW IN EFFECT

Ask Your Feed Dealer

The Larrowe Milling Co.
Detroit, Mich.

Keep Tab on Your Cows

Send 5c in stamps for samples and prices of our weekly and monthly Milk Record Sheets. **Hoard's Dairyman, Fort Atkinson, Wis.**

Lower Operating Costs

The big problem confronting the business farmer today is "How can I lower my operating costs?"

To this there is only one answer, "Power Farming." You or your father answered it the same way when the scythe was discarded for the mower and reaper.

Two years ago you did not have to answer this question because you could make money no matter how expensive the old methods. But next year's crop costs will have to be figured on an efficient production basis, the same as any other manufacturer. Samson power points the way out.

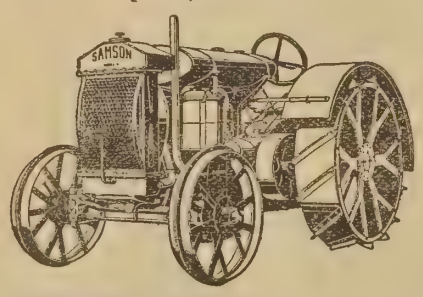
The Samson Model "M" tractor, by displacing horses, saving feed and other expenses, as well as hired belt work for silo filling, threshing, etc., will pay for itself the first year. It will give you not only a better and easier means of doing your work but it will cut down your cost of production the same as it has that of your farmer competitor.

Nearly two hundred thousand farmers have purchased tractors during the past year and through use of this power, which is less costly than horsepower, have saved money, time and labor. The tractor will do for you what it has done for them.

Your business rests with you. It is a question of profit or loss. You, as a business farmer, can not afford to operate at cost or at a loss. You must make a profit. Competition is as strong on the farm as in any other business. Power farming with a Samson Model "M" tractor is your salvation.

Don't delay the introduction of power methods. Your profits start the minute you put a Samson Model "M" tractor on your farm—not only in your field work, but in the operation of all your belt-driven machinery.

Get ready for your spring work now.



Write Us For All The Facts

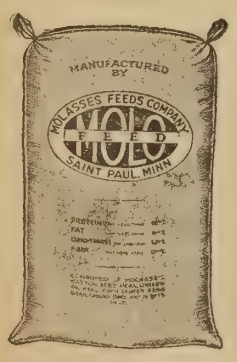
Sit down now and write us to send you new information which we have gathered that will enable you to lower your production cost and increase your margin of profit. A postal card will bring it, no obligation. Write us today.

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Division of General Motors Corporation
Manufacturers of Tractors, Trucks, Power and Horse-Drawn Implements

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Hominy Feed, Corn Gluten Feed, Dried Beet Pulp, Ground Corn, Ground Oats, Ground Barley, Nos. 1, 2, and 3 Feeds, Corn, Oats.

Prompt Deliveries on all of the above feeds—all fresh and guaranteed as recommended.

Molo Feeds are balanced ration, scientifically compounded. Analysis on every package.

If your dealer cannot supply you, write us direct.

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Phosphoric Acid

Finely Ground Raw Rock Phosphate is the cheapest source. Your inquiries solicited.

M. H. Gray, Mt. Pleasant, Tennessee

"GOOD MORNING"
Have our tried our Choice Leafy Dairy Alfalfa?
It's the best for tests.
W. A. FERSON HAY COMPANY
226 Board of Trade Annex,
Kansas City, Missouri.

Blancher's Notes

Patrons Buy Milk Plant—The Taylor Center Loope Creamery of Cortland County, New York, which has been controlled and owned by A. H. Loope for over twenty-one years, has just been sold to the patrons who will operate it under co-operative plans.

A charter has been issued by the state department of Albany to the McLean Co-operative Milk Products Company, Inc., of McLean, New York. George Fitts, state fair agricultural commissioner of McLean, Hobart Mineah, and O. G. Hemingway are the new directors for the first year.

High Record for Holstein Cow—A pure-bred Holstein cow owned at Merryall Farms, Pennsylvania, the past month gave 2,388 lbs. of milk testing four per cent fat, or 95.5 lbs. of fat. This cow was milked three times each 24 hours, and was fed ensilage, Unicorn Dairy Ration, and mixed hay. C. W. Newman is the proprietor of Merryall Farms, and is known throughout the state for the fine herd of Holsteins which he has developed there.

Scarcity of Bulls from Accredited Herds — Pennsylvania is forging ahead in the accredited herd plan in a surprising and pleasing way, but although many farmers have accredited herds, or have started on the accredited herd plan, Susquehanna County, one of the foremost dairying counties of the state, shows a startling lack of good bulls. Recently a buyer was in that county in search of a bull from an accredited herd, but could find none for sale. The next best thing was to refer the buyer to a herd that had passed one test. Not long ago there was a man in the county in search of a carload of cattle from accredited herds, and price was a secondary matter. Enough cattle could not be found to fill the order. The cattle were finally bought in Tioga County.

Milk Question Discussed

Plans for distribution of milk on a co-operative basis were discussed at the meeting of the New York State Agricultural Society in Albany, January 18 and 19. The scheme is fathered by the Dairymen's League which would place the League not only in control of the state's supply, but of its distribution as well, if the plan is adopted.

Those opposed to this program said it would tend to increase the cost of milk in New York and other large cities; that farmers cannot combine successfully on a cost-plus basis.

The League's pooling proposal was explained by Thomas E. Milliman, organizer of the League. He said that of the 98,000 members of the organization, one-third have signed contracts to place their milk in the hands of the co-operative association proposed by the League to act as a sales agency in distributing the milk.

P. D. Fox, president of the Borden Farm Products Company, defended the distributors and branded as unsound the plan fathered by the League. He asserts that "the distributor is not a middleman", declaring that he has direct contact with the producer and consumer. "These suggestions," he said, "are born of impractical knowledge of the business attacked and condemn a system made practical and efficient by years of study. This is detrimental, not alone to the distributor, but to every one associated with him, including the consumer."

Mr. Fox stated that milk distribution in New York City, at least, is

An Easy Way to Remove Afterbirth

If you want your cows to be healthy and productive, by all means see that the afterbirth comes out in a natural way, for the infection will injure the animal's health if you don't.

The best way to get rid of a retained afterbirth is to let B-K promptly reduce inflammation, suppress infection, destroy foul odors, soothe and heal torn tissues and permit the afterbirth to come away without assistance.

If treatment is given promptly, the case will respond at once. If delayed, infection advanced, foul odors present, etc., then the first two or three applications should be stronger.



Your cow will not be injured or torn in any way, as she will be if you try to remove this afterbirth by the unnatural hand method. B-K prevents infection and leaves no part to decay. Sold by dealers in your town.

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Madison, Wisconsin

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The Sentinel of Sanitation

MORE HORSE POWER



Spring clipping puts pep and pull into horses.

Clipped horses dry off quickly, rest well at night, get the full benefit of their food and are fit and ready.

No colds, stiffness or other ailments, to which horses low in vitality are easy prey.

Heavy spring work takes vitality from unclipped horses. That's why farmers who value horsepower clip in the spring. Authorities urge it. It pays big.

This Stewart No. 1 Ball Bearing Machine makes clipping easy—lasts a lifetime. Used for clipping dairy cows as well. Complete, $14.00

More Wool Money

Shear with a Stewart Machine. Leaves no ridges—gets 15% more wool. Saves time, makes money. No cuts. Easy for anyone to use.


Stewart No. 9 $22.00

If you have a Stewart Clipping Machine, get a Stewart shearing attachment. If not, get a Stewart No. 9 Ball Bearing Shearing Machine. If you have an engine, write for Catalog No. 69.

Your dealer has Stewart Machines, or you can buy from us—send $2 with order, pay balance on arrival.

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Every Farmer Needs One

Enables the farmer to put in his own concrete improvements at less cost and to have a mixer handy right where he wants it when he needs it. The Wynn Barrel Mixer cuts costs and ends the back-breaking job of hand mixing. Mixes 2½ to 3 cu. ft. at a batch. Simple, strong — built for hard work. Easily moved around. Hooks up with any 1 or 1½ H. P. engine. One man can run it. Write for descriptive literature. Sold on a 10-day money back guarantee.



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Wynn **Barrel Concrete Mixer**
"The 1-Man Mixer with the 6-Man Capacity

AGENTS WANTED FOR THIS SILO

EVERY FARM will have a silo within the next few years. Be the **Green Mountain Silo** man in your neighborhood. *Liberal terms to agents. Write for complete silo book.*

THE CREAMERY PACKAGE MFG COMPANY
207 MADISON AVE. FT ATKINSON WIS.

made in an economical manner. C. W. Burkett, editor of the American Agriculturist, took exception to Mr. Fox's statement. Mr. Burkett said the number of delivery wagons could be considerably reduced and a large saving effected in the overhead cost of delivering milk if the routes were extended.

Mr. Burkett said, "The average delivery in New York City from each wagon is about 300 quarts. When I worked in the dairy business I often delivered 300 quarts of milk in the morning and 300 quarts at night and did quite a day's work in between. In New York they now deliver 300 quarts and call it a day—at least some of them do this. The trouble is that there is too much organization. Take in Philadelphia, for instance, the average delivery route distributes from 400 to 500 quarts. The reason for this is that the milk delivery men are unorganized in Philadelphia and organized in New York."

E. M. L. BLANCHER.

Pennsylvania.

North Dakota Dairymen to Meet

The North Dakota Dairymen's and Buttermakers' Association holds its 27th annual convention at Jamestown February 8, 9, and 10. In making this announcement, J. J. Osterhous, secretary of the State Association, draws attention to the progress which North Dakota is making in the production of dairy products. During the last year world records in butterfat production have been made in that state by each of three of the leading dairy breeds. Owners of these world record cows will address the convention.

Minnesota Dairymen's Convention

The 43rd annual convention of the Minnesota State Dairy Association was held at Fergus Falls, January 18, 19, and 20. A pleasing feature of the meeting was the dedication of the new creamery building, in which the association held its convention. It is estimated that about five hundred dairy farmers attended.

In his address as president, J. P. Grout spoke of present agricultural conditions and indicated that there can be no real prosperity of the nation until those who produce the nation's food supply are prosperous. Speaking of the heavy decline in prices of agricultural products, he called attention to the fact that butterfat is one that has not suffered a serious decline. He spoke of the rapid growth of dairying in Minnesota and of the high quality of butter produced in that state as indicated by the great number of prizes which have been won by its product in public competitions.

Dr. C. P. Fitch spoke on the topic, "Live Stock Sanitation", giving chief attention to tuberculosis and contagious abortion. He stated that there is no specific remedy for either of these diseases, but that cleanliness, proper sanitation of barns, proper feeding, and plenty of fresh air go far toward eliminating both. He strongly advocated the testing of all cattle for tuberculosis and stated that the tuberculin test, while by no means infallible, is accurate in at least 95 per cent of the cases. He stated that Minnesota has more tuberculosis-free herds than any other state, owing to the fact that it was one of the first to take an interest in testing and proper sanitation.

James Sorenson, secretary of the Minnesota Creamery Operators' and Managers' Association, explained the work of this organization. He showed that its purpose is to improve Minnesota dairying. While it puts forth effort to see that its members are well paid, it is equally as anxious that every creamery should be given good service. He stated that the association is anxious to see that poor creamery operators are replaced in the creameries of the state.

Dean R. W. Thatcher of the Minnesota University spoke on the further development of Minnesota's agricultural resources. He advised that more advertising should be done, using the Sunkist orange advertising as an illustration of the benefits that can be derived through publicity. Secretary Chris Heen reported that the cash receipts of the association for the past year were $6,559.14. This included a balance from last year of $693.34, from state appropriations, $5,000; and memberships, $719. The expenditures for the year totaled $5,851.57, leaving a cash balance of $707.57. The association has furnished speakers for fourteen different meetings during the past year, at which approximately 2,600 people were addressed.

Officers elected for the coming year are: President, L. Jensen; first vice-president, Arthur Mitchell; second vice-president, J. J. Bopp; secretary, Chris Heen; treasurer, J. P. Jack.

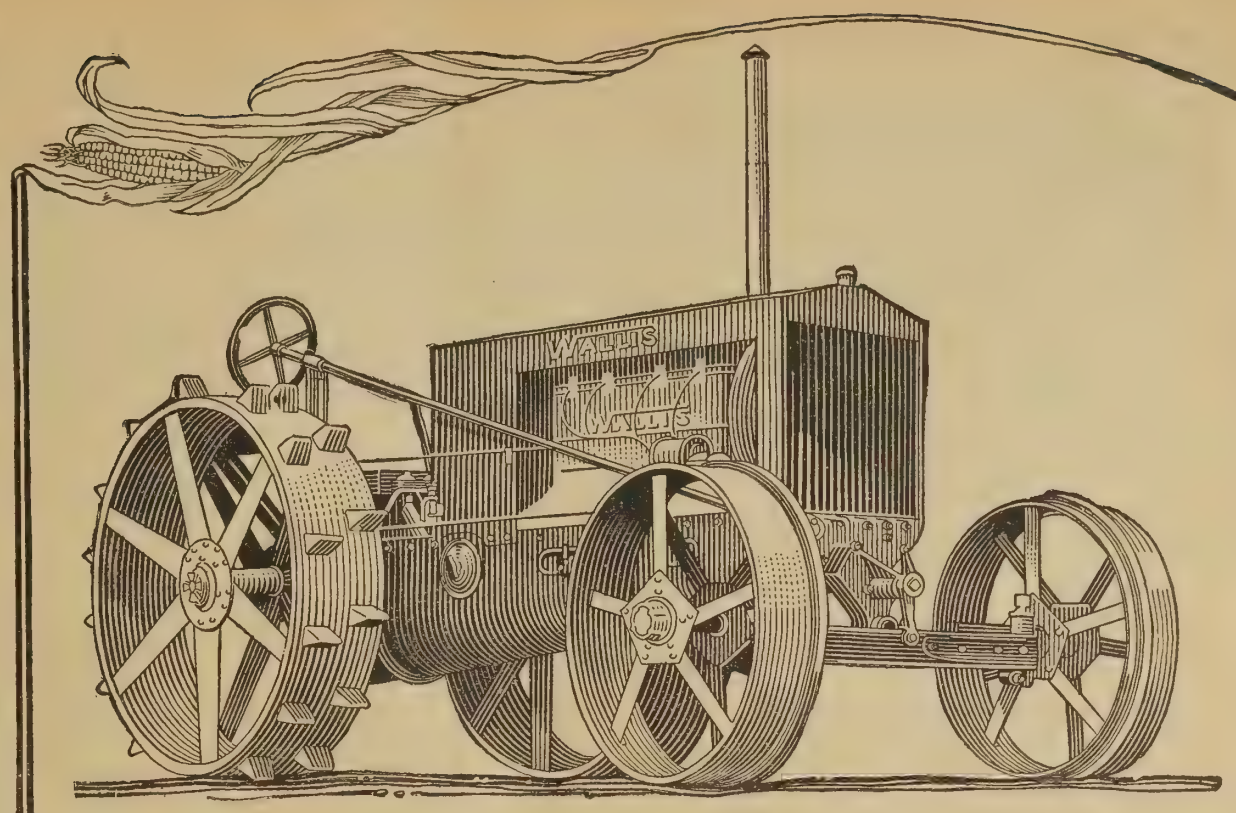
Resolutions were adopted urging continued liberal support of the National Dairy Union, increased interest in the Dairy Council, continued co-operation with the Minnesota Creamery Operators' and Managers' Association, the adoption of regulations declaring that commercial butter shall contain 80 per cent or more of butterfat, endorsing compulsory pasteurization of cream for creamery butter, and commending the work of the Dairy Division.

In the butter scoring contest, 224 entries were made. C. S. Gustafson and James Sorenson acted as judges of butter. Earl A. F. Paulson was given the highest score of 96, H. H. Lunow receiving 95½ and Chas. W. Gamith 95¼. C. G. Strombeck took first prize with American cheese with a score of 95 and Leo Von Arx received a score of 93 on Brick cheese.

Jersey Cattle Notes

For week ending Jan. 14:

Number of animals registered: Bulls, 162; cows, 539; total, 701. Number of transfers recorded: Bulls, 175; cows, 596; total, 771.



WALLIS—International Champion

Once again has the Wallis Tractor offered convincing proof that Wallis power means "more acres per hour." In the great international demonstration held recently by the ROYAL AGRICULTURAL SOCIETY OF ENGLAND, the Wallis performed with such thoroughness and power that it was awarded the FIRST PRIZE AND GOLD MEDAL in the three-bottom plow class. The trials lasted seven days and covered every phase of field and belt operation.

The leading English engineering journals, commented very favorably on the constructional features of the Wallis—AMERICA'S FOREMOST TRACTOR. Its sturdy strength, light weight and remarkable pulling power were commended. The famous Wallis U-shaped frame, made of one-piece boiler steel, was the object of especial approval among the judges and engineering experts. The low-speed, heavy-duty motor; compact, dustproof construction, and non-friction bearings, were other features that received high praise. Wallis was accorded unquestioned leadership in the three-bottom plow class.

"More Acres per Hour" is built into every vital part of Wallis. Thousands of farmers throughout the country have increased their production and lowered their costs with the Wallis. Its great power and trouble-free performance add many dollars to the value of the crop. A visit to the nearest Wallis dealer will convince you of the merit of Wallis.

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—more acres per hour

NOTICE: We want the public to know that the WALLIS TRACTOR is made by the J. I. CASE PLOW WORKS COMPANY of Racine, Wisconsin, and is NOT the product of any other company with "J. I. CASE" as part of its corporate name.

MULE-HIDE "NOT A KICK IN A MILLION FEET" ROOFING AND SHINGLES Reg U.S. Pat Office

Mule-Hide Ideas and Ideals

Fifteen years ago MULE-HIDE Roofing came into existence. Today—after fifteen years of service, the first MULE-HIDE Roofing is still proving its fitness.

MULE-HIDE has never been sold on price, rather it has been the aim of its makers to reduce its price through longer service. Millions of feet of MULE-HIDE Ready Roofings and Asphalt Shingles now in use prove the meaning of MULE-HIDE'S service record—

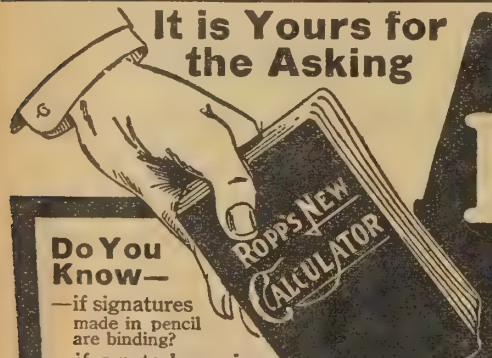
"Not a Kick in a Million Feet"

Go to your dealer; ask him to submit MULE-HIDE to any test you may select, and you, too, will be led to purchase, for its longer life, this never varying product.

MULE-HIDE Smooth Finish Roofing.
MULE-HIDE Slate-Kote Roofing.
MULE-HIDE Shingle-Craft Roofing.
MULE-HIDE Individual Asphalt Shingles in Standard and Double-Thick Weights.
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SEAL-SKIN and BLACK-BEAR Waterproof Building Papers.

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MANUFACTURERS
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FREE
This Book Answers All Your Problems

Do You Know—
—if signatures made in pencil are binding?
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2 Big Necessities FOR EVERY Farm

Your name and address on a postal will bring to you postpaid, Ropp's Calculator which answers all the above questions, tells how to compute crop values, measure land, find capacity of barrels, bins and barns, figure interest and wages and gives thousands of other facts in a jiffy. We will send every farm owner a copy of this calculator free, along with our latest catalog on

Square Deal Fence

It is the fence of permanency and protection and not a mere boundary marker between fields. Made of materials more than equal to all the demands placed on them. Rust-resisting, rigid, durable and perfect in construction. SQUARE DEAL FENCE always lives up to its name. Endorsed by thousands of users, everywhere.

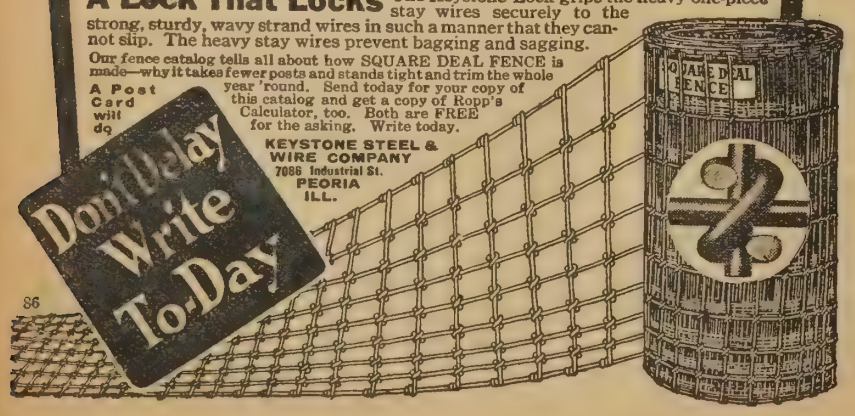
A Lock That Locks The Keystone Lock grips the heavy one-piece stay wires securely to the strong, sturdy, wavy strand wires in such a manner that they cannot slip. The heavy stay wires prevent bagging and sagging.

Our fence catalog tells all about how SQUARE DEAL FENCE is made—why it takes fewer posts and stands tight and trim the whole year 'round. Send today for your copy of this catalog and get a copy of Ropp's Calculator, too. Both are FREE for the asking. Write today.

A Post Card will do

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PEORIA ILL.

Don't Delay Write To-Day



86

Dr. Emerson and Milk Facts

STILL greater evidence is now at hand to show the wonderful value of milk. This evidence comes from the results of experiments conducted by the great authority, Dr. Emerson of Boston, in conjunction with the city schools of Chicago, the McCormick Memorial Institute of Chicago, and the National Dairy Council.

Thousands and hundreds of thousands of boys and girls have been found, on careful survey, to be physically unfit and mentally unreceptive to school work.

Chicago schools show approximately 33% of their boys and girls as being 7% or more below normal weight. This condition naturally reflects on their school work.

When Dr. Emerson first went into the Chicago schools and picked out several dozen boys and girls, the worst he could find, who were in many cases 25% to 40% below normal, many thought he had hopeless cases. But he didn't. He knew the reason for the condition of these children and he knew the way to bring them up and "over the top". Strange but true, these children were from well-to-do families; in many cases the child was the only one in the family.

Dr. Emerson is emphatic in saying that less than 3% of the cases of malnutrition can be traced to poverty, the 97% being the result of sheer neglect and ignorance on the part of the parents.

The children were immediately placed under supervision, and each given at least a quart of milk a day. Some were required to have mid-day lunches, properly prepared. Every child was weighed regularly, a record was kept, and a graphic chart showed how far each child was below normal when he began and how rapidly he gained and finally reached normal. The results were astounding.

One case was a boy, weighing 86 lbs. while he should have weighed 134 lbs., who became normal, going "over the top" in thirteen weeks. Most of the children went over in six to eight weeks. Occasionally their progress was stayed by some physical defect or disease—such as diseased tonsils, which, when removed, allowed the children to continue gaining.

All this, says Mrs. Ira Couch Wood, in charge of child nutrition work conducted by the Elizabeth McCormick Memorial Institute for the McCormick Memorial Fund, resulted in a similar increase in school efficiency; the children studied better, they were really interested, they grasped the work more rapidly, and they displayed alertness of mind never before manifest. Indeed, it was an inspiration to see them unfold; once so listless and dull, now so apt and eager.

And to think there are 6,000,000 such children in this free land of America today—children who could be "shining lights" and who could be a power for civilization—but who are held down by the iron hand and submissive power of ignorance.



SCHOOL CHILDREN BEING WEIGHED

Proper food means healthy boys and girls. Health is wealth, and health belongs to every child in this land today.

Milk is fundamental. It is also economical (for 1 quart is equal to 8 eggs in food value). Then why not use it? If it were put up in medicine bottles, it would sell for a dollar a bottle, and there would be no end to the demand for this vital food. The Milk Way is the Health Way—Follow it. Dr. Emerson has found that milk is indispensable.—NATIONAL DAIRY COUNCIL.

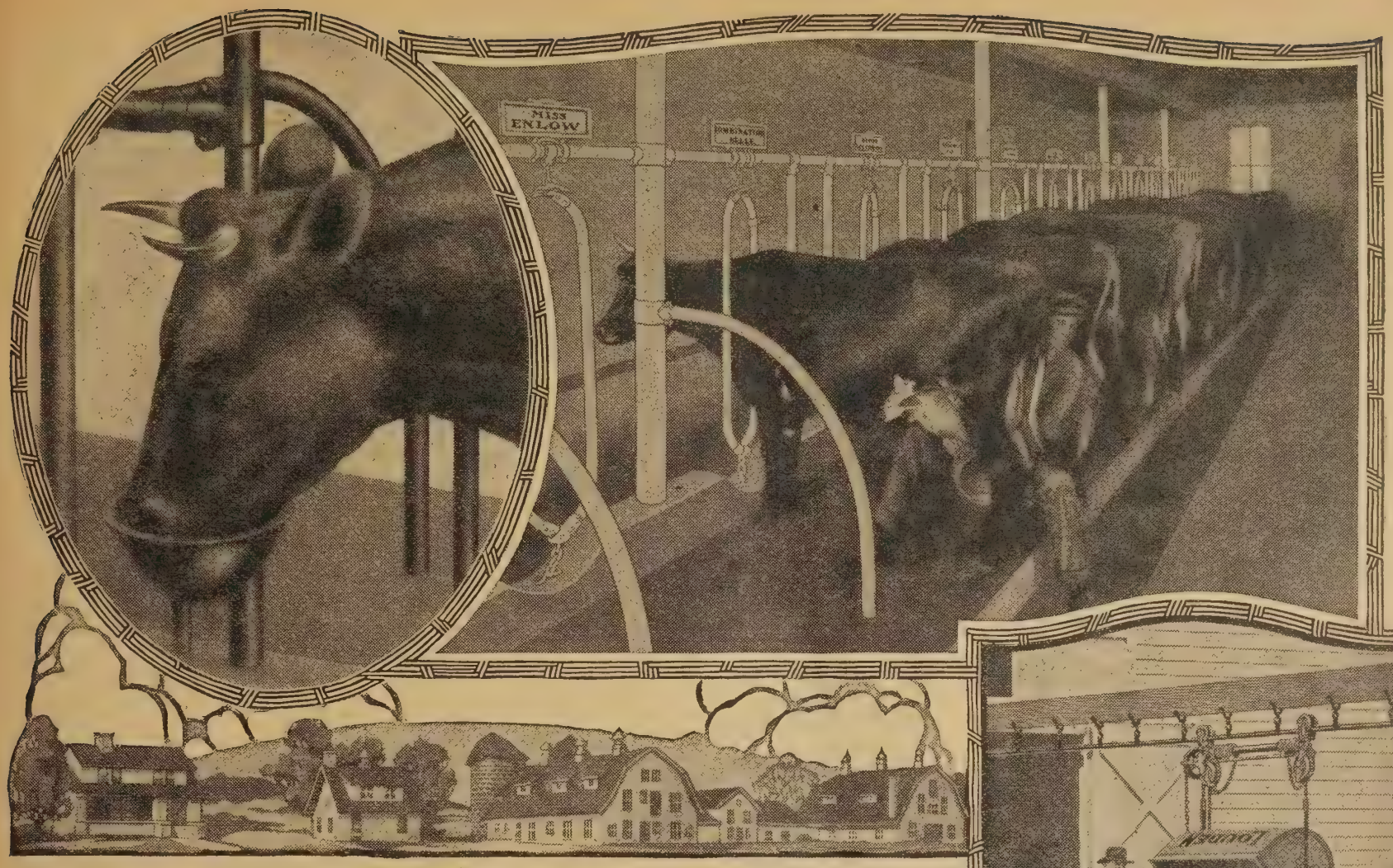
Maine Creamery Reports for 1920

The annual meeting of the Skowhegan Jersey creamery was held at the creamery office at Skowhegan, Maine, January 8. The secretary's report showed an increase of business of 10 per cent over last year, total receipts for the year being $302,786.58. The pounds of butterfat received and paid for at an average price of 75 cents per pound were 351,084.1. Twenty-six thousand, four hundred thirty-six pounds of butter were made, this being less than 8 per cent of what it would have been had all the product been made into butter. The balance or 92 per cent of the product went to market in the form of sweet cream.

Lester H. Packard, who has been one of the directors the past year, was elected president. The other directors elected were: T. D. Salley, Elmer B. Rowell, Lindley F. Parsons, and L. L. Sanford. Elmer E. Harris was re-elected secretary and treasurer. This present month terminates his twenty-sixth year of service in the creamery, having served as its secretary and treasurer for twenty years.

The matter of installing a cold storage system was discussed thoroughly and it was thought best to defer the matter for one year at least, in view of the extreme high price of material and machinery necessary for such an outfit. Steps will be taken at once to establish a branch in Boston for the purpose of giving better service to the customers. As soon as possible machinery will be installed in the creamery for the purpose of making ice cream in all its forms.

Maine. ELMER E. HARRIS.



Saving Time for a Million Farmers

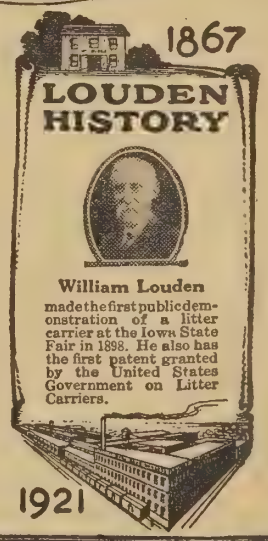
TIME is money. This is more true of the farmer than anyone else. Your trouble is to find time to do all the things you want and ought to do. For over fifty years we have been working out ways for the farmer to save time in his daily barn work. And the saving of more than half the barn work that Louden Equipment makes possible does far more than cut the expense of barn work in two—it takes the backache and drudgery out of barn cleaning, feeding and watering stock—gives you a sanitary barn and greater milk production from your herd. For a few cows or many—for a big barn or a small one—we have the equipment that meets your needs and which you can install yourself without trouble. It begins to show a surprisingly big profit the day you put it in. And don't overlook the fact that Louden Equipment

Works for You Every Day in the Year

Louden Cow Stalls and Swinging Tubular Stanchions give the cows genuine pasture comfort—cows are free to turn around and card themselves—they can sleep as they would out in the pasture, with their heads nestled up against their body. Louden Stalls and Stanchions make it easy to keep the herd clean, saving much disagreeable work, making more sanitary conditions, and insuring a better quality of milk. And the Louden Built-Up Manger Curb, which saves so much feed, can be used only with the Louden Stanchion.

Louden Quick Detachable Water Bowls not only save all the labor of watering the cows, but still more important, they *increase the milk yield from 25 to 40%*. A lift of the hand takes them off or puts them on—simple and easy to keep clean. Insures a constant supply of fresh, even-tempered water—a big paying investment from every standpoint—for few cows or many.

The Louden Litter Carrier takes out the equal of five wheelbarrow loads of manure each trip—takes it clean without dripping or scattering—takes it away from the entrance and dumps it. Operates so smoothly that a 12-year-old boy finds the job a pleasure instead of the usual drudgery. Does away with slopping around the barnyard in slush ankle-deep during bad weather. Made in different sizes to meet any farmer's needs. One of the greatest labor savers ever built for the farm.



Get These Two Books—No Charge—No Obligation

The Louden Illustrated Catalog—224 pages—tells all about full line of Labor Saving Barn Equipment—Stalls and Stanchions, Litter and Feed Carriers, Water Bowls, Animal Pens, Hay Unloading Tools, Power Hoists, Barn and Garage Door Hangers, Hog House Equipment, Cupolas, Ventilators—"Everything for the Barn." Don't fail to get this book—it's yours for the asking—you will find an equipment that exactly meets your requirements.

Going to build or remodel a barn?—we can be of great service to you. If you will give us some idea of what sort of barn you have in mind, number and kind of stock you wish to house, we will gladly work out and send you, without charge, suggestive plans to best meet your particular needs. Also the Louden Barn Plan Book showing many styles and sizes of barns, with detailed information on every phase of barn building. It will save you trouble and money and costs you nothing.

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I expect to build (remodel) a barn for..... cows..... horses.
Am interested in Litter Carriers..... Stalls and Stanchions..... Water Bowls.....

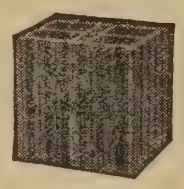
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Wood is Scarce—Coal is High
Build a WARM House

WITH the winter winds howling and the cold creeping through the thin weather-boards, the family in grandfather's boyhood hugged the stove a little tighter, while someone fetched another armful of wood. But today, firewood is fast disappearing and the cost of coal climbs steadily higher. The remedy is a ***warm*** house—built of



Natco XXX Hollow Tile used in walls that are stuccoed.

Natco Hollow Tile

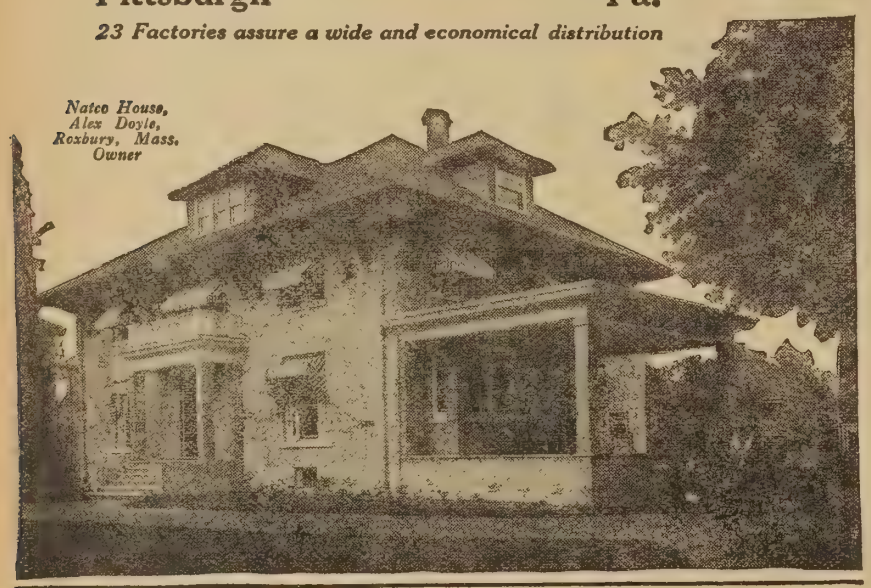
The still-air spaces in the walls resist temperature changes and prevent dampness. These walls require no painting and will not burn or decay. The saving in coal bills, upkeep and insurance make a Natco House cheapest in the long run.

Our *free* book, "Natco on the Farm," describes Natco buildings of many types. Write for it today.

National Fire Proofing Company,
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23 Factories assure a wide and economical distribution

Natco House, Alex Doyle, Roxbury, Mass. Owner



An Egg in February Worth Two in May



Egg prices are still high—and will remain high until the usual spring lowering of prices. So help your hens lay NOW as steadily as they do in springtime—have lots of eggs to sell *at winter prices.* It's easy! Add

Pratts Poultry Regulator

to any good ration. Then watch your birds start filling the empty nests.

One egg *now* is worth two in May. And Pratts Poultry Regulator surely coaxes the eggs along. Thousands of poultrymen have proved that during the 50 years this wonderful egg-tonic has been on the market. Test it on your flock. Do it *now.* The longer you delay, the more you lose. You risk nothing because—

"Your Money Back If YOU Are Not Satisfied"

Be sure to use the ***genuine*** *Pratts. There's a Pratt dealer near you.*

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Pratts

The Improved Humane Stanchion

is the handiest, strongest, and most practical Stanchion on the market. Write to Humane stanchion Works, Baraboo, Wis., for literature on a complete line of barn equipment.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

Pure White Eggs—Uniform in Size

are the kind you'll get from Oak Dale Leghorns. The world's most prolific egg layers are

Oak Dale S. C. White Leghorns

Single Birds, pairs, trios, pens or hatching eggs.
"Satisfaction or your money refunded." Get our catalog.

OAK DALE FARMS
Box M Austin, Minn.

Michigan Breeders Meet

The Michigan Improved Live Stock Breeders' and Feeders' Association met at East Lansing, Michigan, January 12th and 13th. Special meetings were also held by the various breeders of cattle, horses, swine, and sheep. A very commendable feature was the meeting at 5 o'clock in the afternoon of all the breeders, where brief reports were given of what was accomplished at the special breeders' meetings. We consider this a good practice as it gives opportunity for every breeder to know the problems of his fellow breeder. It is also well for the breeder of dairy cattle to know the status of the sheep, the beef cattle, and the swine industries. It did not require much time to review conditions but it gave every breeder a better understanding of the problems of the live stock industry.

The subject of eradication of tuberculosis was discussed by Mr. H. R. Smith of Illinois before the general meeting of the Michigan Improved Live Stock Breeders' and Feeders' Association. Mr. Smith pointed out why concerted effort was being made by the federal and state governments to secure adequate appropriation for an effective campaign against bovine tuberculosis. Last year 3,000 cars of hogs went to the rendering tank which incurred a loss of 15 cents per 100 on all the pork sold. He estimated that the loss from tuberculosis last year amounted to $40,000,000 and figured that this could be reduced from three to five millions if proper funds were provided. Congress is being asked for an appropriation of $3,000,000 and the states are asking their legislatures to appropriate at least this amount. The entire appropriation will amount to about one-sixth of the cost of one of our battleships.

Instances on record show that tuberculosis can be eliminated where proper plans and practices are put into operation. Ten years ago the District of Columbia started to test its dairy cattle and found 18% of them suffering from tuberculosis. Last year only three animals responded to the tuberculin test. Mr. Smith also pointed out that tuberculosis is on the increase, for in 1902, 2% of the hogs showed lesions and in 1920, 11% showed lesions. He believes that now is the time to strike vigorously for if this disease continues to run its course the losses will be much greater.

Mr. W. L. Houser, President of the Wisconsin Breeders' Association, described the pure-bred campaign which is being carried on in Wisconsin. He showed how the children in rural schools were used for taking the census of pure-bred bulls and how this interested them in breeding and developing better animals. He stated his surprise to find in one of the leading counties of Wisconsin that had developed a world's champion Jersey and a world's champion Holstein that on taking the census of that county only 27% of the bulls used were pure-bred and the rest were grades or natives. This shows the necessity, even in the most progressive dairy counties, of carrying on a systematic campaign for educating the dairy farmer to the value and importance of using pure-bred sires.

Mr. R. R. Graves of the Dairy Division discussed the subject of potency in animals. In the selection of an animal to head a herd of cows he urged breeders to look more to the calves and not so much to the sire. He pointed out the necessity of studying the records of the bull's ancestors in order to determine whether the animal had in his blood desirable characteristics to be transmitted to his offspring. He illustrated this point by using Countess Prue, the world's champion Guernsey, as an example. He showed she was no accident and that sixteen of the cows closely related to her have 20 records with an average fat production for a year of 642 pounds. When a bull is found of the proper breeding and shows the ability to transmit his good qualities to his progeny, then inbreed to fix these desirable characteristics.

Mr. L. Whitney Watkins, in discussing a better market for live stock, stated that the dairy industry had suffered by keeping too many poor cows but he hoped that through the county agent and the farm bureau farmers would be led to see the necessity of eliminating the poor cow as well as the poor scrub. He believed that now was the time to strike a strong blow at bovine tuberculosis and favored appropriations from the legislatures and federal government that would give proper financial support in carrying on this work.

January Milk Prices

The following table from the U. S. Bureau of Markets' report presents a comparison of the net prices received during January by producers for fluid milk (test 3.5%) f. o. b. local shipping points or milk plants operated by fluid milk dealers:

Sections	Range of Jan. prices per cwt.	Comparison of average prices 1920 Dec.	1921 Jan.	1920 Jan.
United States	$2.03—$5.23	$3.50	$3.25	$3.82
New England	3.50— 4.85	4.27	3 89	4.20
Middle Atlantic	2.65— 4.04	3.31	3.30	3.77
E. North Central	2.10— 3.92	3.51	2.77	3.71
W. North Central	2.03— 3.86	3.33	2.93	3.59
South Atlantic	2.67— 5.23	4.15	4.05	4.19
E. South Central	2.23— 4.45	3.50	3.34	4.08
W. South Central	2.76— 4.36	3.98	3.59	4.51
Mountain	2.27— 3.47	3.04	2.88	3.16
Pacific	2.32— 4.41	3.57	3.37	3.66

Producers' and Consumers' Prices

The following table shows for certain representative city markets the prices of standard grade milk (Grade B, test 3.5%) received by producers f. o. b. city and paid by consumers during the month of January:

	Producer receives per cwt.	Consumer pays per qt. Cents	Butterfat allowance per lb.*
Birmingham, Ala.	$4.87	20—25	
San Francisco, Cal.	4.04	15—16	$ .29
San Diego, Cal.	4.63	19	.53
Denver, Colo.	2.80	13	.80
New Haven, Conn.	4.85	16—17	.40
Washington, D. C.	4.64	16—17	.40
Jacksonville, Fla.			
Atlanta, Ga.			
Chicago, Ill.	2.98—3.08	14	.40
Indianapolis, Ind.	2.63—2.80	14	.75
Des Moines, Ia.	3.30	15	.50
Topeka, Kans.	3.25	14—16	flat
Louisville, Ky.	3.25	15	.50
New Orleans, La.	4.20	17	.40
Portland, Me.			
Baltimore, Md.	3.66	15	.58
Boston, Mass.	4.42	17	
Detroit, Mich.		13	
St. Paul, Minn.	3.41	13	.50
Kansas City, Mo.	2.45—3.57	14—15	
St. Louis, Mo.	3.37—3.49	16	.30
Butte, Mont.	2.98—3.15	15	.90
Lincoln, Neb.	2.54	14	.72
Carson City, Nev.			
Trenton, N. J.	3.48	13	.40
New York, N. Y.	4.52	17	.40
Ashville, N. C.	4.50	18	.40
Fargo, N. D.	3.49	15	flat
Cleveland, O.	3.65	15	.50
Cincinnati, O.	3.90	15	.35
Okla. City, Okla.	2.98—3.50	18	1.00
Portland, Ore.	3.23	14	.50
Pittsburg, Pa.	3.78	15	.50
Philadelphia, Pa.	3.48	13	.40
Providence, R. I.	4.42	17	
Sioux Falls, S. D.	3.75	14	flat
Memphis, Tenn.	4.07	18	flat
Dallas, Tex.			
S. L. City, Utah	3.14—3.37	12.5	flat
Burlington, Vt.	3.50	15	flat
Seattle, Wash.	2.73	13	
Spokane, Wash.	3.25	14.5	.50
Wheeling, W. Va.	3.77	17	flat
Milwaukee, Wis.	2.30	10	flat

*In actual practice this allowance is made on the basis of a certain price per hundred of milk of a certain test, one-tenth of the price per pound fat being paid or deducted for each one-tenth per cent above or below the stipulated basic test. Where the word "flat" appears in this column, it means that no allowances

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One NEW Rogers All Steel Trailer, capacity up to one ton. Body dumps; solid rubber tires, 32x1¾.

$125.00

One Warner Auto Trailer Model K21, capacity 1,500 pounds. Pneumatic tires 30x3½. Slightly used.

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One NEW Warner Trailer, designed by Mr. A. P. Warner, of the Warner Speedometer Co. Highest grade trailer manufactured. Pneumatic tires, 30x3½. Can be used with any automobile and carries 1,500 pounds.

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$275.00

One Highway Trailer, slightly used. Capacity 2 tons; suitable for use with two-ton trucks or larger. Solid tires 32x3½.

$385.00

One NEW Warner Trailer, suitable for use with large touring cars and trucks; capacity 1¼ tons; pneumatic tires, 34x3½.

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are made for butterfat content but the milk must not be lower in test than legal requirement and must not be adulterated or skimmed.

The prices quoted for producers are for milk testing 3.5 per cent and delivered f. o. b. city, from which must be deducted the various transportation costs in order to get the actual price. In certain cities the prices given apply only to that portion which is considered as the producers' average production, the surplus being either handled by the producers' association or the dealers at somewhat lower prices.

The prices given are here reduced to the comparable basis of 3.5% fat, as different cities vary from 3% to 4% as the basic fat test. To reduce the prices per hundredweight to either a gallon or a quart basis divide by 11.63 or 46.33, respectively.

The prices paid by consumers are for average testing milk delivered in quart bottles. It is the grade of milk most generally sold in these cities and in most cases is for pasteurized milk.

Country Shipping Stations

Prices per cwt. paid at the dealers' country receiving stations or at producers' railway shipping plants are given as follows for January:

New Haven	$3.60	Newark	$3.38
Washington	2.90–3.71	Trenton	2.88–3.53
Chicago	2.50	Buffalo	3.22
Indianapolis	2.31	New York	3.38
Baltimore	2.92	Cleveland	3.10
Kansas City	2.03–2.45	Cincinnati	3.30
St. Louis	2.78	Pittsburg	2.90
Lincoln	2.19	Philadelphia	2.88

Retail Prices

The following table gives for a few cities the retail prices of special milk, certified milk, cultured buttermilk, cottage cheese, and cream for December, 1920:

Cities	Special milk per qt.	Certified milk per qt.	Buttermilk per qt.	Cottage cheese per lb.	Light cream* per ½ pt.
	Cts.	Cts.	Cts.	Cts.	Cts.
Boston	20	27	22		16
New York	20	28	12	20	22
Buffalo	16	26	10	15	22
Philadelphia	15	28	12	7—8	16
Pittsburgh					18
Cleveland	20	32	15	18	20
Chicago	22	25	10	20	17
Milwaukee					
Detroit	22	25	18	13—15	14—15
Minneapolis		23	15	16	15
St. Louis	20	25	20	15	18
Des Moines			10	20	15
Washington	17	30	17		20
Richmond	17		16		16
Baltimore	19		15		20
Louisville			15		15
Memphis		30			20
New Orleans	20	30	15		20
Colorado Springs	15			12	13
Salt Lake City	14		8	20	15
Portland					17
Spokane			10	14	15
San Francisco		25	15—16	20	17

*Cream testing 18—20% butterfat.

This is a good time to get ready all the spray outfits and materials that you are going to use this spring.

Bill, no more a city worker,
Was raising hens instead;
Lady Leghorn claimed the credit
"I egged him on," she said.

MARKETS

CHICAGO, Jan. 27—Butter—Creamery, extras, 46c; standards, 46c; dairy, firsts, 38@45c; seconds, 30@37c.

Eggs—Ordinary, 55@56c; firsts, 58½c.

Cheese—Twins, 23¼c; Young Americss, 26½c.

MILWAUKEE, Wis., Jan. 27—Butter—Creamery, tubs, 47c; prints, 48c; extra firsts, 44@46c; firsts, 42@44c.

Eggs—Current receipts, country candled, cases returned, 52@54c; checks, 40@44c; dirties, 45@47c; refrigerators (April or May), not recandled, for city trade, 58@59c.

Cheese—Twins, 24½@25c; Daisies, 25c; Young Americas, 26@26½c; Longhorns, 26½@27c; fancy Brick, 22½@23c; Limburger, 1 lb., 22c; 2 lbs., 23c; Swiss Loaf, 44@45c.

NEW YORK, Jan. 27—Cheese, steady; state milk, common to specials, 20@29c; skims, common to specials, 10@20c.

Butter—Firm; receipts, 9,790 pkgs.; creamery, extras, 50½@51c; state dairy, tubs, 34@49c; imitation creamery, firsts, nominal.

Eggs—Firmer; receipts, 2,740 cases; nearby white fancy, 69@70c; nearby mixed fancy, 60@67c; fresh firsts, 62½@66c; Pacific Coasts, 57@70c.

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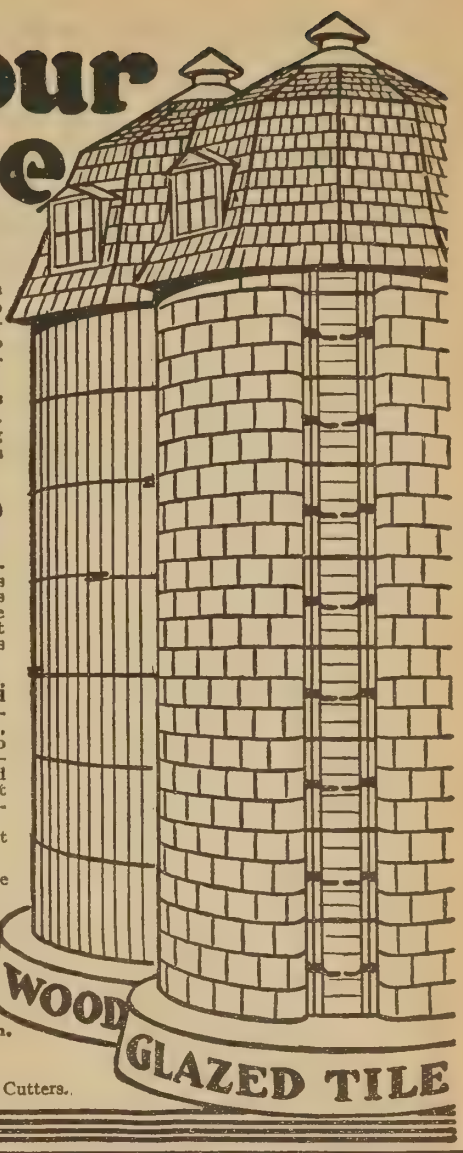
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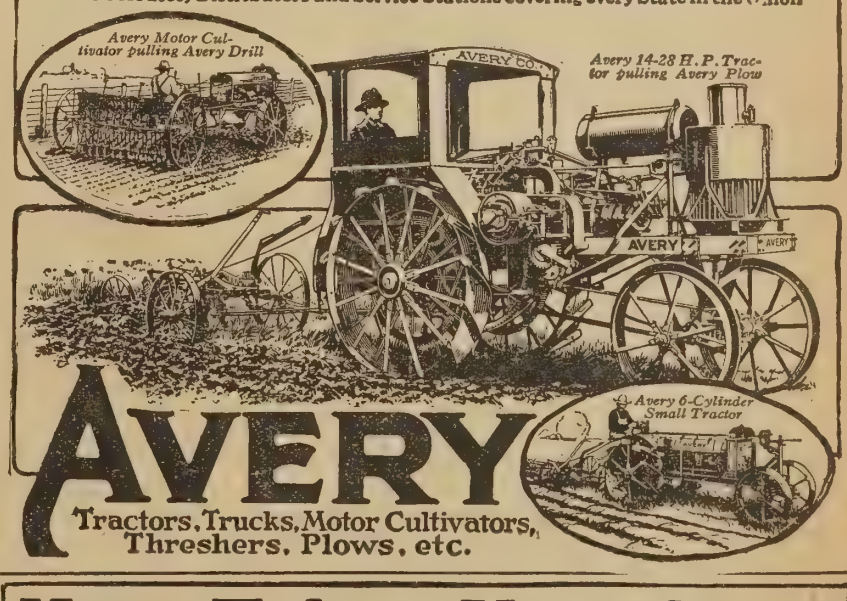
Only a tractor can give you the *economical power* needed to work your land in the right way at the right time to get the best seed-bed—*speedy power* to take advantage of weather conditions, and hurry up your plowing, discing, harrowing and planting—*tireless power* that can do in hours' work that now takes days—*hardened power* that's ready in the early Spring when power is needed most—*concentrated power* that enables one man to do the work of several with horses—*which mean lower costs, bigger crops and greater enjoyment in farm life.*

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HOARDS DAIRYMAN JUNIORS



A DEPARTMENT FOR THE DAIRY FARM BOY

An Essential on Every Dairy

The title of this story might suggest several things, because there are so many essentials necessary for the successful management of a dairy farm. We might refer to the stables and the way they are kept or to the crops that are to be raised and taken care of for feed or to the management of the herd or again to the boys and girls of the farm. But we don't propose to talk about any one of these important items at this time for right now we think there is something taking place on every dairy farm that should occupy the attention of the boys and girls living there as much and perhaps more than any other one thing that this title might suggest. And so we are going to talk about the calves which are now beginning to put in their appearance on every well governed dairy farm of the country.

The abuse which some calves are forced to endure on farms that are shiftlessly conducted is almost unbelievable. We hope that none of the boys and girls who read this story have ever been guilty of abusing a dumb animal of any kind. Kindness to our farm animals is a cardinal virtue and it always brings its reward. Born in the manure and filth of the stable gutter on a cold winter's night to become chilled through before it is found the next morning, kicked about by the other cows as it attempts to struggle to its wobbly legs and finally dragged to some dark corner of the stable by the fellow who finds it, later on in the day to have its head shoved into a dirty pail containing some of its mother's milk in an almost vain attempt to get it to drink is the introduction that more than one calf has to this world. To be sure, boys and girls, a calf is a calf, but don't forget that even a calf has very sensitive feelings. If for no other reasons than to be humane, a calf does not deserve this kind of treatment. Nor will we make any discriminations between those calves which we know will go to the block to be slaughtered for veal and those that we expect to raise to add to our herds or later to be sold for breeding purposes. What applies to one, applies equally well to the other and a calf that lives with us but for the short period of four or five weeks deserves every consideration that a calf should be given. We wish every farm boy and girl could read this story about taking care of the calves, because to them often this task falls. So strong is our faith in this subject that we are not willing to excuse any case on the plea, "that I did not know any better". It is our business to know all about the things which we are doing. If there is any other young animal that makes a greater appeal for human sympathy than a calf as it stares at us from the depths of its big innocent eyes, we have not yet found it. So when we read what is to be said here, we trust that it will be analyzed in the light of plain, every day common sense.

Lessons from Nature

What will a cow, about to become a mother, do when left to choose for herself? True to her instinctive genius she seeks a place of seclusion. Here she is free to care for her new born calf the way Nature intended the job to be done. No sooner is her new born dropped than mother bossy is on the job. She immediately starts to dry the wet little youngster by licking it so vigorously that she almost knocks it over as it attempts to rise. Drying her calf in this way gives it strength for the blood is started into a more rapid circulation and its body is not so liable to become chilled. And the place she has chosen is a clean one where there will be little danger of her calf becoming infected with bacteria that later on give rise to serious diseases. And when the calf has gained sufficient strength to rise to its feet, mother bossy sees to it that it gets its first real dinner, and this usually ends the worst part of her trouble in raising her baby. Intestinal troubles are not very liable to arise in a calf that gets its fill of its mother's first milk, because Nature has purposely provided that the first milk shall be of such composition to start the digestive organs properly. Every farm boy and girl knows that it is not until about the ninth milking that the cow's milk is saved for house use, for it takes about this length of time before it has come back to its average composition of whole milk. This first milk, following the birth of the calf, is called colostrum and its purgative effect cleans out the digestive system of the calf.



WHAT THE BEST OF CARE WILL DO

Applying Nature's Methods

Since Nature's ways are usually the best, why should we not draw from her the fundamental lessons necessary for the welfare of these little dairies in the making. That would be a sensible procedure, I am sure you will agree, so let's set about to see how we may apply some of these natural considerations to those which must be at best more or less artificial.

Where Shall the Calf be Born

If we follow Nature's advice, we will at least select a clean place in the stable. Now in order to have this, we will probably have to look ahead for stables usually become contaminated in one way or another. A box stall makes an ideal place for cows to give birth to their calves. These conditions almost approach Nature, for here the cow will have freedom to attend to her calf immediately upon being dropped. The stall should be dry and free from cold drafts and it should also be well ventilated. A damp, poorly ventilated corner of the stable weakens the calf's vitality and resistance to disease, and in addition we ask you to keep the humane side of the argument in mind. An abundance of dry, clean straw makes an ideal bed for it keeps the calf warm and dry, conditions which add to its comfort and welfare. We cannot be too particular about this matter as it is one which is so vital in giving the calf the right start.

Things to Know About the Birth Weights of Calves

Perhaps it has already been a matter of your observation that calves from the lighter dairy breeds such as the Jerseys and Guernseys weigh less than those from the heavier breeds like the Holsteins, Ayrshires, and Brown Swiss. And, furthermore, you have perhaps noted that the bull calves usually outweigh the heifers in any breed. Weights of calves for the various breeds taken on the day of birth have shown the following results:

Breed	Male calves	Female calves
	Lbs.	Lbs.
Jersey	62	59
Guernsey	70	68
Ayrshire	77	71
Holstein	90	88

While these weights could not possibly hold true for each individual, they at least indicate relative facts upon this subject. Weights much lower than these might be ascribed to several causes, such as lack of proper care and feed of the cow, or it might be due to the calf being that of a heifer bred too young.

When Shall the Calf be Weaned from its Mother

This might depend upon several factors, but usually in the case of the dairy farm the best practice is to allow the calf to remain with its mother at least one full day and we think that two would be better. And there is a reason for this advice, too, again found in Nature's way. By allowing the calf this privilege, and it certainly should be regarded as his privilege, we are assured that it will in this time get sufficient of the colostrum milk to set its insides to working right. It is much easier to follow this practice than it is to be compelled to doctor sick calves later on. And which do you consider to be the more humane way, to follow the practice suggested or to drag the little thing from its mother before it has gained any strength, to be cuffed and knocked about in an attempt to get it do what is almost an impossibility? Patience and not force should be used at this time.

But there comes a time when the calf must be weaned from its mother, and then he should be taught to drink. And right here lies the strength of our argument, not to allow the calf to remain longer than two days with its mother. It is easier to teach a young calf to drink than it is one that has run with its mother for a week or two.

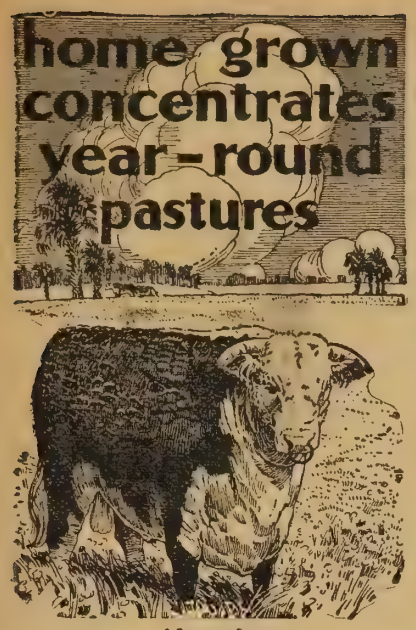
But whenever the time comes one may expect to encounter some difficulty at first, and this is just the reason why we urge patience at this time. It will accomplish more than force ever can. It is usually a good practice to keep milk away from him for at least one meal so that he will get somewhat more eager to get a feed than he may otherwise be. This will make him more anxious and it will be a great aid in teaching him to drink the first few times. A good method to practice the first couple of times is to give the hungry calf your finger and then by lowering his head to the milk in the pail he will get his first taste and if he is very hungry he is quite liable to keep his head there, and when his mind is so occupied with getting his meal, it is a simple matter for you to slip your finger from his mouth. A few trials like this mixed with patience will be all that is necessary to melt all of the troubles away.

How Much and How Often Should He be Fed

Guesswork is not head work and it is head work that counts on the farm nowdays as it does everywhere else. At the outset we should accept this fact, that it is rarely necessary to feed to any one calf more than 12 pounds of whole milk at the start. To be more exact here is a rule that works out very well and it is not a matter of guesswork either, for it has been used for a long time and has been found to fill the bill. For each eight pounds of live weight that the calf can show, he should get one pound of whole milk. Applied it would work out thus: For a calf weighing 80 pounds, there should be allowed 10 pounds of whole milk for his daily feed. Now this amount should not be guessed at. Of course experience teaches many things and after awhile we get so that we know approximately the weight of a given amount of milk in the pail which we are using. But it is better to play safe and measure out the milk. A gallon of whole milk will usually weigh just about eight and one-half pounds, so from this we are able to calculate the ration. Furthermore, anything other than knowing the exact amounts you are feeding may lead to serious digestive troubles for the calf may get too much and this would also be a waste of good milk.

Experimental work done on feeding calves shows that a calf will thrive better when given his feed three times a day compared to two times a day. A large amount at one time followed by a long period without any milk makes a hungry, discontented calf, conditions not good for the best development. Many feed only twice a day, however, on account of it being more convenient for them to do so, feeding in the morning at milking time and again at night.

Irregularity in feeding is also a cause for digestive disturbances. A young animal learns the time to look for its feed and unless it is given at the same time each meal, it becomes discontented and worried. And right in this connection it is very important that the milk be in a uniform condition from day to day, and explains why great care should be exercised when the change is being made from



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Ewes in Florida and other States drop lambs from November to January. Early pastures are provided by sowing oats, rye and rape, and the farmers have a well-grown fat 65 lb. by April — get "hot-house" prices for pastured lambs.

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whole milk to skimmilk. I have even heard boys express themselves upon this subject by saying, "Oh, I guess just this once will not make very much difference." Still it may be the cause of giving your calf a serious setback in his health and growth. It simply means that you are taking a chance, and many such a chance has been taken with its attending consequences. Avoid chances and guesswork in handling your calf and those of dad's for which you may also be caring.

And before leaving this subject of feeding following the weaning from the cow, there is something else that should come to our attention. There is an old proverb that runs like this, "a bird in the hand is worth two in the bush." We believe that at feeding time, a calf in the stanchion is worth two loose ones in the pen. It is much easier to feed and it prevents that miserable sucking-each-other habit which must later on be broken. And, besides, if they are learning to eat grain, it is much easier to get them to do it when they are shut in stanchions and they will each then get their share. I have actually seen calves fed without stanchioning that develop the sucking-each-other-habit so badly that the grain ration which usually followed the milk feed was practically all eaten by one or two of them. To be sure, if the calves you are raising are each tied up in some lonesome, dark corner of the stable the sucking habit is prevented. But we are not talking about such antiquated ways of confining calves. We want them to have their freedom at all other times other than feeding, so that they will get plenty of exercise.

When Shall Supplementary Feeds Begin to be Used?

To continue to feed whole milk alone with the ever increasing amounts which would have to be used as the calf grows older, would indeed be an expensive practice. Skimmilk is perhaps the best single substitute. But if there is no skimmilk available, then we shall have to resort to other supplements. Let us consider the case of skimmilk first. No attempt should be made to change from whole milk to skimmilk before the calf is at least three or four weeks old. And when the change is being made it should be a gradual change rather than a complete sudden change from one to the other. The skimmilk should be sweet and warmed to the temperature of the whole milk. The two should be mixed at about the rate of half and half and during the following five or six days the change may be completely made if so desired. Sweet skimmilk is not liable to cause any trouble when used in this way. Where skimmilk can be had its use is to be advocated for at least five or six months, using it at the rate of from 10 pounds to 15 pounds daily for each calf. But in any event we think it is a good thing to continue feeding whole milk for at least one month, and then gradually work in some of the substitutes.

(To be continued)

Junior Letter

Hoard's Dairyman Juniors:—I have not written a letter to the juniors for a long time because I have been pretty busy on the farm. I bought a little pig from my father about a week ago and she is certainly doing fine. We have about thirty small pigs now. They make quite a noise at meal time. I am going to run the truck for my father as soon as school is out. We take our milk to a restaurant every day.

There is a boy who lives next farm to me. I wish you would write to him and get him interested in Hoard's Dairyman Juniors. His name and address are Leonard Welmich, R. No. 33, Barberton, O. I wish some of the juniors would write to me. My adress is R. D. No. 23, Barberton, O. Loyal Saurer.

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This Picture Shows Sheldon Power Mixer No. 6

Read What These Sheldon Owners Say

It is the greatest labor saver I have on my farm. Two men can do ten times the amount of work in one day and do it ten times easier than the old way.—HARRY L. WALLACE, Jeromeville, O.

The machine I bought of you in 1916 has given continual service to date *without a single repair,* and at present needs only the small cast wheels that support the drum, and their supports.—ASA A. GOBLE, Huntington, Ind.

Owing to the scarcity of labor the machine is practically indispensable in making farm improvements with concrete.—J. McGRARY, Massena, N. Y.

I am more than busy with my Sheldon Mixer. I have more work than I can do. I get $10 a day when I work out.—JESSE L. WITTER, Wellsville, N. Y.

Last spring we purchased a set of castings to make a concrete mixer. It was constructed per the plans furnished and *it surely worked great.*—D. M. BRUBAKER, Freeport, Ill.

George Hanig of Ackley, Ia., writes that he "put through" 106 yards of concrete in 21 hours. That's more than 40 cubic yards for an eight-hour day.

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Make your own concrete mixer. Costs so little you can't afford to mix by shovel. With our iron and steel parts we send Free Plans and a permit for building your own. Or, we will sell you a built-up machine, at a very low price.

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If you buy a Sheldon Mixer for your own use you can make many times its cost in a season by renting it to your neighbors. Or, if you want to go out with it on contracts, you can easily earn $10 to $20 a day. Sheldon owners are doing it right now. The jobs go to the man with a Sheldon Mixer every time. A profitable side line for spare time.

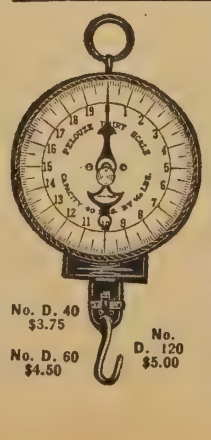
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STOCK FOR SALE

If you are in need of pure-bred Holsteins of any age or grade Holsteins it would pay you to see me as I have from 1 to 3 carloads on hand all the time. If I do not have what you want, I will help you find them as I know where to go. R. D. LEE, Cazenovia, N. Y. 3*

Holstein heifer and bull calves. Pure-bred, registered and high grade. Splendid individuals and breedings. Delivered to you, $25 and up. Your inquiry will be given our best attention. BROWNCROFT FARMS, McGraw, N. Y. 5*

I have usually 100 head of registered and high grade Holsteins on hand for sale. Also registered and imported Percheron and Belgian horses. RALPH HUDSON, Milton Junction, Wis. 12*

For Sale—At Elmwood Stock Farm, high grade Holstein cows, fresh and springers, by the carload. JOHN MURPHY, Mukwonago, Wis. 3*

"The Willows" offers fifty high grade Holstein cows for sale. S. D. SHAMBEAU, Waupaca, Wis. 12*

High Grade Holstein heifer calves, two to four weeks old, from tuberculin tested herds, $30 each, crated. Will ship C. O. D. WAUKESHA CO. HOLSTEIN-FRIESIAN BREEDERS' ASSOCIATION, Waukesha, Wis. 9*

High Grade Holstein and Guernsey calves. $25 crated. Safe delivery guaranteed. BROWN & COLLINS, Lima Center, Wis. 16*

Serviceable grandsons of Lola Segis Pontiac Homestead for sale, he a 34-lb., 1,000-lb. son of Piebe Laura Ollie Homestead King. Their dams are daughters of Joe Oak De Kol Fobes. Well grown, good individuals. Your choice, $150. R. W. MEAD, Stillwater, Minnesota. 10*

High Grade Holstein calves 6 to 8 weeks old, $30.00 each. We pay express and ship C. O. D. SPREADING OAK FARM, Whitewater, Wis. 11-tf.

For Sale—30 high grade Holstein milkers and springers. Will sell one or all. FRED JOHNSON, Waupaca, Wisconsin. 23*

Closing out herd of grade Holsteins, $100.00 each. H. A. KUHTZ, Waukesha, Wisconsin. 24*

Holstein bull, ready for service, 2 dams averaged 106 lbs. milk 1 day, 40.67 lbs. butter 7 days. $200. Terms. ROY HARRIMAN, Appleton, Wisconsin. 25-6

You take no chances when you order your Holstein heifer calves from me as I ship C. O. D. and pay express. Also a few real producing cows cheap. E. F. THOMAS, Oconomowoc, Wisconsin. 26-8

We have serviceable bulls, also bull calves, all out of good record dams for sale at real farmers' prices. Investigate and convince yourself. We always satisfy. DATE HOLSTEIN FARMS, Baroda, Mich. 1-4

Grandsons of Homestead Junior and of 37th for sale, from A. R. O. dams, of all ages. Pure-bred heifers and cows, bred. High grade heifer calves from producing dams a specialty. S. E. JONES, Watertown, Wisconsin. 1-4

For Sale—My entire herd of choice high grade Holsteins, mostly bred to and sired by thirty-pound bull. There is one full load of the best large heifers in southern Wisconsin, uniformly marked, about three-fourths white. C. L. SIMMONS, Belmont, Wis. 1*

For Sale—Two registered Holstein cows, extra good ones. NELS S. SANDAGER, Hills, Minn. 2-3

If you want to buy high grade or pure-bred Holsteins, write BOX 528, care Hoard's Dairyman. 2-2

Three Holstein bulls, fit for service, sired by sons of King Segis Pontiac. W. R. GATES, Fort Atkinson, Wisconsin. 2*

A Federally Accredited Herd for sale. Will sell whole or part. Thirty-lb. prospects. Will bear closest inspection. Price very reasonable. Inquiries answered promptly. Address BOX 588, care Hoard's Dairyman. 2-2

For Sale—Twenty high grade Holstein cows, fresh and close springers. Five Holstein calves, six weeks old, cheap if taken at once. L. W. MITCHELL, Whitewater, Wisconsin. 2-6

Registered Holstein bull, son of Sir Ormsby Skylark, 25-lb. dam. Born Nov. 24, 1917. Splendid individual. CHAS. SEEBACH, Traer, Iowa. 2-2

Baby Bulls—Registered Holstein-Friesian by high class sires and heavy producing dams. Price is right. C. S. MULKS & SON, Whitewater, Wisconsin. 3-*

Registered Holstein heifer by a 44-pound butter bull, soon due to a son of Wisconsin's Champion 40-pound cow. $500. ROY HARRIMAN, Appleton, Wis. 3-2

If you want the best pure-bred and grade Holsteins write BABLER CO., Monroe, Wisconsin. 3-4

Holstein Bull Calves from daughters of King Segis Pontiac, (the sire of Pabst and Hackney herd sires). Sire of calves a 32-lb. son of a twice 30-lb. cow whose dam has record 29½ lbs. butter and 731½ lbs. milk. Dam of calves has records up to 30 lbs. Prices $100.00 and up. Write for list. A. G. WADE, 1770 Old Colony Bldg., Chicago, Ill. 3-4

100 High-grade Holsteins, 35 cows, yearlings, two-year-olds, three-year-olds, and calves. Federally tested. In testing association. A. J. FAEBER, Davenport, Iowa. 3-4

High grade Holstein Calves—This is the ideal time of year to start them and have them ready for pasture next spring. ⅞ pure-bred Holstein calves, $20 and $25 each. Ship C. O. D. if you wish. Safe arrival and satisfaction guaranteed. Everything in the line of registered heifers. Write your wants. ELM GROVE STOCK FARM, Box 253, Cortland, N. Y.

For Sale—Pure-bred Holsteins. Five heifers from two to fifteen months old from dams with records up to 19 lbs. $600.00 for the five. Also six bull calves from tested dams with records up to 17.65 lbs. Your choice for $100.00. Come or write. PAUL T. STOECKMANN, Reedsburg, Wisconsin.

Registered Holstein bulls all ages. Beautifully marked, excellent breeding at farmers' prices. Will ship C. O. D. CITY LIMITS FARM, Watertown, Wisconsin. 3-3

Fine, registered Holstein bull calves three months old, $60.00. A. B. ANDERSON, Route 4, Red Wing, Minnesota. 3-2

Don't buy calves without seeing them. I offer beautifully marked, high grade Holstein heifer calves at almost veal prices. Registered bull calves $35. Will ship C. O. D. and if calves don't suit don't take them. I guarantee safe delivery and satisfaction. J. M. McFARLAND, Watertown, Wisconsin. 3-3

Seven registered Holsteins. Four young cows, two heifers, one bull, $1,000.00. EDWARD APKING, Beecher, Illinois. 3-2

If you want a high class 30-lb. bull at a reasonable figure write BOX 589, care Hoard's Dairyman. We have several for sale.

Holsteins—37-lb. herd sire, young bulls, cows, heifer calves. PHILIP LEHNER, Princeton, Wis. 1-5

STOCK FOR SALE

High grade Holstein calves, either sex, $20.00. Registered bulls, $35.00. Registered heifers priced to sell. Shipped C. O. D. safe delivery guaranteed. PAUL McFARLAND, Route 7, Watertown, Wisconsin. 2-4

Guernseys for Sale—Members of the Ohio Guernsey Breeders' Association own more than 2,000 registered females. Also some of the finest bulls of the breed. Think of the progeny that results each year. Write for sale list of males and females. OHIO GUERNSEY BREEDERS' ASSOCIATION, Box 602, Sylvania, Ohio. 4*

Serviceable and younger grandsons of Beauty Eagle, 846 lbs. fat, and of Bonny Boy of Riverdale. Out of heavy producing cows. Farmers' prices. LA BELLE KNOLL FARM, Oconomowoc, Wisconsin. 14*

For Sale—Guernsey bulls, some of serviceable age. Sired by May King's Vrangue of Ingleside and Cinderella's King of Mound City and from dams with good A. R. records. CHAS. A. WILKINS, Platteville, Wisconsin. 17*

My entire herd of grade Guernseys for sale. Also a few choice heifer calves at $30.00 delivered. SHADY HILL FARM, Whitewater, Wis. 23*

Guernsey heifer calves. Can ship you 10 at once about 4 weeks old. Calves out of my own herd, so know what I am shipping. $30 each crated, F. O. B. Waukesha. WERN FARMS, Waukesha, Wis. 18*

George-Washington Farms' Guernseys. Choice young bulls of serviceable age. GEORGE-WASHINGTON FARMS, Mankato, Minnesota. 19*

Guernsey bulls of May Rose breeding with records up to 700 lbs. fat in B. B. Beautiful heifers (grades) in calf, also few Holstein springers. H. A. KUHTZ, Waukesha, Wisconsin. 19*

Guernseys—All ages, both registered and grade. H. A. MAIN Sec'y, Jefferson Co. Guernsey Breeders' Association, Fort Atkinson, Wisconsin. 20*

For bargains on May Rose bulls with type and production, write KUHTZ BROS., Waukesha, Wis. 21*

Guernseys—High grade Guernsey calves, either sex, four to six weeks old, bred for production of milk and butter. Thirty dollars apiece delivered to any station, express charges paid here. Send orders or write. LAKE VIEW GUERNSEY PLACE, Whitewater, Wisconsin. 26-tf

Two serviceable Guernsey bulls for sale. Dams Advance Registry records average over 600 lbs. fat. HOMER RUNDELL, Livingston, Wis. 24*

For Sale—Registered Guernsey bull calves, good producing dams at farmers' price. OTTO KRUEGER, 427 East Broadway, Toledo, Ohio. 24*

Guernseys for Sale—From Federally Accredited herd. Bull calves, two bulls ready for service, sired by Clara's Sequel and out of high testing dams. Also ten pure-bred females. LLOYD RUNDELL, Roberts, St. Croix County, Wisconsin. 26*

Two serviceable Guernsey bulls, and some younger, for sale at reasonable prices. JOHN NELSON, Perrydale Farm, Harshaw, Wisconsin. 1-3

For Sale—Registered Guernseys. Both sexes. Herd under Federal Supervision and free from disease. CLOVERNOOK FARM, Whitefish Bay, Milwaukee County, Wisconsin. 1-4

Serviceable Guernsey bull for sale. Dam has 501 lbs. double letter record. $125 buys bull calf whose five nearest dams average 489 lbs. fat. May Rose breeding. SEYMOUR FARM, Osseo, Wis. 1-3

Guernsey calves six weeks old, $20. F. O. B. Knapp. THOMAS HAGERTY, Knapp, Wisconsin. 2*

Two-year-old registered Guernsey bull for sale. PETER JOHANSEN, Route 2, Ringsted, Iowa. 2-3

For Sale—15 registered Guernseys before March first, 1921. Six cows, two to five years; six heifers, two to fifteen months, one bred; two bull calves, three and seven months; herd bull 2½ years. Come and see them. JOHN V. PALMER, Route 1, Box 127, Cambridge, Illinois. 3-2

Bargains—Four highly bred registered Guernsey bulls. Ages about 3½ and 2½ years and 2 to 5 months. Herd tuberculin tested by Government. A. W. BROWN, Rhinelander, Wisconsin. 3*

Eight registered Guernsey heifers, good individuals, bred to a grandson of King of the May. J. HARLAN FRANTZ, Waynesboro, Pennsylvania.

Registered Guernsey bulls of serviceable age for sale. Grandsons of Governor of the Chene and Itchen May King and out of high producing dams. Choice individuals and priced to sell. HARVEY LONGLEY, Dousman, Wisconsin. 3-2

A Tennessee Jersey—Winner largest stock show in the South. Having entered a four year's course in Dairy Husbandry at the University of Wisconsin, I regret that I must sell the most perfect Jersey cow in the entire South. This cow also Grand Champion West Tennessee Show. Your one big opportunity to gain perfection in Jersey type. Investigate this. JERE CROOK, 740 Langdon Street, Madison, Wis.

For Sale—15 grade Jerseys from 9 months to 4 years. ALEX STEPHENS, Deerfield, Wisconsin 3-2

For Sale—Pure-bred and high grade Jersey cows and heifers, great bargain. FARM DEPARTMENT, Bank of Colfax, Colfax, Wis. 3-3

Registered Jersey cow, fresh, good type, size and splendid producer. Finest of breeding. Winner at many local fairs. Considerable quality and breeding very reasonable at $175. ARTHUR ZENZ, Brookside Jersey Farm, Lancaster, Wisconsin.

Ayrshires—Bull calves, best of breeding. Priced very reasonable. Overstocked. CHAS. DUNBAR, Elkhorn, Wisconsin. 3-2

Wanted—4 to 6 Brown Swiss heifers, 3 to 6 months old. Must be good individuals. H. C. CARGILL, Mason City, Illinois. 3-3

Pedigrees tabulated for Jersey cattle. Sale catalogues, etc. Write for prices. H. F. ROCKWELL, Mondovi, Wisconsin. 2-2

STOCK WANTED

Wanted—Registered Holstein cattle in trade for Elcar Automobile, run 6,000 miles. JOS. BOSAK, Frederic, Wisconsin.

Wanted—The best registered Holstein bull one year old $100.00 will buy delivered. Address BOX 153, Culver, Indiana.

STOCK BUYER

Registered dairy cattle bought and sold. EDWARD A. WALTER, 111 Monroe St., Chicago. 18*

AUCTIONEER

Charles W. O'Neill, Auctioneer—6 years' registered stock and farm sales' experience. Now graduate from Fred Reppert School. Write early for dates. Address BRIDGEPORT, Wisconsin. 3-4

MACHINERY

Want the cheapest, handiest belt power? Then ask me about my Little Twister Power Transmitter for Ford and Dodge cars. FRANK R. WEISGERBER, Salina, Kansas. 16*

For Sale Cheap—A small lot of standard make Swedish Cream Separators, 400 pounds capacity, $29.00, 500 pounds capacity, $34.00, 700 pounds capacity, $39.00. These are all new machines, wonderful bargains. THOMAS TAFFEE, Box 355, Lansing, Mich. 18*

For Sale—De Laval Clarifier No. 100 in good condition, 10 months in use, $100.00. PRIMROSE FARM, Ardmore, Oklahoma. 1-3

For Sale—Double-unit Empire milking machine including pipe and fittings for twenty cows. Cheap at $100.00. V. C. DEVILBISS, Homewood, Kansas. 2-2

For Sale, or will trade for dairy cows Twin City Tractor, 16x30. Best tractor made and good as new. Cost me $2,600 for tractor, $275 4-bottom plow. Will make a good proposition. JOHN SWIGART, 2149 Parkwood Ave., Toledo, Ohio. 2-3

For Sale—Perfection single-unit Milker. New, $110.00. E. G. WALKER, Monroe City, Mo. 2-2

Wanted—Equipment for small creamery; also one automatic bottle filler, milk cooler, De Laval clarifier. All must be in first class condition. CHARLES H. BURGESS, Wenona, Illinois. 3-3

For Sale—One 12-25 and one 8-16 H. P. rebuilt and repainted Avery tractor. AVERY COMPANY, Madison, Wisconsin.

For Sale—Empire double-unit milking machine, complete and ready for work. Has been used only few months, in good shape. $150 if taken before Feb. 15. No engine. Reason, out of business. FRANK DECHANT, Waukesha, Wisconsin.

For Sale—A double-unit Empire milking machine in first class condition with equipment for ten cows. Price right. B. L. PAINE, Limaville, Ohio. 3-4

Wanted—Small portable saw mill. BOX 373, Houghton, Michigan.

POULTRY

Baby Chicks—White, brown and buff Leghorns, Barred Rocks, Reds, Wyandottes. Pure-bred, unusual utility stock. Write for circular 108. CHICKDALE HATCHERY, Fort Atkinson, Wisconsin.

Highest prices paid for live and dressed poultry, wild rabbits, pigeons, veal, hides, etc. Quick returns, fair treatment. C. E. McNEILL & CO., 325 W. So. Water St., Chicago. 24*

For Choice Single Comb Rhode Island Red Cockerels of the Winnebago strain write EDWARD NITSCHKE, Burnett, Wisconsin. 1-4

Single Comb White Leghorn eggs for hatching. FRED SCHROETER, Grafton, Wisconsin. 2-4

SWINE

Duroc-bred gilts and boar. Prize winners. PHILIP LEHNER, Princeton, Wisconsin. 1-3

Wisconsin is noted for her big boned, sure breeding, healthy hogs. Skimmilk raised. We offer milk fed, growthy, fall boars at $25.00. Big boned Chinas, Chesters and Durocs. BURNETT CO. PEDIGREE SWINE ASS'N, Grantsburg, Wisconsin.

DOGS

German Shepherd, airedales, collies, and old English Shepherd dogs. Brood matrons, puppies, farm helpers. 10 cents for instructive list. W. R. WATSON, Box 520, Oakland, Iowa. 20*

Hound and Horn. Prices. Photos. Write KASKASKE KENNELS, Herrick, Illinois. 3-4

SEEDS

Want to Buy—Medium red clover, alsike, and timothy seed. DADMUN BROS., Whitewater, Wis. 23*

Pure Grass Seeds at ½ of last year's prices, also seed corn, soy beans, seed grains, etc. Bargain list free. BECKMAN'S SEED FARM, Cokato, Minn. 24-6

Farmers, ranchmen and dairymen. Order your Grimm and Cossack alfalfa seed direct from the grower. All seed recleaned and guaranteed. Ask for samples. WM. H. K. WILLIAMS, Triangle Ranch, Cottonwood, South Dakota. 26*

Jacques' Seed Corn—Early maturity, high yield, perfect germination. Grown in Clark County, North Wisconsin twelve years. My Golden Glow ripens in 100 days, yields 60 bushels shelled corn per acre. My North Wisconsin Yellow Dent ripens in 90 days, yields 50 bushels shelled corn per acre. Picked before frost, thoroughly fire dried. Careful tests show 98% to 100% germination. Money refunded if corn is unsatisfactory. Write for folder and prices to WM. H. JACQUES, Neillsville, Wisconsin. 1-13

Wisconsin grown alsike clover seed. FRED SCHROETER, Grafton, Wisconsin. 2-4

Kudzu—More nutritious and productive than alfalfa; requires no lime, no inoculation; grows any climate. Write for information. CHEROKEE FARMS, Monticello, Florida. 2-2

For Sale—Eureka Ensilage seed corn. Grow one-third more tonnage than other corns. Sacks free. $3.00 per bushel. Other varieties also. EARL W. HAMMOND, Rockport, Indiana. 2*

Grimm alfalfa, soy beans, clovers, grasses, Iowar and Iowa 103 oats, field seeds all kinds. Ask for price list. DAVIS SEED CO., Dept. H, St. Peter, Minnesota. 2-7

Send for attractive price list of our select home-grown seed corn. Finest quality, several varieties. Fully guaranteed. Largest trade in Northwest. JOHNSON & ARNESON, Dassel, Meeker County, Minnesota. 3*

No. 1 alfalfa seed, bright yellow, plump, $10.00 bushel. No. 2, $9.00 bushel. WILLIAM VEAZIE, Jerome County Farm Bureau, Jerome, Idaho. 3-2

FEEDS

Buy your condensed buttermilk for hogs and poultry at FRED C. MANSFIELD COMPANY, Johnson Creek, Wisconsin. 26-4

Molasses—Richest feed, lowest cost. Write for special price. CHICAGO MOLASSES COMPANY, 1131 East 77th St., Chicago, Illinois. 25-spl

WANTED TO RENT

Dairy farmer, amply equipped, Guernseys and tools, wishes lease modern 80- to 200-acre farm. O. H. TODD, Forest Lake, Minnesota.

Wanted—To rent dairy farm for cash or on shares. Give particulars and terms in first letter. GEORGE CHELQUIST, Route 3, Box 29, Kane, Pennsylvania.

Wanted to rent, fully equipped dairy farm on shares, by married man, or will run farm for salary. Address BOX 617, care Hoard's Dairyman.

Wanted—A share or percentage proposition. Lifetime experience with pure-bred stock, farm machinery and everything pertaining to successful management of any farm. Best of references as to character and ability. Address BOX 610, care Hoard's Dairyman.

PARTNER WANTED

Partner wanted to operate 200-acre farm on share plan. Must have own help and be capable. Holsteins or Guernseys. Fine location in city limits. Good buildings. Close to school, church and cheese factory. Address BOX 398, care Hoard's Dairyman. 13-*

EXCHANGE

Wanted—To exchange 50 acres river bottom alfalfa land in ideal fruit and dairy section of California at $10,600—3,000.00 down—for small farm in central states as second payment. R. W. SHARP, 601 N. Fourth St., Fresno, California. 2*

FARMS FOR SALE

For Sale— Choice dairy farms in the dairy center of the world. R. B. HELLEN, Jefferson, Wis. 1*

For Sale—Choice Ohio farms. All sizes and prices, some great bargains. Write for list. I. J. MILLER, JR., Conneaut, Ashtabula Co., Ohio. 22*

Farms, ask French if he has what you want. Write him and state your wants. Reference any bank here. J. R. FRENCH, Cortland, N. Y. 24-13

Landology special number just out, containing 1921 facts of clover land in Marinette County, Wisconsin. If for a home or as an investment you are thinking of buying good farm lands where farmers grow rich, send at once for this special number of Landology. It is free on request. Address SKIDMORE-RIEHLE LAND CO., 47 Skidmore-Riehl Bldg., Marinette, Wisconsin. 25-12

For Sale—Stock and dairy farm, 157 acres, buildings, stock and machinery all in good condition, six miles north from Sheboygan, Wisconsin. For particulars write owner, OTTO GERBING, Route 1, Sheboygan, Wisconsin. 26-4

Rose Valley Farm—137 acres; 17 miles macadam roads to City Hall, Philadelphia; owner's residence, electric lights, hot water heat, open fireplaces; beautiful lawn and shade; extended view; large stable and carriage house; modern cow barn, 48 head; tenant houses; purest water in abundance; all necessary buildings; macadam roads each side and through farm; $50,000 less than cost of buildings. FARM 2024 N. 10TH ST., Philadelphia, Pa. 26*

Free Wisconsin Bulletins, soil, climate, crops. IMMIGRATION BUREAU, Wisconsin Dept. of Agriculture, Capitol Drawer 125, Madison, Wisconsin. 26-13

Hardwood cut-over land, silt loam, clay sub-soil. Neither sandy nor gravelly; close to town; good roads; good schools; in the heart of the dairy country. You deal directly with the owners. No agents and no commissions. Easy terms. Also improved farms. Write for map and Booklet No. 4. NORTH WESTERN LUMBER CO., Land Department, Stanley, Wisconsin. 1*

For Sale—Good 200-acre dairy farm with fine set of buildings, silo, etc., including all stock, crops and machinery. This farm is well equipped and well located. Possession can be given at once. C. H. WEAST, Waukesha, Wisconsin. 2-2

Co-operative Land Sale Ass'n. Buy farms direct from owners. Send for free circular and descriptive matter. No commission to anyone, no real estate agents. A. E. WADE, Sec., Weldona, Colorado. 2-4

Dairy, stock, fruit and general farms. We have them at bargain prices. NEW YORK FARM AGENCY, Westfield, N. Y. 21-spl

Great Chance, men. Good land, easy terms, free list. BAKER A 76, St. Croix Falls, Wis. 7-spl.

275 acres, income $6,934, horses, cows, poultry, machinery, hay, potatoes, vegetables included; big woodlot; good 9-room house, 60-foot barn, silo; everything for $3,500, easy terms. Page 4 Illustrated Catalog 1200 Bargains. Free. STROUT AGENCY, 150 DL Nassau St., New York City.

Farm for Sale—125 acres adjoining one of the best dairy villages in Wisconsin. 125 acres fine land, splendid barn, and goood house. Buildings only ¼ mile from bank, church and high school and ½ mile from R. R. station. One of the best known dairy communities in U. S. with world famous herds of Holsteins and Guernseys. Price $300 per acre if taken before March 15th. Address BOX 605, care Hoard's Dairyman. 3-2

Have several buyers for large farm with good buildings and stocked. Also several 80 to 160 acres. WALTER MILLER, 320 Brumder Building, Milwaukee, Wis.

Bargain—Farm of 165 acres, $40.00 an acre. Will sell stock and tools if desired. 10-room house, large three-story barn and silo, several other buildings. Will keep thirty head and team. Great for potatoes. One-half cash or Liberty bonds, balance on mortgage, No agents. P. M. HANFORD, Walters, N. Y.

For Sale—A fine, 150-acre black soil farm one mile from Fort Atkinson. New Buildings. Price right. Easy terms. W. H. NEVINS, Jefferson, Wisconsin.

Excellent land—$20.00 per acre. Thirty years' credit. Address BOX 609, care Hoard's Dairyman.

Modern dairy farm for sale—"Park Farms" at Linnsburg, Montgomery County, Indiana, on traction line and Big 4 Railroad; Indianapolis 39 miles; Crawfordsville 6 miles; grade and high school half mile; Wabash College 6 miles. 325 acres; 3 dairy barns; 120 stanchions; 4 silos, 550 tons; horse barn; large log house; excellent quality of soil; location most attractive. Run as dairy 7 years. Possession at once. Favorable terms. Non-resident owner. For full particulars address WM. L. ELDER, 201 Saks Building, Indianapolis, Indiana. 3-spl

Choicest farm in Schenectady County, N. Y., for sale, 113 acres, very productive, high state cultivation, well drained, large barns in excellent repair, splendid 12-room house, slate roof, plenty good water, 10 acres good timber, orchards, state road, telephone, near grade school, electric power available, choice neighborhood, next to magnificent estate, two miles outside Schenectady City, good elevation, grand views, ice pond, stable for 19 cows, owned and operated by present family 65 years. EDWARD RANKINS, Route 7, Schenectady, New York.

For Sale—100 acres level, fine valley fruit and dairy farm. Peach and apple orchards. Located in village. Stores, school, church, railroad, milk station, good markets, good roads. Finest farming soil, ten acres timber. Purest spring water in abundance. Good buildings. $10,000. R. IRVINE, Route 1, Wyalusing, Pennsylvania.

Colorado dairy for sale. Modern dairy farm and herd adjoining the city limits of Ordway, Colorado, in the irrigated section of the Arkansas valley, where the finest of alfalfa is grown. Farm consists of 31 acres of irrigated land fenced and cross fenced with full water rights under Twin Lakes system. Improvements 4-room house, barn room for 30 cows, milk room, feed bin, shed 16x50, calf shed, bull pen, feed racks and bunks, city water piped to house, barn and tank. Herd consists of 72 cows and heifers, 50 milking, 12 yearling heifers, 10 dry cows. The herd bull is Juliana De Kol Portia No. 21529, 4 years old, ¾ white, second prize Colorado State Fair. All relatives are 30-lb. cows and better. Must sell at once, I need the money, price $50,000.00. For particulars address P. O. BOX 369, Ordway, Colorado. 2-2

For Sale—Ninety-acre farm, new modern house, new 32-stall cow barn, silos. One mile large college town, best educational advantages. Excellent market all farm produce. Milk wholesales four dollars per hundred, retails sixteen cents quart. This is a money maker. Priced for quick sale. L. D. WILSON, Urbana, Ill.

FARMS FOR RENT

Wanted—Good, responsible share man, one who can furnish references. Have 200 acres of good work land, shed room for 20 acres tobacco. Good house and good buildings all electric lighted. Farm is seven miles from Edgerton, 1½ miles from creamery. ALFRED THRONSON, Route 3, Edgerton, Wisconsin. 1-3

For Rent—Excellent 80-acre farm near Marshfield, Wisconsin, forty under plow, twenty-five in stump-pasture, balance timber. Fair buildings on place. Best of references required. T. G. BREAW, Waukesha, Wisconsin. 2-2

Share renter wanted on 275-acre farm; good house, modern barns and hog house, modern equipment. Want married man interested in building up herd of registered Guernseys and swine. Present herd consists of a few registered animals, balance high grades. Want a man to work into pure-breds who can handle A. R. work. State experience and references first letter. Start March 1st or before. FRANK C. MEYER, Lancaster, Wisconsin. 3-2

For Rent—Stock and dairy farm in North Central Wisconsin and to contract with tenant to clear land by acre, will sell stock and team on easy terms, further particulars on application. Address BOX 611, care Hoard's Dairyman.

Dairy farm for rent—My 160-acre dairy farm is for rent. Good clay loam soil in Barron County. Good terms to the right man. W. F. GROVER, Ridgeland, Wisconsin.

HAY

Alfalfa Hay—100 cars good green hay cured without rain. Irrigated. Wire or write for price. W. H. McCORMICK SEED HOUSE, Billings, Montana. 26-8

Alfalfa and prairie hay for sale. Prompt shipments. Personally inspected loading. Wire or write GUNN HAY CO., Lexington, Nebr. Reference Lexington State Bank. 11*

Number one and choice alfalfa hay and seed ready for shipment. Address A. L. DAMON & COMPANY, Inc., Rapid City, South Dakota. 8*

Alfalfa Hay for Sale—Write or wire for delivered prices. ALBERT MILLER & COMPANY, 192 North Clark St., Chicago. 17*

Alfalfa. We handle nothing but the very best quality. Write or wire JAMES BROTHERS, Rapid City, S. D., for delivered prices. 20-10

Hay for Sale—Any kind in carloads. Can furnish choice alfalfa. GEO. L. FREDERICK, Beaver Dam, Wisconsin.

STANCHIONS

Crumb's Stanchions are guaranteed to please the purchaser. They are shipped subject to trial in the buyer's stable. They are right. Send for booklet. WALLACE B. CRUMB, Box H, Forestville, Conn. 2-10

PRINTING

Hoard's Dairyman Art Department designs your letter head free. Just tell us your breeds of stock. Book of 5,000 Farm, Ranch and Cottage names 25 cents. Ask for samples of letter heads, envelopes, shipping tags, cards, milk tickets, etc. Poor stationery is more of a damage than a help. Be sure and give correct post office address, including state. Address HOARD'S DAIRYMAN, Art Dept., Fort Atkinson, Wisconsin. 8-tf

DAIRY FEED BAGS

Ship your bags to LARIMER BAG CO., Washington, D. C. 11-spl



Advertising in this department is 7c per word. Remit in advance.

POSITIONS WANTED

Manager open for position April 1st; 44 years, married, no children; 24 years practical experience in all branches of dairy farming and the breeding of pure-breds. A practical man who has handled large propositions successfully, understanding the laws of heredity, breeding, selling, pedigrees and feeding for records. Leaving on account of changing owners, Jerseys preferred. Address BOX 571, care Hoard's Dairyman. 1-4

Position wanted on dairy farm at once by married man. Life time experience. Can furnish good references. State wages willing to pay and all particulars. BOX 600, care Hoard's Dairyman. 2-2

Position Wanted—By experienced dairyman and creamery manager. Some ice cream experience. Will accept subordinate position. L. A. BUCHANAN, 309 E. Main St., Bradford, Pennsylvania. 2-2

Wanted—Position as Holstein herdsman at $1,500.00. Address BOX 606, care Hoard's Dairyman.

Position wanted as herdsman. Married man, small family, college training, seven years' experience. Fully capable of management. Two years present place. Good living conditions appreciated. Chicago district preferred. References furnished. M. J. McCRACKIN, Box 113, Rio, Illinois.

Manager. Life experience on leading places, manager last 12 years. All stock, crops, machinery, everything an up-to-date manager should know. Well-known, among breeders. Be as particular about your manager as your herd bull. Good references. Graduate 1906. Address BOX 616, care Hoard's Dairyman.

Manager—Share, commission or salary. Life experience, made world records, understand all stock, crops, machinery. Manager past 14 years on large up-to-date place. Cornell graduate. Address BOX 615, care Hoard's Dairyman.

Ranch mananger desires location in the East or middle West. Desire correspondence with owner large farming proposition. References. Address BOX 618, care Hoard's Dairyman.

Farm superintendent and graduate veterinarian, scientific, practical, energetic, desires position on large modern farm or estate, and will put same on a paying basis. Certified milk or pure-bred stock farm, where results will be appreciated. Fifteen years' experience with pure-bred stock and everything pertaining to an up-to-date stock or dairy farm. Breeding for results a specialty. Married, age 36. Best of reference. Prefer central states. Address S. M. FRIEDLEY, D. V. M., South Charleston, Ohio.

Wanted—The management of an up-to-date or good dairy by father and two sons. Was herdsman several years in one dairy. Best reference. Address BOX 619, care Hoard's Dairyman.

Well-known herdsman, now employed on one of Minnesota's largest dairy farms, wishes a position as herdsman or renter on equipped place. Furnish references of ability and reliability. Address BOX 614, care Hoard's Dairyman.

Wanted—Managing position by live dairyman who will make your dairy pay. An American, single, age thirty, University training and a life's experience in dairy farming from seed selection to the production and sale of pure-bred cattle. Address BOX 599, care Hoard's Dairyman. 2-2

Herdsman—English, married, no family, wants position with registered Guernsey herd. Has eight years' experience with large herds, understands milking machines and their care. Good feeder and well up in the care of calves. Can keep a place neat and clean and can give satisfaction in every way. Please state wages and particulars in first letter. Excellent references. WILLIAM IVERIPEL, West Mystic, Conn.

Wanted—Position as manager of a high-class Holstein dairy farm. Have been successful in buying and selling and an expert calf raiser. Married, one son 16 years of age. Life experience in growing all kinds farm crops. Can furnish reference from last employer having one the best equipped Holstein farms in state of Illinois. Other references if required. Can furnish one first-class married man as tractor man or for any kind of farm work if desired. Willing to board same. Address BOX 608, care Hoard's Dairyman.

Two men want position on Guernsey farm. Yankees, farm-raised, protestants; one as working manager and herdsman, agricultural training. Other as farm hand; one married. Wisconsin preferred. Address BOX 607, care Hoard's Dairyman.

Position wanted—As manager or foreman on dairy farm by reliable, experienced farmer, capable of taking full charge. Married, one child. Prefer New York or New England. Address BOX 612, care Hoard's Dairyman.

AGENTS WANTED

Farmer-agents wanted to represent reputable molasses concern. Must be familiar with use of stock molasses. Liberal commission to responsible parties Those with autos preferred. Apply NATIONAL MOLASSES CORP., 207 Walnut Place, Philadelphia, Pennsylvania. 2-2

Yes Sir, we have a special opportunity for you during spare time, an opportunity to do some good work in your neighborhood, for the betterment of dairy farming, that will pay you in cash for the effort you put forth. Write for our "Special Opportunity Getting Together" folder. Address HOARD'S DAIRYMAN, Fort Atkinson, Wis. 2-tf

Agents make big money selling our silos. Write today for catalog and big commission proposition. NAPPANEE LUMBER & MANUFACTURING CO., Nappanee, Indiana. 3-spl

Agents—Mason sold 18 Sprayers and Autowashers one Saturday. Profit $54.00. Square deal. Steady work. RUSLER COMPANY, Johnstown, Ohio. 3-spl

TOBACCO

Tobacco—Kentucky's Best Natural Leaf, chewing or smoking, 5 pounds, $2.00; 12 pounds, $4.50. Postpaid. DALTON DORON, Mayfield, Kentucky. 2-2

TANNING

Let us tan your hide: Cow, horse, or calf skins for coat or robe. Catalog on request. THE CROSBY FRISIAN FUR CO., Rochester, N. Y. 1-52

MISCELLANEOUS

Magnetos Repaired—When your magneto needs repairing, send it to us for prompt and efficient service. AVERY COMPANY, Madison, Wisconsin.

That's true—Pasal salve for sore teats on cow. Write for free sample. PASAL MFG. COMPANY, Fairmount, Indiana.

For Sale—Registered Mammoth Kentucky Bred Jack, age 6. Safe and sure. CHAS. J. WOLFF, West Warren, Massachusetts. 3-2

POSITIONS WANTED

Experienced man, age 36, married, clean habits, desires position. Understands feeding and farm management. Reference. State offer. P. H. JONES, Sparta, Tennessee.

Young man, age 20, desires position on dairy farm in Iowa or Missouri. Prefer Holsteins. References given and required. THOS. HOTCHKISS, Route 4, Memphis, Missouri.

Farmer, single, 45, would like permanent job on farm owned by a woman, anywhere. Temperate, agreeable. JOSEPH T. PROCTER, 51 Blank Street, Stamford, Connecticut.

Wanted Position—Or on half share basis with some good dairy farmer in New York State, by single man, 36 years old, who has his mother with him to keep house. Might buy later. NICK FUCHS, Route 3, Cuba City, Wisconsin.

HELP WANTED

Wanted—Railway mail clerks, $135 month. Vacancy list free. Write. FRANKLIN INSTITUTE, Dept. G 118, Rochester, N. Y. 25-5

Wanted—Middle aged herdsman to take charge of modern dairy barn. Prefer married man with no children. G. J. THOMAS, Sioux Falls, South Dakota. 25*

Wanted—Herdsman skilled in compounding rations and handling cows on Official Test. None need apply who have not to their credit a cow with a 30-lb. seven-day record or a 1,000-lb. semi-official record. Address BOX 570, care Hoard's Dairyman. 1-3

Wanted—Herdsman to begin work in February. Call or write. References required. GEO. L. SCHLOUGH, Pinehurst Farms, Wheeler, Wisconsin. 1-3

Herdsman Wanted—Married man to feed and care for pure-bred Guernsey herd where A. R. work is done. Must have experience. State age, wages and reference first letter. Rather have man come and look over proposition. DALE E. RUNDELL, Ore Hill Farm, Livingston, Wisconsin. 2-2

Farm Couple Wanted—Man and wife above 30 years (no children) to be fully responsible on a 200-acre publically located dairy farm, where home and every detail is now, and must be maintained first-class; dairy and other machinery modern and electrically equipped where practical; product wholesaled exclusively—everything furnished and supplied. This is a plain, practical gentleman's place, requring a conscientious, competent, dependable couple who want a permanent position, who can care for and handle the necessary help, and know how a first-class place should be conducted. Give experience, qualifications, ages and present employment. JOHN S. SELL, Greensburg, Westmoreland County, Pennsylvania. 2*

Wanted—Reliable milker, $60.00 per month and board. Machines used. OTTO QUAST, Corvallis, Montana. 2-2

Wanted—Married man to work on stock and grain farm by year. THOS. STEWART, Plainfield, Ill. 1-spl

Wanted—Experienced herdsman and milker, thoroughly qualified to handle A. R. O. work with Holsteins. Moderate salary and percentage of returns. Must furnish best references. Exceptional opportunity to hustler who knows his business. Want married man, no objection one or two children, family must be healthy. Finest climate in America, under Roosevelt Dam. Address "PATRON", care Maricopa Creamery, Phoenix, Arizona. 3-2

Wanted—Married man to do the milking and calf raising of registered Jerseys. Farm adjoins town. Comfortable house. Address ST. IVES JERSEY FARM, Salmon, Idaho.

Wanted by March first, married man to work on dairy farm. Wife to help with housework. Give nationality, age, experience, references, wages, etc. F. D. REGAN, Hollandale, Wisconsin.

Wanted—To correspond with healthy, elderly, married man. Job-chores, feeding, milking, etc. Mild climate. THOS. H. HANLY, Coquille, Oregon.

Wanted—For general farm work a middle-aged man and his wife; farm well located twenty miles from Chicago; house furnished and all groceries. Wife to board two men and must be a good housekeeper and cook. No children preferred. State nationality and wages for both. A splendid opportunity for the right persons. Address BOX 613, care Hoard's Dairyman. 3-2

Wanted—Herdsman for select herd of registered Holsteins on yearly test. Must understand feeding and making of records. Good house. State wages expected. Reference. WM. BIEHL, Brady St., Butler, Pennsylvania.

Wanted—Married couple, about March 1st, by the year, experienced for general dairy and potato farm work. Live in divided house with owner. Wife to assist with housework. Prefer no children. State wages, experience, age, nationality. WILBUR F. LEFEBER, Hartland, Wis. 3-2

Wanted—Single man for barn work in winter, help with field work in summer. Star equipped barn, Sharples Milker used. Pure-bred and high grade Guernseys. $50 a month, board and room furnished. State references and experience in first letter. ARTHUR A. COOPER, Elizabeth, Ill. 3-2

Wanted—Reliable single man for general farm work by year. State wages. H. C. ELMER, R. 4, Monticello, Wis.

Purdue Dairy Night

The Dairy Club at Purdue University is planning a student dairy show for February 23. This is Dairy Demonstration Night and has become an annual event. A demonstration will be made from the nutrition department of the University. Sanitation and bacteriological methods will be demonstrated. Another demonstration will show the process through which market milk passes from the dairy to the consumers' homes.

Eighteen pure-bred bulls were sold recently by the Petaluma Calf Club of California. Ten of the eighteen were purchased by Marin County dairymen. A. J. Gambonini bought Valdessa Fayne Pontiac, an eight-month-old calf, for $700, topping the sale. M. T. Freitas Home Ranch bought two, these being the first pure-bred bulls to be placed on the ranch.

Marin County of late years has ranked in sixth place among the dairy counties of California. Increased interest in better cattle at this time is improving the dairying and increasing the production.

Ayrshires on the Gossard Breeding Estates of Indiana have been awarded the gold medal offered by the Indiana State Dairy Association for the six highest producing cows on official test in 1920. These six Ayrshires made an average production of 16,446.5 lbs. milk, 628.11 lbs. fat. Four were mature cows and one a junior two-year-old. This is the first year in which an Ayrshire herd has won this award.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

$7,000 in One Year

Was received for milk alone from this splendid hill farm in Delaware Co., N. Y., now offered for sale. For full particulars address

Kitchen & Blatchley, Wellsboro, Pa.



MASTERPIECE
A Son of Pathfinder from a Daughter of Proud Colonel

Sows & Gilts

of popular blood lines, bred to **Masterpiece, Model Sensation, Bertley Orion Cherry King** and **Panama Special 15th.** If you want a high class Duroc Sow at a reasonable price, let us tell you about one on our guarantee to satisfy.

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GLENWOOD, ILLINOIS
JUST OUT OF CHICAGO

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have never possessed a finer lot of **BERKSHIRES** than at present. Let us name you prices on fall and spring boars and young gilts.

J. K. Dering, Owner, Lake Villa, Ill

Pure-bred Duroc Jersey
Bred Sow Sale
Will be held on
February 9th
Write for catalog
H. W. & WM. WATTS, Leland, Illinois

Three Great Heifers

Consigned to the

Red River Valley Holstein Sale

Crookston, Minn., Feb'y 9th

(1)

Bess Pietertje Ormsby 3d

A splendid individual with a world of breeding. She is sired by King Pietertje Ormsby Piebe and from a full sister to Sir Pietertje Ormsby Mercedes 41st. This makes her 100% the same blood as Marathon Bess Burke.

(2)

Johanna Olathe Bonheur

A beautiful two-year-old daughter of Johanna Bonheur Champion. Her dam is a 20-lb. daughter of Sir Beets Cornucopia Netherlands and a 29-lb. cow, now completing a 900-lb. record as a 12-year-old.

Both of these heifers are finishing up splendid 305-day records and are due to calve May 10th to the services of Sir Pietertje Ormsby Mercedes 41st.

(3)

Bess Burke Colantha

A yearling daughter of King Korndyke Colantha Ormsby, 1,255-lb. son of Colantha Johanna Champion. Her dam is a daughter of Bess Burke Ormsby, the $25,000 full sister to "41st". A great combination of breeding **and she is due in June to the service of**

Sir Pietertje Ormsby Mercedes 37th

To the breeder looking for foundation stock of unusual quality these three heifers offer wonderful opportunity. Their calves will carry the strongest blood lines that it has been possible for us to produce.

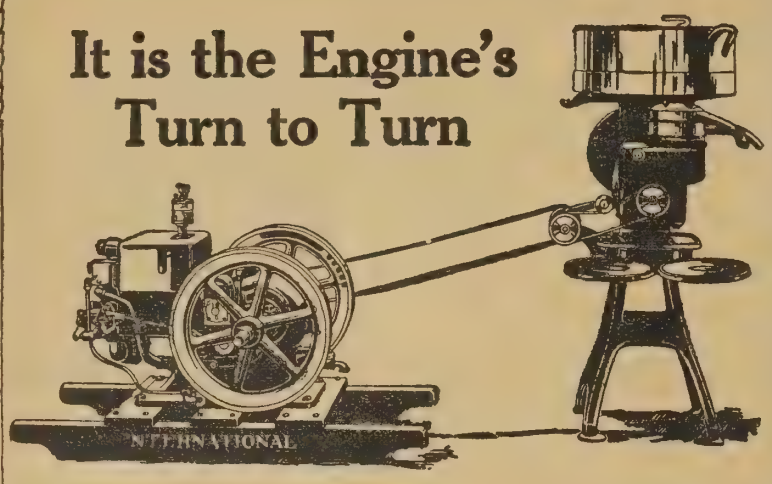
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Moorhead, *(Herd under Federal Supervision)* **Minnesota**

Keep Tab on Your Cows

Send 5c in stamps for samples and prices of our weekly and monthly Milk Record Sheets. **Hoard's Dairyman, Fort Atkinson, Wis.**

It is the Engine's Turn to Turn



EVERY dairy farmer who handles a large volume of milk knows that turning the easiest running cream separator in the world by hand gets to be monotonous work before the day's run is finished.

The **Primrose Direct Power Drive** has simplified greatly the matter of separation on a considerable scale. This practical little addition to Primrose efficiency can be attached to any hand-operated **Primrose Cream Separator** and does not interfere in any way with hand turning of the separator.

By means of this simple attachment, direct connection can be secured with an engine without speed-reducing gear, to a line shaft or portable electric motor.

If your milk volume has reached such proportions as to make separating a real task, then it is most certainly the engine's turn to turn. A **1½ h.p. International Kerosene Engine** and **direct-power-drive Primrose** will shoulder the job and handle it efficiently

INTERNATIONAL HARVESTER COMPANY OF AMERICA
(INCORPORATED)
CHICAGO U S A

The Human Side of Cow Testing

(Continued from page 83)

was to become a farmer at all, he would be a dairy farmer.

Five years ago last spring the back-to-the-land virus delivered its final deadly punch, and Stanley found himself spending half of his last week's salary to buy a ticket to Plainfield. He wanted to hire out to the very best dairyman in the community, from whom his purpose was to learn the dairy business. As he was entirely unacquainted at Plainfield, this procedure was not the easiest matter in the world. He laughed as he told me his experiences in finding the right place, though doubtless they did not seem so humorous when he was living them.

After working temporarily for several farmers and by shrewdly asking numerous questions so as not to divulge his real purpose, he became satisfied that the man for him was William Kent who, I believe I told you, is president of the Plainfield Cow Testing Association. Just at the time Stanley reached this conclusion, however, Bill wasn't in need of more help, especially such help as the green city kid Kent's practiced eye sized his applicant up to be. Stanley did not surrender at this. Instead he went to Bill's nearest neighbor, who lived almost directly across the road from him, and obtained a job where Kent could not well help knowing of what kind of stuff the young man was made.

He pitched in with a will, kept his eyes and ears open, and made good in a hurry. Haying time found Kent with more alfalfa to put up than he and his hired man could handle. With his neighbor, a grain farmer, the farm work had slackened a little just then, and Stanley got his chance with Bill. Though Kent increased his wages because of his satisfaction with his new helper, this was not the prime consideration with Stanley. He was at last getting his opportunity to learn the dairy business, and at first he would have stayed for his board.

Now you know as well as I that any hired man who stays long 'round the average dairy farm is going to use his hands. Well, Stanley developed those undersized forearms of his all right. He also kept his gray matter out of mischief by applying it to Bill Kent's business. From his office experience Stanley had obtained a fairly

The Great United Line of Farm Helpers

United Milker
Really Sucks Like a Calf



Pump-pulsator type of machine. Gives complete vacuum release on teat—the smooth, natural way.



"SEE-THRU" TEAT CUP—an exclusive feature. You know when all teats are milking. Simplest, most efficient made.

UNITED ENGINE
1 3-4 to 12 H. P.—Ideal for any farm work—wonderful value. Investigate it.

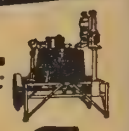


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160 to 900 lbs. capacity—Guaranteed.

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With famous Full-Swing Dolly. High quality—low price.



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Great capacity—pulls easy—self sharpening—oscillating burrs.



Write for complete information on United Line—America's Greatest Values in Farm Helpers. Ask your Dealer.

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QUALITY LIMESTONE always increases crops 50 per cent or more. In many cases the yield is doubled. Pays for itself and returns a profit the first year. Endorsed and used by State Agricutural Dept.
Write for free book on "Increasing Production"—it will tell you all about QUALITY LIMESTONE and what it will do for you.



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WE PAY THE FREIGHT and save you the difference.
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64 BREEDS Most Profitable pure-bred Northern raised Chickens. Ducks, Geese, Turkeys, Fowls, Eggs, Incubators all at low prices. 28th year. Largest plant. Send 5 c for large valuable book and catalog.
R. F. NEUBERT Co., Box 836 Mankato, Minn.

"Stripping 'Em Clean"

Why not buy dairy feed the way you milk cows—to get the last bit of good out of 'em? There's no waste in feeding CE-RE-A-LIA SWEETS. Every grain is straight, honest, milk-making feed, properly balanced, easily digested.
You "strip" every feed-dollar clean when you buy CE-RE-A-LIA SWEETS. You're guaranteed more or better milk at less cost.
Feed One Cow Four Weeks at Our Risk. Money back if Ce-re-a-lia does not make more *milk* and more *profit* than you're getting now.
THE EARLY & DANIEL CO., 301 Carew Bldg., Cincinnati, Ohio

Mfrs. of Tuxedo Chop, Ce-re-a-lia Eggmash, Tuxedo Scratch, Tuxedo Hog Ration.





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Special labor-saving devices. Write for particulars
Otis Account Book Company
1822 Chadbourne Ave. Madison, Wisconsin

$7,000 in One Year
Was received for milk alone from this splendid hill farm in Delaware Co., N. Y., now offered for sale. For full particulars address
Kitchen & Blatchley, Wellsboro, Pa.

Sale Announcements

Feb. 10—Holsteins. Shepardville, Mich. Chas. Ridenour, R. 2, Ovid, Mich.
Feb. 15—Holsteins. Spring Creek Holstein Farm Dispersal, Russell Trumpy, Clarno, Wis.
Feb. 24—Dispersion Holsteins owned by C. O. Ruste, Blue Mounds, Wis. F. H. Everson, Sale Manager.
Feb. 26—Holsteins. John Wuethrich's Holstein Sale at Greenwood, Wis.
Mar. 15-16—Holsteins. Fletcher Bros. Dispersion at Fond du Lac, Wis.
Mar. 15-16—Holsteins. Wisconsin Breeders' Sale at Fond du Lac, Wis. S. H. Bird, Mgr.
Mar. 24—Holsteins. Mankato Holstein Co. First Annual Sale at Mankato, Minn. Minnesota Holstein Breeders' Association, Sale Mgr.
Mar. 28—Holsteins. Isaac DeMunck & Sons, Plymouth, Wis. I. DeMunck, Sale Mgr.
Mar. 29—Holsteins. Fred Gessert, Plymouth, Wis. Fred Gessert, Sale Mgr.
Mar. 29-30, 1921—Holsteins. Watertown Holstein Sales Co., Watertown, Wis. F. Darcey, Sec.
Mar. 30—Guernseys. La Crosse County Guernsey Breeders, West Salem, Wis. H. W. Griswold, Manager.
Mar. 31-April 1—Holsteins. H. J. Goelzer's Sixth Sale at Plymouth, Wis. E. E. Goelzer, Mgr.
April 7, 1921—Holsteins. Central Wisconsin Holstein Breeders' Ass'n. 13th Semi-annual Consignment Sale at Marshfield Sales Pavilion, Marshfield, Wis. R. A. Peterson, Wisconsin Rapids, Wis., Sale Mgr.
April 21—Brown Swiss. Illinois Brown Swiss Breeders' Association Annual Spring Sale, Morton, Illinois. Chester G. Starr, Pekin.
April 15—Holsteins. Virginia Holstein-Friesian Breeders' Club Sale, Richmond. W. L. Kirby, Manager.
April 25-26—Holsteins. Waukesha County Holstein-Friesian Association Sale at Waukesha, Wis. W. L. Baird, Sec'y.
May 2—Holsteins. Walworth County Holstein Breeders' Association Eighth Semi-annual Sale at Elkhorn, Wis. Ben Bachhuber, Mgr.
May 3—Holsteins. Clark County Quality Sale at Owen, Wis. J. Wuethrich, Sale Mgr.
May 9, 1921—Holsteins. Brown County Holstein Breeders' Sale at De Pere, Wisconsin.
May 12—Holsteins. Jefferson County Holstein-Friesian Breeders' Ass'n. second consignment sale. A. F. Gafke, Sec'y.
May 12—Holsteins. Marathon Co. Holstein Breeders' Association Sale at Wausau, Wis. Francis Darcey, Watertown, Wis., Mgr.
May 13—Holsteins. Chippewa Falls, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 17—Holsteins. State Fair Grounds, Milwaukee, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 18—Jerseys. Monroe County Jersey Breeders' Consignment Sale at Tomah, Wis.
May 18-19—Holsteins. Manitowoc County Holstein-Friesian Breeders' Association, Manitowoc, Wis. Chas. Hampke, Manager.
May 25—Guernseys. Portage County Guernsey Breeders' Ass'n. Sale of pure-bred cattle at Stevens Point, Wis. R. K. McDonald, Sec'y.
May 26—Holsteins. Marshfield, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
June 9—Holsteins. First Annual Bred Heifer Sale, Thorp, Wisconsin. W. H. Krause.

good knowledge of business methods and was good at keeping records, all of which Bill turned to good account in the management of his pure-breds. In spare time Stanley read all the books and bulletins relating to dairy farming that he could put his hands on, so that by the time he had worked for Bill about two years he was quite familiar with the practical aspects of dairying. Then, the following winter, as a sort of final chapter in the education of this embryo dairyman, he took a vacation long enough to attend a short course in dairying at the university.

Stanley had been working for Kent nearly three years, making himself almost invaluable to him, when he got the idea that he would like to strike out for himself. Meanwhile he had fallen in love with Marjorie Kent, Bill's eldest daughter. At about the same time he saw a farm for sale that was very much to his liking, and was hoping to find some way of buying it. His savings, of course, would make no impression against such a deal, so he asked Bill to act as his security in arranging a loan.

Bill met this appeal with the hard-headed proposition that Stanley rent the farm for a couple of years, to prove what he could do, after which if he needed assistance he could count on his probable father-in-law. While not just what he had asked for, this proposition appealed to Stanley's sporting sense and he accepted it on the fly. Accordingly he used the bulk of his savings to buy a two-year option on the place, Bill backing him for enough equipment to enable him to carry it on.

That first year on his own was no bed of roses for Stanley Miller. He shouldered the job alone, however, Marjorie making him wait a year for reasons of her own. But despite being his own housekeeper and meeting the usual difficulties of the beginning farmer, he came through the year in good order, making a substantial reduction in the indebtedness on his equipment. By this time Marjorie was evidently satisfied with Stanley's record, as she married him then, and together they made excellent progress the second year.

The two years of renting ended last spring, whereupon Mr. Kent saw to it that Stanley had the credit with which to buy the farm. The happy couple is now engaged in shooting the mortgage full of holes and, with his nice start in pure-breds, his up-to-date methods, and eagerness always to be improving his dairy practices, I know of no dairyman of whom success might be better expected than Stanley Miller.

There is a good idea in Stanley's hired-man route of getting onto the farm. A lot of back-to-the-landers would be much better off if they would follow his plan instead of expecting to inherit the earth the first season. Stanley was wise enough to obtain his knowledge of farming while someone else was paying his way. And he picked a good man from whom to learn the dairy business. That's my game, too, though perhaps I never thought of it in just that way before. I think I have the advantage over Stanley a little, however, as the cow tester, instead of learning the methods of but one dairyman, can study the best methods of the entire association. As ever,

HORACE EVANS.

(Editor's Note: This is the second of a series of six letters prepared by Frank M. Chase. The next will appear in an early issue.)

The chief value of cowpea hay lies in its high percentage of digestible protein. This has been verified by numerous feeding tests.



What Is the Tractor's Record of Economy?

Before you buy a tractor, get its *record* of economy.

Don't be satisfied with merely statements of what the tractor will or *may* do under *certain* conditions, but get a record of what it has done under *all* conditions over as long a period of time as possible.

The story of any one of thousands of old OilPull tractors, scattered throughout the world, would prove the unequaled economy of the OilPull. Take the one owned by Radtke Bros., Spiritwood, North Dakota, which was bought nine years ago. Its owners have always given it hard service the year 'round—plowing and breaking sod, threshing, operating feed mill, etc.

For seven years it performed faultlessly without the need of a single important repair! It is now nine years old and not half "worked out." Many twelve-year-old OilPulls, including the first one built, are still on the job!

The OilPull's remarkable economy in fuel is well and widely established. For the last nine years the OilPull has held the world's tractor fuel economy record! And—consider this point—the OilPull is the *only* tractor backed by a written guarantee to burn successfully all grades of kerosene, under all conditions up to its full rated brake horsepower! The OilPull is the tractor of *proved* economy. When you buy an OilPull you *know* you are getting the tractor that is cheapest in cost per year of service.

Ask your OilPull dealer about other OilPull features that are as outstanding as its economy—about its dependability, long life, etc.

If there is no Advance-Rumely dealer in your town, write to us for catalog.

ADVANCE-RUMELY THRESHER CO, *Inc.*
LaPorte, Indiana
29 Branch Offices and Warehouses



Nine-Year-Old OilPull, Owned by Radtke Bros., Spiritwood, N. D.

RUMELY OILPULL TRACTOR LA PORTE IND

Guaranteed to burn kerosene under all conditions up to its full rated brake horsepower. Holds the present world tractor fuel economy record.

ADVANCE-RUMELY

Good Maxims

Attend carefully to the details of your business.

Sacrifice money rather than principle.

Take care of the pennies and the dollars will take care of themselves.

Strive to do right, fear to do wrong.

Injure not another's reputation in business.

Observe good manners.

Pay your debts promptly.

Punctuality is better than wisdom.

Use your leisure time for improvement.

Extend to everybody a kind salutation.

Zealously labor for the right.

Recoveries by the Government, during the last fiscal year, for trespasses on the national forests amounted to $87,082 in damages and $3,225 in fines. These included grazing, timber, fire, game, and occupancy.

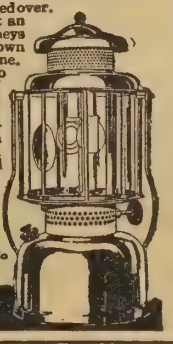
It's farm inventory time. Don't think of it as an impossible task. A half day will do the job in most cases.

More Light Than 20 Old Style Oil Lanterns

THE Coleman Quick-Lite Lantern makes all after-dark work easy. Lights barns, sheds, feed lots, cellars—any place—with a brilliant, pure white radiance of 300 candle power—the finest, steadiest light you ever saw. Rain-proof, bug-proof. Won't blow out in wildest storm.

Coleman Quick-Lite

Can't spill or explode even if tipped over. Cost to use less than half a cent an hour. No wicks to trim. No chimneys to wash. Makes and burns its own gas from common motor gasoline. Lights with common matches—no alcohol torch needed. Built of brass. Has mica globe with metal reflector. Inspected, tested and guaranteed. Take this advertisement to your dealer. Ask him about the Quick-Lite Lantern. If he hasn't it on sale yet, he will gladly order one for you on approval. Free book on request. Write today to Department HD6



THE COLEMAN LAMP COMPANY
Wichita St. Paul Toledo
Dallas Los Angeles
Atlanta Chicago

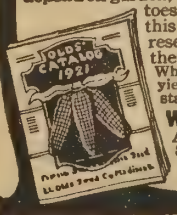
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Every year, for 34 years, thousands of people have adopted Olds' Catalog as their farm and garden guide. The carefully tested and selected seeds it offers have produced heavy field crops and successful gardens everywhere. Customers have long since learned that

Olds' Catalog Tells the Truth

Its descriptions, both in word and picture, are truthful in every respect. You can positively depend on garden, flower and field seeds, potatoes, plants and bulbs listed in this book being exactly as represented. All seeds conform to the strict Wisconsin seed laws. When you buy Olds' seeds, good yields are assured from the seed standpoint. You take no chances.



Write for This Book Tonight

A postal will do. But don't delay. Start right with right seeds.

L. L. OLDS SEED COMPANY
Drawer 72 Madison, Wis.

Keep Tab on Your Cows

Send 5c in stamps for samples and prices of our weekly and monthly Milk Record Sheets. **Hoard's Dairyman, Fort Atkinson, Wis.**

Don't Guess at What Feed Is Worth

Scales are used everywhere, from drug stores to steel mills, but they are no more important anywhere than at the feed trough and behind the cows in the dairy barn. A daily record of feed consumption and milk production is necessary for intelligent feeding. Weigh the feed you are now feeding. Weigh the milk you get. Put down each day, for each cow, what the feed costs and what the milk brings.

BUFFALO CORN GLUTEN FEED

Then get BUFFALO CORN GLUTEN FEED — the milk-producing concentrate — from your dealer. Mix up a mixture with wheat bran or other mill feeds, oats, etc. Make the BUFFALO CORN GLUTEN FEED one-third, one-half or more of your mixture. Then feed this mixture to your cows, each cow according to her production, but give every cow enough to show what she can do with good feed when she gets a chance. Weigh each cow's feed. Then weigh her milk. A little figuring will convince you that it pays to feed BUFFALO CORN GLUTEN FEED.



Write us for literature giving mixtures for feeding BUFFALO CORN GLUTEN FEED—*and sample if you would like one. If your dealer cannot supply you, tell us who and where he is.*

Corn Products Refining Co.
New York Chicago

THE FEED THAT MAKES THE YIELD

"NOW-A-DAYS"
says the Good Judge



A man can get a heap more satisfaction from a small chew of this class of tobacco, than he ever could get from a big chew of the old kind.

He finds it costs less, too. The good tobacco taste lasts so much longer he doesn't need to have a fresh chew nearly as often.

Any man who uses the Real Tobacco Chew will tell you that.

Put up in two styles

W-B CUT is a long fine-cut tobacco
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SEED

By Prepaid Express—Order NOW—Prices Going Up. Our first quality, hardy northern-grown grass seed, famous for its frost and drought resisting qualities. High and strong in germination. Our price about two-thirds below last year, but now tending upward. Order EARLY. We pay all express or freight charges; bags free. Specials: Alsike and Timothy mixed $5.85 per bu.; Alfalfa $12.90 bu.; Medium Red Clover $13.50 bu.; Alsike $16 bu.; Timothy $3.95 bu.; Sweet Clover $4.50 bu.; Sudan Grass 8½c per lb. As seedsmen of many years experience we have carefully graded and tested these seeds. We guarantee them to be as represented, or your money back. You must be satisfied. We are not connected or associated with any other house selling direct to farmers. Order TODAY or send name for price list and full particulars. **World Seed Company,** 123 W. Madison St., Dept. P, Chicago, Ill.

When Writing to Advertisers, Mention Hoard's Dairyman

An Object Lesson in Testing

(Continued from page 89)

as good an illustration as one could find of the value of testing cows. The cow shown in the picture with her is a half sister. They are the same age, very similar in appearance, weight, and height. At the time Mr. Kinsley, their owner, joined a cow testing association two years ago, the two cows were giving about the same



Two cows, half sisters, considered of equal value. On test one proved more than twice as profitable as the other.

quantity of milk. Mr. Kinsley considered them of equal value and among the best cows in his herd. "If I had been selling them," he says. "I should have asked the same price for them before I put them on test."

It was another matter after the two cows had been on test a year. The one on the right rounded out the first year in the cow testing association, the high cow of the test associations of Iowa and earned $182 for her owner. The other had produced only a little over half as much fat, her record for the year being only 288 pounds. She had earned her owner $43. "The circumstance only goes to show," says Mr. Kinsley, "that no matter how good a judge of cows you may think you are, you can be fooled. There is only one way to tell, and that is to test. Think what it has meant to us to learn the truth about those two cows for we considered them both good and were using both of them in an effort to improve our herd. We were right about one, but were actually lowering the standard of our herd by using the other."

The test has also, through the knowledge it gave the Kinsleys, allowed them to make the very best of the superior cow, as is shown by the fact that they have been able by care and feeding to raise her 1919 record of 520 pounds butterfat up twenty-five per cent higher the past year to 651 pounds. She has earned her owner a full $300 in 1920 above feed cost.

Iowa. F. L. CLARK.

Prices of Bran and Shorts

HOARD'S DAIRYMAN:—"Thirty dollars a ton for bran and a dollar a ton less for shorts," the miller answered to a query of a feeder who had come to the local plant for a ton of feed.

The prospective buyer was still in doubt as to the price, however, and asked a second time what bran and shorts were bringing. The feeder recalled that hardly four months ago, when he purchased a wagon-load of both bran and shorts, the miller quoted a price on the heavier offal about $20 a ton above bran. So he was naturally surprised when the miller repeated his price of thirty dollars a ton on bran and a dollar a ton less for the gray shorts or flour middlings. "That's the way the market is moving," the miller added, to assure the prospective buyer that he was not in error.

Of the many extraordinary price movements in the market for various feedstuffs, the fluctuating premium between bran and shorts has reflected most significantly the basic influences surrounding the trade. From a relative price level showing a premium of more than $20 a ton on gray shorts over bran, the market since the late fall has receded to a basis where the light offal commanded a premium of as much as $2 a ton. Only a few times in the history of the milling and feedstuffs industries of the United States has such a disparity between the bran and short prices prevailed. Before the war the average difference amounted to about $4 a ton on shorts over bran and seldom did the differential range above $6 or below $2 a ton. On some markets of the country bran is still selling at a slight premium, but a slowly strengthening tone is developing in the heavier offal, and in most of the important milling sections the premium is again on the shorts or middlings, though still very slight.

Based on feed value, shorts should command a premium above bran. But it has not been a question of relative feeding value; instead a question of demand and supply and a problem of obtaining substitutes at cheaper prices. In the case of shorts, both the brown and gray varieties, the market has suffered a sharp contraction in demand owing to the enormous production of the coarse grains, including corn, kafir, and milo, which are available to consumers at a sharp discount under the price at which the mill feed has been selling. With corn and the sorghum grains available in larger quantity than ever before and the crop more evenly distributed and with the price well under a cent a pound net to the producer, it was only natural that the producer of hogs refrain from the feeding of shorts on an extensive scale with the price of the

feed above a cent and a half per pound. The grower of pork animals was stimulated in the use of the substitutes for shorts by the radical downturns in prices for hogs and the reduced returns from fattening operations.

Various substitutes have been available for dairymen in the place of bran, some localities being more fortunately situated than others in this respect, yet the prices of the substitutes were hardly sufficiently lower to warrant their use on an extensive scale instead of the mill offal. Alfalfa hay, for instance, has been selling practically on a parity with bran, at least for the better quality offerings demanded by dairymen. The excellent late fall and even early winter pastures provided the best substitute for bran. There is no doubt that the consumption of bran has been sharply reduced, though with production less than half normal. Owing to a lack of demand for flour and resulting light operations of milling plants, the slackening in the buying was more than offset by the scant offerings in consuming channels.

Bran can be bought on the Minneapolis market around $25 to $26 a ton, sacked, for carlots, brown shorts around $23 to $24, and gray shorts or flour middlings at $27. In Kansas City the market for bran is holding around $25 for prompt shipment and about $24 a ton for all February delivery. Gray shorts on the leading Southwestern market are at a premium of about a dollar a ton over bran. Bran in St. Louis is bringing about $30 a ton and $32 to $33 a ton for gray shorts. Ohio markets are quoting around $36 a ton for bran and $38 to $39 a ton for gray shorts or flour middlings. Other markets are on a freight differential.

The outlook for mill feed, particularly bran, offers no encouragement for bullish operators. Production of flour by mills in both the spring and winter wheat sections of the country is increasing and, while normal operations are not expected for any lengthy period, the output of feed will probably reach a far greater figure than in the first half of the crop year. The exceptionally mild winter temperatures thus far have effected a sharp reduction in buying of bran for deferred shipment, and the consuming trade holds little feed above its current requirements. Nor can the dairymen be expected to take hold more freely in view of the large stocks of roughage available in most of the dairying districts and the more extensive buying of alfalfa hay, which is declining with greater rapidity than bran. While there is no direct relationship as competitive feeds between bran and corn, still the fact that the coarse grain is at a sharp discount will do much to exert bearish pressure on the wheat mill offal. Corn ordinarily commands a considerably higher price than bran.

It is possible, however, and even probable that while bran goes off in price, as generally anticipated, gray shorts or middlings will advance. The mill feed market is entering a period of the year when hog producers are heavier consumers of shorts for young stock and, with the advance in the season, the differential between bran and shorts widens more and more in favor of the heavier offal. In this respect, corn will exert much pressure on bran. Instead of using larger quantities of shorts, hog producers will not take hold unless the price recedes more nearly to a parity with the coarse grains, including kafir and milo as well as corn. And with these grains at $7 to $10 a ton discount under gray shorts, there will be a strong tendency to hold the mill feed down in price. This naturally will prove a weight upon bran and thus force this offal down.

Missouri. SANDERS SOSLAND.

Milkless Quarters

A high grade Guernsey heifer on our farm became fresh with first calf recently and has only milk in the two hind teats. There is just a drop or two in the front teats. Is there a chance that she will be all right with the next calf?

Libertyville, Ill. H. H.

Chances of improvement are extremely poor in cases such as you describe. It would be well to allow a calf to nurse, or to go through all the motions of milking, three times a day. If the condition was not caused by garget (mammitis) milk may then gradually be secreted. If not, the heifer should not again be bred.

Uncle Ab says: If you have a grouch, hold it till after the next meal; feeding may tame it.

How a $42,500,000 Company Upheld a 65-Year Reputation

FROM the very first, Allis-Chalmers recognized that the severe strains of farm duty require more than just a "power plant on wheels." And so this company—for over a half century builder of only high-grade machinery—set its vast resources and one of the world's foremost engineering staffs at work to build a super-tractor. That was seven years ago.

The Tractor that Took Seven Years to Build

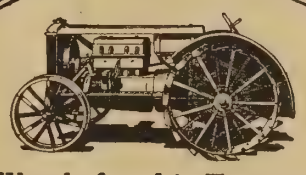
Carefully—and under the supervision of engineers who have built the machinery for some of the largest factories in the world—the first Allis-Chalmers tractor was designed. But Allis-Chalmers was not satisfied.

In quantities of only five at a time, tractors were produced for testing in the field. Performance was watched—a careful check-up made on costs. Points of weakness were made points of strength. But still production was delayed!

Finally a limited number of Allis-Chalmers 18-30's were released. Would they stand the punishments of service? Would they uphold the quality traditions of this 65-year-old company? This was the final test—and the verdict of the farmer was awaited.

That seven years of engineering effort and the expenditure of $3,000,000 were justified is best proved by the fact that not a single A-C 18-30 owner made complaint.

Today, Allis-Chalmers tractors are perfected—this $42,500,000 company has reached the point for which it has striven for seven years. Now, with one of the largest manufacturing organizations in the world, Allis-Chalmers goes into volume production!



Watch for this Tractor!

So remarkable has been the performance of the A-C 18-30 that now a 12-20 is being built—embodying the same features which have made the 18-30 famous. It is a 2-3 plow tractor with a constant drawbar pull of 2000 pounds. Large-scale production, combined with Allis-Chalmers enormous buying power, makes this tractor like the 18-30, one of the greatest values in the country.

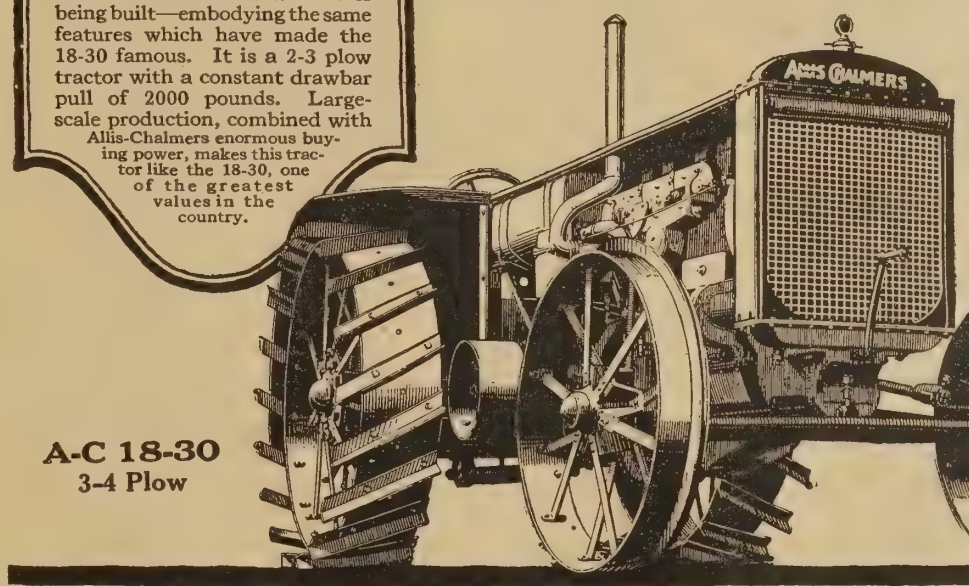
Long Life "Built-In"—Surplus Power Guaranteed

Frameless construction and flexible three-point suspension relieve the 18-30 of all strains, even in the roughest going; air entering the carburetor is first washed—freed of every particle of dirt and dust; an oversize fin-and-tube type radiator prevents overheating, even in warmest weather.

Then, too, the abundant reserve power of the 18-30 is always ready for emergencies. Under ordinary soil conditions this tractor pulls four 14-inch bottoms—without strain. It easily handles a 28-inch separator, with all attachments. The special governor (Allis-Chalmers' own make), automatically holds the engine at a constant speed—varying the mixture according to the load.

WRITE FOR BOOKLET TODAY: Ask for the 18-30 or the 12-20 booklet—or both—giving exclusive features of A-C construction.

The Allis-Chalmers Mfg. Co., Dept. 28C Milwaukee, Wis.



A-C 18-30
3-4 Plow

DEALERS: The completion of the new Allis-Chalmers tractor foundry provides a production capacity of 100 tractors a day. A mammoth sales co-operation program in keeping with this large production is extended all Allis-Chalmers dealers. Write today for details of attractive dealership and jobber proposition.

Watch ALLIS CHALMERS this Year

ALLIS-CHALMERS A-C MILWAUKEE

SCOTT'S SOY BEANS

We specialize in Soy Beans.

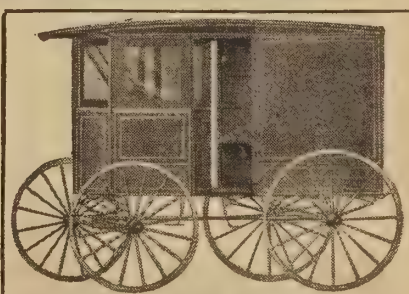
Soy Bean Hay is richer in protein than Alfalfa Hay. When planted with corn for silage, Soy Beans greatly increase the feeding value.

Soy Beans, when inoculated will store up as much as 125 pounds of Nitrogen per acre.

Other important facts about this valuable crop are to be found in Scott's Field Seed Book and Scott's Soy Bean Catechism.

Write at once for this free information

O. M. SCOTT & SONS CO.
85 Sixth St. Marysville, O.



Strictly high grade milk wagons, built upon honor and fully guaranteed. Ask for free catalogue showing styles for every requirement. Suitable terms and liberal cash discounts. Pioneers in milk wagon building with sanitary bottled milk equipment. Also builders of metal panel wagons at low prices.

De Kalb Wagon Company,
P. O. Box E, De Kalb, Ill.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

The Silo Block That's There To Stay

Build your silo with vitrified tile and you build but once. Eliminate repair bills, do away with painting and water-proofing and insure perfect protection from weather conditions by building



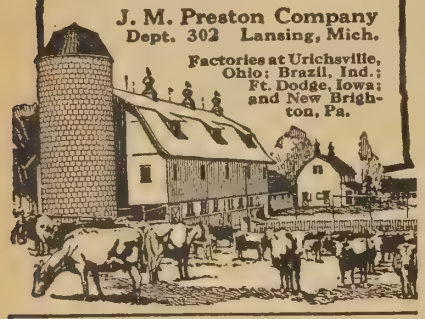
Preston Lansing
Vitrified Tile Silo

The tile silo with "ship-lap" blocks—make more beautiful, stronger walls—and lasts for ages. Blocks all uniform shade. Re-enforced by twisted steel. Steel hip-roof, steel or tile chute—fireproof.

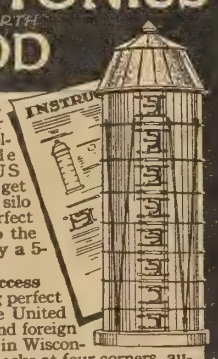
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A Wood Silo That Will Last For Years
Build It Yourself By The
TECKTONIUS
BEST SILO ON EARTH
METHOD



Buy your own materials from your lumber dealer. Follow the simple TECKTONIUS building plan and get a rigid, air-tight silo that makes perfect silage right up to the wall. Backed by a 5-year guarantee.

A 5-Year Success

Thousands giving perfect satisfaction in the United States, Canada and foreign countries. 7,000 in Wisconsin alone. Door locks at four corners, automatic adjusting hoop fasteners and super cable and base stave anchorage system.

FREE To farm owners. Our illustrated booklet "Perfect Silage". Gives the real facts about silos. Write for it at once, also send your lumber dealer's name.

E. C. TECKTONIUS MFG. CO.
1204 Racine Avenue
Racine Wisconsin

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Because it has been on the market TEN YEARS, without a SINGLE FAILURE.

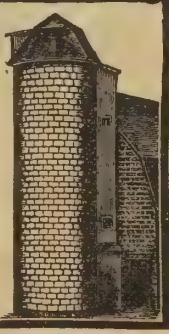
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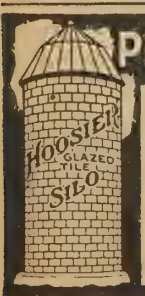
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Evanston, Ill. Dept. H, Brazil, Ind.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

VETERINARY

Advice is given free in this department. Inquires must be signed by the writer, and should pertain to veterinary Matters only. Where an immediate reply and prescription are desired by mail, the inquiry must be accompanied by a fee of one dollar. In every instance it will be necessary to give a full description of the symptoms present.

Eversion of the Womb

Turning the womb (uterus) inside out (eversion) sometimes occurs after calving (parturition) and proves promptly fatal unless the organ is at once cleansed, disinfected, and returned to place. Fatalities in this condition result in a few hours from shock or bleeding or in a few days from infection (septic metritis) following replacement of the organ.

In our experience eversion of the uterus most commonly occurs when the pelvic ligaments and bones of an adult cow are in an abnormally relaxed condition and the afterbirth has been retained. The accident then results from the severe straining efforts of the cow to expel the afterbirth, which is tightly held by wedging of its projections (villi) in the cavities (crypts) of the cotyledons or "buttons" of the womb. The accident may also follow rough assistance at calving time or rough removal of the afterbirth.

When it occurs the womb is found hanging from the body as a great, red and often bleeding mass, with the afterbirth adhering to the red-raw cotyledons. At this time, in many instances, the mass has become fouled with manure and filth and may be covered with straw and chaff. If long exposed it will also be intensely engorged with blood and have become so brittle or friable that it may readily be torn or punctured with the fingers and often is found bruised, lacerated, and bleeding as a result of trampling by the cow's feet.

When the condition is discovered the veterinarian should be summoned at once. Meanwhile the womb should be thoroughly cleansed with warm, boiled water containing two tablespoonfuls of table salt to the gallon, and placed upon a clean sheet or rubber cloth.

The veterinarian upon arrival administers morphin or chloral hydrate to lessen straining and combat shock. He again cleanses the womb, removes all foreign bodies, and if necessary applies an astringent such as a weak solution of alum or acetate of lead to toughen the tissues. Some practitioners also apply a solution of tincture of opium as a soothing agent and persistently bathe the protruded parts with cold water and even bandage them with cold, wet cloths to reduce the mass so that it may be replaced. At the same time the tail and rear parts of the cow are thoroughly washed and disinfected.

When everything is in readiness for replacement of the womb the cow must be got upon her feet with her hind parts high, or they may be raised with a block and tackle. The everted vagina, at the vulva or opening of the body, is then grasped with both hands and compressed and pressed inward while an assistant supports and raises the mass of the womb upon the sheet or rubber cloth. If the parts are dry this may be greatly facilitated by freely applying pure vaseline to the vulva and protruding vaginal wall.

When the parts nearest the body of the cow have thus been worked into place, similar methods, continuously applied, compress the womb itself and cause it to follow the vagina. When a large part of it has entered the body the fist is then pressed strongly into the center of the remaining portion and causes it to follow into place. The hand should continue inward and be used as perfectly as possible to smooth the womb into its normal position so that straining will not ensue. If this is done a truss or stitches need not be used to retain the womb. After treatment consists in giving stimulants and internal antiseptic or hypodermic injections of a bacterin against infection.

Fistula of Teat

Milk leaks through small orifice, half way down the teat, with regular canal open. This hole was left after a large gash had otherwise completely healed. The cow is now entering her dry period. What can be done to close the new channel permanently?

Port Washington, Wis. B. B.

Immerse the teat in hot water containing all the boric acid it will dissolve. Then insert a sterilized milking tube, the cow being cast and her legs tied. Make a fresh wound of the fistulous tract. This is best done by scraping with a curette. Swab with absorbent cotton and when bleeding has subsided apply tincture of iodin to the wound. Then coat teat with pine tar and bandage with a narrow strip of antiseptic gauze, applying more pine tar on each successive layer of gauze until seven or eight turns have been taken, when the gauze should be stitched in place and again coated with tar. Remove gauze in ten days if fistula was recent and in three or four weeks if of long standing. Saturating dressings with alcohol facilitates removal.

Depraved Appetite

My cows are gnawing on boards around the yard fence, one more so than others. Give me the cause and remedy if possible.

Lake Villa, Ill. E. E. B.

Pregnant cows often chew and swallow all manner of foreign objects, notably bones, leather, crockery, rags, etc. Allow free access to salt and add bran freely to the ration of meals or grain, silage or roots, and clover or alfalfa hay. Generous, complete feeding is always advised in such cases. An ounce of bicarbonate of soda given twice daily in water may be given if medicine proves necessary. If it fails, have a veterinarian give 2 or 3 drams of iodine crystals in a capsule after a purgative has acted.

For Barrenness in Cows, Mares and Sows, Use Hood Farm Breeding Powder

Astonishing Success in Making Barren Animals Breed — Indispensable After Abortion — Invaluable Where Cows do not Clean — Profitable to use on Every Cow After Calving.

Read what they say:

Hood Farm Breeding Powder is great and has been a God-send to me. I cannot be without it.

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I have been using your Breeding Powder for eight years, when needed, and am well pleased with it.

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will reduce them and leave no blemishes. Stops lameness promptly. **Does not blister** or remove the hair, and horse can be worked. $2.50 a bottle delivered. Book 6 R free.

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makes a quick, sure job of it—powerful enough to make the toughest horn an easy clip. "V" blades cut from all sides at once, leaving clean, quick-healing edges—crushing impossible. 70,000 in use in all parts of the world. Fully guaranteed. See your hardware man. Circular free.

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TREAT YOUR OWN HERD FOR ABORTION
STOP LOSING CALVES

Dr. DAVID ROBERTS' ANTI-ABORTION TREATMENT has been successfully used for nearly thirty years—it is past the experimental stage. Its effectiveness in preventing and overcoming Abortion in Cows is being satisfactorily demonstrated in hundreds of herds every year. Whether you own five head or five hundred, you can



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Ask for the "CATTLE SPECIALIST," sent free on request. Answers every question pertaining to ABORTION IN COWS. Tells how to treat your own herd at small expense. Write

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What Might Have Been

(Continued from page 81)

scrub herds in the United States are pulling down the price of milk and are putting on the mortgage. They lower the standard of the dairy world in every way and are a constant loss and detriment to not only Bill Barr himself, but to every other dairyman who tries to own profitable cows and to progress as he goes. I, too, must leave you," and the sad better-your-herd resolution which Bill Barr thought he couldn't keep to help him on and upward vanished with its mates.

"I am the accredited herd resolution," then remarked a dim shadow quietly, "and I was called into being this new year by Dick White and others like him. These men had watched the leading communities everywhere wage the grim battle against the ravages of cattle tuberculosis and finally made up their minds that the test only would cure their herds of the last trace of this expensive disease. And so Dick White said that in 1921 he, too, would join the constantly growing procession of herds inspected by state and government. But Dick hasn't—and won't. He says he can't afford to lose too many valuable cows, after all, and so on and so on. So Dick will continue to trade in tuberculin animals and spread the enemy, which his neighbors and the government are so desperately trying to eradicate. He, too, lacks the courage and vision to see a country with its cattle free of the terrible pest and its little children running no risks from its presence. He is a bad resolver; he lacks the courage of his convictions. So I also will give up my place in the world and thousands of dairy farms will therefore remain rotten with this awful germ. I go!"

As still the army of discouraged, broken ghosts advanced to tell their tales in turn, a cry suddenly rang out, "The morning is here! We cannot live in light and among mortals. We must all die now with our stories untold. Oh, why could not our makers have allowed us to live on and do good?" And with this last despairing wail, the broken resolutions of 1921 faded into the mist.

Blasting Stumps

A short time ago I heard that a dealer in explosives was sending a truck load of dynamite into my section with a crew of expert blasters to do some stump work for one of his customers. I decided to take a day off to watch the experts and learn all I could from them.

Their method was to bore a hole under a stump with 1½-inch auger, stick a cap with a short piece of fuse into ½ cartridge of dynamite, light the fuse, shove the charge into the hole, and run. The small charge made a cavity under the stump. They then estimated the proper charge for the stump, pushed it down into the cavity; prepared another ½ cartridge as before, shoved it down on top of their charge, and again ran away.

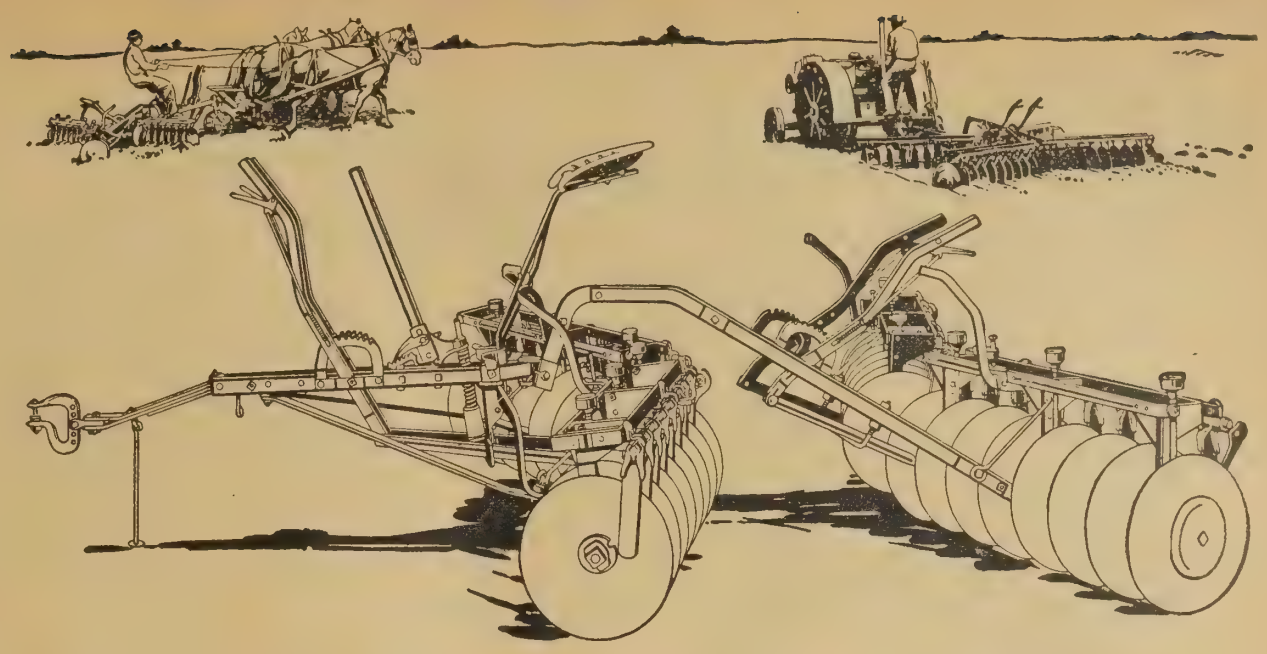
They usually shattered the stumps but did not get them out. The reason was that their little preliminary shot loosened the soil around the roots and as they didn't tamp in their charge, they had little resistance. Notwithstanding they used much more dynamite than was necessary, they didn't get the stumps.

I asked the privilege of showing them my way. The hole under the stump was made with a narrow spade. Contiguous soil was not loosened. After my charge had been placed in position, with the primed cartridge included in the charge, the hole was completely filled with moist earth and tamped solidly from bottom to top. The end of my fuse protruded six inches above the ground.

I got my stumps out clean; used much less dynamite than they did. The experts claimed that what they learned from me was worth a great deal to them.

Tight tamping, correct estimating, and placing of charges is the secret of economical stump blasting. Too many blasters neglect the tamping, use too much dynamite, and then fail to get the stumps.

I am not criticising the work of any real experts. Some of the powder companies have some really good men on their staffs of demonstrators from whom the average farmer can learn a great deal. These men I saw operate were merely self-confessed experts of whom there are quite a good many floating around in all the stump regions of the country.—F. E. CAMFIELD, Michigan.



Two Types of Disc Harrows in One

YOU can do a good job of disking; save the cost of a new harrow when changing from horses to tractor and experience no delays when your tractor is busy elsewhere or being repaired if you use a

JOHN DEERE
PONY TRACTOR DISC HARROW

This double-action tractor disc harrow can be converted quickly into a horse-drawn, double or single-action harrow by using the hitch that we can furnish for that purpose.

Does a complete job of disking—the John Deere Pony Tractor Disc Harrow penetrates and pulverizes thoroughly because the low hitch and the low coupling between front and rear gangs hold discs to their work.

This harrow is flexible—each gang works independently—obstructions in the field do not lift the entire harrow out of the ground. And the front section is equipped with the famous John Deere third lever, pivoted yoke and powerful pressure spring—the construction that makes possible disking at even depth entire width of harrow, always—in dead furrows as well as on ridges.

Light running—no dragging around corners—the rear gangs trail properly and run steady because the reinforced gooseneck connection to rear gangs is attached ahead of the front gangs.

Can be used with any standard tractor. The John Deere Pony Tractor clevis is adjustable to suit the height of any standard tractor drawbar.



FREE BOOKS. "Bigger Crops From Better Seed Beds"—24 pages attractively illustrated—tells when and why to disc. Also describes the horse-drawn and tractor harrow to use.

"Better Farm Implements"—just off the press—a big book, 114 pages, illustrates and describes briefly the entire line of John Deere farm tools. Write today address John Deere, Moline, Ill. and ask for Package PT 414.

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The feed for biggest profits

That is what Larro is *guaranteed* to be—(not the feed for which you pay the least money)—but the feed which makes you the *most* money.

Pick out one cow—any cow you choose—and let the gain in her milk yield prove how cheap Larrow really is.

If you don't get more milk than before, and if you don't make more *profits* from Larro (never mind what you paid for it), take back the two empty sacks, and any Larro you have left, to your dealer and get your money back.

Write for names of Larro users in your neighborhood and your nearest dealer.

The Larrowe Milling Co.

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(5)



League Price for February Milk $2.58

The producers' price for milk in Dairymen's League territory during February will be $2.58 per hundred pounds for milk testing three per cent butterfat, at the 200—210 mile freight zone, with the usual freight and butterfat differentials. This is a reduction of sixty cents a hundredweight from the January price, or about one and one-quarter cents a quart.

The reduction in price is due to a surplus of milk caused chiefly by the continued refusal of the manufacturers to buy milk for manufacturing purposes. The milk market situation is bad. Manufacturing plants are still shut against the farmers. Many farmers are facing financial disaster because of their inability to market their milk for anywhere near what it is worth. Thousands of them have loyally refused to sell their milk to the dealers for less than the League price, or unless the milk was bought through the Dairymen's League.

There is every evidence now, however, that farmers are about to go over the top with the pooling campaign, and, when this is once in operation, it will relieve to some extent the present critical situation, and keep good cows on the farm. There is increased interest in the signing of the pooling contract all through the territory. At the present writing there are on file at League headquarters 35,274 signed contracts. A large number are still in the hands of local secretaries and will be sent in later. Therefore, the necessary goal of 50,000 is within sight and many of the farmers who have waited to see what their neighbors would do are now hastening to get in line.—Dairymen's League News.

SALE OF

Surplus Stock

Cornell University

February 18, 1921

Animals related to **Glista Ernestine.** Only cow with six 30-lb. butter records.

Jerseys, Guernseys, Ayrshires, Shorthorns; Cheshire, Duroc-Jersey, and Berkshire Swine.

1 Lady's gaited saddle mare.

5 Work horses.

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Cows of all ages, and Heifer Calves from our best producers

400 head always on hand. In writing for prices, please state exactly what you require, in order that we may quote most favorable price. Our record of 30 years proves our ability to supply the best cattle in New York State to buyers who appreciate such animals. Tuberculin tested for interstate shipment and accredited herds.

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THE MARK OF QUALITY

He Couldn't Be Much Better

Sired by



Sir Ormsby Hengerveld Korndyke

35-lb. son of Sir Korndyke Hengerveld De Kol, sire of 45 A. R. O. daughters. Dam, Pietertje Maid Ormsby, 35.56 butter and 535.40 milk in 7 days.

Dam



Eureka Melissa Segis

at two years, made in 7 days 21.93 butter, 495.3 milk; 30 days 86.36 butter, 1992.5 milk. Sire, King Segis Pontiac Superior, sire of 5 A. R. O. daughters. Dam, Eureka Melissa, at 4 years, 12 days produced 25.08 butter and 488.20 milk.

He's For Sale

As an individual this nine-month-old son or Sir Ormsby Hengerveld Korndyke and Eureka Melissa Segis couldn't be much better. He has the size, type and quality of a real producer.

Some progressive breeder who can give this bull the right opportunity can buy him at a reasonable figure.

Come and see him or write for his complete pedigree and photograph. The farm is at Blooming Prairie, Minnesota.

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BREEDERS of HOLSTEIN FRIESIANS

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Langwater Fisherman

Serviceable Age and Younger

They are from A. R. daughters of Yeoman's King of the May and of Langwater Demonstrator, with records from 500 to 700 lbs. fat. Strongly bred May Rose calves carrying 15% to 20% of the blood of May Rose 2nd. Priced from $150 to $500. Guaranteed to be as represented.

We will answer your inquiry promptly.

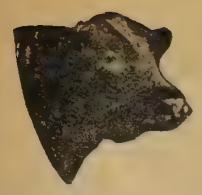
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offers serviceable young bulls of the highest individuality, several of them by 30- to 40-lb. sires, and from 30- to 34-lb. dams, part of them State Fair prize winners. In individuality they can not be easily excelled. Lakeside also offers a very choice lot of yearling and two-year heifers and young cows.

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"Get" of Pencoyd's Secret Marose

This bull won first prize, senior and grand championships at the New England Fair, Connecticut and New York State Fairs. His "get" (4-mo.-old calves) was first at The Eastern States Exposition and fourth at the National Dairy Show with thirteen "gets" shown. His heifer calf, Appletree Point's Dolly Dimple, was Junior Champion at New England Fair, first prize at Eastern States Exposition, and was Junior and Grand Champion female at Connecticut State Fair. His bull calf was unbeaten in all eastern shows and won at Waterloo and National Dairy Show. Write for prices on May Rose calves that combine type and production.

U. A. Woodbury, II **Burlington, Vermont**

For Sale—A Bull Calf of Real Merit

Dropped Aug. 28, 1920, and Sired by **Langwater Cavalier 21012,** whose daughters have put him to the front as one of the great bulls of the breed. His highest record daughter made 734 lbs. fat in F.

The dam of the **Bull Calf** is Georgette of Edgemoor, who is on test and is a daughter of Mildred II of Les Godaines (55120), who was the **Grand Champion** Cow at the **National.** Her record is 14,890.9 lbs. milk, 702 lbs. fat. Her daughter **Century Girl** was first prize two-year-old.

The **Bull Calf** is a fine individual and splendidly marked. Send for extended pedigree and full description. A few choice females to offer.

Upland Farms, Inc., Ipswich, Mass.
F. P. Frazier & Son, Proprietors, W. K. Hepburn, Manager

READY FOR SERVICE



DISTURBER OF PROSPECT 61173
DROPPED OCTOBER 4, 1919

Sire — Anton's King Confidence No. 43517. Dam — Sally of Prospect No. 49680, A. R. 5593. Besides having six May Rose crosses this young fellow is a wonder for type and individuality. His sire's dam has a record of 764.65 lbs. of butterfat as a junior four-year-old. Disturber is priced to sell quick and guaranteed in every way.

Hoard's Dairyman Farm
Fort Atkinson - - Wisconsin

Waukesha — The Guernsey County

Nearly two hundred members in our Association. Many of the best sires of the breed are being used. We can supply your wants. Pure-breds or grades, male or female, all ages. Prices will interest you.

Come to the County or Write

Waukesha County Guernsey Breeders' Association
F. E. Fox, Secretary **Waukesha, Wisconsin**

We Offer For Sale

Simplicity's Winner of Iowanola (54404)

Born August 25, 1918. A show bull. First prize in class and member 2nd prize get of sire, Waterloo Dairy Congress, 1920.

Sire, Cherub's Winner (34180). The sire of all the animals that won all of the cups and trophies awarded at the N. D. S., 1920.

Dam, Simplicity of Haddon (47876), A. R. 7607. Record: 9,042.9 lbs. milk, 434.17 lbs. fat. A big, strong, typy cow, a very easy milker and a good breeder.

Write for further information. We have a few younger bulls.

Mountain Bros., Carrier 403, Des Moines, Ia.

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Polly's Anchor No. 42845, born August 24, 1916, and Imp. Bluebird of Lakeside No. 45329, born June 15, 1917. Good, straight bulls, very gentle and sure breeders.

For Sale by

RADISSON FARM, ANOKA, MINN.

Guernseys

Best May Rose breeding. Both sexes and all ages from an Accredited Herd. Write your wants and send for lists.

E. S. Person, Minot, N. D.

Falcon's Grenadier (65834)

Dropped Feb. 12, 1920

Sire: *Falcon's Proud Warrior (47559).* Pronounced by many experts as "the greatest son of Langwater Warrior".

Dam: *Stockbridge Olive (30883),* from a noted family of high producers. Olive has an A. R. record of 11,503.2 lbs. milk, 617.36 lbs. fat and dropped two calves during the year.

Grenadier is a high class, well grown bull; priced very conservatively at $600 f. o. b., Litchfield.

Write about him today.

Falcon's Flight Farms, Litchfield, Conn.

Koshkonong Place Guernseys

Herd Bull: ANTON'S KING CECIL
(6 May Rose crosses).

BULL CALVES 6 mos. to 1 yr. old from A. R. daughters of

Jury and Gilt-Edge of K. P.

Herd on Federal Accredited list.

A. R. HOARD, - Fort Atkinson, Wis.

Fond du Lac County Guernseys

100 choice bull calves, by best sires of the breed out of dams with records up to 850 fat.
20 choice heifers, 6 months to 1 year old.
Grade cows and heifers. Send for sale list.

B. F. SHERIDAN, Secy.,
Fond du Lac, Wisconsin.

MAPLE HILL FARMS

May Rose bulls for sale from 2 to 16 months old with A. R. backing.

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4 Bulls of Serviceable Age

for sale. Sired by Prince Royal of Edgemoor whose 4 nearest tested dams average 721 lbs. fat. They are from tested dams or dams now making good on test; daughters of Noble Governor of Walnut Ridge, a double grandson of Governor of the Chene. Write for complete information.

Geo. S. Love & Sons, Waukesha, Wis.

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We have some dandy registered male calves for sale, of the best breeding and from our best cows. From 2 to 14 months old. Priced to sell quick. Write for particulars.

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Just What You Want!

An 8 months old bull calf. Partly white, light fawn, very fine individual.

SIRE—Cream Cup's King Regent of Allenwood 33889, by Allenwood King Regent 23641 and Allenwood Cream Cup 41291 who has a record of 436.89 lbs. fat Class G.

DAM—King Regent's Fanny of Allenwood 2d 73637, now on test in Class FF and will finish between 500 and 600 lbs. fat and has milked as high as 49 lbs. in one day. She is a daughter of Noble Regent 31691 and King Regent's Fanny of Allenwood 58290 who has a record of 347.64 lbs. fat at 2 years.

CORIUM FARM, F. J. Rueping, Owner, Fond Du Lac, Wisconsin.

Young Bulls For Sale From A. R. Dams

I am offering several young sons of Golden Noble of Craigmoor A. R. He is a son of Langwater Raritan A. R. and from Imp. Daisy Moon 4th (639 lbs. fat).

These bulls are from A. R. dams with records up to 648 lbs. fat.

They are from 3 months to a year old. For prices and pedigrees call or write

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Federal Accredited Herd.

City View Farm GUERNSEYS

FOR SALE: Typy May Rose bulls out of A. R. cows or cows on test with records up to 615 lbs. fat AA Sired by Bell Buoy of Linda Vista, 17 A. R. daughters, and Langwater Good News. Some of these bulls trace 18 times to May Rose II and are priced to sell.

O. R. SCHWALEN, Roberts, Wis.

Wern Farm Guernseys

I am offering for sale 20 head of choice Grade Guernsey springers coming with first and second calf. Also have two bulls highly bred along May Rose lines just ready for service, that I will sell. For full particulars, write, wire, or come and see the stock.

Wern Farm, Waukesha, Wis.

Here's Your Opportunity!

Good Grade Cows in car lots. Pure-bred Males, Females with type and good producing ability. Investigate.

Fox River Valley Guernsey Breeders' Association
Harry Leppla, Sec'y, Appleton, Wis.

Tilden Farms Guernseys

FOR SALE: Several typy, May Rose bulls out of A. R. cows and sired by Hope's May Rose of Maple Hill (35903), whose dam is a class leader with 776 pounds of butterfat at 3 years. Also several choice pure-bred females and a few excellent grade cows. Herd on Federal Accredited list.

TILDEN FARMS
James H. Murphy, Mgr. Delavan, Wisconsin

Tratt Guernsey Herd

Herd headed by Bob Rilma's Monogram whose dam and grandam have A. R. records averaging 887.5 lbs. fat.

Bull calves for sale by him out of cows with good A. R. records.

Write for pedigrees and prices.

RALPH TRATT, WHITEWATER, WIS.

Homestead Farm

Offers a number of good cows. All safe in calf, mostly with A. R. records. Also thirteen young bulls, from one month up to sixteen months of age. Some of these are very choice. Write for sale list.

W. G. JAMISON & SONS, Appleton, Wis.

GORDONDALE

Guernsey bulls of serviceable age offered for sale, also younger ones. They carry May Rose breeding, are from A. R. dams and have splendid A. R. backing Ask us about them.

Herd under Federal Supervision.

L. E. GORDON, JR.,
Nelsonville, Portage Co., Wisconsin.

GUERNSEYS

SAUGERTIES FARM GUERNSEYS

For Sale Bull Calves sired by Ultra May King, 27600. A. R. breeding. May Rose strain. Send for Sales List. Federal Accredited Herd No. 1511.

SAUGERTIES FARMS,
Saugerties, New York.

Guernsey Cows

I am offering for sale several head of Registered Guernsey cows of excellent breeding. They are the natural increase of my herd. Also have young bulls sired by Pencoyd's Secret Premier No. 49474. These bulls are splendid individuals, showing type and production.

Herd under Federal Inspection

OTTO W. POST, ENSENOR, N. Y.
R. R. Station, Owasco Lake

Harbor Hill Guernseys

Masher's Galore 8572 A. R.

Increased the Average Production Credit of 12 A. R. daughters out of A. R. dams by 181 lbs. We offer his double grandson out of another daughter also making a better record than her dam.

C. H. Hechler, Superintendent
Box 30, Roslyn New York

Forestdale Farm

3 Bully Baby Bulls 8 Handsome Healthy Heifers — 2 to 18 months

from Superior Standard Sires, also a few A. R. matrons. May Rose Breeding. Tuberculin tested. $250 lowest price.

R. D. DeForest, Amsterdam, N. Y.

A. R. COWS FOR SALE

Trifle Oaks Farms, Perry, N. Y., offer a few A. R. Guernsey cows of excellent conformation and breeding, all descended from one cow. Also a few bull calves sired by a grandson of Ne Plus Ultra and out of A. R. dams. Herd 100% clean first accredited herd test.
Your opportunity to get good stock at bargain prices. Satisfaction guaranteed. Write or come to see us at once.

Lewis A. Toan, Batavia, N. Y.

For Sale—My Guernsey Herd Sire

Isabel's Prince Bloom No. 40949. Born July 6th, 1916. Write for pedigree and photo. Priced to sell, as I don't want to inbreed.

HARRY E. THOMAS, Dallas, Pa.

Do You Want A Guernsey Bull

Closely related to Pergue's Crescent A. R. with a record of 13,316.9 lbs. milk and over 582 lbs. fat in Class EE and dropping two calves within the year, entitling her to second place in her class? Some excellent young bulls closely related to Pergue's Crescent ready to head your herd. Write for descriptive circular, or come and see them.

Ernest W. Sass, Box H, Streator, La Salle County, Illinois.

Guernsey Bulls

Our last 9 official records average over 510 lbs. fat, including all ages. Our herd sire has 8 A. R. daughters, including one with 572 lbs. fat in Class GG. His three nearest dams average 822 lbs. fat. Send for pedigrees and prices on young bulls with this backing.

Folly Farm, Box 587, Libertyville, Ill.

GRASSLAND FARMS GUERNSEYS

Choicely bred males and females for sale. (The natural increase of the herd.)

Herd federal tested for tuberculosis. Send for sales list. Satisfaction guaranteed.

Taconic, Conn., Litchfield Co., (C. N. E. R. R.)

Hillswold Farm

Shrewbury, Mass.

Registered Guernsey bull calves for sale. Dams in Advanced Registry and tuberculin tested. Prices right, and animals guaranteed to suit. W. A. Cloues, Mgr.

Meadowland Guernseys

Sixty-five females, priced conservatively, are offered from which to make selections.

MEADOWLAND FARM, Litchfield, Conn.

Major Oliver S. Johnson



The Dairy Auctioneer

Tipton, Ia.

BROWN SWISS



BETTY OF LAKE VIEW

Breed Brown Swiss Cattle

As producers they are worth every cent you pay for them. Cows are easily sold at reasonable prices. Their earning power has not been capitalized. Brown Swiss meet the ideals of working farmers.

BROWN SWISS CATTLE BREEDERS' ASS'N
IRA INMAN, Secretary, Beloit, Wis.
William B. Hale, Pres., Aqueduct Bldg., Rochester, N. Y.

JUBILEE FARM
Brown Swiss Cattle

Young stock for sale. Individuals of Quality. The best producing blood lines of the breed.

BOX 747, PEORIA, ILL.

Brown Swiss Cattle

Stock For Sale

Correspondence Solicited

HULL BROS., Painesville, Ohio

AYRSHIRES



South Farm

250 Registered Ayrshires

Stock of all ages for sale.
Write for prices.

George A. Cross, Mgr., Willoughby, Ohio.

Orchard Lodge AYRSHIRES

Stock for sale, all ages.
Both sexes, prices reasonable.

G. W. STOLLER, Johnstown, New York

Linndale Farm Ayrshires

"Are bred for Production"

Bull calves out of A. R. cows and sired by sons of World Record cows, for sale.

Our { Breeding, Conformation, and Prices } are right.

See what we offer before you buy.

JOHN LINN & SONS,
Manhattan, Kansas.

Lippitt Farm Ayrshires

For the first time we offer females for sale. They are producers with type.

Write for prices to Hope, R. I.

Bensalem Ayrshires

For Sale:—Bull Calves from our best A. R. Dams, and sired by "Queen's Favorite", whose Dam, "Bloomer's Queen", holds the World's Record as an Ayrshire Four-year-old with 21,820 lbs. milk, 1,009 lbs. butter. Grandam of Sire, Auchenbrain Brown Kate, Ex-world's Champion, 23,022 lbs. milk, 1,080 lbs. butter.

FRIENDS HOSPITAL, Frankford, Phila., Penn.

BLACKBURN FARM

HOME OF
Addington's Champion

Grandfathers—Nox'emall and Finlayston
Father—Rena's Champion, 17 A. R. Daughters
Mother—Addington Queen 3d, two Mature Records each over 19,000 lbs.

For Sale—
4-year-old cow—Fresh Dec. 12, 1920
2-year-old heifer—Fresh Jan. 16, 1921
Also Young Stock
Tuberculin Free Herd

Sewickley, Pennsylvania

Weymouth Farms

"Ayrshires of Quality"

All cows on Advanced Registry Test. Herd Tuberculin Tested.

We can supply you a herd sire of choicest breeding.

MARTIN A. TOWLE, Mgr.
NORTH WEYMOUTH, MASS.

Pure-bred Ayrshire Cattle For Sale

Best of breeding. Calves sired by a Grandson of Brown Kate, record 1,080 lbs. butter in year.

Wm. Nisbet & Sons, Richland Center, Wis.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

ALTA CREST AYRSHIRES

Special Offering of

Ayrshire Bull Calves

Imported — Home Bred

which we believe to be the greatest lot of Ayrshire Youngsters ever offered by any breeding establishment in America.

Write for Sale List

Animals of all ages for sale. Over 200 head in the Herd. New Importation direct from Scotland to arrive August 1, 1920.

ALTA CREST FARMS,
Arthur H. Sagendorph William Hunter
SPENCER, MASSACHUSETTS

World's Champion Ayrshires

Fully Accredited Tuberculosis Free — 200 Head in Herd



AUCHENBRAIN WHITE BEAUTY 2D

A. R. 14,721 lbs. milk, 4.33%
In 13 years, 112,486 lbs. milk and 13 calves 110 animals in herd are descended from this cow

The 1st, 2nd, 6th and 7th highest records were made here. Four cows average 22,823 lbs. milk, 1,046 lbs. butter. 100 A. R. records made here average 13,246 lbs. milk. Choice stock of all ages for sale at pre-war prices. Special—Young bulls line bred to Auchenbrain White Beauty 2d.

PENSHURST FARM, Narberth, Pa.
(7 miles from Philadelphia)

Delchester Farms Ayrshires

Tell us your wants and we can supply them at prices you can afford to pay.

Aged cows, bred to Glenury, an A. R. son of Finlayston.

Aged cows, bred to Rena's Baron of Highland, an outstanding son of Baron's Best of Bargenoch.

Heifers, bred to these two great sires.

Young heifers.

Bull calves.

All the above stock carries some of the best producing blood of the breed with A. R. ancestry on both sides.

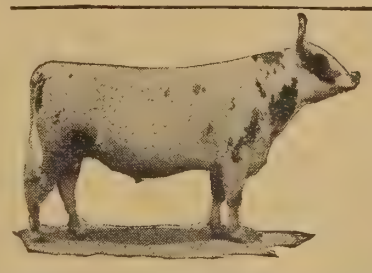
Herd free from tuberculosis

DELCHESTER FARMS
Edgemont, Del. Co., Penn. - Thomas W. Clark, Supt.

Ayrshire Stock

of all ages for sale. Satisfaction guaranteed

L. W. McCONNELL, Wellington, Ohio



We Have For Sale

the well bred Ayrshire bull, Bargenoch "Drexel" (18474) Imported. Bred by John Logan, Bargenoch, Scotland. Born Feb. 2nd, 1919. Color white and red. Sire, Bargenoch Magnificent (9579). Sire of Bargenoch "Royal Champion" sold at Bargenoch sale, 1919, for $7,267.00.

Dam, Bargenoch Victoria (37003). Scotch record: 9,221 lbs. milk, 4.23% fat in 43 weeks; 11,070 lbs. milk, 4.50% fat in 47 weeks.

BARCLAY FARMS, John Cochrane, Manager, ROSEMONT, PENNSYLVANIA

Middlesex Meadows Ayrshires

NANCY WHITEHALL, World's Jr. 4-yr.-old Champion Ayrshire, has just completed another record of 22,075 lbs. milk, 858 lbs. butterfat. Her bull calf, *NANCY'S CHANCELLOR OF MIDDLESEX*, born September, 1919, by a show ring champion with great milk production behind him, is a winner in the show ring this year, and is now being used on all the Middlesex Meadows Farm heifers. He is offered for sale for immediate delivery. Guaranteed a breeder and right in every way. Price $2,000.

A. Henry Higginson

South Lincoln, Mass.

When the cold winds blow, doesn't it make you wish that years ago you had set out a windbreak of evergreens?

JERSEYS

JERSEYS
The Profit Breed
"The Key to Dairy Profits" and *"Jersey Facts"*—two important books, telling how farmers are making real profit today with Jerseys—how anyone can do it anywhere. Whether you are interested in one cow or a hundred, these books will show you how to make money. Free—Write today
American Jersey Cattle Club, 324-E W. 23 St. New York

For Better Jerseys

We do not retain in our herd any cow which under favorable conditions will not produce 500 lbs. of butterfat (600 lbs. butter) in 1 yr. on official test.

We have a few young bulls for sale.

THORNBURY FARM
LIBERTYVILLE, ILLINOIS
W. A. BREWERTON, Owner L. A. BENT, Mgr.

Bull Clubs

We are in excellent shape to furnish several very high class Jersey bulls ready for service.
These bulls are out of Register of Merit dams with excellent records, sired by bulls backed with the largest production of the breed.
The World's Champion producing blood in these bulls insures their siring large cows of correct type and big profitable producers.
If you are in need of one bull or several bulls, we would appreciate your writing us about the quality and priced animal you need, and this will save time, money and correspondence.

AYREDALE STOCK FARM
F. W. Ayer, Prop., Bangor, Maine

CLOVERDALE
Jersey Bulls For Sale
$125—Age 13 mo.—$125
No. 1. 1,289.6 lbs. butter average R. O. M. record for 2 grandams. Two grandsires of 2 nearest sires premium winners National Dairy Shows.
No. 2. Sire out of cow with 865 lbs. butter R. O. M. record. Grandson Noble of Oaklands. Dam's 2-year-old R. O. M. record 446 lbs. butter. Her sire's dam R. O. M. record 886 lbs. butter. Others $75.00 up.
E. O. ANDERSON, Shelby, Michigan

A Tennessee Jersey

Winner Largest Stock Show in South

Having entered a four years' course in Dairy Husbandry at the University of Wisconsin, I regret that I must sell the most perfect Jersey Cow in the entire South. This cow, also Grand Champion West Tennesee Show. Your one big opportunity to gain perfection in Jersey type. Investigate this.

JERE CROOK
740 Langdon Street, Madison, Wis.

POLLED JERSEYS

Breeders' names and Spillman's "Inheritance of the Poll Character in Cattle" mailed free.
CHAS. S. HATFIELD, Secy, R4, Box 5, Springfield, Ohio.

DO YOU—

Want to make a profit from your dairy? If so you need high producing Jerseys.
Send for literature about

The Champion Producing Sophia Tormentor Family

We have bulls and bull calves for sale, rich in the blood of The Champion Cows and Champion Sires.
If you want a bull or bull calf, write us size of your herd, tell us the price you want to pay, and we will send you pedigree and full description of some for your consideration.

HOOD FARMS, Inc.
Lowell - - Mass.

N. B. If you mention "Hoard's Dairyman" we will send you colored postal of The World's Champion Sophie 19th of Hood Farm.
JIMMY DODGE, Mgr.

Montpelier Jerseys

Three young bulls ready for service. Trace three times to Oxford Lad. Fine typy individuals. Right in every way.
Montpelier Manor Farms, Laurel, Md.

Two Owl-Interest Bulls

Six months old, solid color, fine individuals. ¾ Sibley Farm blood. Great producing strain. Not a cow or heifer in our herd but has or will make R. M. with good records. Two 2-year-old sisters of these youngsters last summer gave in a month 43 and 47 lbs. fat respectively, a 3-year-old 53 lbs., and a 4-year-old 57 lbs. Herd in Federal Accredited List. We will sell these youngsters for little more than they have cost to feed.

SHUGAH VALLEY FARM
Rush Chellis & Son, Claremont, N. H.

Jersey Cows For Sale

FROM FEDERAL ACCREDITED HERD
I have six cows for sale with Register of Merit records from 400 to 500 lbs. butterfat, age from 3 to 8 years. Prices from $250.00 up. One of these is a daughter of Noble's Fawn Prince, record 493 lbs. Five will freshen between January 5th and April 15th. These are all good individuals of right type.
P. G. WARMINGTON, Honey Creek, Wis.

Pine Lawn Dairy Farm

is offering 2 young bulls out of high producing cows. One, a grandson of Golden Maid's Viscount, 18 months old. One, a son of Beauvoir's Chief; he a son of Western King's Chief. Also a few cows and heifers. Write for pedigrees. Will sell cheap to make room.
H. S. Hager, Prairie du Sac, Wis.

Serviceable Bulls From R. M. Dams
We have a few very good individuals 6 to 13 months of Majesty and Raleigh breeding. A tuberculosis free herd. Every animal guaranteed right.
Your inquiry promptly answered.
E. E. HILL & SONS, Tomah, Wis.

Valley Farm is Offering
Several bulls, 6 to 12 months old, from R. M. cows. Sired by Golden Maid's Viscount and Kilda's Royal Majesty, two of the best Island bred bulls living. At prices to sell. Write
FRED STUBLEY, Black Earth, Wis.

JERSEYS—DUROCS

TWO YOUNG BULLS. Splendid individuals. Out of splendid cows—sired by splendid sires. $100 to $150. Also some bred heifers and heifer calves.
F. R. Constance & Sons, Waupaca, Wis.

Hillcrest Jerseys

Bull calf born March, 1920. Sired by Imp. grandson of Golden Fern's Noble. Priced right for quick sale. Write
ROLLIE VANDERVORT, TOMAH, WIS.

Register Merit Jersey Herd

At Head, Mona's Jacoba Premier grandson: Pogis 99th of Hood Farm. Dam, Mona's Jacoba, record 806 lbs. butter: Granddaughter Jacoba Irene, young stock; St. Lambert breeding for sale. R. C. Green & Son, Albion, Wis.

Bulls—JERSEY—Bulls

A splendid lot of Majesty bulls out of Register of Merit dams for sale at very low prices. We must sell to make room for our winter and spring calves. These bulls are from three months to two years old and sell with full guarantee to be breeders. We have a Federal Accredited Herd. For pedigrees, descriptions and prices, write Thos. T. Bacheller, Jr., Mgr.

ELMS JERSEY FARM
M. D. Munn Forest Lake, Minnesota

REGISTER OF MERIT JERSEYS
For Sale—Several choice young bulls ready for service, dams in R. of M. Sire has daughters in R. of M. Also a few choice heifers, bred to freshen in March.
O. R. WIEGAND, Cleveland, Wisconsin.

GOLDEN MAID'S PRINCE BLOOD
Choice bull calves from dams in R. of M. or on test. Line bred to Golden Maid's Prince with outcrosses to Pedro, Hood Farm Torono, Loretta D, King Sappho King. Tuberculin tested herd free from contagious abortion.
Address: J. Q. Emery & Son, Edgerton, Wis.

HOLSTEINS

Selected Herd Bulls

Sired by



King Valdessa Pontiac

A son of Mabel Segis Korndyke (40.32 lbs.) and sired by King Valdessa. Three near dams three of the breed's best 40-lb. cows. Forty daughters in our herd for development. Bulls are all brothers to our Echo King Sylvia.

King Valdessa Pontiac Gem

(Born 6-22-20). His dam Pabst Cynthia 38-lb. daughter of King Pontiac Champion. Second dam a 29-lb. cow. This bull has a 25-lb. maternal 2-year-old sister. Four nearest dams average over 35 lbs. One of our very best.

King Valdessa Pontiac Piebe

(Born 2-7-20). His dam an A. R. O. 2-year-old daughter of the noted King Pietertje Ormsby Piebe, second dam a 21-lb. 3-year-old sister to three 30-lb. cows. Splendid breeding here.

King Valdessa Pontiac Lincoln

(Born 2-12-20). From a 19-lb. 2-year-old daughter of Moscrip's Johanna Bonheur Champion. Second dam, Kayewood Joyce Korndyke, 39-lb. in 7 days, also a 10-month record of 1,076 lbs. butter. State Champion. This bull is from one of our best producing families. Four nearest dams average over 35 lbs.

King Valdessa Pontiac Prince

(Born 3-25-20). From a 24-lb. 4-year-old with most 700 lbs. milk. Her dam 32-lb. with most 700 lbs. milk, making a great yearly record. Four nearest dams all above 600 lbs. milk and average 37.22 lbs. butter.

We have listed here four of our best young bulls. All from promising families and individually pleasing. Nicely colored and right in every respect.

In writing please indicate second choice. The oldest bull we have is under twelve months.

Our entire herd is under Federal Supervision.

BELL FARM Coraopolis, Penn.

Two Grandsons of Pontiac Korndyke Ready for Service

No. 1. Born February 17, 1920, a very good individual. His dam is a show cow and an all year producer. She made 24.88 lbs. butter in 7 days as a 3-year-old. Is a granddaughter of Pontiac Aaggie Korndyke. His sire is Sir Korndyke Matador, one of the best sons of Pontiac Korndyke.
No. 2. Also a son of Sir Korndyke Matador, was born Dec. 29, '19. He is a well grown, very straight individual. His dam, a maternal sister to the 24-lb. 3-year-old dam of No. 1, has a 21-lb. 4-year-old record. Both bulls priced to sell. Tuberculin tested and sold subject to a 60-day retest.
TIM H. BLOSSER, care Bell Farm, Coraopolis, Pa.

A Splendid Young Bull For $150.00

Sired by my De Kol Hengerveld Burke bull, and out of an A. R. O. daughter of King Pieter Segis Lyons 170506, an extra well bred and very promising young sire, whose 3 nearest dams have A. R. O. records as follows: 30.12, 31.06, and 33.31 lbs. of butter in 7 days. He now has 10 A. R. O. daughters, 3 of them as junior 2-year-olds made from 19.21 to 21.65 lbs. in 7 days. This calf is a splendid individual and about ⅞ white.
Write for further information and pedigree.
I. M. SHORMAN, Fowlerville, Mich.

THE TRAVERSE HERD

We have what you want in
BULL CALVES
the large, fine growthy type, guaranteed right in every way. They are from high producing A. R. O. ancestors. Dams' records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.
Traverse City State Hospital, - Traverse City, Michigan

The Pontiac Herd

"Where the Champions come from"

Offer Bull Calves sired by sons of *Pontiac Korndyke, Hengerveld De Kol, Pontiac Dutchland, or Admiral Walker Pietertje.*
Do you want a Pontiac in your herd?
PONTIAC STATE HOSPITAL, Pontiac, Mich

M. & P. Healthy Holsteins

A year ago we sold a bull calf to a Virginia breeder. The dam of that calf has just finished a year's record of 17,600 lbs. of milk, 800 lbs. of butter. Was he pleased? His letter states "The bull is growing nicely, and I am glad his dam made so good a year's record."
We supply this kind at moderate prices. Write
Markham & Puffer
Avon - New York

Yearling Bull Ready For Service

His sire is a son of the world famous "IT" whose dam held the world's record for a year. His dam is a double granddaughter of Pontiac Aaggie Korndyke, the famous sire of long distance champions. Price $150.
G. G. Burlingame, Cazenovia, New York.

High Grade Holstein Calves

This is the ideal time of year to start them and have them ready for pasture next spring. ⅞ pure-bred Holstein calves, $20 and $25 each. Ship C. O. D. if you wish. Safe arrival and satisfaction guaranteed. Everything in the line of registered heifers. Write your wants.
ELM GROVE STOCK FARM,
Box 253. Cortland, N. Y.

Holstein Bull

Tuberculin tested and ready for service. Sired by King of the Changelings, a 33-lb. son of King of the Pontiacs. Dam, a daughter of a 33-lb. sire and has an A. R. O. record of 15.57 lbs. butter in 7 days at two years of age, averaging almost 4%. He is well grown and a splendid individual. First check of $175 takes him.
HARRY W. PETZOLD, Owego, Tioga Co., N. Y.

BULL CALF FOR SALE

Sire is a 27-lb. son of Johanna McKinley Segis, the 40-lb. bull that sold for $25,000. Dam is a granddaughter of Pearl of the Dairy's Joe De Kol with 78 A. R. O. daughters. Marking ⅓ white.
Long Distance Phone 389.
DUETT ROBINSON, R. 3, Capron Ill.

Buffalo Creek Farm Holsteins

This yearly record bull calf for sale, born Nov. 28, 1919.
Name, King Lavera Ormsby No. 297926. Sire: King Pietertje Homestead Ormsby No. 221488. Dam: Lavera Hortensia Bawn 2d, No. 124734, with a record of 26,010.2 lbs. of milk and 1,050.55 lbs. of butter in a year. Write for price and pedigree. This calf won 5th premium at the Dairy Show.
Herd under Federal Supervision.
H. L. BINGHAM, Supt., Arlington Heights, Ill.

Whitehurst Farms

BULLS FOR SALE FROM SEMI-OFFICIAL DAMS. Priced Right.
A. F. Randolph, Prop., Canton, Ill.

Line-bred Raleighs of Quality

We are determined to keep our heifers. To do this we must sell our bull calves for we are greatly overstockd. For quick sales we are selling line-bred Raleigh bull calves three and four months old at $150 and $200. Your opportunity to get the best in Raleighs from our foundation cows all R. of M. or now qualifying and sired by Noma's Perfect Raleigh 164511, son of the great Flora's Queen's Raleigh. If you mean business don't overlook this, if you do not please do not answer. These prices forbid unnecessary selling expense.

Forest Hills Farm, Centerville, Ohio

JERSEY CREST FARMS

A son of this splendid cow, Tinie's Fern 351856, Register of Merit record 1026.7 lbs. milk, 659 lbs. butter, can be had at a reasonable price.

Fern's Oconto Boy 175791, dropped March 20th, 1919, was a winner at Minnesota and Wisconsin State Fairs and is now ready for service.

Any Breeder of Jerseys can afford to own this bull, who is a splendid specimen of the quality Jersey Crest Farms demand and produce. We would be pleased to have you come and inspect this fine fellow. Herd Tuberculosis free—under Federal supervision.

JERSEY CREST FARMS, Oconto Falls, Wis.

BUY DIRECT

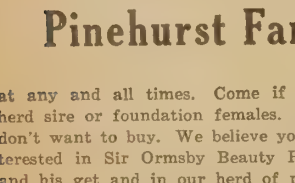
Reasons for Buying Holstein Cattle in Waukesha County:

1. You can buy direct from the breeder through the breeders' association, organized by the breeders to promote the breeding of more and better Holstein cattle and to assist in a fair marketing of the same.
2. There are over 50 pure-bred Holstein sires in service in Waukesha County whose dams have records of over 30 lbs. butter in 7 days or 1,000 lbs. butter in a year.
3. There were 1,307 long-distance tests made on Holsteins in Waukesha County during the past year, which is more than the total in the next four leading counties in the state.
4. There are more tuberculin tested cattle in Waukesha than in any other county in the world.
5. The breeders' organization is in a position to put you in touch with "bred-for-production-stock" at reasonable prices.
6. When buying through the Association, you obtain the services of men who devote their entire time to the Holstein industry. It saves you time. You get more for your money.

Write or Wire for information

Waukesha County Holstein-Friesian Breeders' Association

254 Broadway, Waukesha, Wisconsin



Sir Pietertje Ormsby Mercedes 43rd out of Aaggie Wayne Peep 34.59 lbs. butter, 657 lbs. milk, 7 days; 1,250 lbs. butter, 27,762 lbs. milk, 365 days; world's record cow for first five years.

Ashburn Aaggie Ormsby Wayne

Two-year-old son of S. P. O. M. 43rd and out of a 27-lb. granddaughter of King Segis. He is three-fourths black and a good individual. Buy this young bull to sire type and production.

J. J. Reid & Son, Oconomowoc, Wis.

Holsteins For Sale

PURE-BREDS	78 Cows 88 Heifers 18 Heifer Calves 250 Young Bulls	GRADES	67 Heifer Calves 112 Heifers 245 Cows

Other Live Stock: Breeders are listing with us other dairy cattle, beef cattle, horses, sheep, and swine. Write us if you want stock. We will answer promptly.

BANKER FARMER EXCHANGE

D. H. Otis, Director, 1822 Chadbourne, Ave., Madison, Wis.

20 BULLS 15 COWS

Sale at the Farm

Wait until our second semi-annual sale at the farm, April 2d, before you buy your herd sire.

In this sale will go twenty of the best young bulls we have ever bred and fifteen very desirable foundation cows.

Thirty-nine different breeders headed their herds with Pabst Stock Farm bulls at our first semi-annual sale. It is not too early now to get your name on the catalogue list.

Pabst Stock Farm
Oconomowoc, Wis.
(Waukesha Co.)

Mr. Holstein Breeder—

You are Invited to

Pinehurst Farms

at any and all times. Come if you want a herd sire or foundation females. Come if you don't want to buy. We believe you will be interested in Sir Ormsby Beauty Pontiac Segis and his get and in our herd of producing females, many of them now doing very well on 7-day and year test.

You will be welcome and remember if you should buy from us, we stand back of every animal sold.

Pinehurst Farms Co., Sheboygan Falls, Wis.

Serviceable Bulls For Sale

Sired by Pabst Pontiac Hengerveld, a son of King Pontiac Champion from Pabst Hengerveld Colanthus (31.5 lbs. butter in 7 days, 1,057 lbs. in a year.

These are nicely marked, well grown youngsters out of good producing dams. Several are ready for service, others are younger.

Write today.

John Alexander, Baraboo, Wis.

Bull For Sale — Born January 2, 1920

Dam:—A 22.62-lb. granddaughter of Johanna McKinley Segis. She has several good daughters in the herd with records up to 33.48 lbs. butter in 7 days and 112 lbs. milk in one day.

Sire:—A son of Molly Johanna Korndyke, former world's record 2-year-old with 30.62 lbs. butter in 7 days. Write for pedigree and price.

W. J. McROBERT, Waupun, Wis.

A Federal and State Accredited Herd Offers—

two serviceable sons of M. M. Rag Apple Oak Denver, a grandson of the 36-lb. cow, Dutchland Colantha Denver (1,315 lbs. butter, 25,431 lbs. milk in a year).

No. 1—Born Oct. 7, '19. Dam's record 16.04 lbs. as a heifer; second dam 24.79 lbs.; third dam 28.88 lbs. Bull mostly white, very good individual. Price $250.

No. 2—Born Nov. 5, '19. Dam's record 19.75 lbs.; second dam 18.75 lbs.; third dam 21.45 lbs. Half white. A show bull. Price $200.

For complete information and pedigree write

A. M. Anderson, Whitewater, Wis.

SERVICEABLE SONS OF Sir Bess Ormsby Fobes

Young bulls out of tested dams and by "the best individual son of the best son of S. P. O. M." Let one put production and type in your herd.

Linden Lawn Stock Farm
B. W. RABENHORST, - Jefferson, Wis.

Cows and Heifers

A Few Good Bulls

Because I am overstocked, I am offering some very good registered females for sale. They either have A. R. O. records or are from A. R. O. dams.

Can also offer some excellent young bulls by a 33-lb. sire and from A. R. O. dams with records up to 28 lbs.

Every animal sold is guaranteed to be as represented.

Write or come and see for yourself.

J. D. McDonald West Salem, Wis.

BULL CALVES

For Sale

Out of A. R. O. dams up to 27 lbs.

Herd Federally Tested

WM. MEISEGEIER, R. 4, Barron, Wis.

ORMSBY BULL - Born Feb. 28, 1919

Sire, King Ormsby Pontiac De Nijlander, whose two nearest dams average over 30 lbs.

Dam, Aaltje Hengerveld Tritomia Segis. A. R. O. 17 lbs. at 3 yrs., next dam 28.68 in 7 days. Color light, fine individual. Ready for service. Price $300.

Fairview Stock Farm, Whitewater, Wis., W. G. Marshall, Prop.

Auction Sale Feb. 18th

26 head registered Holstein cows and calves. Also some grades. Tuberculin tested Jan. 18th.

WILL MILLER, ½-mile east of Koshkonong Station, Wisconsin, or G. H. POUNDER, Fort Atkinson, Wis.

Just a Few Good Bulls Left

THEY ARE SONS OF

Sir Pietertje Ormsby Mercedes 41st

the son of S. P. O. M. and Spring Brook Bess Burke

and of

King Pontiac Artis Sadie Vale

a 34-lb. son of K. K. S. V.

These youngsters are of different ages—one or two ready for service. They are from our good foundation cows that have good 7-day records and have made or are making good yearly records. There is one of them that is just what you want. His price is reasonable and he is guaranteed right.

Gustave Pabst's Hollyhock Farms

Fred J. Southcott, Manager Dousman, Wisconsin

2 Serviceable Bulls

ALL SONS OF THE 1235-LB. YEARLY SIRE

Sir Korndyke Bess

The Dams' yearly records all over 800 lbs.

R. E. Benson - - Dousman, Wisconsin



Yearly Records

Choice Young Bulls

from one to fourteen months old for sale. Sired by Cloverlawn Johanna Piebe whose five nearest dams average 1,070 lbs. of butter, 23,809 lbs. of milk a year. Herd numbers 140 head, forty cows with yearly records. State exactly what you want.

JOHN PULS, - HARTFORD, WISCONSIN

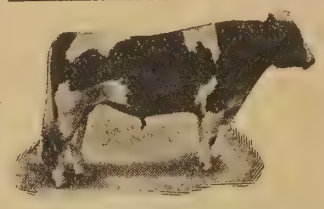
Spring Creek Holstein Farm Dispersal

20 — Registered Holsteins — 20

FEB. 15, 1921, at 1 P. M. on farm 80 rods from station. These are "Top Notchers", the result of years of careful selection and breeding. Send for catalogue.

RUSSELL TRUMPY, Owner. Clarno, Green Co., Wis.

Col. Edgar Eels, Auctioneer.



Colantha Changeling Lad



30-lb. dam and daughters followed by a 30-lb. son of Sir Pietertje Ormsby Mercedes 37th, and now a 30lb. son of 41st, should interest you in buying your next herd sire. Buy them now.

Badger Stock Farms, Hartford, Wis. Lawrence F. Murphy

A. R. O. BULLS—2 Weeks to a Year Old

At Bargain Prices

They are sons of Rag Apple Pontiac, a 30-lb. grandson of King of the Pontiacs, from well bred dams with records up to 27 lbs. in 7 days. Write today for prices and pedigrees. I'll answer your inquiry promptly.

W. W. Quackenbush, - West Salem, Wis.

HOLSTEIN BULLS AND HEIFERS ! !

To make room in our barn we offer a dozen or more heifers from 1 month to 3 years of age. They are backed by some of the best families of the breed. Also a few bulls sired by King Korndyke Veeman, whose two nearest dams average over 37 lbs. butter in 7 days. Come and see them or write to

WISCONSIN STAR STOCK FARM, ED. M. SHULTZ HARTFORD, WIS.

Sons of a 36-lb.—1315-lb. Sire

They are sons of Dutchland Creamelle Denver Prince. His sire is a 30-lb. 1,028-lb. grandson of Colantha Johanna Lad and his dam, the highest record daughter of the same sire, with 36 lbs. in 7 days, 1,315 lbs. in a year.

They are from tested (records up to 20 lbs.) and untested dams — Good producers rich in the blood of Mooie Mutual De Kol and King Segis Pontiac.

The calves are from 2 to 8 months old. Priced right.

Jefferson County Asylum, Jefferson, Wis.
W. E. Voigt, Supt.

1000---HERD---1000 Quality Holsteins

GRADES AND PURE-BREDS

Just now we have a splendid lot of grade heifers. Write for our pure-bred bull list.

Jefferson County Holstein-Friesian Breeders' Association,
A. F. Gafke, Secretary, Jefferson, Wis.

Bull Ready For Service

Nicely marked and a good individual. Dam 20 lbs. butter at just 3 years. Next dam a 23-lb. 4-year-old. Two nearest dams of his sire average over 32 lbs. and ten nearest dams over 29 lbs. in 7 days Not a break in a three-generation pedigree. Priced to sell. Call or write

Halsey J. Sedgwick, Limeridge, Wis.

A BULLY CHANCE

to get a serviceable sire—born March 15, 1919. A fine individual—well bred—well marked—well grown. Sire, a son of King Segis Pontiac out of a 26-lb. daughter of Juliana King of Rock. Dam, A 26-lb. daughter of King Korndyke Veeman Wayne, he out of a 31-lb. daughter of Sir Veeman Hengerveld. Will trade for pure-bred Holstein females, liberty bonds or cash. If you want a herd sire—what have you got that you don't want? Write or call for price, pedigree, photo. Also have some younger bulls. Herd tuberculin tested.

RIDGEHURST STOCK FARM,
Glen C. Ramsey, Ft. Atkinson, Wis.

Wayside Lawn Farms

Offer

Young bulls ready for service from A. R. O. dams sired by our 31-lb. bull. Price $125.00 to $200.00. Also two blemished young cows 3 years old, light colored, bred to our 33—1,000-lb. sire, King Mutual Korndyke 11th, whose two nearest dams average 34.90 lbs. butter in 7 days and 1,137.02 lbs. butter in one year. Price $200.00 per head. Herd Federally Accredited.

WALTER SORGE, Reedsburg, Wis.

5-10 WELL BRED HEIFERS

SEVERAL GOOD YOUNG BULLS

are what we are offering just now. The heifers are registered two-year-olds, bred to freshen this fall. The bulls, old enough for service, are from A. R. O. dams and by Sir Ormsby Homestead Butter Boy, a 35-lb. bull. One is by a 42-lb. grandson of S. P. O. M. Come and see them.

ANDREW FRANK, FOX LAKE, WIS.

Minnesota Holstein Breeders' Association

Be sure that you buy Minnesota Holsteins from state association members. They are responsible. For list of members and other information address

THE SECRETARY, 406 MARKET BANK BUILDING, MINNEAPOLIS, MINN.

Holsteins at Private Sale!

By Members of

The Clay County Holstein Club, Moorhead, Minn.

40 — Females — 40

Some of the best in the state. Daughters of SIR PIETERTJE ORMSBY MERCEDES from cows with records up to 1,190 lbs. in a year. Cows with yearly records up to 1,163 lbs. All bred to high record bulls including SIR PIETERTJE ORMSBY MERCEDES 37TH and 41ST.

23 — Bulls — 23

Bulls for the man with a grade herd; bulls for the small breeder and bulls qualified to head any herd in the land. Several sons of SIR PIETERTJE ORMSBY MERCEDES 37TH and 41ST from dams up to 1,000 lbs. and over.

Send for Catalog

G. R. Melin, Secretary **Moorhead, Minnesota**

(There are more 1,000-lb. cows in Clay County than in all other counties in Minnesota Combined)

Minnesota Holsteins



Miss Korndyke Akkrummer Ormsby 30-lb. 4-year-old. 39.67 lbs. butter at full age. Owned and developed by J. B. Irwin.

For Your Next Herd Sire

get a son of Sir Ormsby Banostine Champion, son of Duchess Skylark Ormsby, world record cow. We have some good ones for sale from dams with good 7-day and year records.

Woodlake & Clover Farms,
John B. Irwin, Station F,
Minneapolis, Minnesota.
"The Home o the Ormsbys."

Grandsons of "Count" and "Piebe"

I have just purchased from the University of Nebraska, which owns the highest record son of PIEBE from BEAUTY GIRL PONTIAC SEGIS, the World's Record Daughter of COUNT,

Eight Young Bulls

from six to eighteen months old, all from good A. R. O. dams. Individuality faultless. Beautifully marked.

Most Popular Combination of Breeding of the Day
They Won't Last Long **Write Me At Once For Prices**

J. M. HACKNEY

ARDEN FARMS, 602 Merchants Bank Bldg., St. Paul, Minn.



Lola Segis Pontiac Homestead

the highest record bull in southern Minnesota, heads our herd. His sire, Piebe Laura Ollie Homestead King, has more daughters that as 2-yr.-olds have produced 20,000 lbs. milk in a year than any other. His dam, a 34-lb. 4-year-old daughter of King Segis Pontiac Count, has 3 records averaging 33 lbs. and has made over 1,000 lbs. in 1 year. We have a few serviceable bulls and younger from A. R. O. dams for sale.

Clover Lea Farm, W. W. Walker, Owner. Austin, Minnesota

Grandsons of Sir Pietertje Ormsby Mercedes

The sire is Sir Pietertje Ormsby Mercedes 22d a son of Minnesota's first 1000-lb. cow. These bulls are all nicely marked, straight top lines. Very good individuals from good A. R. O. dams.
For pedigrees and prices, write
O. J. GROVER, - GLYNDON, MINN.

Grandsons of
Duchess Skylark Ormsby and of S. P. O. M. 38th.

for sale. These youngsters are from A. R. O. dams that are now making good yearly records. Write today for further information.
POPLAR HOLLOW STOCK FARM,
Bertram D. Scott, Prop., Richfield Station
Minneapolis, Minn.

Bull Calf

advertised last week is sold. Here is another good one ready for light service. Sired by a 30-lb. bull. Dam a 14-lb. 2-year-old who will be tested again next spring. Priced so reasonable that you can't afford to be without him. $150.00 for immediate sale.

V. R. Holmes, Anoka, Minn.

Price $500

Ready for service and nearly all white. Good individual. Sire is a 34-lb. son of Ormsby Korndyke Lad. Dam is a 22-lb. junior 2-year-old daughter of a 31-lb. cow. Dam is by a ¾ brother to King Segis Pontiac Count.

Flecks Farm, Faribault, Minn.

Serviceable Sons of Dutchland Aaggie Tidy Prince

I have three of these youngsters for sale, all ready for service and from A. R. O. granddaughters of S. P. O. M. Their sire is from a sister to Tidy Abbekerk Prince and already has a good list of tested daughters, including one above 36 lbs.
Write today for complete information.
E. J. BROSIOUS, Stillwater, Minn.

MONEY

Is Hard to Get. So Are the Right Kind of Bulls!
We have both. Don't go without the bull you need just because money is tight. LET US HELP YOU. We also have a few females. WRITE FOR OUR BARGAIN LIST AND PAYMENT PLAN. Every milking animal in our herd has an official record. We need the barn room. Take advantage of this opportunity. SATISFACTION GUARANTEED.
GRAHAMHOLM FARMS, Holstein-Friesians
Federally Accredited.
H. R. Searles, Mgr., Rochester, Minn.

Fairhurst Herd

On the Accredited List

We offer young bulls, fine individuals and well grown. Sired by 33-lb. bull and from dams with records up to 30 lbs. Write for pedigree and price.

KITTLE BROS., Holland, Ohio.

BULL CALF

Sire's dam, butter, 1 yr., 848 lbs.; her daughter, 1,055 lbs. Grandsire's dam, 987 lbs. at 11 yrs.; her full sister, 1,344 lbs.; another, same dam, 1,322 lbs. Dam, Miss Pietertje Alexina 3d, sister to Miss Pietertje Alexina 2d, 1,290.91 lbs. A dandy calf, priced right. Write quick to

McKAY BROS., - - CADDOA COL.

4 Holstein Bulls for Sale

All by King Segis Pontiac Cor-Will, 190512, whose sire is King Segis Pontiac, 44444, and whose dam is an A. R O daughter of Pontiac Korndyke Also two fine young registered cows, one a granddaughter of Pontiac Korndyke.
Wm. N. Osborn, Wanatah Ind

Mankato Holstein Farms

Offer a Son of

King Colantha Ormsby Bess, A Sir Pietertje Bess Burke combination. Nine dams average over 1,000 lbs.

Dam is going at better than 800 lbs. butter for the year. Has over 25 lbs. butter in 7 days.

This calf was Grand Champion over all bulls at a Southern Minnesota district fair.

Several bulls at prices warranting their use in grade herds.

Write or better still come and see them
(A Federal Accredited Herd)
Marlow & Randall, Mankato, Minn.

RICHLY BRED
HOLSTEIN BULL CALVES

out of A. R. dams and sired by our two richly bred herd sires — **King Piebe Ormsby Mercedes,** a 35-lb. son of Sir Korndyke Bess and every dam in pedigree over 22 lbs. and **King Pietertje Mercedes Ormsby,** a son of Sir Pietertje Ormsby Mercedes and out of a 19-lb. senior two-year-old dam.
Herd tuberculin tested. Write for information or visit herd.
P. FROST SPAULDING FARM CO.
C. L. Spaulding, Mgr., Warren, Minn.

Sir Korndyke Ormsby De Kol 15th—21 Months Old

His sire is a son of Sir Korndyke Hengerveld De Kol; 51 A. R. O. daughters, one of whom has a 7-day record of 39.56 lbs. and several above 1000 lbs.

His dam has a record of 23.778 lbs. and now on yearly test.

Geo. H. Elwell, - Minneapolis, Minn.

Lake Shore Farm

Offers May 22nd, 1920, bull calf. 795 lbs. butter over 20,000 lbs. milk is his dam's yearly record. King Segis breeding, light color. Price for January $250.

E. J. OPPLIGER, Box 20, Forest Lake, Minn.

COME TO BISCAY

for your next purchase of pure-bred or grade Holstein cattle, mature or young stock. Large selection, also a few select male calves to offer. Located near station

BISCAY SALES CO., BISCAY, MINN.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

THE LASHBROOK HERD



ELMWOOD MARIE NETHERLAND

Offers A High-Class Bull

Ten months old, sired by SIR WALKER SEGIS HOMESTEAD, a son of "PIEBE" and "Beauty Beets Walker Segis" world's greatest heifer, with two yearly records over 25,000 lbs. milk and 1,000 lbs. butter.

Dam, an 18-lb. junior two-year-old heifer, of rich A. R. O. breeding. Soon to freshen as senior two-year-old and go on yearly test. Will double value of bull in short time. He is evenly marked, a good, typy bull and a bargain for $500.

Send for pedigree and photo.

A. J. Lashbrook, Northfield, Minn.
Federal Accredited Herd

Bull Calves of Ormsby Breeding

from A. R. O. dams for sale, 2 to 8 months old. Prices $200 to $1,000. We can also offer several good, typy cows bred to a good Ormsby bull. Write or come and see us.

MINERAL SPRINGS STOCK FARM, - - SAVAGE, MINNESOTA
Stuart—McIntyre—Hansen, Owners.

Address correspondence to Axel Hansen, formerly with John B. Irwin.

Mark Up Feb. 9 For Crookston

The Red River Valley
HOLSTEIN SALE
Feb. 9, Crookston, Minn.

The big sale is in connection with the Red River Valley Live Stock Show which starts February 7th and runs the full week.

65 — Top Notch Holsteins — 65

Sixty-five head of the breeding that is sought all over the country will be sold. There will be offered twelve bulls good enough to head any herd.

AMONG THE CONSIGNORS ARE:

E. C. Schroeder Farms, Moorhead
O. J. Grover, Moorhead
Steidl Bros., Moorhead
M. L. Enright, East Grand Forks
J. D. Bacon, Grand Forks, N. D.
Spaulding Farms, Warren
W. W. Sugden, Hallock
J. W. Malm, Orleans
McNelly and Harper, McIntosh
M. C. Kronemann, Fergus Falls
Dr. H. P. Fischer, Shakopee
Arden Farms, St. Paul
J. P. Peltz, St. Bonifacius
Dr. Egil Boeckmann, White Bear
F. R. Hedley, Crookston

Come early and attend the Meeting and Smoker on the evening of the 8th.

Minnesota Holstein-Friesian Breeders' Ass'n
406 Market Bank Bldg., Minneapolis, Minn.

HOLSTEIN CATTLE

C. W. Newman, Prop. Merryall Farms, Wyalusing, Pennsylvania, writes:

"Holstein cattle have been the real foundation for my financial success. From an original investment of $75 in one purebred female I have in twelve years sold $3,840 of stock, and have six valuable animals on hand!"

Send for Free Booklets

The Holstein-Friesian Association of America
101 American Building Brattleboro, Vermont



S. I. P. S. BERTAN

$300 Buys This Bull—

Born April 16, 1920.

He is sired by a 30-lb. bull and has 22 sisters with yearly records.

His dam at three made 22.83 lbs. butter and 555.00 lbs. milk, she by a 31-lb. son of King of the Pontiacs and from a 23-lb. two-year-old.

Winterthur Farms, Winterthur, Del.
Federal Accredited Herd

Her Son Sired by K. P. O. P. Is For Sale



KIRBY MARTHA 2D

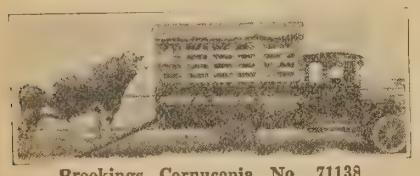
He is K. P. O. P. 20th, a splendid individual, 7 months old and very well grown. King Pietertje Ormsby Piebe, his sire, is a sire of show ring winners as well as a long-distance bred sire.

Kirby Martha 2d, his dam, produced 32 lbs. in 7 days and 978.58 in a year as a 4-year-old.

His 2 nearest dams average 1,184 lbs. butter, 24,288.8 lbs. milk as 4-year-olds. We offer him on easy terms of payment.

Write for more information.

Hargrove & Arnold **Norwalk, Iowa**
Herd Under Federal Supervision



Brookings Cornucopia No. 71138

WE WILL TRUST YOU FOR A BULL

Realizing that money conditions are a little close we are offering a year's time on calves bought from us. Our calves are **Sired by Brookings Cornucopia, a 35.36 bull, Admiral Walker Prilly, a 32-pound bull with 42 A. R. O. daughters; King Pontiac Bettina, 31-pound son of King of the Pontiacs.**

These calves are from A. R. O. cows and cows with and without records. Ages 6 weeks to yearlings. Prices, $50.00 to $150.00 depending on age and breeding. One year to pay.

Pettis County Holstein-Friesian Co., C. M. Long, Sec'y, Sedalia, Mo.

A Few Splendid Young Bulls

for sale that have show ring type, that are backed by 7-day and yearly records and by the best productive breeding in Ohio. They are from an accredited herd, are guaranteed right and are priced to sell.

Zehringhurst Farm, Germantown, O. Oscar O. Zehring, Prop.

SIR JOHANNA FAYNE



42147

now has 9 daughters 20,000 pounds or over. All of his yearly tested daughters, 3½ years old or over average 21,465.1 pounds milk and 831.45 pounds butter. 17 daughters average 20,000 pounds. A few young sons left at reasonable prices. Herd under Federal Supervision.

IOWANA FARMS
DAVENPORT, IOWA

Edinboro Lake Farm

Show Type HOLSTEINS Production

Six state yearly record champions 1918-19.

We offer bull calves by Sir Paul Veeman Hengerveld and Sir Ormsby Skylark Fredericka, out of yearly record dams with type.

Edinboro, Pa.

365-Day Milk Production
Still Another One

The May bull has been sold, but we offer another grandson of Sir Pietertje Ormsby Mercedes out of a granddaughter of Colantha Johanna Lad, born July 30, 1920. A handsome calf and well grown out, perfect top line; in fact, a fine individual of the popular breeding. This bull will get you "all the year round" producers. Our price is within the reach of the farmer or small breeder.

Cerro Gordo Farms, Mason City, Iowa

YOUNG BULLS
Backed By Real Production

We are offering for sale sons of our Sir Pietertje Geneseo Alcartra whose dam, Miss Pietertje Alexina 2d, has a 42.42-lb. 7-day record and a yearly record of 1,290.94 lbs. butter from 24,219.1 lbs. milk. These youngsters are good individuals from heavy producing dams. They are priced to sell.

Hubert Stuckart, - Raymond, Iowa

ORIGIN FARM

HORNLESS HOLSTEINS, Registered and A. R. O. Animals, all ages, for sale. Federally Tested.

GEO. E. STEVENSON, Scranton, Penna.

Son of a 37-Lb. Ormsby Bull

Dam: three-fourths sister to an 870-lb. junior 2-year-old. Mostly white, $150. Herd under Federal Supervision.

BLUEBELL FARM, RICEVILLE, IOWA.



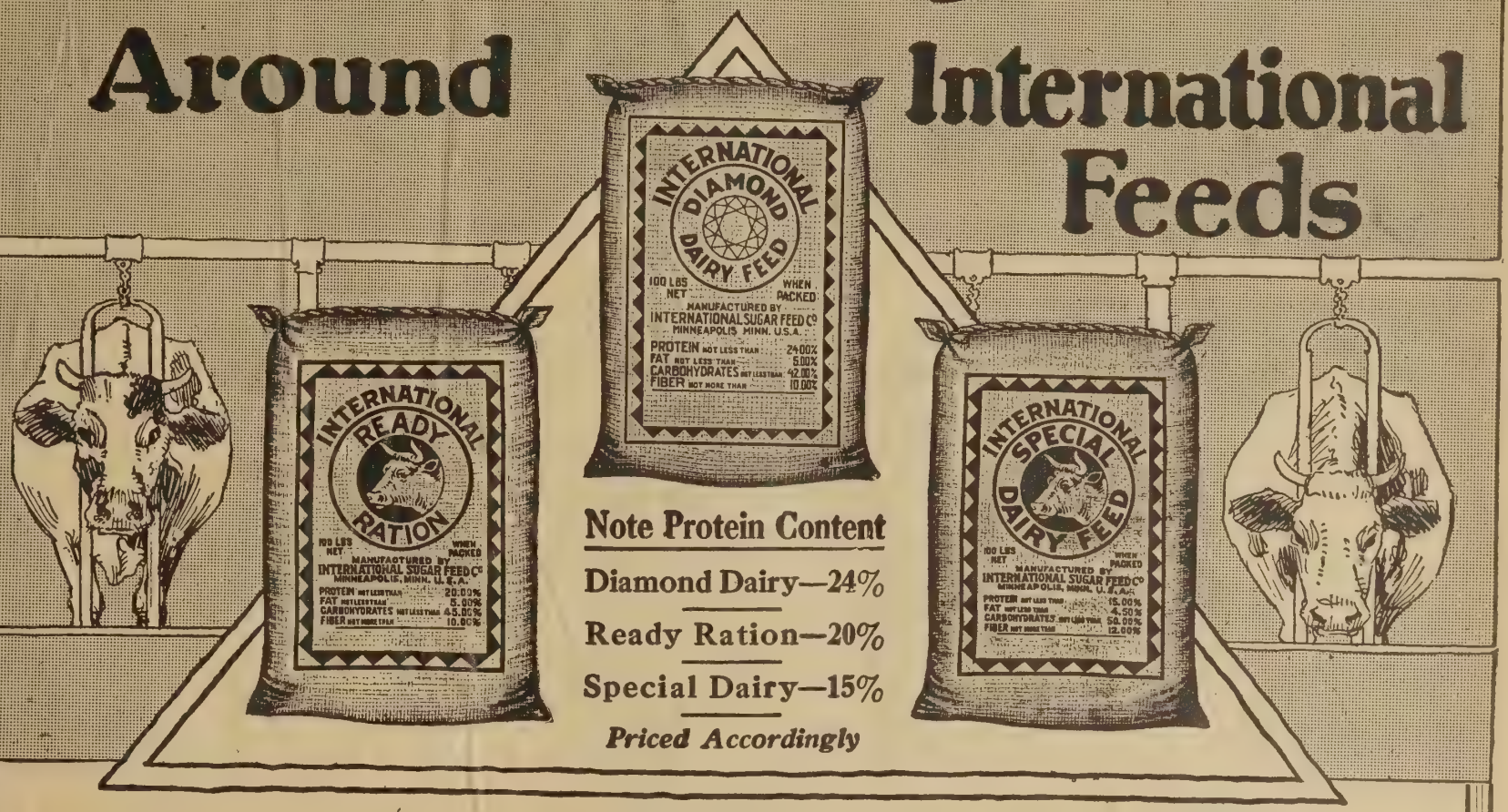
Home Farm Wayne Sir Clyde

This Typy Son of Woodcrest Sir Clyde

was third in his class at the North Iowa Fair; he was born January, 1920. Dam is a daughter of K. K. S. V. 24th with an 18-lb. 1st calf record; will finish her year with about 550 lbs. butter. His sire's dam is a 33-lb. cow with 970 lbs. in a year and his dam's dam a 29.7-lb. cow with 600 lbs. in a year as a 3-year-old. He is very moderately priced; send today for pedigree.

W. B. BARNEY & SONS, Chapin, Iowa

Build Your Dairy Profits Around International Feeds



Note Protein Content

Diamond Dairy—24%

Ready Ration—20%

Special Dairy—15%

Priced Accordingly

Keep Your Cows In Milk!

The fact that the price you now get for dairy products is lower than you have been getting, and that your supply of home-grown grains is perhaps larger than usual, are not the only points to consider in this business of making cows pay a profit.

Dry cows are liabilities. So are cows that are at lower milk flows than they should be, and which could be brought up to profitable production by proper feeding.

Remember this: a dairy herd kept in prime condition and top milk flow *now*, will be the biggest producing herd when pasture arrives and feeding costs are lowest. *Planning* ahead means *acting now.*

International Feed Prices Are Down

The cost of feeding International Feeds has been reduced so that the prices you get for your dairy products will still yield you a living profit. Find out about this from your home dealer or if there is no International dealer near you, write us. But do it today.

International Diamond Dairy, Special Dairy and Ready Ration are guaranteed feeds. Their records of performance, and the integrity of the organization backing the guarantees are well and favorably known to dairymen and stockmen everywhere.

LIVE AGENTS WANTED In each vicinity where there is no International dealer the exclusive agency is open to a live agent who has the confidence of his community and who knows feeds and feeding. International Feeds are always good sellers. Write for details.

INTERNATIONAL SUGAR FEED COMPANY

Minneapolis, Minn.

Mills at Minneapolis and Memphis

No Filler



More Milk
Better Milk
Healthier Cows

That's what you get with

Pillsbury's Dairy Ration

In formulating Pillsbury's Dairy Ration, our first principle was that a ration made entirely from all high-grade and valuable materials, without a "filler" (useless material), would be most economical from the feeder's standpoint. Actual feeding tests on practical dairy farms clearly demonstrated this fact.

Pillsbury's Dairy Ration is made exclusively from high-grade materials —without a "filler". It contains no molasses, oat hulls or beet pulp, no ground hays or other disguised roughages. We believe that such roughages, if desired in the ration, can be grown and fed on the farm more economically.

Pillsbury's Dairy Ration Contains:

Ground Oats, Wheat Bran, Hominy Feed, Linseed Meal, Standard Middlings, Corn Gluten, Cotton Seed Meal, Mineral Salts, ***and nothing else.***

The eight ingredients contained in Pillsbury's Dairy Ration were selected for their feeding value alone. Every cent invested in Pillsbury's Dairy Ration goes for feed that's 100% feed—clean, wholesome, palatable, digestible and of uniform analysis. The high quality proteins are perfectly balanced for maximum milk production ***at the least cost.***

A truly balanced ration, and most profitable for the feeder.

Send for our booklet "Results"

Use the coupon and mail it TO-DAY.

PILLSBURY FLOUR MILLS COMPANY
Minneapolis, Minnesota

Pillsbury Flour Mills Company
Minneapolis, Minnesota

COMMERCIAL FEED DEPT.

Gentlemen:—

I would like to learn more about Pillsbury's Dairy Ration. Please send me your free booklet "Results".

Name_____

Town_____ R. F. D. No._____

State_____

20 July 21
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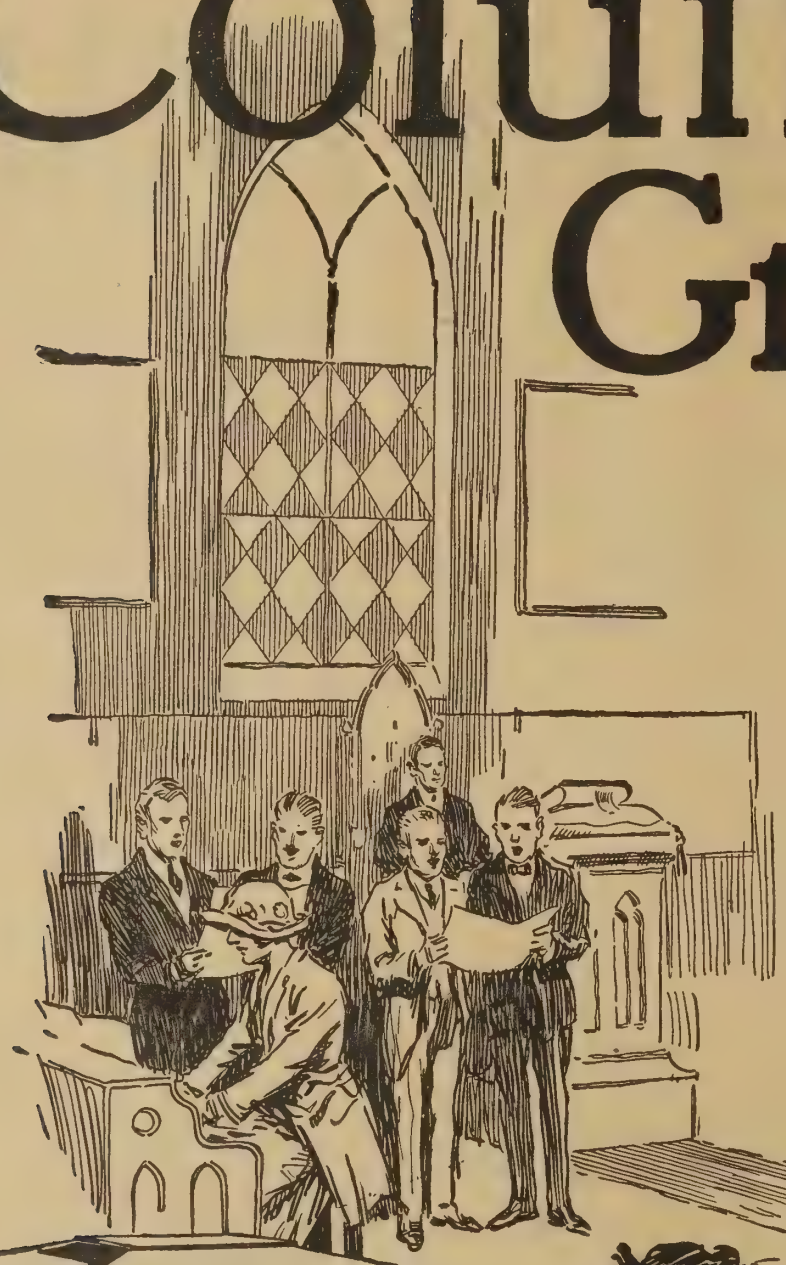
HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING



Fort Atkinson, Wisconsin Volume LXI, No. 4 February 11, 1921

Columbia Grafonola



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Rain or shine, sleet and snow, or bitter cold, even if you can't go to church you need never be without the sacred music that soothes and comforts you.

Columbia Records played on the Columbia Grafonola reproduce so realistically all of your favorite sacred songs right in your own home that you can close your eyes and see the church.

On Columbia Records you will find the hymns that your mother and her mother sang, the hymns that you've heard on happy Sundays throughout the greater part of your life.

New Columbia Records on Sale at All Columbia Dealers the 10th and 20th of Every Month

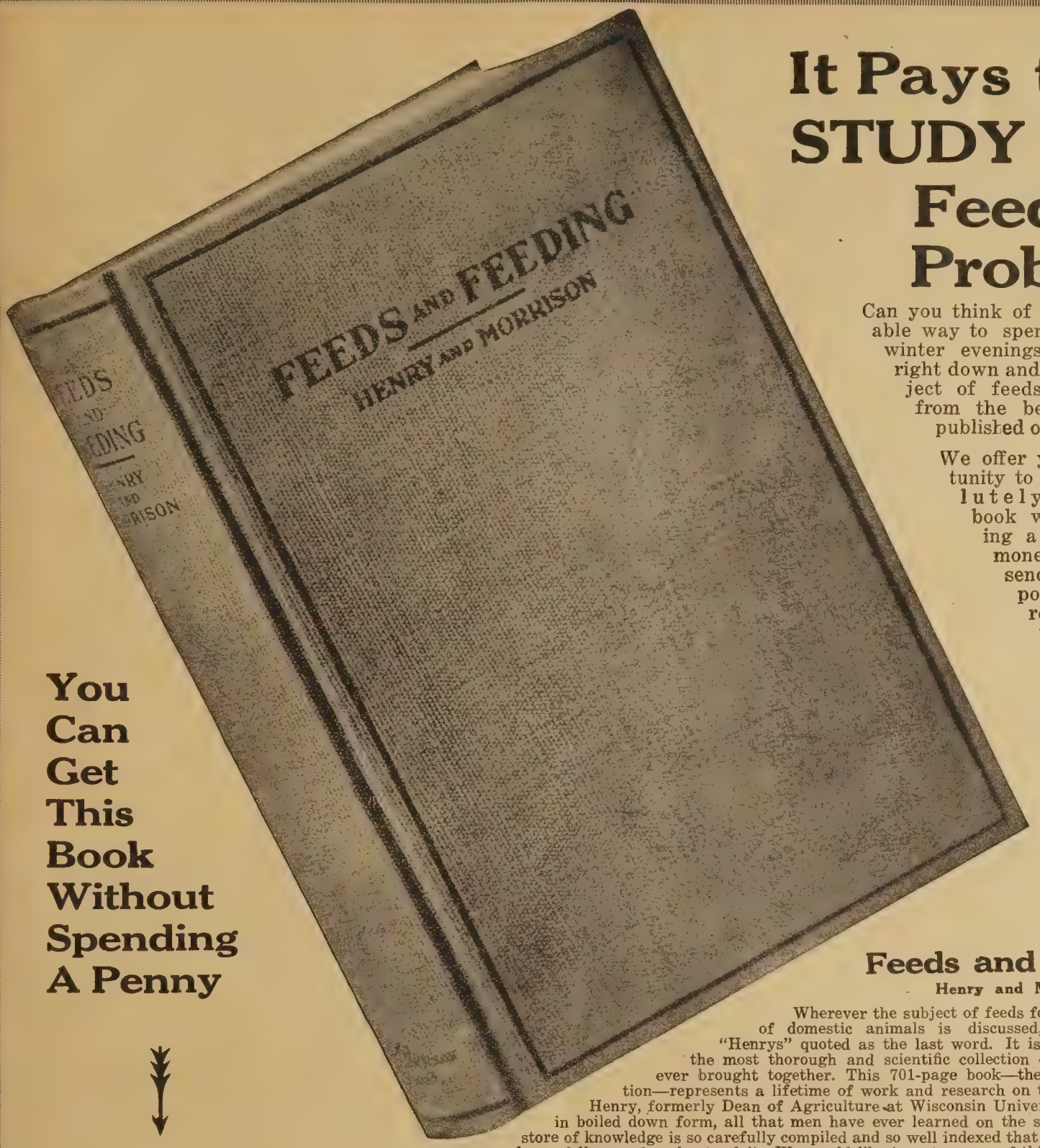
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Standard Models from $32.50 to $300.00; Period Designs from $335.00 up to $2100.00



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It Pays to STUDY the Feeding Problem

Can you think of a more profitable way to spend these long winter evenings than to get right down and **study** the subject of feeds and feeding from the best book ever published on this subject?

We offer you an opportunity to get this absolutely authoritative book without spending a cent of your money. We will send it to you, postage paid, in return for a favor you can easily confer on us.

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Feeds and Feeding

Henry and Morrison

Wherever the subject of feeds for and the feeding of domestic animals is discussed, you will find "Henrys" quoted as the last word. It is without question the most thorough and scientific collection of facts on feeds ever brought together. This 701-page book—the seventeenth edition—represents a lifetime of work and research on the part of W. A. Henry, formerly Dean of Agriculture at Wisconsin University. It contains, in boiled down form, all that men have ever learned on the subject. This vast store of knowledge is so carefully compiled and so well indexed that any man who can read can follow and understand it. We would like to put a copy of this book into the library of every HOARD'S DAIRYMAN reader. Price $3.85.

Here's the Offer:

WE WILL SEND a copy of this 701-page book, postage prepaid, to any reader who will send us a club of just five subscriptions. They may be either new or renewal and either one-year-for $1.00 or three-years-for-$2.00 each. YOUR OWN RENEWAL MAY BE INCLUDED IN THE CLUB.

USE THIS COUPON—TEAR OFF ALONG THIS LINE.

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Fort Atkinson, Wisconsin.

As per your offer I enclose five subscriptions and remittance of $..... Send HOARD'S DAIRYMAN to the names below, and send me the book "Feeds and Feeding".

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For Early Pigs Build a James Sunny Hog Barn



A. D. Severe, Dows Ia.



W. H. Strucker, West Bend, Iowa.



Geo. Herman, Norwood, Minn.

W. H. Strucker, West Bend, Iowa.

W. H. Strucker, breeder of Poland China hogs at West Bend, Icwa: "The barn erected under your plan gives entire satisfaction in every way; among a number of large barns erected in this vicinity last year it stands out pre-eminent as a specimen of beauty and architecture. It sure cuts the chores more than half."

The Jamesway of building and equipping hog barns puts vim, vigor and vitality into the little pigs--makes possible earlier litters and more pigs out of each litter raised to sturdy hoghood.

Warmth, dryness, sunshine, pure air, fresh water, cleanliness, safety and comfort are made possible by James equipment in a James Sunny Hog Barn.

This new type of hog barn has many advantages over any other; but the outstanding reason for its popularity is the peculiar arrangement of roof and windows, which puts sunshine on the barn floor seven-eighths of the time between sunrise and sunset; with a spot of sunshine and sun warmth on the floor of each and every pen two-thirds of the sunlit hours.

If the barn is placed Northwest and Southeast, spots of sunshine and sun warmth appear on the floor in the west pens as soon as the sun's rays fall at an angle of 7 degrees from the horizontal.



When the sun's rays are about 30 degrees from the horizontal, there is a spot of sunshine in every pen in the barn.



This continues until the sun's rays reach a similar angle in the afternoon.

Makes Cleanliness Easy

Not only does James Equipment make it easy to maintain sanitary conditions necessary to ward off disease, but the concrete floors, steel pens and metal devices make easy the disinfection of the entire equipment and quarters, if that ever becomes necessary.

And James Equipment saves labor in caring for the hogs and little pigs.

Dr. J. S. Johnson of Hagerstown, Maryland, writes July 30, 1920: "My James equipped hog house is visited almost daily by numerous farmers. My first litter farrowed in your pens is far superior to any I have had and I attribute it to the sanitary conditions possible with James equipment. I would like to see your equipment on every farm in Maryland."

You Can Get Better Prices at Sale Time

Because in the well lighted, well ventilated James Way barn and in the James steel pens, your hogs show off to so much greater advantage.

A home surrounded by a neat, well kept lawn will sell at a better price every time than the same house on the same ground, if the lawn be overgrown with weeds, the trees untrimmed, no flowers and the house unpainted.

A good hog in a well lighted, clean barn, in a James Way pen, will bring a better price every time than the same animal in a dark, dirty shed and old board pen.

Free Plans and Hog Barn Book

We do not build barns, but as a service to the swine industry, we designed and have applied for patent on this new type of barn which has so many advantages over any others.

Plan now to build; tell us the breed of hogs you raise, and the approximate number—or state what size barn you have in mind; if you ask for them we will send you blueprints and details from which you can build a James Sunny Hog Barn.

The 80-page James Way Hog Barn Book gives much helpful and interesting information not only regarding the James Sunny Hog Barn and James hog barn equipment, but also regarding the merits of the community hog house versus the individual hog house, the south window type of hog barn; the Iowa Sunlit hog house type, etc.
Send for this book now. Ask for Hog Barn Book No. 23.

James Mfg Co. Ft. Atkinson Wis. Elmira N.Y. Minneapolis Minn.

The James way

Labor Saving Equipment for the Hog Barn

HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING

Volume LXI — FORT ATKINSON, WIS., FEBRUARY 11, 1921 — Number 4

The Farmer and His Reading

M. H. WATSON, KANSAS

MANY farmers do not do enough reading. I believe most farmers read far less than they should. Jones has a lot of work to do. He gets up early in the morning. He must do his morning's chores and begin the day's work. Probably it does not even occur to him that he should sit down and read awhile in the early part of the day. He may read a few minutes after dinner, but he must not tarry long if he is to do even a small day's work in the corn field or in the wood-lot. He works faithfully through the short afternoon. The darkness begins to come. He does his chores. He has his supper. He sits down in a comfortable chair by a comfortable fire to read. But he very soon becomes sleepy and lays aside his paper. The next day I meet my friend Jones and something is mentioned about which he really ought to be informed. "I don't read much," he says. "I get sleepy just about as soon as I sit down with a book or a paper."

The Need for Readers

Every profession and trade should have reading, thinking men in it, men who know the facts and are able to draw wise conclusions. In periods of readjustment like the present, this is particularly true. If such men are not found in all branches of our national economic life there is nothing to save us from unsafe leaders and national ruin. Farming has attracted many of the best young men and women of the day. There are numbers of graduates of high schools and colleges in our midst.

But unless a man has some unearned capital with which to begin, he and his family will probably have to pass through a period of hard work and drudgery. Long days and years of hard work—longer days and more years for some than for others—have a tendency to make us all just common workers, toilers with the thought of leadership, of pre-eminence, almost forgotten in the cares and duties of the season.

Every man who has ever had ideals should hold onto them as a priceless possession. They give meaning and nobility to life. Keep yourself fit so that if in any way you can influence your fellow men for good, you may be able to do it. And if no large place in life is ever open to you, you may have the poise, the good judgment, the cheerful optimism which will make you a good husband, father, friend, and neighbor.

When and What to Read

The farmer's reading is one of the most important influences which hold him up to a high standard of life and living and work. There are other good influences which he has, his home, the church, his friends. There are good influences which the city man has and the farmer has not. But the farmer has within his reach the best books and the best papers and he should use them.

I do not want to advocate a reading program which will cost too much in time or money. I know how hard it is for me to spare either. The cost of what I am suggesting need not be over fifteen or twenty dollars a year and an hour a day. In bad weather and in the winter time a person ought to read more; in busy seasons he may have to read less.

In spite of its disadvantages the evening is usually the best time for my reading. Some find it better to go to bed early and then get up an hour before the day's work begins and read with clearer head and rested limbs. Still others take their reading hour after dinner or at some other time that is more convenient. I like to look forward to the pleasant hour with my books and papers when the day's work is done. A man should feel that a little time spent in reading is not stolen from his family or from his future prospects. He will probably actually accomplish more in five years or ten by reading wisely and discriminately than by working all of the time with his hands.

Reading furnishes me three things: It gives me facts, it gives me inspiration, it gives me recreation. With these things in view, let us choose our papers and books.

Shall we take a daily paper? Yes, if you can afford it and if you don't let it take up too much of your reading time. We all had to have our daily papers during the war. But I would rather have one such magazine as the "Literary Digest" or "Review of Reviews", together with a good weekly newspaper, than to have a daily paper without such a magazine. The best dailies that I have known are too much under the control of politicians and this spoils their reliability unless you are prepared to make corrections here and there from other sources. The man who reads no current literature except his one daily paper cannot do this. Then the daily prints much that is trivial, much that is uncertain. You read a good deal and you get a little like when you boil the sap of soft maple trees and try to get maple sugar. The fact that the Literary Digest comes once a week increases its value. It excels in giving all sides of the important topics of the day. It is a veritable scrapbook of opinions and you are expected to form your own after the case is well presented. The Review of Reviews is neither narrow nor partisan. It excels in giving you a real acquaintance with public men. It is splendid to feel that you and Herbert Hoover and William H. Taft and President Wilson are all fellow men, fellow patriots. It comes to the defense of people who have received much public criticism; for example, Postmaster-General Burleson. It tells in connected readable articles about the great undertakings of the day. There are other magazines of this sort. I have described these two because I know them best.



DAIRY BARN IN GUILFORD COUNTY, NORTH CAROLINA

Herd records and business methods provide improved equipment and make dairy farming pleasant and profitable.

You probably have a little newspaper published in your vicinity that is worth taking for its local news. You had better take your own church paper or "The Christian Herald". If the children are old enough, take "The Youth's Companion" and enjoy it with them.

Every home should have "The Ladies' Home Journal" or "The Woman's Home Companion" or "The Mother's Magazine". The wife gets a lot of cheer and good suggestions from her paper and a good story from one of these is good for father, too tired to read most anything else. A good short story rests him and often really lifts him up.

I read our dairy farm paper and its weekly visits have made me a better farmer. I have come to feel that the theory of farming which it has preached year after year is my theory. Its rules and precepts are, in general, mine. Through it I have learned about the struggles and successes of other men whose problems are similar to mine. It might pay you to file away your farm papers. I prefer to cut out and paste into a book the articles and facts and pictures that particularly impress me. This book is more valuable to me than would be the accumulated papers of the seven years since I started it.

Two or Three Good Books

We have sent to Washington, D. C., and to our experiment station for a number of bulletins which we wanted to read. We have received much practical information by reading advertisements and by sending for catalogs and booklets occasionally. If you are a breeder of Jerseys, send to the American Jersey Cattle Club and get their inspiring little booklets about your breed of cattle. The Holstein Association will be glad to tell you all about the white and blacks, and every Holstein man ought to give them a chance to do it.

I try to read two or three good books a year. Most of the books I refer to now are fiction, but some are poetry, biography, or history. They are books that have no particular bearing on my business. One of the first books of this sort that I read was "John Halifax Gentleman" and about the same time I read "Ivanhoe". I was a boy then and I love those books. I also read in those days the autobiography of U. S. Grant and I'd be glad to have my boys read it some day. Among the more classical books that I have read in later years are "The Pickwick Papers", "David Copperfield", "Henry Esmond", "The Virginian", "Rob Roy", "Quo Vadis", and "Les Miserables". Among the lighter and easier books on my list are a few of Joseph C. Lincoln's delightful stories of the Cape Cod folk, "The Winning of Barbara Worth", "The Iron Trail", and "The Peace of Soloman Valley". Ambassador Girard's book, "My Four Years in Germany", is not fiction but it is just as interesting.

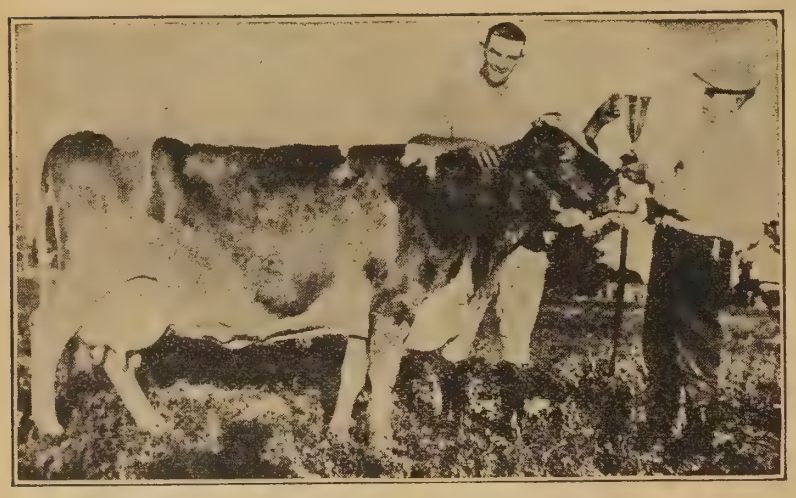
There is another class of books that well repay the time they take, but they have to be really studied. One such book I received as a Christmas present from my brother recently, "The Productive Feeding of Farm Animals", by F. W. Woll. In studying such books it pays me to make a few notes on a slip of paper to be carried in my pocket and referred to at odd times. These little notes in my pocket are very easy to manage when I am plowing for wheat with horses on a hot August day or in most any field work.

Read of Nature

I once undertook to study astronomy without a teacher and all I know

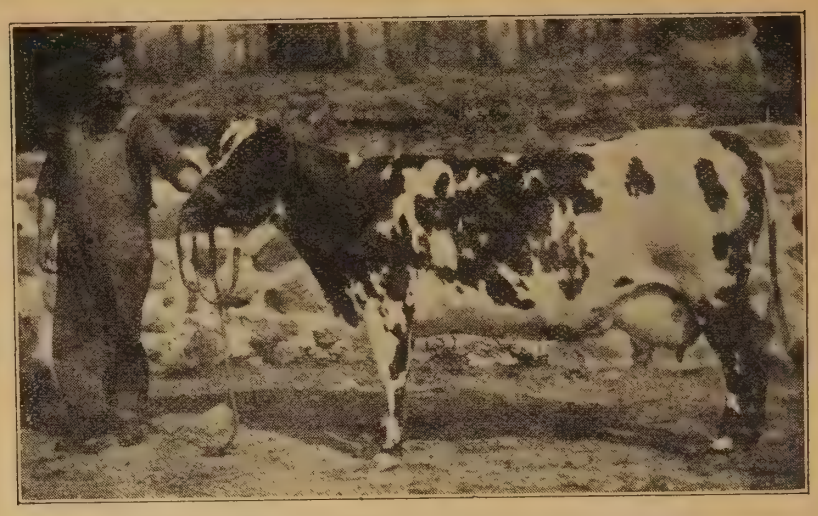
(Continued on page 150)

HEAVY PRODUCERS FROM FOUR BREEDS



PRINCESS OF MEADOWBROOK, GUERNSEY COW OWNED BY BRANT RANCHO, CALIFORNIA

She has two fat records which average 733.5 lbs. Her milk and cream were given the only scores of 100 per cent ever made at the National Dairy Show. She was grand champion at the 1919 and 1920 California State Fairs.



ROSELLA WEBB, AYRSHIRE COW OWNED BY MIDDLESEX MEADOWS FARM, MASSACHUSETTS

This cow has just completed her fourth consecutive A. R. test, making a production of 16,650 lbs. milk, 675.53 lbs. fat. Her four records average 13,476 lbs. milk, 557.1 lbs. fat. She is by Earl's Choice of Springhill, one of the ten leading sires of the breed.



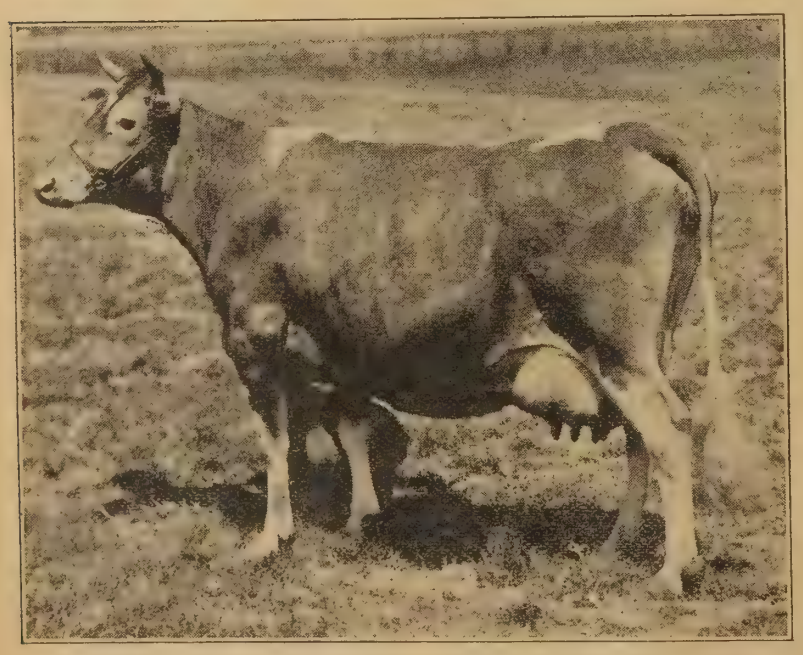
BELLEMORE TOPSY 2ND, HOLSTEIN COW OWNED BY Z. C. THOMPSON, JR., KANSAS

Mr. Thompson is the first to make official tests in Harper County. In 7 days this cow made 532 lbs. milk, 20.3 lbs. fat.



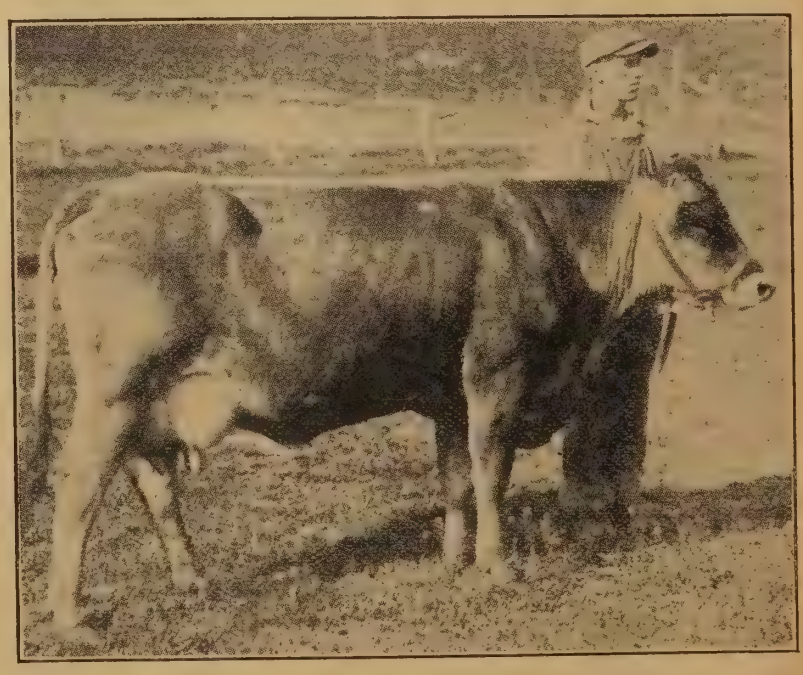
THE GUERNSEY COW, CELESTINE MAY ROSE, OWNED BY WOODEND FARM, MINNESOTA

She has completed a record of 10,218.6 lbs. milk, 480.48 lbs. fat as a junior 4-year-old.



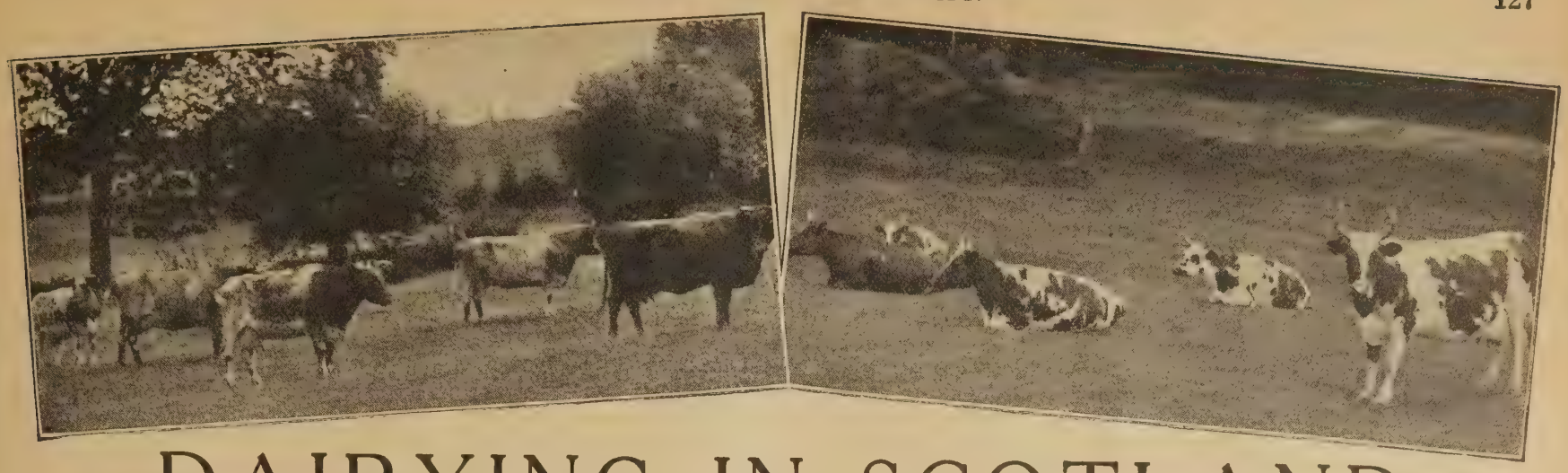
CORA OF GERAR, A GUERNSEY COW OWNED BY SHOREWOOD FARM, MINNESOTA

Her fourth official record is 16,958.2 pounds milk, 734.54 pounds butterfat in Class AA. This production entitles her to eighth place in her class. Her four records average 13,803.4 lbs. milk, 625.17 lbs. fat. The total, 55,213.9 lbs. milk, 2,500.7 lbs. fat, is the breed's greatest cumulative record, considering three records are double letter.



BROWN SWISS COW, MASTER'S BERNICE, OWNED BY W. O. BOHART, MONTANA

As a two-year-old this cow produced 10,499.5 lbs. milk, 364.5 lbs. fat, in eleven months. Her caretaker, A. E. Dean, is shown holding her. He cared for 20 cows on test and milked some of them in the field in summer to save their walking to the stables.



DAIRYING IN SCOTLAND

A. C. McCANDLISH, IOWA

TO the "Pussyfooters" Scotland is a land of Presbyterian churches and "Pubs", though the miners have recently voted certain sections "dry", while the main attractions for the "Tramp Abroad" are generally scenic rather than agricultural. Many of these delightfully deluded individuals are unaware of the fact that the highlander piping the Reel o' Tullochgorum at the entrance to his native glen, as the tourists coach past and contribute to his support, was probably raised in the smoky fastnesses of Glasgow or even in Packingtown, Chicago, and imported to the Highlands for the special purpose of bleeding suckers. If Scottish agriculture is to be seen in its true light, the rut made by the flivver of the tourist agent must be avoided.

Scottish agriculture is extremely variable as climatic and soil conditions are far from uniform. The country is only about half the size of Iowa yet more types of farming are found than in all the middle west. The rainfall varies from less than 40 inches on the east coast to over 140 inches per year in the northwest. In the dairy region in the southwest, 40 inches is about the normal annual rainfall and it is well distributed throughout the year. The drier sections in the east are given over mainly to grain farming and beef production, while in the northwest and extreme south sheep raising is the most important branch of agriculture. There are also certain localities of limited area where specialized branches of agriculture, such as potato raising and fruit growing, are extremely important.

Superficially, Scotland appears to have changed little in recent years but a study of agricultural conditions shows this to be a false impression, as changes, and many of them marked ones, have occurred, and perhaps nowhere are these more noticeable than in the dairy world. The full extent of these changes cannot as yet be appreciated nor can it be foretold if they are all for the ultimate good of the industry. A few changes which should have taken place are apparently in the distant future.

Land and Labor

Land and labor conditions are at present in a state of flux throughout Britain though in perhaps no section are conditions acute so far as the dairy farmer is concerned. The Scottish dairy farmer is in the large majority of cases a tenant holding his land under a long lease and with little desire to own the land which he cultivates, partly from an inborn desire to allow conditions to remain as they are, and partly because of the fact that all landowners are heavily taxed at the present time. In many cases the taxes and the outlay for the upkeep of buildings, fences, and other permanent items which must be maintained by the owners are greater than the rental value. Consequently where the lease is such that the rent cannot be increased, the farmer is better off renting than owning the farm. The existing conditions are causing the breaking up of many of the large estates and some of the farmers are buying their farms at the remarkably low figure of $100 to $150 per acre, to prevent outside men from buying and then ousting them at the end of the tenancy. A more equitable distribution of taxation among the large and small landowners would induce a greater number of farmers to purchase their land.

An important factor in dairying is the supply of milkers. In Scotland they are recruited mainly from the ranks of the women. They receive $2.50 per week for milking 10 cows, night and morning, and for each additional cow milked the stupendous sum of 25c weekly is paid. This seems a remarkably low wage, but it is large when compared with the prewar stipend of 75c per week for milking 10 to 12 cows. Though milkers are poorly paid, milking machines are becoming fairly common. In fact, on many farms they have been in use for 12 to 15 years though on others they have been put in for use only in emergencies.

A considerable rise in general farm labor costs has also taken place but even yet workers of this class are not too highly paid. In 1914 a very common wage for men was $3.50 per week, with a house and a few extras, and the total wage, including a fair valuation for the house and other items allowed, was about $5 per week. In addition the wife and older daughters of the worker usually milked and the younger members of the family, which generally was not small, worked in the fields during the busy seasons for 25c per day of ten hours. Now conditions are changed, the eight-hour day is the general run, with a half holiday on Saturday except in haytime and harvest, and the minimum wage, as prescribed by the Corn Production Act, is $12 per week, including prerequisites, for a man over 21 years of age.

At one time the "bowing" of cows was quite prevalent and it is still to be found on some cheese farms. Under this system the farmer provides the buildings, cattle, and a stipulated amount of feed while the "bower" provides the labor. The farmer gets his returns in the form of a cash or cheese rent. This custom was gradually dying out, as it does not give the farmer the control over his stock and labor which he generally desires, but labor scarcity during war times induced many farmers to resort to this system as it relieved them of labor troubles to a considerable degree. However, the majority of farmers prefer to control their cattle directly and pay their dairyman a stipulated wage to do all the work needed around the herd with the exception of the milking. The farmer hires and pays the milkers while the dairyman does the general work with the members of his family.

Types of Dairy Farming

Though the main dairy section of Scotland is in the southwest, other important dairy regions are to be found surrounding the large cities in other parts of the country. In all of these market milk localities, with one exception, conditions are very similar. The main object in such districts is milk production and very little is done to maintain the herds with home grown heifers. The calves are vealed or a bull of a beef breed will be kept and the calves sold to be raised for beef purposes. In such districts, it is needless to say, real constructive dairymen are scarce—they are simply milk producers out for the money with little real love for their work and no idea as to what real constructive breeding means.

The conditions under which they work indicate this. They do not mind hard work as many of them milk at three o'clock in the morning and then haul their product to the city immediately and very frequently make a second delivery after the afternoon milking. They simply raise and produce feed and convert that into milk with the aid of purchased cows. They are not the real dairymen of the country. A large amount of the milk produced on such farms is sold to wholesale men in the cities though some of the farmers retail their own product. In a few cases they also sell butter, which generally indicates that the evening's milk is skimmed before being mixed with that produced in the morning. Fairly stringent legislation keeps this practice at a minimum, however.

In the Edinburgh district much of the milk used in the city is produced under a different set of conditions. The cows are kept within the city limits and all feed must be purchased and in addition the regulations of the sanitary authorities necessitate the daily removal of the manure without the confines of the city. Under such conditions the raising of the stock necessary to maintain the producing herd is impossible. Fresh cows are purchased on the market or from districts at a considerable distance from

(Continued on page 154)



AYRSHIRE COWS, IN THE HERD OF JAS. HOWIE, SCOTLAND, WHICH GIVE 1000 GALLONS OF MILK PER YEAR

Washington, D. C., Weekly News

[SPECIAL TO HOARD'S DAIRYMAN]

WASHINGTON, FEB. 1—The emergency tariff bill retains its place as the unfinished business of the Senate, in spite of filibustering tactics by various senators opposed to the principle of the tariff on agricultural products. Senator Penrose has taken up active leadership in an effort to force the bill through, and is said as this is written to have the signatures of forty Republican senators to a demand for the enforcement of a seldom used closure rule to shut off filibustering. There are votes enough to pass it if a vote can be had, for asking an immediate disposition of this important measure, because of the big appropriation bills awaiting consideration.

Senators Thomas of Colorado, Harrison of Mississippi, and Underwood of Alabama are leading the opposition. Senator King of Utah has also made a speech in opposition, but has not joined in the obstructive tactics. Senator Lenroot of Wisconsin has written friends of the dairy tariff item in the bill that he is in favor of its enactment.

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Senator Knute Nelson of Minnesota has resigned as member of the Conference Committee to which the Capper—Volstead bill has been referred. Senator Nelson is chairman of the Senate Judiciary Committee which added the objectionable amendment, forbidding co-operatve associations as approved by the bill to "create monopolies" which, according to the sponsors for the bill, weakens it to the extent of making the measure of less value than the present law. His resignation from the Conference Committee was a surprise to everyone interested. Vice-president Marshall named in his place Senator Walsh of Montana who is a Democrat and is understood to hold views even more antagonistic to the Capper—Volstead measure than Senator Nelson. Senator Nelson's attitude in standing firm for the retention of the Senate amendment was made the basis of strong efforts on the part of the American Farm Bureau Federation to bring sufficient pressure from the Farm Bureaus in Minnesota to cause him to modify his views. This was ineffective and he had personally served notice on the Washington representative of the Farm Bureau that his mind could not be changed in this way. The reason given by the Minnesota senator for his resignation is sickness in his family. The Capper—Volstead bill is still in conference, and the conference is said to be deadlocked. The National Grange in its bulletin issued this week makes a statement credited to Representative Volstead of Minnesota correcting a previous statement that the House was responsible for the second amendment which is opposed by the representatives of farmer organizations, the one which substitutes the Federal Trade Commission for the Secretary of Agriculture as the supervising authority in the bill. This amendment, too, was added in the Senate sub-committee.

⚜

The House Agricultural Committee is considering the Packer control bill, which passed the Senate, January 24. The bill might be finally passed at this session, if it can get through the House without amendment. If it is delayed, or amended, so it will be compelled to go to conference, there is not time enough to pass it. Hence every packer advocate is trying to amend the bill. Many others who honestly think the bill is defective and who are not pro-packer are also in favor of amending it, so its course is a stormy and tortuous one. The committee by a tie vote refused to hold any more hearings, and by a tie vote has refused to accept several amendments. The sessions are becoming heated and somewhat bitter. Up to this time not enough votes have been mustered to report the Senate bill favorably. It is hoped, however, by the forces fighting the packers, that this will be done this week. Chairman Haugen has given up his own ideas of amending the bill, and is fighting for a favorable report. Opposition to the bill is led by Rainey of Chicago, with McKinley and Wilson both of Illinois aiding and abetting, while Riddick of Montana and McLaughlin of Michigan have both asked for certain amendments. Hutchinson of New Jersey and Ward of New York are other members of the committee who favored amendments and delays.

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There is no public announcement growing out of the recent opinion of the Attorney General holding that butter made after the use of neutralizers is adulterated butter. It is rumored that the Attorney General has been asked for a reconsideration, so that persons familiar with the methods of butter manufacture may present the plain facts to his attention, in an effort to get an opinion less sweeping and general in character, and more definite and discriminating. It is also stated that the word has been given out that a thirty-day stay has been unofficially agreed upon before any test case will be enforced. Such action as seems likely to be resultful and constructive is a request that the sweeping terms of the opinion be made definite and explicit as to the wide differences of practice which exist ranging all the way from the careful and seemingly harmless use of an alkali to condition cream for pasteurization to the use of chemicals to eliminate results of real decomposition. The original ruling bars the entire practice, as it is most easily interpreted. There is a large number of prominent persons in the butter industry who hold that the question of adulteration should rest on the condition of the finished product and what it contains, rather than on the methods of manufacture. Certainly if the methods of manufacture, the condition of the raw product, and the nature of the chemicals used in the manufacture of butter substitutes are accepted, there could be no objection, by comparison, to any of the methods used which produce palatable butter, which is all butterfat and which holds its full content of vitamines and the same food value as other butter.

⚜

The Dairy Division is preparing for a Use More Milk Campaign in Akron, Ohio. Miss Jessie Hoover of the Dairy Division office of extension is in charge, and co-operation has been arranged between the dairymen's association, the milk distributors, the Board of Health, the Chamber of Commerce and the various community and consumer organizations. The campaign comes next month.

⚜

Maryland—Virginia Association officers are planning a milk plant in the near vicinity of Washington to handle the surplus likely to develop this spring in this territory. Manager McLaughlin of this association has the plans well in hand, and they have the tentative approval of the executive committee. Further official announcement is expected soon.

⚜

The House Committee on Foreign Affairs voted on Friday last to report out the resolution offered by Congressman Browne of Wisconsin authorizing the President to invite foreign countries to send delegates here to a World Dairy Congress in 1922. The committee gave a brief hearing on Thursday at which it developed that it would not approve a resolution authorizing this invitation which might involve considerable expense. The hearing was continued until the following day, when Congressman Browne offered to amend by inserting a proviso to the effect that this resolution did not create any financial responsibility. This was accepted by the committee as proper. B. H. Rawl and C. W. Larson of the Dairy Division made brief statements as to the advisability and desirability of this congress, and A. M. Loomis, Secretary of the National Dairy Union, and Milo D. Campbell, president of the National Federation of Milk Producers' Association, told the committee of the formation of the temporary committee in Chicago, at the National Dairy Show, to work out the plans for such a congress. The committee vote was unanimous in support of Congressman Browne's resolution. There will be no action in the Senate until the House passes this resolution, making it urgent that there be prompt consideration if possible.

Pennsylvania Dairymen at Harrisburg

HOARD'S DAIRYMAN: — Dairymen from all parts of Pennsylvania met at Harrisburg the last week in January to attend the Fifth Annual Farm Products Show. Starting five years ago with only five thousand feet of space, this show has grown until this year it was thirteen times as big. With nearly seventy thousand square feet of space available many things had to be omitted. This is more space than Harrisburg can properly handle and sentiment on all sides is growing for a state fair befitting a commonwealth which, although largely noted for its industries, is in reality the sixth agricultural state in the Union. While dairy products have always had a prominent place at this show this was the first year dairy cattle appeared and it also marked the first annual meeting of the State Holstein-Friesian Association.

⚜

The dairymen of Pennsylvania are optimistic. Of course they feel the recent drops in the market prices for their products but they know they are not suffering alone, and have set their minds and hearts to work for a better future. When they think of the February price for New York milk of $2.98 a hundred, they feel good over the basic Philadelphia price of $3.68. President F. P. Willets and Secretary Robt. W. B. Balderson, of the Inter-state Milk Producers' Association, which handles the business of the Philadelphia territory, spent almost the entire week at the Association booth. One of the most notable new members is the Governor of the State, William C. Sproul, who signed for his dairy of 40 cows on his home farm in Delaware County. The Association had a striking exhibit showing the value of milk. Thousands of city people stopped to admire it and learn its lesson. It is to appear in several prominent store windows in the Philadelphia shopping district.

The dairy cattle exhibit was educational rather than competitive. To drive home the truth that a daughter can be better than her dam if a tested and worthy sire is used, seven choice Holstein-Friesian cows and a splendid pure-bred bull were there with accurate records hanging over all of them. In each case the daughters showed marked increase in yearly milk and fat production over their dams. This exhibit was from the state hospital farm at Warren and was part of one of our leading accredited herds. Although this state now claims to lead all the others with 21 bull associations having in them 98 animals of meritorious breeding, we still have need for many improved sires. Chester County, our leader in dairying, recently undertook a better sire campaign and is working hard to have only pure-bred bulls at the head of all its herds.



AAGGIE PERFECTION SECOND, HOLSTEIN COW OWNED BY L. G. GLEIM OF IOWA
This cow at 12 years of age has produced 23,000 lbs. of milk containing 840 lbs. of fat. This is held to be the world's record production of both milk and fat for a cow of that age.

The old story of the difference in cows, alhough they may look alike to the casual observer, was repeated for those who are slow to learn. Six cows were there from a cow testing association and their differences ran from the one with a yearly fat record of 148 pounds giving a return of $20.63 above feed cost, to the one which gave 419 pounds of fat with a return of $163.02 above the feed cost.

⚜

As a concrete example of what the 241 members of boys and girls dairy cattle clubs of the state are doing, the Point Township Club (Northumberland County) exhibited six fine

(Continued on page 140)

Dairying Thirty Years Ago

Taken from the Issue of Hoard's Dairyman of February 13, 1891

The total gross cash income per cow for the animals contributing to the Connecticut creameries the past year has been $43.20.

⚜

It has been found that corn meal and middlings will not make 4-cent pork at a profit in New Hampshire—but that 20-cent skimmilk will do it. The Wisconsin Experiment Station has found that to mix meal and milk pays far better than to feed either exclusively.

⚜

Mr. Henry Chase of Decorah, Ia., is the sort of a dairyman that is valuable to have in a community as a practical example. During the past year he has kept an average of 9 cows and has derived an income therefrom of over $500. He took the precaution in the first place to have good cows. One such dairyman is worth more than a whole county full of the sort who "let things flicker" and take what they can get.

⚜

Mr. H. E. Stockbridge of the North Dakota Agricultural Experiment Station writes a hopeful letter in regard to the opening of their special course this winter by which it appears 28 young men in that new land are in attendance. Mr. Stockbridge adds that "is a larger number than has been obtained at any other single special course of instruction similar to that undertaken here." Quite a start; but if he will read the Dairyman of the 6th of February, he will see that the Wisconsin Experiment Station had 70 scholars in its special school; but perhaps he can "hedge" a little, because of the fact that part of the Wisconsin students are studying dairying only.

⚜

A valued subscriber says well when he says he does not always agree with the Dairyman; and adds: "But this is just what we want—an exchange of views from sensible men." That is it, exactly, and when we compare this broad catholic spirit with the fears of pigmies who are afraid, the vigorous expression of an honest opinion will topple down the pillars that uphold the temple of truth and progress; we can but pity the pigmies and thank God for those true and brave. The man who is afraid of the expression of a view that is adverse to his own can't have a great deal of confidence in the soundness of his own position. It is well to get rid of all positions that you do not feel you can stand up to the rack, like a man, and defend. A man ceases to make an indentation on a hoary old wrong the moment he begins to give it light taps or ceases to hammer at all.

Scores on Milk in Los Angeles

Milk scores made by the Health Department of Los Angeles give some very interesting information on the quality of milk being distributed in that city.

Scorings of certified milk, which is raw milk produced under the supervision of the Medical Milk Commission of the city and which must not contain more than 10,000 bacteria per cubic centimeter, showed an average for the three best samples of 94.7.

A score of 95.3 was the average for the three best samples of "guaranteed milk". This milk is raw milk guaranteed by the producer with the written permission of the city of Los Angeles. It must have a bacteria content which does not exceed 25,000 per cubic centimeter.

The best three samples of Grade A raw milk averaged a score of 96.7. This is from tuberculin tested cows and must not exceed 100,000 in its bacterial content.

The three best scorings of Grade A pasteurized milk averaged 94.6. This grade of milk has been heated to a temperature of 142°F., held for 25 minutes, and then rapidly cooled to below 50°F. Its bacterial content can not exceed 15,000 per cubic centimeter after pasteurization or 200,000 before.

Grade B milk, that which is sold in cans to restaurants and wholesale trade, must contain less than 1,000,000 bacteria per cubic centimeter before pasteurization and less than 50,000 per cubic centimeter after pasteurization.

The card used in these scorings allowed 35 points for bacterial count, 15 for flavor and odor, 16 for absence of sediment, 15 for butterfat, 15 for solids not fat, 5 for acidity, and 5 for appearance of package.

Final scorings were made under the supervision of R. J. Posson of the United States Department of Agriculture, Dr. A. S. O'Banion, and J. C. Marquardt of the University of California.

Jersey Cattle Notes

For week ending Jan. 21.

Number of animals registered: bulls, 175; cows, 610; total, 785. Number of transfers recorded: bulls, 145; cows, 596, total, 741.

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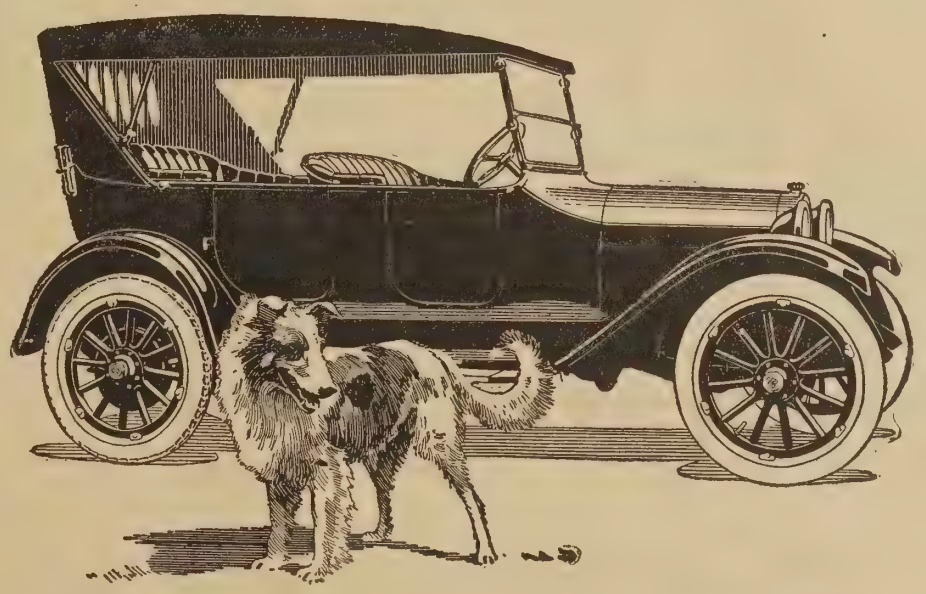
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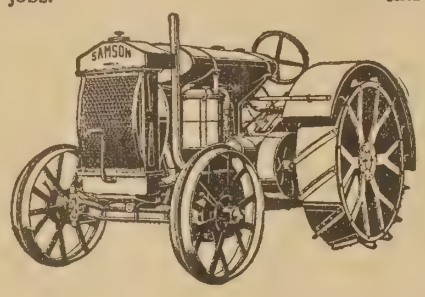
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Some Notes on the Tuberculin Test

E. G. HASTINGS, Wisconsin College of Agriculture

AT the recent meeting of the Wisconsin Dairymen's Association, inquiries were made that indicated to the writer that many of the aspects of tuberculosis, as it occurs in the domestic animal, are not as well understood as they should be if proper progress is to be made in the fight against this disease which is of such great economic importance in our country.

One of the questions asked by a man with many years' experience in breeding cattle referred to the fact that some of the animals that have reacted to one or more tests now in common use do not show evidences or lesions of the disease on careful examination of the tissues. The answer made by the representatives of the Bureau of Animal Industry of the United States Department of Agriculture was, in substance, as follows: On the killing floors of the packing house it is impossible to examine all parts of the body that may be affected. The examination is made chiefly for the purpose of determining the fitness of the meat for human food. The inference was carried that if the examination could be more detailed, and if a microscopical examination of the tissues could be made, in many and probably in the majority of cases, evidences of the disease would be found. The afternoon program was concluded by the slaughter of a reacting animal from a herd in which tuberculosis was known to be present. The post mortem examination revealed no evidences of the disease, a fact disconcerting to those giving the demonstration and tending to arouse doubts in the minds of those witnessing the examination.

The demonstration seemed to indicate that the tuberculin test had failed, that it had judged as guilty an animal that was not guilty of having tuberculosis. Possibly this was true, but probably not. It is quite certain, however, that the test does sometimes fail in detecting the tubercular animals. From the standpoint of the breeder this failure is infinitely more important than its failure in the opposite direction, namely to adjudge what seem to be healthy animals as tubercular.

The reaction to tuberculin is a phase of a subject that has many ramifications, and is gaining in importance each year: namely, the sensitization of an animal to compounds, chiefly proteins, from some other living thing. The sensitization may occur by the artificial injection of the substance. For example, a guinea pig may be sensitized to egg white by injecting a minute quantity into the tissues. The sensitization is made apparent by the fact that if within a few weeks after the first injection a second is made a violent reaction follows, the animal has difficulty in breathing, and often death occurs in a few moments. The reaction to the second dose varies widely in its intensity in the guinea pig, and still more widely when larger animals are used. Other manifestations of the same phenomenon are such diseases as hay fever, due to an acquired sensitiveness to the pollen of certain plants, and asthma, due often to the sensitization to substances of animal origin, such as dust from the skin of the horse. The manner in which the sensitization occurs is unknown. Ways have been devised by which the original source of the sensitizing substance can be determined. This accomplished, the sensitiveness can be overcome. The individual is said to be desensitized, and the hay fever or asthma appears no more. It is common knowledge that hay fever occurs in all degrees of severity, as does asthma. In other words, the degree of sensitization varies from such a slight degree that the disease is not recognized, to that in which the individual is very ill when brought in contact with the sensitizing material.

It is common knowledge that the use of certain foods causes serious disturbances in some people. The eating of strawberries may result in a rash over the entire surface of the body. Many people can not eat eggs. It is believed that such incidents represent cases of sensitization to the particular food.

The tubercular animal is sensitized to the tubercle bacillus or to its products. When the latter are introduced in relatively large amounts, as is done in any of the tuberculin tests, a reaction of varying degrees of severity occurs; a variation in the temperature of the animal when the tuberculin is injected beneath the skin as in the subcutaneous test, in the extent of swelling in the intradermal test in which the tuberculin is injected into the skin, or in the inflammation of the eye in the ophthalmic or eye test.

The interpretation of the test demands judgment as to how marked a reaction shall occur before the animal is said to have reacted to the tuberculin. Somewhere a dead line must be drawn; on one side the animals are said not to have reacted, on the other side they have reacted. Admitting that all degrees of sensitiveness exist, all degrees of reaction will follow. The results will therefore not permit of the division of the animals into two groups, one healthy and the other tubercular. Among the nonreacting or supposedly tubercular-free animals are likely to be found some tubercular ones.

Dr. V. A. Moore of the New York State Veterinary College at Cornell University is authority for the statement that from 5 to 20 per cent of the tubercular animals can not be detected by a single application of the tuberculin test. The present day veterinarian seeks to overcome this limitation of the specific tests as well as may be by using two or even three of the tests at the same time or by repeated use of the same test. Under the best of circumstances some tubercular animals will escape detection. Their presence in the herd is a menace to its future health. By consistent and repeated tests a herd can be protected against the disease in the great majority of instances. Now and then a failure appears, a failure so striking as to destroy the confidence of some in the value of the test.

It will be seen that what has been said refers to the non-detection of the disease. Sometimes the test points the finger of suspicion to what is found on slaughter to be an apparently non-tubercular animal. Two explanations are possible, and both seem probable. First, the tubercular animal may be extremely sensitive, a most minute development of the disease may cause a reaction, and the amount of diseased tissue may escape even the most careful examination. Again, some other condition than the tubercle bacillus may produce a sensitiveness to tuberculln.

It does not matter which of these conditions is most frequently the cause of the removal from a herd, of animals that do not show lesions on slaughter. Such instances occur and will continue to occur. If the breeder is to use the tuberculin test, he must use it with such limitations as it may have. Without its use tuberculosis will spread unchecked. With the tuberculin test we hope to limit its spread, to reduce the amount of the

disease, and to keep it out of areas that are practically free from it, as are some of the northern counties of Wisconsin.

Admitting that the statements made are correct, will it not be conducive to peace of mind for the breeder who is using the tuberculin test to adopt the policy that the test is more nearly a correct agent for the determination of the presence of tuberculosis than is the post-mortem examination? If some of his valuable animals react, and their isolation from the remainder of the herd is impossible, he should consign them to the slaughter house with the idea that what he has done is best for the herd, and ninety-nine times out of a hundred it will be. If he follows the animals to the killing floor, and no evidences of disease are found, he questions the tuberculin test, and may abandon it, with the chances of having made a mistake ninety-nine times out of a hundred. If I were a breeder I would use the tuberculin test. I would part with the reacting animal, ask no questions as to what was found, and I should be certain that what I had done would be the safest road to success as far as the health of the herd is concerned.

Washington Holstein Affairs

HOARD'S DAIRYMAN:—With the selection of Stanley V. Butchart as secretary, the organization of the Washington Holstein-Friesian Breeders' Association is completed. Mr. Butchart was one of the organizers of the Yakima County Holstein-Friesian Breeding Association and for a number of years has been a leader in the improvement of live stock in the Yakima Valley.

The rapid growth of the state organization is largely attributable to the untiring efforts of F. S. Stimson of Hollywood Farm. The initial step in the development of the state association was taken at the Washington State Fair last fall when fifty Holstein breeders in attendance effected an organization, electing Mr. Stimson president and R. L. Rutter as temporary secretary. This meeting was adjourned to assemble again at The Pacific International Live Stock Show. At that meeting President Stimson presented a constitution and set of by-laws which were adopted. In discussing conditions prevailing throughout the Northwest it was stated that the demand for high-grade Holsteins is increasing and breeders are finding it more difficult to supply a sufficient number of animals for the buyers.

"Eastern breeders are beginning to look to the Northwest for good stock. One of the greatest opportunities of the state of Washington has is in the development of the pure-bred cattle industry. We have every advantage in climate and other essential conditions. The official records show that we have the foundation stock. No other industry in the state has greater possibilities", says C. A. Harrison, a Seattle breeder of pure-breds. Mr. Harrison took Countess Sunnyside DeKol 2nd, grand champion of the 1919 Pacific International Live Stock Exposition, to the National Holstein Sale at St. Paul last June where she was sold to a Pennsylvania breeder for $5,000, her calf bringing $2,800.

With the record of 37,380 pounds of milk containing 1,158.95 pounds of fat, exceeding the former world's record by 3,958 pounds of milk, Segis Pietertje Prospect owned by the Carnation Stock Farm added new laurels to Washington's Holstein record.

The Holstein breeders of Washington take pride in the fact that they are developing a highly efficient type of dairy animal as is evidenced by the fact that many breeders in other sections of the country are looking to the Northwest for their foundation stock. President Aitken in addressing the breeders of Snohomish County said: "The chief trouble with the dairy business in Washington and elsewhere is that three-fourths of the milk producing machines on the dairy farms are antiquated and inefficient and many of them are operated by inefficient men."

He referred to the dairy cow as a milk manufacturing machine and said the farmers would be the first to laugh at any other manufacturer whose equipment and methods were as inefficient as that on many dairy farms. "The consumers of dairy and other farm products have a right to expect that the farmers will use efficiency in their business and not require the consumer to pay for the lack of it," he said.

It is believed by those responsible for the organization of the association that it will accomplish much toward the elimination of the inefficient and scrub dairy cow and that the dairy industry of the state of Washington will be placed on a higher standard.

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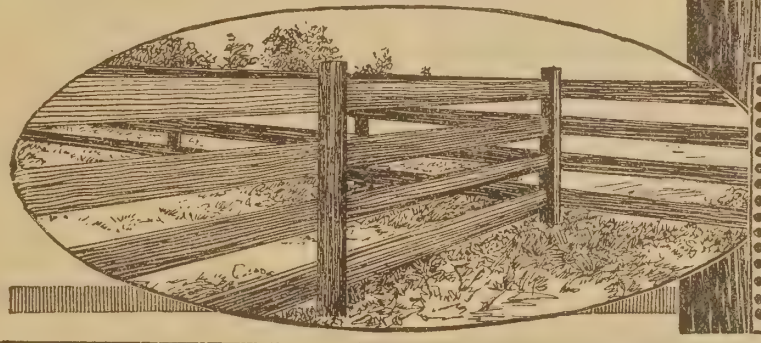
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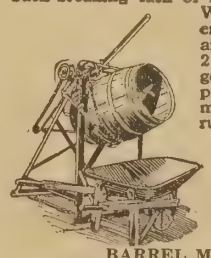




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AMERICAN STEEL WOOL

Holstein Breeders of New Jersey Meet

During the week, January 10-15, the Holstein breeders of New Jersey held a very enthusiastic demonstration for the breed at Trenton. Twelve Holstein cows were on exhibit to teach the value of record keeping. Other Holsteins were shown to illustrate the proper type of Holstein breeding animals. Two calves were compared, one of which had received plenty of milk and the other being stunted because milk had not been fed. Truman Davis, a member of a boys' calf club, had on exhibit a pair of twin heifers a year old.

On January 13th Holstein breeders met in annual session. G. D. Brill was elected president for the coming year; N. Y. Dungan, vice-president; W. M. Regan, secretary; and Thos. Metler, treasurer. Committees on advertising, program, legislation, and membership were appointed. It was decided to hold a sale June 9th. In the afternoon session B. D. Scott, secretary of the Minnesota Holstein Breeders' Association, gave a talk which was received with much enjoyment. At the evening banquet it was stated by Mr. Dungan that of the 150,000 dairy cows in New Jersey, 120,000 are black and white.

Merrill Secretary Oregon Dairy Council

HOARD'S DAIRYMAN:—Fred W. Merrill has been elected secretary of the Oregon Dairy Council. Mr. Merrill formerly edited a dairy magazine and has had wide experience in organization as well as in work that pertains to the dairy industry. He succeeds Edith Knight Hill who has been with the Oregon Dairy Council since its founding.

The council will put a strong effort into organizing along firm financial lines and will extend the work already started and establish new interests. It is the aim of the new president, J. E. Dunne, and Mr. Merrill to establish a Northwest council among the Northwestern-Pacific states that these may co-operate in the work done for the dairy industry.

The Oregon Dairy Council so far has done most of its work through the schools, clubs, mothers' and parent-teacher meetings, and by means of milk surveys, talks before community and farmers' gatherings, and through the press. Exhibits in the libraries, schools, and at fairs have played an important part. The Council now has an exhibit in the state house at Salem where the legislature is meeting. The secretary spoke before farm bureau meetings and has addressed several school assemblies in January.

⚜

The Oregon Dairymen's League is doing good work now and is meeting with success. At a recent meeting in Hillsboro the members voted in favor of subscribing $100,000 worth of preferred stock to erect plants (cheese) in Washington County to insure a market for milk in that locality. The shutting down of the condenseries in that locality had caused this problem to arise.

⚜

D. D. Aitken, president of the Holstein-Friesian Association of America, who is visiting the Pacific Coast was entertained in Portland at a banquet given on January 28 under the auspices of the Pacific-International Live Stock Exposition, the Oregon Dairy Council, and the Oregon Holstein Breeders' Association. A banquet at the Hotel Portland was a fea-



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ture. Other shining lights present were Henry McCall, president of the Oregon Holstein breeders; O. M. Plummer, manager of the Pacific-International; and Fred Stimson of Hollywood, president of the Pacific-International; J. E. Dunne; Fred Merrill; a score of bankers, and as many breeders; and a large delegation of dairymen.

A junior Guernsey Cattle Club has been organized in Clackamas County, Oregon. The Clackamas County Guernsey Cattle Club last year had among its members several boys and girls. Four of these young people were among those who imported heifers from the Island of Guernsey. Three members of the junior club exhibited at the state fair last fall. Francis Hughes, son of Mr. and Mrs. I. A. Hughes, placed first with his heifer. Francis won a trip and scholarship to Oregon Agricultural College for next summer.

Oregon. E. K. HILL.

Steps in Land Clearing

Here is a boiled down discussion of land clearing methods:

Cut the trees down and get them out of the way.

Cut brush with a brush scythe or other suitable tool and pile it up as cut.

Collect dead and down timber and pile it for burning.

Utilize all trees and down timber for fuel, it's worth while.

Blast stumps as preparation for stump puller.

Haul pulled stumps to pile and pile them with Conrath home made piler for burning.

Stump removing is the most important job. It is preceded by blasting with 20 per cent dynamite, using either fuse or electric blasting machine. The dynamite splits the stumps and makes them easy to remove with a team or horse power puller, of which there are several makes and styles.

Stumps once out of the ground should be arranged in high, narrow piles and burned as soon as they are dry.

2,464 Guernseys Average $508

Five hundred and eight dollars was the average price paid for 2,464 Guernseys in forty-nine sales reported in the Guernsey Breeders' Journal from January 1, 1920, to December 15, 1920, inclusive. Two thousand and eighty-eight females brought $1,107,489.70, an average of $530.41. Three hundred and seventy-one bulls brought $144,551.46, an average of $389.63. Six Guernseys whose sexes were not stated brought $365, an average of $60.83. The total sales amounted to $1,252,406.16.

The average for 1920 is indeed encouraging. Some sales have brought low averages and have tended to cast a gloomy aspect upon the entire pure-bred dairy cattle situation, but when all the facts are brought out we find that the past year has been very flourishing for Guernsey breeders. The average for 1919, which was $546, was not quite reached, but the total number of cattle sold in the last year exceeded the number sold in 1919 by more than 88 per cent.

A detailed statement of averages for the last three years is given in the following table. The cents in each case have been omitted.

Year	Sales	Females No.	Females Ave.	Bulls No.	Bulls Ave.	Total No.	Total Ave.
1918	38	737	$385	167	$284	1318	$330
1919	29	1096	561	213	470	1309	546
1920	49	2088	530	371	390	2464	508

—AMERICAN GUERNSEY CATTLE CLUB.

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EDITORIAL COMMENT



It is refreshing to be advised of the action of the milk producers in the vicinity of Orfordville, Wis. A successfully operated creamery has been located in this place for many years. During the war the demands for condensed milk grew, so a condensery was established which took away almost all the creamery's patrons. Some of the far-sighted patrons appreciated that there would be a reaction in the condensed milk business and when the owner of the creamery desired to discontinue its operation, they bought it. When the crash came to the condensed milk industry, these far-sighted patrons opened the creamery. They have had a good market for their product and have received an unusually good price for butter and have had the skimmilk for feeding their live stock. The price these patrons received has been quite as good as has been paid for market milk and they have been in a position to care for their own product and to direct its marketing.

These men exhibited a business foresight and showed an understanding of marketing conditions which is highly commendable. We wish every dairying community had men with such foresight and business understanding. It would mean a regeneration of the present system of preparing and marketing dairy products.

PROTECT THE BUYER

A commendable action is that taken by the managers of Wisconsin dairy cattle sales. In an effort to standardize public auction practices and further insure fair treatment for the buyer, six regulations have been agreed upon for adoption. Sales operating under these rules will be designated by the "seal of approval" of the state federation of sales managers. Consignors violating any of the rules will be barred from selling in "approved" sales and their names made known to the federation members.

Observance of provisions guaranteeing honest dealings with purchasers in the public auction can have but one effect—that of increasing public confidence in that institution. The sooner all sales get away from the rule, *caveat emptor*—let the buyer beware, and recognize the justice of protecting their customers, the greater is the benefit to the pure-bred industry.

COST OF MILK

Ever since dairying has taken on the form of an industry, an attempt has been made to estimate the cost of producing milk or, perhaps better say, to determine the profit made by keeping cows. More than forty years ago the leading dairy farmers of Wisconsin, those engaged in close studying of what dairying would do and what returns it would make, came forth with a formula—if it may be called such—which would indicate the profit made by keeping cows. These men came to the conclusion that if a cow returned $25.00 a year above the cost of feed, she yielded a profit of that much to her owner. They appreciated that other factors entered into the cost of producing milk, such as interest on investments, depreciation, labor, etc.; and, on the other hand, they recognized that the cow brought other returns than simply from her milk or fat; that is, the calf, the utilization of farm products that have no market without her, the employment of labor, especially of the family, and her manure. After balancing these factors they concluded that any return above the cost of feed was profit. These men had observed bran being run into the mill race or burned as fuel and cornstalks, which contained 40 per cent of the nutrients in corn, wasted in the field; they knew the advantages of feeding skimmilk to the live stock on the farm; what the manure would do for the land; the opportunity for following a system of diversified farming with rotation of crops.

As we review the reports from various sources on the cost of producing milk, we come to the general conclusion that these men were not far wrong, especially where the farmers are following diversification. Anyone who has considered the cow and all her relations to agriculture knows how difficult it is to arrive at the returns she makes. This one thing is sure—farmers who have kept good dairy cows and followed diversified farming have made money, and are now better off than any other class of farmers.

ARMSBY VS. SAVAGE FEEDING STANDARDS

In the balancing of rations there is considerable difference in the requirements for dairy cows as stated in the various published feeding standards. At the University of Wisconsin a test has been made with dairy cows to discover the difference in results from the Savage and Armsby standards, two which are now widely used.

In balancing rations according to the standard of Savage, cows producing fairly heavily are shown to require considerable more concentrates than is specified according to the Armsby standard. A trial has been carried on to show the effect of this difference in total digestible nutrients or net energy. Two lots of eight cows each were used in the experiment which covered three periods of five weeks each. The average of results with the Armsby ration shows that the cows consumed 7.21 lbs. of concentrates, 10.8 lbs. of alfalfa, and 31.6 lbs. of corn silage per head daily. When fed the Savage ration they consumed 10.33 lbs. of concentrates, 10.8 lbs. of alfalfa, and 32.3 lbs. of corn silage; that is, the Savage standard furnished three pounds more concentrates per day. The average daily milk yield on the Savage ration was 27.94 lbs. On the Armsby ration it was 25.72, a difference of 2.22 lbs. Also on the former ration the daily yield of butterfat was 1.04 lbs. and on the latter .97 lb., a difference in favor of the Savage standard of .07 lb. On the Savage ration cows gained slightly more in live weight than with the Armsby feed.

The results show very clearly that with most of the animals in this test the Armsby ration did not supply sufficient nutrients to permit maximum production. It is pointed out that while the total production of a cow is of first importance to the breeder who is feeding cows for maximum records, economy of production is of greater importance to the average dairy farmer. With feeds calculated at 1917 and 1918 prices it was found that the feed cost of 100 lbs. of milk was $1.78 on the Savage standard and was only $1.60 on the Armsby ration. The feed cost of one pound of butterfat with the former ration was $.48 and with the Armsby ration only $.42. The results indicate that rations balanced according to Savage standards cause greater production than those according to Armsby requirements. However, when feeds are high it is more profitable to feed somewhat less concentrates, as advised by the Armsby standard, in order that maximum economy of production may be secured.

CAN YOU INFORM US

Since the inception of Hoard's Dairyman we have attempted to show the feeding value of skimmilk. It has been shown by experiment that 100 pounds of skimmilk is equivalent to one-half bushel of corn or six times the value of a pound of live pork. In other words, when corn sells for 60 cents per bushel, skimmilk is worth 30 cents per 100 pounds, and when hogs sell for $9 per 100 pounds, skimmilk is worth 54 cents. For the feeding of grade calves selling at the age of six months for $25 apiece, skimmilk is worth 50 to 60 cents per 100 pounds. For chickens it is estimated to be worth all the way from $1.50 to $2 per 100 pounds.

We were recently informed of a group of farmers, taking their milk to a creamery, who refused to carry the skimmilk back home as they considered it of no feeding value. If they refused to feed their live stock skimmilk from a creamery which had not been properly pasteurized, fearing tuberculosis might be carried to their herds and flocks, it would be a very reasonable excuse. But to refuse skimmilk because, in their minds, it has no feeding value is to us a lamentable state of affairs. It has been shown by experiments that one pound of corn and three pounds of skimmilk make an ideal ration for the production of pork. It not only produces a high quality of pork but hogs make their most economical gains on this combination of feeds.

Utilizing skimmilk for the rearing of hogs and calves and for egg production brings about a diversification in farm operation that is highly desirable and according to our government reports the farmers producing animals and animal products have suffered less financial reverses or liquidation than those producing crops. If it can be impressed upon the farmer that this diversification is advantageous to his profit and if he could be taught the value of these by-products for the rearing of his live stock, the milk question to a very large extent would be solved.

Can anyone inform us what we can do to get the milk producers to comprehend the advantages of this course?

FARMERS STABILIZING FORCE

Dr. Bailey, in an address before the American Association for Agricultural Legislation, says, regarding debates and discussions: "They breed the spirit of self help. Unfortunately the philosophy of grievance, discontent, and complaint is abroad amongst us, and it propagates itself and grows big by habitual discussion. It breeds the spirit of dependence and sows the seeds of strife. These numerous people, standing on the earth, owned by nobody, impossible to stampede, each man responsible for his program, cautious of novelty, moving separately rather than in crowds, temperate in hero-worship, will absorb the shock in the conflicts of the classes. They should be a stabilizing influence. It is just because the farmer stands between and behind the classes that he may render inestimable service to society by helping to umpire the disputes."

Some farmers feel ill over the agricultural situation of having their industry liquidated with such a vengeance and before others had a taste of it. These men feel a great deal worse than they should or than conditions warrant. The great body of farmers are acting wisely and resolutely in our present situation and most of them say that this condition had to come and the sooner it did the better it would be, not only for agriculture but for the nation. It is their desire to see it go on until conditions are brought back to normal. They have not been affected by talk or discussions, or have they stampeded. They have absorbed the shock. They are the stabilizing influence, for they appreciate that agriculture will survive. A few farms will suffer because they have expanded too much. Outside of a small percentage of dairy farmers, the dairy industry has suffered less than any other branch of agriculture. The patrons of creameries and cheese factories are in position to make more money by feeding cows this winter than last, for the prices of feed are relatively cheaper than the price of butterfat. Among the well organized co-operative creameries that have secured a good market for their high quality butter there is little complaint, for the patrons are self reliant, resolutely going forward with their work, and they are not permitting themselves or their industry to become depressed.

Margin on Milk Store

In furnishing bottled milk to stores where milk is retailed at 15 cents per quart, what price should the grocer pay for the milk?

Gypsum, Colo. O. W. R.

The margin allowed stores for handling milk depends upon the arrangement made for taking

back surplus, making up bottle losses, etc. The average allowance for grocery stores for carrying bottled milk ranges from one to two cents per quart, about half taking a margin of one cent and about half taking a margin of one to two cents. The margin taken by stores selling dipped milk averages one-half to one cent per quart.

It is estimated that the cost per bottle for icing during summer months ranges from .087 to .417 of a cent per quart, the average being about one quarter of a cent. To this ice cost must be added labor costs, risks, and overhead.

Sweet Curdling of Milk

What causes milk to clabber and get thick with sort of a whey coming to the top? There is not the least bit of acidity to it as it has a rather sickish, sweet taste. The cream sours all right. The cow seems to be perfectly healthy and this condition does not occur except occasionally. I am feeding a balanced ration of grain, together with mangels and mixed clover hay.

Cuba, N. Y. G. B. D.

The fermentation which normally occurs in milk is one in which acid is formed from the sugar. The taste of the milk gradually changes from sweet to acid, or sour, and the milk curdles under the action of the acid produced by the acid-forming bacteria which in one way or another find their way into nearly all milk. Many other kinds of bacteria are also introduced into milk. As a rule, the non-acid formers do not find as favorable conditions for growth in milk as do the acid forming bacteria. They are, therefore, unable to compete with the acid-producers and usually their presence is not noticeable in the milk. If the acid-forming bacteria are not introduced into the milk, a condition that is possible when the milk utensils are very thoroughly cleaned and sterilized and when the milk is produced under clean conditions in other respects, the non-acid-forming bacteria make themselves manifest and produce what may be called an abnormal fermentation in the milk.

Many of the non-acid-forming bacteria produce a substance very similar to the rennet used in curding milk in cheese making. The milk in which such bacteria have grown may curdle and still show no acid taste or odor. This change is frequently called the "sweet curdling" of milk.

If the bacteria forming the rennet-like substance are introduced into the milk in large numbers as compared to the acid-forming bacteria, they may grow to such an extent as to cause the sweet curdling of the milk. Later the acid-forming bacteria may grow, changing the taste of the milk from sweet to sour. It is probable that such is the case in the present instance, for your correspondent states that the cream removed from the abnormal milk sours in a normal manner.

There need be no hesitation in using the milk from the animal even though it does not undergo what is considered the normal fermentation of milk. The feed can have nothing to do with this abnormal fermentation.

If the trouble appears frequently, I think it can be prevented and a normal souring of the milk produced by securing a little sour milk that has the clean acid odor associated with the most desirable acid-forming bacteria and inoculating the utensils with it. One should then be careful not to subject the utensils to boiling hot water in the rinsing process which ordinarily follows washing proper.

The writer is well aware that in giving such advice he is going contrary to the prevalent ideas in regard to milk production and the care of milk utensils. He is very certain, however, that milk can be produced which will be of no value for the making of butter because no acid-forming bacteria are introduced, on account of the extreme cleanliness surrounding production. If such milk is to be used for the making of butter, the acid-forming bacteria must be introduced in some way. The way suggested is but one of many that might be mentioned. E. G. HASTINGS.

Wisconsin College of Agriculture.

Tuberculin Testing Questions

Will you please answer the following questions about tuberculin testing through your paper:

1. When cattle are killed that are reactors to the tuberculin test do they find many that have no lesions or don't show any signs of T. B.?
2. Could the tuberculin in any way affect the cattle so they would react if they did not have tuberculosis?
3. Can an animal that has reacted to the test be tested again? If so, how soon?
4. Can cattle under six months be tested successfully by any of the three methods?
5. Which of the three methods do you consider the most reliable, the subcutaneous, the intradermal, or the ophthalmic?
6. Do you consider using two of the methods together more sure than one?

Whallonsburg, N. Y. W. W. F.

1. Post mortem examination of reacting cattle will not ordinarily disclose lesions in more than 85 to 90 per cent of the cows. This does not mean that the animal does not have tuberculosis, but merely that no observable lesion can be found. It is quite possible that the animal may be in the incipient stages of the disease or it is quite possible that the lesion is so covered up or so small that it is not ordinarily found with the examinations as they are made on the killing floors.

2. The tuberculin will in no way affect cattle so they will react when free of the disease. There are people who fear tuberculin may communicate the disease to their cattle. That this is not possible is not only proven by many demonstrations, but also by the fact that the tuberculin itself consists of the dead disease germs and, therefore, will not communicate the infection.

3. Most veterinarians consider that when a cow has once been determined to be a reactor, she should be ever after treated as a reactor. The saying is, "Once a reactor, always a reactor". In some states the law requires that an animal once condemned can never afterward be declared free of the disease. We have known of cases, however, where an animal may have shown only slight symptoms of the disease and has later been tested and failed to react. The trouble with maintaining such a cow in the herd is that the tuberculin test will not always disclose all the reactors and it sometimes happens that the condition of the animal is such that she will fail to react even though showing evidences of the disease. The safest thing for the owner of a herd is to dispose of all animals that react and not to hold them for retest.

4. As a general rule, it is inadvisable to test an animal under six months of age, although we have in our own herd used the intradermal test in such a case and were satisfied with it. We would expect, however, to retest such animals when they arrive at greater maturity, in order to be quite certain that the test had not failed to disclose incipient cases of the disease or cases which have been contracted after the test was applied.

5. The subcutaneous is considered at present the most reliable and is the standard test. The intradermal is, however, coming into larger use and there are many who believe it is quite as accurate as the subcutaneous, if not more so. The ophthalmic is the least satisfactory of the three tests.

6. We are quite in favor of the use of all three tests in determining whether or not the disease is present in the herd. This is due to the fact that repeated examinations have shown an animal will react to one of these tests and possibly fail to react to the other two. Or it may react to two of the tests and fail to react to the other.

As a matter of fact, the tuberculin test is accurate in ascertaining the presence of tuberculosis in the herd in perhaps not to exceed 90 to 95 per cent of the cases where it is used. If there were a better agent for determining the presence of the disease, we should be very happy, but at the present time tuberculin is the best agent that we have in controlling the spread of the disease.

Designing a Water Wheel

We wish to run a 1-6 H. P. dynamo from a stream of water which is dammed up to a height of approximately three feet. Kindly tell us how to make a water wheel and what size pulleys to use to make the dynamo turn over 3,000 R. P. M., which is the maximum speed of the generator. The water of the brook will fill a 2-inch pipe continuously.

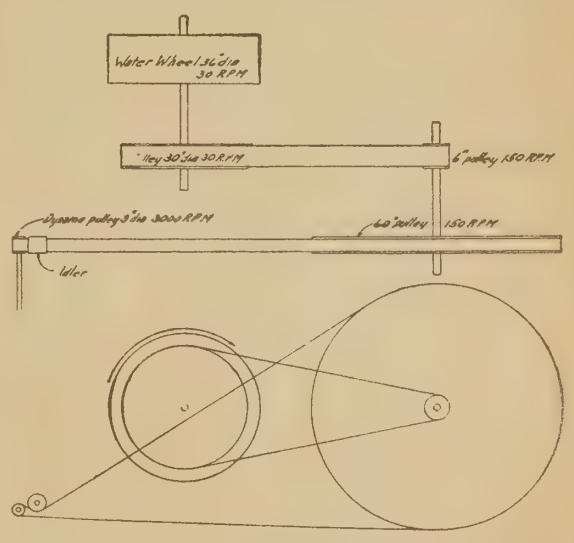
Saukville, Wis. SUBSCRIBER.

The statement that the water of the brook will fill a 2-inch pipe continuously is rather vague. In order to figure the available power it is necessary to know the quantity of water flowing per minute, or other unit of time, and the distance it falls. In your subscriber's case, I would suggest that he place a barrel, or other receptacle, under the 2-inch pipe and see how long it takes to fill it. The standard barrel holds 31½ gallons but most of the barrels used for holding liquids are larger. If a barrel holds 42 gallons and is filled in 7 seconds, the flow will amount to 6 gallons per second. A gallon of water weighs about 8⅓ pounds and the total falling weight will be 6x8⅓ pounds or 50 lbs. per second. If the 50 lbs. of water falls 3 feet, the work done will be 50x3, or 150 ft. lbs. per second. Since a horse power is equivalent to 550 ft. lbs. per second, the available power will be 150 divided by 550 or about one-fourth horse power.

The type of wheel or turbine used will have a good deal to do with the amount of power delivered. The overshot wheel is probably the most efficient, sometimes delivering as much as 90% of the power received from the falling water. The other types of wheels and turbines are somewhat less efficient. If the wheel or turbine is connected to an electric generator by means of gears or belts, or both, it is very doubtful if more than half the available power can be delivered to the dynamo. Thus, in the above problem one-eighth horse power would be all that could be reasonably expected.

In order to successfully drive a one-sixth horse power dynamo from a 3-foot fall, there should be at least 6 gallons of water flowing per second and I judge that this is about twice as much as your subscriber has.

To design a water wheel which will be cheap and efficient is a job which requires considerable knowlege and experience. If there is a large amount of water available and wastage is not an important factor, a home-made plank wheel may do very nicely. All things considered, the home-made wheel will probably cost as much as a boughten one and will not be anywhere near as efficient. A light steel wheel, such as would fill the bill in this particular case, would probably cost about $50. So far as I know, there are no bulletins or other printed matter outside of text books



PULLEYS FOR TRANSMITTING POWER FROM WATER WHEEL

which would aid an amateur in building a water wheel. There are, however, several concerns which make the building of water wheels their specialty, among them are: The Fitz Water Wheel Company, Hanover, Penn.; The Rodney M. Hunt Company, Orange, Mass.; The Pelton Water Wheel Company, New York City; and the James Leffel Water Wheel Company, Springfield, Ohio.

To determine the size of pulleys necessary to drive the dynamo at a certain speed, three things are necessary: speed of dynamo, speed of water wheel, and diameter of dynamo pulley. For instance, assume that dynamo must run at 3,000 revolutions per minute, water wheel at 30 revolutions per minute, and that dynamo pulley is 3 inches in diameter.

The revolutions per minute of dynamo times diameter of dynamo pulley equals revolutions per minute water wheel by its diameter.

The diameter of drive pulley in the case cited would be 3,000 times 3 divided by 30, or 300 in.

Since a pulley of this size is impractical, a counter shaft must be employed. In the first place, the pulley on the water wheel shaft will probably have to be smaller than the water wheel, in this case less than 36 inches, suppose we say 30 inches. The small pulley on the counter shaft should be large enough to permit its use without an idler, say 6 inches. The distance between the two shafts should not be less than twice the diameter of the larger pulley, or in this case 5 feet. The counter shaft will now run at 30x30 divided by 6, or 150 revolutions per minute. To determine the size of drive pulley on the counter shaft, use the same formula as before: revolutions per minute of dynamo times diameter of its pulley equals revolutions per minute counter shaft by diameter of drive pulley, (3,000x3 divided by 150, or 60 in.).

In order to save room and belt an idler should be used near the dynamo pulley. The accompanying sketch will probably speak for itself.

Minnesota. A. G. TYLER.

Hoard's Dairyman

Fort Atkinson, Wisconsin

Founded 1885 by W. D. HOARD

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All foreign countries in the Postal Union $2.50 a year; not in the Postal Union $3.00, including postage.

Correspondents must not expect us to acknowledge the receipt of letters containing remittance for subscription. The receipt of Hoard's Dairyman is sufficient notification that money has been received. The label on the paper will show date to which subscription is paid. In case of renewals, if date on label is not changed within two weeks after remittance is sent, inform us at once.

We solicit advertisements of meritorious articles needed by the farmer. We try to keep our advertising columns clean and wholesome, that they may merit the patronage and confidence of our readers. Unwholesome, immoral, and quack medical advertising are excluded. A sincere effort is made to exclude frauds, irresponsible and unscrupulous firms. We will always take it as a favor to be notified whenever any advertiser's dealings with a subscriber are in bad faith or evidence a lack of business honor. Advertisers generally recognize the readers of Hoard's Dairyman as an up-to-date class of farmers, who farm with business-like methods, and we hold our columns for the patronage of only those with whom our readers can deal with profit and satisfaction.

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Entered at Fort Atkinson, Wis., as second class matter.

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Coming Events

Feb. 16—18, 1921—Virginia Dairy Show and Annual Convention of the State Dairymen's Association held in Roanoke. Secretary, Frank A. Buchanan, Blacksburg, Va.

Feb. 15-17. Michigan Allied Dairy Association, Grand Rapids. Secretary, H. D. Wendt, Lansing.

Feb. 22-25—Stockmen's Week, University Farm, Davis, California.

Jersey Cattle Notes

For week ending Jan. 28.

Number of animals registered: Bulls, 208; cows, 556; total, 764. Number of transfers recorded: Bulls, 209; cows, 507; total, 716.

Willis J. Eldridge

HOARD'S DAIRYMAN:—The death of Willis J. Eldridge of Ohio, January 27, was a distinct loss to the dairy industry of Northeastern Ohio and to the great commercial dairy business reaching far east and west. Mr. Eldridge was for years the largest buyer of milk and manufacturer of cheese in the Central West, and besides did a large brokerage business in dairy produce. He was a large land proprietor, owning several farms all devoted to dairying. In the late 60's as a farm boy he had a vision of the great changes that would surely come in dairying and, with his father's consent and promise he would supply him with the milk of his dairy as a starter, he built a small factory and commenced a patron factory. So satisfactory was it that it rapidly grew into importance and was added to and built upon until it was soon a 1,000-cow concern. Ultimately Mr. Eldridge had over twenty-five factories scattered about in Portage, Geauga, and Summitt Counties. Then came the day of buying milk outright, a plan he introduced into all of his factories and maintained to the last. He introduced trade brands of cheese and guaranteed each to be of uniform quality. They became trade-marks known everywhere.

Then he added brokerage, buying and selling of the makes of other states and localities until he was handling cheese by the half million pounds or more yearly.

Honest to the letter, of strict integrity, a business difficulty with anyone was unheard of with Mr. Eldridge. Wonderfully enterprising and liberal to an extreme degree both in a public and a church way, he soon had a host of friends that never left him.

On the 27th of January word was quickly passed that Will Eldridge had quite suddenly passed away, in his 78th year, a commanding figure in his sphere of life and action, a great pioneer in the development of Ohio's dairying, and sincerely mourned by all who knew him.

Ohio. JOHN GOULD.

Hawley Commissioner of Oregon

C. L. Hawley, for many years a successful farmer in the Willamette Valley, took over the office of State Dairy and Food Commissioner for Oregon January 1. Commissioner Hawley is a practical dairyman, having been for several years one of the most progressive and successful farmers in the state. He owns a herd of pure-bred Guernsey cattle and has been for eight years president of the Oregon Pure-bred Live Stock Association. He served for several years as a member of the Board of Regents of the Oregon Agricultural College and for four years has been treasurer of the institution. He has served three terms in the state legislature.

Oregon F. L. BALLARD.

Butter Prices Slightly Firmer During Past Week

[Report by U. S. Bureau of Markets.]

Trading in the butter markets was revived to some extent and a firmer tone was noted in the early part of the week ending January 29. At the New York market, which led in the move, this was attributed to a reaction from the previous week when price declines were registered, and to the fact that holders of Danish butter refused to sell their offerings at a loss. This action on the part of importers caused buyers to turn to domestic butter when prices reached a favorable point, with the result that the markets were fairly well cleared. The clearance of the undergrade Argentine butter the previous week to Canadian buyers, and a reputed Canadian interest in further undergrade purchases also strengthened the situation, especially on medium grades.

Interest in Foreign Butter

The S. S. Mongolia arrived during the week but carried only a small cargo of Danish butter, mostly in boxes. Several other cargoes are reported either on the way or just about to sail from foreign quarters. Danish has been selling in a wholesale way at 49c to 50½c. New Zealand butter is still offered at New York at prices around 47c to 48c. These offerings are a factor hanging over the market, and with recent arrivals reaching a large volume little else than a weak, unsettled market could be expected. Considerable interest is at present centered on the progress of proposed legislation increasing the present 2½c duty on imported butter.

The average wholesale prices on 92-score butter at five of the principal markets for the week ending Jan. 29, 1921, and corresponding week last year, were as follows:

	Week ending Jan. 29 1921	1920
	cents	cents
New York	49.8	63.1
Chicago	45.7	61.4
Philadelphia	49.7	63.4
Boston	50.0	63.7
San Francisco	41.4	64.0

The receipts of butter at these markets were 7,364,386 lbs. as compared with 4,138,139 lbs. for the corresponding week a year ago and 7,078,800 lbs. last week.

Feed Markets Undergo Further Rapid Price Declines

[Report by U. S. Bureau of Markets.]

The feed market during the week ending January 29 was in a demoralized state. An almost daily decline in the price of hominy feed together with a further cut of $5 per ton in the price of gluten feed, making a reduction of $8 to $10 within the last two weeks, caused prices of all other feedstuffs to drop to new low levels.

Retail dealers are not having normal demand for this season of the year and, because of exceptionally light feeding, large reductions in the number of cattle in many sections, and the expectation of early southern pastures, an immediate improvement in the demand is not anticipated. Reports from every section of the country indicate that with few exceptions stocks in hands of dealers are larger than normal. Therefore, further declines are looked for unless colder weather soon stimulates the feeding demand.

Wheat Mill Feeds.—Bran declined as much as $2.50 per ton in a few of the markets and is generally quoted $1.50 to $2 lower than last week. Middlings followed the decine very closely.

Cottonseed Meal.—Due to the small eastern demand and slightly increased stocks in many sections the cottonseed meal market was dull. The last survey of the cottonseed products situation made by the Bureau of the Census for the five months ending December 31, 1920, indicates that although production of cake and meal was lighter than for the same period in 1919 stocks of these commodities at mills were 8,300 tons larger on December 31, 1920, than on December 31, 1919. Exports were about 47,000 tons less for the five months ending December 31, 1920, than they were during the same period 1919.

Linseed Meal and Cake.—Linseed meal prices held steadier than those quoted for other feedstuffs. While stocks in the northeast are heavy, prices f. o. b. Buffalo are about $2.50 higher than those quoted by Minneapolis mills. Mills report the movement as fair. In Chicago jobbers were offering the better grade of meal at $40, though mills were asking $42 f. o. b. that market. A heavy export demand is not anticipated but mills expect the domestic consumption to improve.

Gluten Feed.—The price of gluten was reduced by principal manufacturers $5 per ton during the past week. A larger number of mills are reported to be in operation but it is said that most of the smaller mills do not expect to continue operations for a long period, having started only with a view of taking care of business that was secured during the time they were closed down.

Hominy Feed.—Offerings of hominy feed continue liberal while the demand, notwithstanding price reductions, was only moderate. Prices declined with lower grain values. Distress sales of white hominy feed were made at $22 in the Chicago market.

Beet Pulp.—Cincinnati reports the sale of beet pulp at $36 though quotation of $37 is a more representative price. Little interest was manifested in this commodity. Dutch dried beet pulp was offered around $38 spot f. o. b. New York.

Alfalfa Meal.—The decided break in alfalfa hay prices in a few markets, particularly Cincinnati, caused lower offerings of alfalfa meal. The demand for sweet feeds has not improved to any considerable extent and mixed feed manufacturers are



RALEIGH'S EMINENT BUTTERCUP, JERSEY COW OWNED BY LONGVIEW FARM, MISSOURI

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buying sparingly. Production and stocks are light. No. 2 meal is offered at $3 to $3.50 less than No. 1 meal in several markets.

Other Feeds.—Ground barley and oat feed were easier with little demand. White corn bran was offered at around $24 St. Louis, $35 delivered northeastern markets. For imported Irish dried brewers grains $37 f. o. b. cars New York was asked, and flour middlings were quoted from $1 to $3 over the price of standard middlings.

Timothy and Prairie Hay Continue to Decline

The principal hay markets are still very weak and in some instances are still lower. Relatively large stocks yet to be marketed and continued mild weather are bearish factors. Consumers consider hay prices too high as compared with grain prices. In the central western markets feeding corn can be bought at about $20 to $21 per ton and oats at about the same price while timothy hay sells at from $22 to $25 per ton.

Buyers continue to hold off expecting that receipts will increase as the spring season approaches when the producer must either market his hay or carry it until another season.

Alfalfa.—The demand for high grade alfalfa was good but lower grades were difficult to sell. Receipts of alfalfa at Kansas City were light as Kansas shippers were unable to load because of bad roads. Some hay from Idaho came into the market during the week. Dealers state that the market would absorb more alfalfa at current quotations than is being received at this time. Two cars of Idaho alfalfa arrived during the week and more is expected. Difficulty in getting the hay baled is said to be the reason for the delay in making shipments on the reduced freight rates from the northwest.

Cincinnati reported a decline of $6 per ton on western and $4 on local alfalfa. Western coast markets continue weak. Demand is light because of the good pasturage available which is being improved by good rains.

Prairie Hay.—Prairie prices were practically unchanged, being around $19 to $20 during the week but the market lacks firmness. The low price of timothy is a factor in the prairie market as well as the poor demand from feeders. Receipts are light.

Straw.—Quotations are lower at Cincinnati and Minneapolis, but unchanged at other markets. Wheat straw is quoted as follows: Richmond $16, Baltimore $14, Pittsburg $16.50, Cincinnati $13.50, Chicago $13, Minneapolis $7.50. Rye straw: New York $18, Minneapolis $8, Cincinnati $13.50. Oat straw: Kansas City $7.50, Chicago $13.50, Minneapolis $8.

Operation of Milk Plants in California

J. M. Henderson, Jr., President, the Associated Dairymen of California, Incorporated

In California the demands of the whole milk market have been so small in comparison with total production that the development of utility plants to care for the surplus has been an extremely vital phase of our dairy industry.

About three years ago, the Associated Dairymen of California was organized, and now includes in its membership some ten thousand dairymen. Plants have been gradually built and acquired so that in the near future about twenty will be in operation. From our experience in this connection, the three outstanding features have been: method of finance, scope of products manufactured, and standardization.

At the outset, in common with a great many other co-operative associations, we found ourselves woefully lacking in funds. The membership fee of $5.00 a cow was insufficient to provide capital for any adequate construction of plants. However, by borrowing we were able to provide, in part, for our needs. It was necessary to pay our members every two weeks so that practically our entire working capital consisted of the returns from the product handled in that period. This left us no margin to take advantage of seasonal conditions in manufacturing, such as making large quantities of cheese in the flush season when the price of butterfat was low, or to make other by-products which required holding any length of time; in fact, our limitations of finance confined us to very narrow bounds in both manufacturing and marketing. To overcome this we adopted a system of sixty-day acceptances which, in effect, is the collective pooling of both the association's and member's credit. Acceptances are made for the amount due members plus six per cent. These may be discounted at any local banks before maturity, but many of the members prefer to hold these notes and collect the interest.

One of our big problems is standardization. Our dairying country stretches from the Oregon to the Mexican border with varying conditions of feed and climate; therefore, the production of a uniform product calls for untiring efforts technically and a vast amount of educational work among dairymen. We have adopted a state brand called Cream O'Gold under which nothing but our highest grade products can be sold.

Every can of cream and milk is carefully graded. A certain standard is set for that which goes into the Cream O'Gold products. All raw material not complying with this standard goes into seconds. Then we send out field men to instruct the dairymen who have fallen below the standard as to the proper methods of preparing their milk and cream.

The high price of butter has turned a large number of consumers to oleomargarine who formally bought seconds, and hence we witness an unusual disparity in price between extras and the lower grades; therefore, quality production becomes increasingly important if we are to realize for the dairymen a maximum return.

As to equipment, our ultimate aim is to provide facilities to manufacture not only butter and cheese but all the by-products, so that we can quickly take advantage of market conditions. Supplementary to our manufacturing we are making a study of points of origin of milk in order that skimming and condensing plants may be installed to economize on our transportation costs.

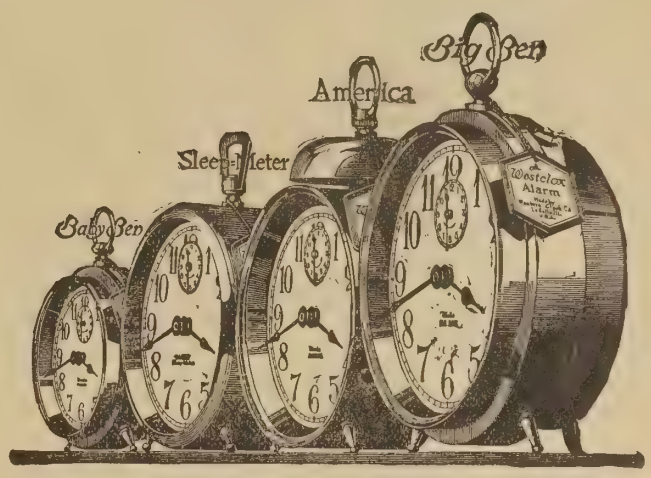
Adequate financing, high standardization, and a well balanced manufacturing system should provide the dairymen with a sound foundation upon which to build.—National Milk Producers' Federation.



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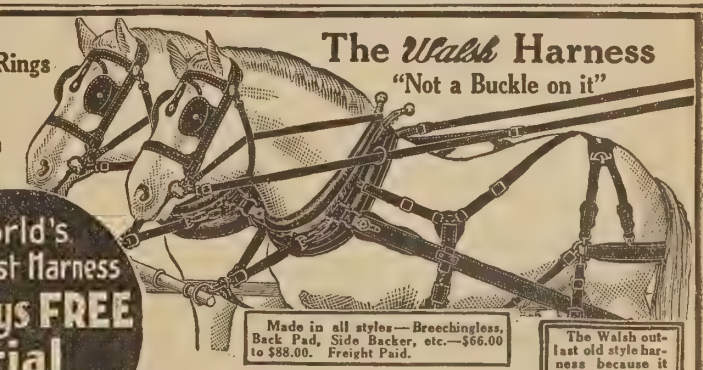
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Wisconsin Holstein Sales Managers Organize

Action of far reaching influence concerning Holstein sales in Wisconsin was effected January 5 when twelve representatives from the various county Holstein associations and sales companies of Wisconsin met and formed the federation of Wisconsin sales managers. The purpose of the organization is to regulate the sales of black and white cattle in the Badger State.

This meeting and action is subsequent to the thought expressed at the state wide gathering of breeders held in Milwaukee the latter part of November. At this meeting there developed a desire to protect in every way possible the good name of Wisconsin Holsteins and Wisconsin breeders.

W. L. Baird was elected permanent president and L. L. Oldham was elected permanent secretary. Taking as his theme, "Let us resolve to sell 100 per cent efficiency and satisfaction with our cattle at our sales," Mr. Oldham stated that the purpose of the meeting was to draw up rules and regulations which might eventually govern all Holstein sales in Wisconsin.

He urged all present to consider that they were confronted with a task, which, if properly done, would be the greatest boon to the public sale and therefore would be of the greatest advertising benefit to all breeders of Holsteins in the state. Anyone interested in the management of public Holstein sales in the state is eligible to membership in the federation. Any sale desiring to be governed by the rules of the Federation must make application to the secretary. Such application must bear the approval of a county Holstein association or a Holstein sales company. Breeders desiring to disperse their herds are included in this ruling.

The following rules and regulations were adopted. They will apply and will be enforced at such sales as are governed by this Federation. Others will be added from time to time as they are deemed necessary:

1. No animal will be sold unless registration papers, or properly made application for registry, or, in case application be made in the National secretary's office, application marked duplicate and properly signed transfer, are in the hands of the sales manager at time of sale. (In the last 2 cases no money will be paid consignors for animals until registration is completed.)

2. All animals of breeding age are guaranteed breeders at time of sale only to the extent of the purchase price thereof.

3. All animals are sold as represented. In those cases where remarks covering animals or catalog errors are necessary, they must be made at ringside.

4. All animals must be recently tested for tuberculosis, test sheets in sales manager's hands, and will be furnished on request.

5. All consignors to sell on a 60-day retest privilege. If purchaser wishes to retest he must keep animals in sanitary quarters either isolated or in a herd that the state veterinarian guarantees is reasonably free from tuberculosis, must notify the consignor 30 days before retest, and allow him the privilege of having some one present during such retest. It is further understood that said reacting animals must show lesions on slaughter, said slaughter must be under federal supervision. The 60-day period is figured as 60 days from date of sale or, in case state law requires, 60 days



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from date of entrance into said state. No retest accepted where animals are not in normal condition when tested.

6. By-bidding is absolutely prohibited.

Consignors violating any of these provisions will be barred from future sales held under the rulings of this federation until such a time as they may be reinstated in honorable standing at some meeting of the federation of Wisconsin sales managers. Violators will be listed and their names made known to all members of this federation.

These rulings have been submitted to the board of directors of the State Holstein-Friesian Breeders' Association and have met with their approval and endorsement.

Such sales as are governed by these rulings will be designated by a seal of approval bearing a fitting inscription and conveying the thought that the rules and regulations made by the Federation of Wisconsin Sales Managers govern the sales. Such seals will be furnished on appplication to the Secretary of the State Association.

These rulings must be published and the seal of approval must be freely used in all advertising and catalogues of the sales so governed. —Holstein Association of Wisconsin.

The Cow and Her Keeper

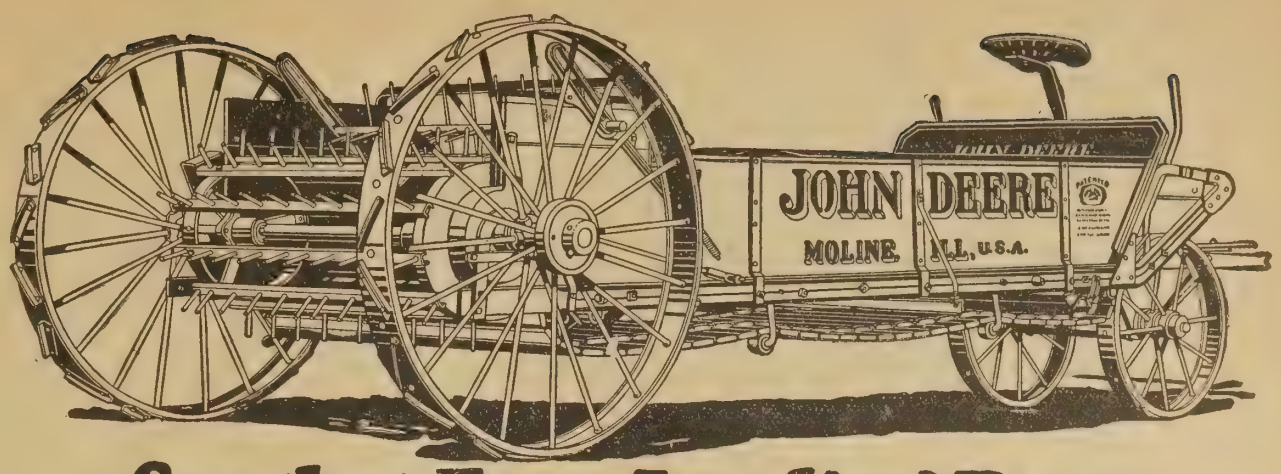
HOARD'S DAIRYMAN:—The cow has been wisely referred to as the greatest animal friend of man. Also she has been spoken of as the foster-mother of the race. For the past few months we have noticed that the cow has been consistently and persistently turning out our most valuable human food, and her keepers have profited thereby. I will point you to the dairy sections of this country as the places least affected by this season's so-called business and financial depression.

We have been saying a lot of good things for a good while about the dairy cows of this country. We have recognized their wonderful ability to convert cheap, raw farm products into high priced and indispensable food products. We have profited and grown fat from this billion dollar industry, and in a measure have recognized the merits of the producer. I do believe, however, that the rank and file of cow keepers are treating neither the cow nor themselves fairly. Improvements have come on apace; in general we have rebelled against the hard way of doing things, but our dairy barns have profited too little in this respect. A cow produces in proportion as she is fed and cared for; great influence on her production is caused by her bodily comfort. How can an animal get even her actual necessities in a crude, poorly ventilated, poorly lighted, and unequipped barn or shed? The greatest human food and the one most sensitive to contamination is cow's milk, and it should be produced in a decent and respectable place. Can we ask our boys to go into dark, ill smelling stables morning and night to milk dirty and poorly kept cows, and expect these same boys to enjoy the work and to look forward to staying on the old farm? In simple words, it seems that the time has come when we should equip our dairy barns in such manner that we can produce a sanitary product, make the work easier, make the cow more comfortable and healthful, and secure more inviting conditions generally.

Every once in a while I meet a man who tells me that he was raised on a dairy farm but is now in some other kind of business. If he confesses the real truth regarding his early conception of the business, I discover that he was not very enthusiastic over the work. The old barn was a good deal of a dungeon—more ill-smelling than some of the dungeons of our early ancestors; for while theirs were dark, damp, and cold, they did not have the foul air or the labor connected with them. The fact is that dairy business is a good, profitable, wholesome, beneficial business; and when properly conducted is the most sure of profit. It can afford decent equipment and labor-saving devices; above all things it can afford fresh air, sunlight, solid floors, and practical workable stalls for the cows.

We are coming to better things, and that rapidly. Let us not overlook our dairy barn when we make plans for future improvement.

Nebraska. A. L. HAECKER.



See that Easy-Loading Box Combined with High Drive Wheels

IT'S the high lifting of every forkful that makes the job of loading manure a hard one. Lifting manure hip high, the height of the box on the John Deere Spreader, is comparatively easy. On this spreader, the average height of the box from the ground is only 36 inches.

Combined with the easy-loading feature are extra high drive wheels that furnish unusual traction and lighten the draft materially. On no other spreader can you get this effective combination.



This Big Implement Book And Two Others—FREE

"Better Farm Implements" contains 114 pages of valuable information on a full line of labor-saving farm implements. A book you will keep.

"Soil Fertilizers" tells all about barnyard manure, how to preserve it, when, and how to use it. Written by an agricultural authority.

John Deere Spreader booklet fully illustrates and describes the best implement investment you can make.

To get these books free, drop a line to John Deere, Moline, Ill., and ask for Package S 514

JOHN DEERE SPREADER
The SPREADER with the BEATER on the Axle

Mounting the beater on the axle of the John Deere Spreader, a patented feature, makes possible many other important advantages.

It gives you a spreader with only about half the parts used on other spreaders—no clutches to wear and slip — no chains to break; no extra beaters; practically no adjustments for you to make. The John Deere is the simplest manure spreader built.

All the main working parts, including the beater drive, are mounted on the axle where they can't get out of line to cause binding, heavy draft and breakage.

The drive gears are enclosed in a dust-proof, oil-tight case—they will wear for years.

Another important and patented feature is the revolving rake which prevents bunching and insures an even distribution of the manure, but does not add one extra pound to the draft.

The straw spreading attachment for the John Deere Spreader —a valuable device that costs but little—gives you a perfect straw and manure spreader combined in one.

It's the extra years of service and the low operating cost plus its many operating advantages that makes the John Deere an unusually profitable machinery investment. See your John Deere dealer. Put this profit maker to work this spring.

JOHN DEERE
MOLINE, ILL
THE TRADE MARK OF QUALITY MADE FAMOUS BY GOOD IMPLEMENTS



Apollo
Highest quality—Galvanized
Roofing Products
Afford best protection obtainable from fire, lightning and storms. Durable—rust-resistant.

Made from APOLLO-KEYSTONE Copper Steel Galvanized Sheets—the highest quality Galvanized Sheets manufactured for Culverts, Silos, Tanks, Roofing, Spouting, and all exposed sheet metal work. Look for the Keystone added below regular trade marks—it indicates that Copper Steel is used. Sold by leading dealers. KEYSTONE Copper Steel Roofing Tin Plates are specially adapted for residences and public buildings. Send for free "Better Buildings" booklet.

AMERICAN SHEET AND TIN PLATE COMPANY, General Offices: Frick Building, Pittsburgh, Pa.



What Do We Owe to Accurate Timing?

We owe our Limiteds that flash from city to city, our fast-sparking automobiles that shorten formerly long drives, and those machine-guns so marvelously timed that they shoot between the swiftly-revolving blades of aeroplane propellers.

Back of each is an accurately-timed schedule.

Hamilton Watch

"The Watch of Railroad Accuracy"



Back of our railroad schedules is the Hamilton—a watch so accurate that it is the most popular timekeeper in use today among railroad men.

Charles Hamilton, the efficient engineer shown here, runs the Bangor Flyer—one of the longest hauls on the B. & M. He has been with the Boston & Maine for 48 years. He runs the Bangor Flyer by a Hamilton Watch.

The watch that keeps accurate time in the movement and jolting of railroading is the very timekeeper for the farm. Ask your jeweler to show you a Hamilton. Prices range from $40 to $200; movements alone, $22 (in Canada, $24) and up. Send for "The Timekeeper," an interesting booklet about the manufacture and care of fine watches. The different Hamiltons are illustrated, and prices given.

HAMILTON WATCH CO., *Lancaster, Pa.*

19 ADJUSTABLE FITALL 21 HORSE COLLAR PATENTED 22



One Collar That's *Sure* to Fit

AN ordinary horse collar will fit a horse only until it changes flesh. But a FitZall Adjustable collar will fit any horse all the time, fat or thin. It's comfortable, never punishes the horse, saves doctoring sore necks. Keeps horses feeling fit and fine, always "up in the Collar."

4 sizes in each collar
17 to 20
19 to 22

FitZall Adjustable Collars

Instantly Adjusted To Fit Any Horse

Standard, properly designed, high-grade collars with a patented adjustable feature that provides four perfect-fitting sizes and costs nothing extra. It saves the price and the nuisance of sweat pads, distributes pressure ***evenly*** over the horse's shoulders—never injures.

Don't buy a separate collar for every horse—just use one FitZall with each harness. In use nine years on thousands of farms and for heavy industrial hauling. Fully guaranteed.

If your dealer can't supply you, we will. Write for booklet of valuable information and full details.

JOHN C. NICHOLS CO.
1902 Erie Street, Sheboygan, Wis.

Makers of the Famous "Master Brand" Harness—America's Best

Keep Tab on Your Cows

Send 5c in stamps for samples and prices of our weekly and monthly Milk Record Sheets. **Hoard's Dairyman, Fort Atkinson, Wis.**

Pennsylvania Dairymen at Harrisburg

(Continued on page 128)

pure-bred Guernsey heifers. This was a small fraction of the 379 pure-bred animals valued at $67,259 now owned by these club members all over the state but was enough to attract attention and thought from those who are still trying to get along with "just cows". Those in charge of the work say that the clubs were the means of placing the first pure-breds on 200 farms in this state.

The quality of creamery and dairy butter sent in by buttermakers for judging was good, according to Professor A. A. Borland of the Pennsylvania State College who did the judging. Greenville Dairy Company won first in the creamery class while Grove City Creamery was second and Westbrook Dairy and Produce Company was third. When it came to butter made on the farm C. Allen May took first prize; Rose Greason scored second; and John A. Harmon was third. The first prize for raw milk went to P. R. Whitehead while Chester County captured second and third through Benj. Sharples and E. Baker Pyle respectively. Two large Philadelphia distributing firms carried off first and second honors for pasteurized milk, Supplee-Wills-Jones winning over Abbott's Alderney Dairy, while H. J. Jones was third. Belle Alto Farm won in the certified milk class with International Correspondence School Farm second and Edgewood Dairies third.

⚜

Perhaps the livest gathering of any of the twelve interests holding sessions during the week was the first annual meeting of the State Holstein-Friesian Association. It showed that there was no lack of interest in this popular black and white breed when it comes to producing market milk. The morning session was given over to addresses with Peter A. Small, of Ohio, the main speaker. The afternoon session was devoted to business including the adoption of a constitution and by-laws and a thorough discussion of the need and advantages of a paid secretary for the state organization. The one thing that seemed to stand out among the leaders was that the new association should be built from the bottom up rather than from the top down. It is to be a federation of the many strong Holstein-Friesian clubs already in the state rather than an attempt to absorb and overshadow them.

It would be hard to mention any requirement of dairymen which was not represented by the commercial interests at the show. Barn equipment, milking machines, silos, separators, feeds, and the hundred and one other needs of modern dairying were all surrounded by interested groups each day and the exhibitors expressed satisfaction with the business they did.

Many of the larger breeders attended the meeting of the State Veterinary-Medical Association held early in the week when they discussed abortion and tuberculosis eradication. The recent announcement that Pennsylvania now stands third in the list of accredited herds in this country was a matter for professional rejoicing. With 418 herds now guaranteed by the federal and state authorities to be entirely free from tuberculosis we lead Virginia and are surpassed only by Wisconsin and Minnesota. THOS. H. WITTKORN.

Pennsylvania.



Telling Farmers' Wives

A farmer's wife in Trumbull County, Ohio, wrote to ask,

"Why don't you tell us farmers' wives as much about Jell-O as you do the city women, and why not give us the same chance to get Jell-O when we want it?"

That was some time ago, and since then Jell-O has been placed on sale in practically every general store in America, including the one at the Corners and the Cross Roads, where it can be obtained as easily as at the groceries in the big towns.

The Jell-O Book is free to every woman everywhere. It is full of recipes for the desserts and salads that are most popular just now, not only because they are cheaper than almost anything else that is worth serving, but are really better than any made at much greater expense. And most of them can be made in a minute.

The Jell-O Book will be sent to you if you will write and ask for it.

Jell-O is put up in six pure fruit flavors: Strawberry, Raspberry, Lemon, Orange, Cherry, Chocolate, and is sold by all grocers and general stores, 2 packages for 25 cents.

THE GENESEE PURE FOOD COMPANY
Le Roy, N. Y., and Bridgeburg, Ont.

$7.50 = After 30 Days Free Trial

The Belgian Melotte Separator—with the wonderful Self-Balancing Bowl. No other like it.

30 days' free trial—then, if satisfied, only $7.50 and a few easy payments — AND — the wonderful Belgian Melotte Separator is *YOURS.*

No Money Down!

Catalog tells all—*write.*

Caution! U. S. Bulletin 201 shows that vibration of the bowl causes *cream waste!* The Melotte bowl is *self-balancing.* Positively cannot get out of balance therefore cannot vibrate. Can't remix cream with milk. *The Melotte has won 25 Grand and International Prizes.*



Catalog FREE

Write for new Melotte catalog containing full description of this wonderful cream separator and the story of M. Jules Melotte, its inventor. Don't buy any separator until you have found out all you can about the Melotte and details of our 15-year guarantee which is infinitely stronger than any separator guarantee. Write TODAY.

Runs so easily, bowl spins 25 minutes after you stop cranking unless you apply brake. No other separator needs a brake. Bowl chamber is *porcelain lined.*

The Melotte Separator, *H. B. Babson, U. S. Mgr.*
Dept. 2852, 2843 W. 19th Street, Chicago, Ill.

ALFALFA

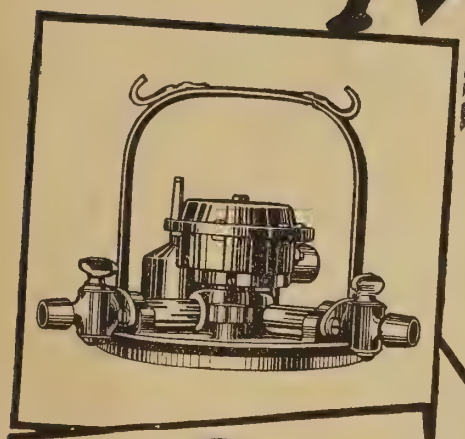
CLOVER and Timothy mixed $5 bu.; Unhulled Clover $3.75 bu.; Alfalfa $9; Red Clover $9; Sweet Clover $7.50; Alsike Clover $15; Seed Corn $3.00 bu.; Timothy $3.50; Kaffir, Milo or Feterita $1.35; White Cane $1.25; Orange Cane Seed $1.25; Millet $1.25; German Millet $1.75; Sumac or sourless cane seed $1.75; Sudan $6.00 per hundred; Blue Grass $20; Red Top $12.50; Orchard Grass $12.50; Specially Mixed Lawn Grass 35c pound. Reliable Egg Producer 50c pound, sacks free—satisfaction or money back. If you need any other seeds ask us for price list. We ship from several warehouses and save you freight. *These prices are about half—good only while present stock lasts.*

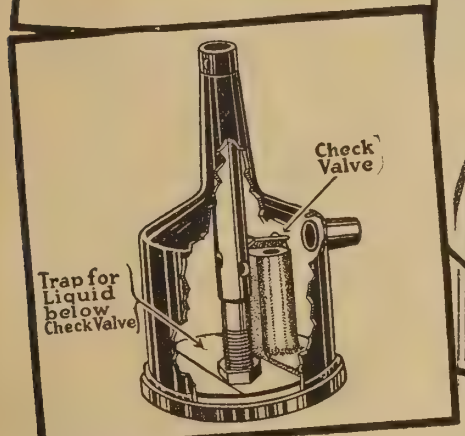
Order Right From This Ad.

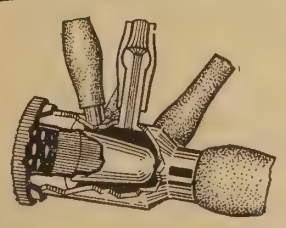
RELIABLE SEED CO. Salina, Kans.

TRADE MARK

BURRELL B-L-K MILKER









These Four Distinctive Features

THESE four distinctive Burrell features have made the Burrell Milker the choice of those dairymen who demand of the milking machine that it shall milk the cows clean; develop the milk-giving ability of their cows; and draw the milk in a sanitary way.

(1) The Burrell Positive Relief Pulsator

The Burrell Positive Relief Pulsator produces sharp, well-defined periods of suction and relief on the teats. The *completely intermittent* nature of these pulsations is absolutely essential to thorough and efficient milking. This complete relief, between each period of suction, insures natural circulation in the teats and prevents the congestion which would result from long periods of suction without relief

(2) The Burrell Moisture Trap

With any milking machine, some vapor and spray from the milk is sucked into the tube which runs to the vacuum pipe. It becomes contaminated there, condenses and, unless prevented, runs back into the pail. The Burrell Moisture Trap is distinctive because of its check valve located on a stand pipe above the liquid in the trap, which makes it impossible for this liquid to get into the milk.

(3) The Burrell Automatic Controller

The Burrell Automatic Controller regulates the suction to the requirements of the individual cow. With the easy milker or during the main part of the milking, when milk is flowing freely, the suction is automatically decreased. With the hard milker or toward the end of the milking, when the milk is flowing less freely, the suction is automatically increased. This exclusive Burrell feature has earned for the Burrell Milker the reputation that "*It Milks the Cows Clean.*"

(4) The Burrell Universal Teat Cup

The distinctive feature of the Burrell Universal Teat Cup is its ring-shaped air reservoir at the top of the cup. When the vacuum suck is applied, the air in this reservoir is pulled down, and in rushing over the square shoulder of the reservoir creates an air cushion which compresses and supports the teat in such a way as to avoid inflammation of the tissues.

Write today for booklet. Use the coupon below

D. H. BURRELL & CO. INC.

Little Falls **New York**

"It Milks the Cows Clean"

(Clip Coupon Here)

D. H. BURRELL & CO. INC., LITTLE FALLS, N. Y.

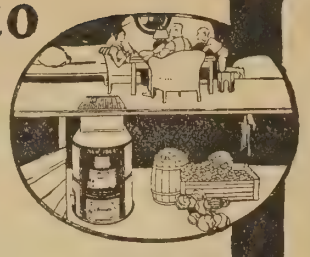
Gentlemen: I have_____ (number) milking cows. I am not now milking by machine because_____

I want you to send me your booklet and complete information about the Burrell Milker and tell me why "*It Milks the Cows Clean.*" 10

Name_____ P. O._____ State_____



Change to Warm Comfort in a Day



6 A.M. 6 P.M.

There will be six weeks or more of cold weather this winter. Why not make them more endurable with a warm, comfortable house? And then think of the winters to come!

In one day you can put up a New Idea Pipeless Furnace without interfering with the stoves. Leave them up until the New Idea is going.

Then: Every room and hall at 70 degrees—hotter if you like; a cool cellar for vegetables; no carrying ashes and coal for stoves; a cleaner house.

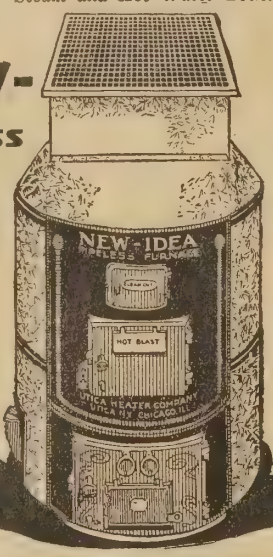
A New Idea costs little more than a good stove (lower prices again prevail) and your fuel bill will be less than ever before. Burn any fuel you like.

Ask the New Idea dealer nearest you for full details. Read the money-back written guarantee of satisfaction. If you don't know his name write us for it and for catalog. Expert heating advice, free.

UTICA HEATER COMPANY
Box No. 60, Utica, N. Y.

Also manufacturers of "Superior" Pipe Furnaces, "Imperial" Steam and Hot Water Boilers.

NEW-IDEA Pipeless Furnace

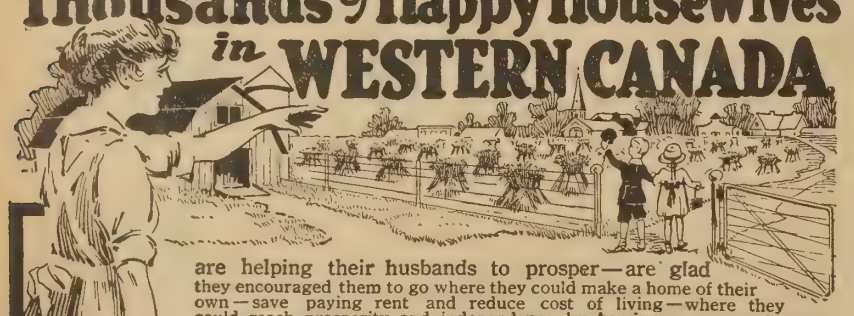


Excellent proposition for hardware dealers, implement men, etc.

"The kind you've heard so much about."

21-2

Thousands of Happy Housewives in WESTERN CANADA



are helping their husbands to prosper—are glad they encouraged them to go where they could make a home of their own—save paying rent and reduce cost of living—where they could reach prosperity and independence by **buying on easy terms.**

Fertile Land at $15 to $30 an Acre

—land similar to that which through many years has **yielded from 20 to 45 bushels of wheat to the acre.** Hundreds of farmers in Western Canada have raised crops in a single season worth more than the whole cost of their land. With such crops come prosperity, independence, good homes, and all the comforts and conveniences which make for happy living.

Farm Gardens—Poultry—Dairying

are sources of income second only to grain growing and stock raising. Good climate, good neighbors, churches, schools, rural telephone, etc., give you the opportunities of a new land with the conveniences of old settled districts.

For illustrated literature, maps, description of farm opportunities in Manitoba, Saskatchewan, and Alberta, reduced railway rates, etc., write Department of Immigration, Ottawa, Can., or

GEORGE A. HALL
123 Second St.
MILWAUKEE, WIS.
Canadian Government Agent.

WESTERN CANADA
Farm Lands at Low Prices
THE Wheat Belt OF America

Write for Book Today

FARM WAGONS

High or low wheels—steel or wood—wide or narrow tires. Steel or wood wheels to fit any running gear. Wagon parts of all kinds. Write today for free catalog illustrated in colors.

ELECTRIC WHEEL CO., 31 Elm Street, Quincy, Ill.

Marketing New Zealand Produce

GEO. OSBORNE, NEW ZEALAND

THE British government is again the purchaser of the exportable surplus of New Zealand butter. The cheese contract did not continue beyond its terminating date, July 31, 1920. The matter of the disposal of New Zealand dairy produce may not at first appear to possess any interest for American readers, but when it is stated that the United States is looked at from this end as a possible outlet for considerable shipments of butter for the winter trade, even as Western Canada already is, it is likely that American producers will hear further from New Zealand in due time. Ever since November, 1915, the Imperial government has been sole purchaser of cheese made in this country, except such as was required for local consumption. That, it may be stated in passing, was not made very much of, inasmuch as the people of New Zealand are not large eaters of cheese. The price at which the Imperial government has bought this season's butter is 280 shillings per 112 pounds, equal to 50 cents per pound, converting one pound sterling into $4, about the present rate of exchange. This is f. o. b. New Zealand ports. The contract runs until March 31st, 1921. There were sales made to Western Canada, before the negotiations with the Imperial government, of about 2,500 tons of the current season's make, spread over shipments. These sales the Imperial government has agreed shall go through.

The Dominion government has been all along placed in a rather invidious position with respect to these sales to the Imperial government in that it acted as its agent and also as the channel of communication between the vendors and their one Imperial customer. It has also had to take into account the New Zealand consumer with respect to the supply and price of butter. The last has been a very thorny path to tread and the end of it is not yet in sight. The prime minister of the Dominion has been the go-between, and a very arduous and thankless task he and ministers who have acted for him when he was in England from time to time have had.

The necessity of securing cheese for the British army during the war was the reason for the purchases made in this country by the British government. At first, November, 1915, about one-third of the quantity usually exported was purchased. The offer was 13 cents per pound. This was refused and a sale was made at 14½ cents after much correspondence. Successive advances made in the price from time to time were as follows: Whole exportable surplus, 1916—1917, 19 cents; 1917—1918, 20 cents; 1918—1919, 21½ cents. The price is for first grade cheese only on government graders notes; other grades were lower in price. The prices were for f. o. b. ocean steamer, the Imperial government assuming all responsibility for storage after 14 days, also for insurance (marine, war risk, and fire) and paying all freight and any other charges. The total quantity purchased was approximately 210,000 long tons and the price paid equal to $105,478,000.

There was intense dissatisfaction here when it was learned that, after taking into account all New Zealand's disadvantages of a geographical character by reason of its remoteness from Great Britain, Canadian producers were receiving so much higher returns for their cheese. This led to much protesting here and resulted in advances made in the prices every season. Then more resentment was created by the fact that, when the war ended, British dairy farmers had free markets in Great Britain for all the cheese and butter they produced and sent in for sale. However, the purchase of cheese came to an end so far as New Zealand was concerned and producers were free from the 31st of July to market as they thought best. Sales have been made to the United Kingdom of 15,000 long tons of this season's make, and 21,000 tons will go on consignment, an additional 4,000 tons will be marketed through a new company, the directorate of which will consist of an equal number of representatives of the dairy farmers and an equal number of representatives of the Co-operative Wholesale Society of England which has an enormous distribution in the manufacturing districts of England. Prices are to be fixed by a board composed of the above, but in the fixation the farmers' representatives shall have a preponderating vote. The prices realized by factories which have sold their output for the current season are between 28 cents and 29¾ cents. The higher prices were paid more recently. It is the custom of South Island factories to sell, that of the North Island factories to consign through well-known British houses. The cheese future is faced with the fullest confidence by producers here. There is a growing feeling that it is only a matter of time when the United States will be able to take fair parcels of New Zealand cheese. The inevitable advance in the price of butter for domestic consumption to bring it into parity with its export value (the price to be paid by the Imperial government) has caused much commotion locally and considerable discrimination on the part of both town and country people. Some hard things have been said and written on both sides.

The ruling retail price has been equal to 37 cents per pound, thanks to a government subsidy. The difference between 37 cents and 50 cents is far too wide to be bridged in this way. The farmers very naturally resented everybody, rich and poor alike, getting butter at a price below the true

(Continued on page 150)



TWINS—SONS OF E. A. RHOTEN, OREGON

Does the difference in milk consumed by these two boys account for their difference in size? Mr. Rhoten thinks it does. He states that the smaller of the two has constantly refused to drink milk—while the larger consumes it freely. They are twins, and live under the same care—one does not use milk, the other does. One such case may not furnish final proof of the essential character of milk in the nourishment of children, but, multiplied by the great number of examples familiar to those who have considered the food value of milk, it is a strong evidence.



From actual photograph taken at Edison Shop, New York City

The First Man To Fill Out The Mood Change Chart

William J. Burns

Head Of The Wm. J. Burns International Detective Agency

WHEN the Mood Change Chart was printed, Mr. Edison said "Who is the most sophisticated man in New York? That man will be an ideal subject for the Mood Change Test because he will be the least susceptible to emotion."

Mr. Edison selected William J. Burns, the great detective, as the most sophisticated man and Mr. Burns gladly made the test to assist Mr. Edison in his research work. Mr. Burns' chart is reproduced. It registers a decided mood change but it represents the emotional effects of music on only one man. Mr. Edison needs thousands of these charts because his research work must be conducted on the law of averages.

MOOD CHANGE CHART

An Analysis of Your Mental Reactions to Music, as RE-CREATED by the New Edison, "the Phonograph with a Soul."

Date of Test Nov 16th '20

1. *Place* Edison Shop
(Home or Where)

2. *Time* (Mark X in square)
Morning ☐ Afternoon ☒
Evening ☐

3. *Weather* (Mark X in square)
Dull ☐ Cold ☒
Bright ☐ Warm ☐

4. *What kind of music did you feel like hearing?* (Mark all words which describe such music with X in square).

Tender ☐	Vivacious ☐	Joyous ☐	
Solemn ☐	Majestic ☐	Weird ☐	
	Soothing ☒		
Martial ☐	Exciting ☐	Gay ☐	
Simple ☐	Dreamy ☐	Sad ☐	

5. *What was your mood immediately preceding test?*
(Mark X in square)

Serious or ☒	Worried or ☐
Gay ☐	Carefree ☐
Depressed or ☐	Nervous or ☐
Exhilarated ☐	Composed ☐
Fatigued or ☐	Sad or ☐
Unfatigued ☐	Joyful ☐
Discouraged ☐	
or Optimistic ☐	

6. *As a result of the test, what were your most noticeable mood changes?*
(Serious to gay, gay to serious, worried to carefree, nervous to composed, etc.)

MOOD CHANGE	RE-CREATION CAUSING SUCH CHANGE
Serious to Com fer	Traumerei
Com fer to Gay	Alice Blue Gown
to	

7. *Please comment on manner in which mood changes occurred:*
I came from a very serious conference and noted the fact that listening to the music produced on Mr Edison my (over)

Please fill in, sign and hand to Edison dealer.
MUSIC RESEARCH DEPARTMENT
EDISON LABORATORIES
ORANGE, N. J.

Signed Wm J. Burns

Address

Will You Join Mr. Edison in an Experiment?

2400 years ago, Confucius called music "The sacred tongue of God." 400 years ago, Martin Luther said: "Music is the only art that can calm the agitations of the soul." 116 years ago, Napoleon said: "Music is the art to which law makers ought to give the greatest encouragement."

Mr. Edison has recently produced a new phonograph of such perfect realism that its RE-CREATION of music cannot be distinguished from the original music. As a result of this wonderful new invention, every home can now enjoy the full benefits of the world's best music.

For many centuries, the power of music has been appreciated—but never has it been fully understood. For the purpose of ascertaining and classifying the effects of music on the minds and moods of mankind, Mr. Edison has associated with himself world-famed psychologists. Much research work has already been done.

Will you assist by analyzing your own mental reactions to music, and those of as many friends, as you can interest in the work? Your co-operation will be appreciated by Mr. Edison and his associates.

Please examine the chart that is reproduced above. The Edison dealer in your locality will furnish you as many of these charts as you require.

If you do not own a New Edison, the Edison dealer in your locality will welcome your making the test in his store. Should you like to call in some of your friends, the Edison dealer will probably be willing to loan you an instrument and the necessary RE-CREATIONS, so that you can make the test in your own home. Watch for his announcement in your local newspaper. THOMAS A. EDISON, Inc., Orange, N.J.

The NEW EDISON

"The Phonograph with a Soul"

"You Have Earned A Premium of 40c Per 100 on YOUR Milk"



Messages like the above are welcomed by all dairymen and are a fact among those who have had the foresight to use the

HINMAN MILKER

On January 6th, J. Cohoon of Brisben, N. Y., received such a notice from the Borden Company stating that the average bacteria count for period ending December 31st was but 1300, entitling him to a premium of 40c. a hundred on his 7256 lbs. of milk, ($29 extra at one time). The Minneapolis Board of Health tested milk of Spirit Hill Farm, Jordan, Minn., and found the bacteria count as low as 600. This is remarkable. Both of the above employ Hinman Milkers.

Easiest to Operate and Clean. Lowest in Price
Over 50,000 in Daily Use

So simple that expensive help is not needed. Boys and girls from 10 years up can quickly and easily milk with these dependable single-unit Hinmans, instantly adaptable for each individual cow.

Our Catalog Tells A Convincing Story. Send For It

and we will include a copy of our paper "The Hinman Handshake" giving facts about the milk tests above referred to, and experiences of many other users.

Hinman Milking Machine Co.
Oneida, New York
We also make Electric Milkers with 1-6 H. P. motor operating on alternating or direct current

Better Stall Floors



RIGHT now is the time to go over your barn plans again and make sure of every point before you start to build. Take stall floors, for instance. Probably no detail of barn construction more directly effects the health and productiveness of dairy cows, and you will be well repaid for the extra care devoted to the selection of the most suitable material.

The practical value of correct flooring for stalls and pens and the peculiar merits of Circle A Cork Brick are explained in the 28-page, illustrated book "Better Stall Floors" which will be sent on request. Certainly, it is important for you to know that, by using Circle A Cork Brick, you can insure sanitation and durability and, at the same time, have floors that are comfortable, nonslippery, easily cleaned and economical. Be sure to get this book before you make your final decision. There is no charge for it.

Armstrong Cork & Insulation Company, 112 Twenty-Fourth Street, Pittsburgh, Pa.

Circle A Cork Brick
FOR STALL FLOORS

Keep Tab on Your Cows

Send 5c in stamps for samples and prices of our weekly and monthly Milk Record Sheets. **Hoard's Dairyman, Fort Atkinson, Wis.**

New York Butter Market

NEW YORK CITY, FEBRUARY 1:—Fearing a decided slump of butter prices, which now seems inevitable, receivers are exerting themselves to the utmost at present to keep their current stocks moving. There is a general disposition to shade prices whenever it seems necessary in order to make a prompt sale, the result being a fluctuating, unsatisfactory market. Danish butter, as in weeks past, is the factor which is having the most marked effect on general conditions. A great percentage of the large shipment that was received two weeks ago remains as yet in first hands. In addition, 700 casks and 1,558 boxes of Danish butter were received last week, and 1,594 casks, 952 boxes, and 28 half casks have been received and became available for distribution yesterday. A further shipment of approximately 4,300 casks is due to arrive tomorrow. The particularly disquieting feature of Danish butter importation at the present time is the fact that agents are soliciting orders for February delivery at the low price of 44c, in some instances, with transportation charges and duty paid. How a decided slump in butter prices can be avoided is a question which seems to have no solution.

Domestic butter receipts have increased quite materially during the past week. That has been due to a normal increase in production and also to the fact that shipments of butter have been diverted from other points to this market. Besides the Danish butter, domestic receipts have been augmented by the arrival of 3,920 boxes of New Zealand butter during the past week. At the present time a cargo of 6,000 boxes of Argentine butter is at a dock in Boston. It is not as yet known whether or not that butter will be forwarded to this port.

Consumptive demand has remained good throughout the past week; in fact, it has been better than for some time past. That is undoubtedly the result of the colder weather which has prevailed in this section of the country for several days. Demand is principally for fresh butter as is shown by the fact that less than a half million pounds have been drawn from storages during the past week. Storage supplies are practically 9½ million pounds as compared to 13½ million pounds one year ago. Holders of storage butter, who have met with great losses during the last several months, are exceedingly anxious to move their remaining holdings before the close of the winter months. This has been a very unfortunate year for so-called butter speculators.

The market closed today weak and very inactive with established quotations as follows: Extras (92 score), 49½c; higher scoring than extras (93 score or higher), 50@50½c; firsts (90—91 score), 46@48½c; firsts (88—89 score), 43@45c; and, seconds (83—87 score), 36@41½c. Danish butter is weak and is moving at prices of 48½@49½c; New Zealand butter is quoted at 47½@48c; Holland butter at 41@45c; and Argentine butter at 39@41c.

W. B. LIVERANCE.

Hot Lunches on a Cold Day

HOARD'S DAIRYMAN:—Cold lunches on a winter's day are not relished by the men working up the winter supply of wood. I have found that scalloped potatoes and baked beans, baked, then placed on hot soapstones a satisfactory method of solving this cold lunch problem. A jug of hot coffee, also placed on the stone and all wrapped snugly in blankets, completes the dinner. I have sent lunch for eight men in this manner and it has always remained hot for dinner.

Wisconsin. (MRS.) W. H. GRANZOW.

PLANT MORE FRUIT

Here's a Book of Valuable Help
Costs a dime. Worth dollars

HERE'S a Book by U. P. Hedrick, who is acknowledged to be one of the greatest living authorities on fruits.

He has written a wonderful little book, that tells you just the things you want to know about the kinds of fruit to plant; and exactly how, when and where to plant them.

It is filled with invaluable information as to care and fare. The only book of its kind yet published. Worth many a dollar, but will be sent *to you for 10 cents.*

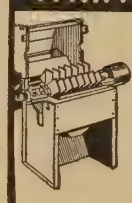
Sent for so little as 10 cents by The American Association of Nurserymen.

Send at once for it to the Secretary's Office at

Princeton, N. J.

Trustworthy Trees & Plants
MEMBERS AMERICAN ASSOCIATION OF NURSERYMEN

Whirlwind Capacity



Use Your Tractor · Grind in a Hurry
—Coarse or Fine at One Operation

Small Grains, Head Grains, Ear Corn, Alfalfa, Straw, Fodder etc., etc.

W-W GRINDERS

Are trouble proof — no burrs — no knives. Blunt steel hammers at high speed grind any feed at remarkable rate. Simple, strong — rocks or iron in machines won't hurt them. **A SIZE TO FIT YOUR NEEDS** — One all-purpose W-W Mill will grind ALL your feed faster than you ever thought it could be ground. See your dealer or write for full description and you'll understand the whirlwind capacity of these mills.

Wilson-Wetterhold Grinding Machine Co., Wichita, Kans.

Grind Alfalfa-Grain-Fodder

$54 Buys Strongest Fastest Farm Mixer Made

Farmers everywhere are saving contractors' profits by building their own concrete foundations, barn floors, hog troughs, feeding floors, manure pits and fence post with the Kwik-Mix Concrete Mixer.

KWIK-MIX CONCRETE MIXER has capacity of 2½ cubic feet. Mixes better concrete faster and with less work than can be done with shovels or inferior mixers. Batch a minute throughout the day. Operate it by hand or hitch to farm engine. Built entirely of iron and steel — nothing to break or wear out — lasts a lifetime. Fully Guaranteed.

$49 SPECIAL 30 Day Offer

Never before, to our knowledge has such a husky, efficient concrete mixer been sold to any one at such a remarkably low price. Send at once for complete details of this amazing offer. Learn how you can secure this wonderful mixer at the special 30-day price of $49. Write today.



Badger Wire & Iron Works
1007 Cleveland Ave., Milwaukee, Wis.

Get Our Delivered Prices

Dairy Alfalfa

Carlisle Commission Co.
Live Stock Exchg. Kansas City

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

Eastern Dairy Notes

Milk Lower in New York—A board of arbitration headed by Federal Judge Edwin L. Garvin has lately decided that no increase of wages should be granted to employees of milk distributors in the metropolitan district, because living costs are on a decline.

Following this decision, closing a three months' controversy, Borden's Farm Products company has announced through Patrick D. Fox, president, that the wage settlement and the farmer's recent reduction of 1¼ cents a quart, effective February 1, would make possible a reduction of about one cent to the consumer. This reduction is expected to be general. Mr. Fox said that any price reduction by the producer would be passed on to the consumer.

Pennsylvania Herds Now Third in U. S. Accredited List—Pennsylvania is now third among the states of the Union in the number of herds of accredited cattle, according to an announcement by Fred Rasmussen, state secretary of agriculture. Only Wisconsin and Minnesota now have more officially accredited herds than Pennsylvania.

Pennsylvania now has 418 herds of cattle guaranteed by state and federal authorities to be free of tuberculosis.

Placing Agricultural Immigrants on Farms—The immigration department at Ellis Island is anxious to place agricultural immigrants on farms instead of having them flock to the over-crowded cities where there are already thousands out of employment.

Pennsylvania farm bureau agents are urging that some of the best may be induced to purchase, if possible, or at least rent some of the hundreds of abandoned farms in the state. The farm bureau expects to take some action at once.

Pennsylvania. E. M. L. BLANCHER.

Missouri State Holstein Meeting

Missouri Holstein breeders met January 18th at Columbia during Farmers' Week at the University of Missouri. A new constitution and by-laws were adopted for the state association. One provision is that all sales with which the association is connected in the future will be held under its auspices. A resolution was passed declaring that the membership will not participate individually or as an organization in any sale of Holsteins not held in co-operation with the association. A sale committee and an educational committee were provided for, to be selected by the board of directors. The legislative committee recommended that the sanitary laws of Missouri be amended to provide that all cattle coming into the state from herds not under Federal supervision must be held sixty days in quarantine and retested before being distributed in the state. C. M. Long was elected president; C. E. Driver, vice-president; and Glenn Davis, secretary-treasurer.

MARKETS

CHICAGO, Feb. 4—Butter—Creamery, extras, 45½c; extra firsts, standards, 44c; dairy, firsts, 38@44c; seconds 30@37c.

Eggs—Ordinary, 45@46c; firsts, 49½c.

Cheese—Twins, 23c; Young Americas, 26½c.

MILWAUKEE, Wis., Feb. 4—Butter, Creamery, tubs, 46c; prints, 47c; extra firsts, 44@45c; firsts, 43c.

Eggs—Current receipts, country candled, cases returned, 51@52c; checks, 40@44c; dirties, 45@47c; refrigerators (April or Mays) not recandled, for city trade, 58@59c.

Cheese—Twins, 24½@25c; Daisies, 25c; Young Americas, 26@26½c; Longhorns, 26½@27c; fancy Brick, 22½@23c; Limburger, 1 lb., 22c; 2 lbs., 23c; Swiss loaf, 44@45c.

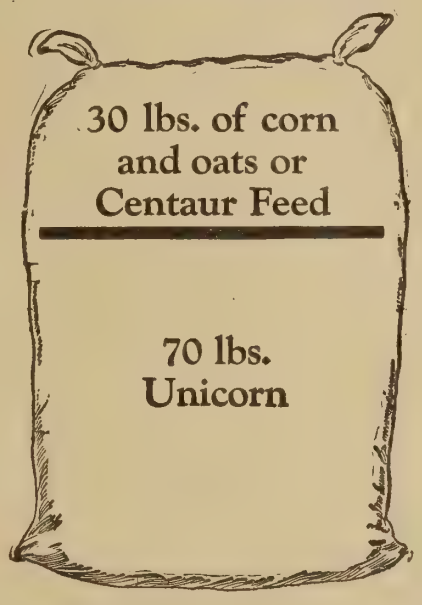
NEW YORK, Feb. 4—Cheese—Quiet; state milk, common to specials, 19@29c; skims, common to specials, 10@20c.

Butter—Weaker; receipts, 10,928 pkgs.; creamery, extra, 48c; state dairy, tubs, 30@47c; imitation creamery, firsts, nominal.

Eggs—Steady; receipts, 22,993 cases; nearby white fancy, 60@61c; nearby mixed fancy, 54@60c; fresh firsts, 56@59c; Pacific Coast, 50@61c.

"High-Priced" Unicorn Makes Low-Cost Feed

Feed this way with clover hay



For November, four out of the ten highest cows in all Indiana cow testing associations were fed Unicorn.

Average milk . . 1609.5 lbs.
Average fat . . . 59.9 lbs.

Those who are not feeding Unicorn say that it is "high-priced."

Those who *are* feeding Unicorn say that it gives them a greater profit than they can get with any other feed.

The Unicorn feeders know that it's not the price of a thing that counts, but how much you get for your money.

There's more milk *and more profit* in a ton of Unicorn than there is in a ton of any other feed—home-mixed or boughten.

Use Unicorn and cut down your feed bills. Goes farther. Lasts longer. Actually *costs less*—not more.

CHAPIN & COMPANY
Chicago
New England Office at Boston

An Easy Way to Remove Afterbirth

If you want your cows to be healthy and productive, by all means see that the afterbirth comes out in a natural way, for the infection will injure the animal's health if you don't.

The best way to get rid of a retained afterbirth is to let B-K promptly reduce inflammation, suppress infection, destroy foul odors, soothe and heal torn tissues and permit the afterbirth to come away without assistance.

If treatment is given promptly, the case will respond at once. If delayed, infection advanced, foul odors present, etc., then the first two or three applications should be stronger.

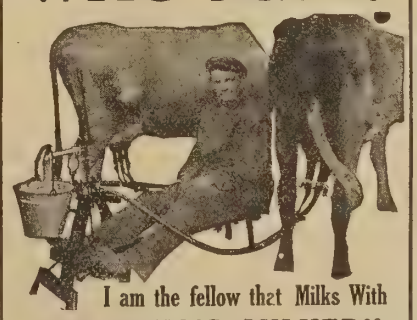


Your cow will not be injured or torn in any way, as she will be if you try to remove this afterbirth by the unnatural hand method. B-K prevents infection and leaves no part to decay. Sold by dealers in your town.

GENERAL LABORATORIES
Madison, Wisconsin

B-K Bacili-Kl Trade-Mark
The Sentinel of Sanitation

WHO AM I?



I am the fellow that Milks With

"MEHRING'S MILKER"

It makes me smile when I see poor guys pulling away by hand. Buy a Mehring Milker and you can smile too. It was the first practical milker and still has the lead in speed, efficiency and cheapness of operation and repair. Send for a catalogue and be convinced. It will milk one or two cows at once. Price $80 cash or $85 on trial. Also engine power milkers.

W. M. MEHRING, Keymar, Maryland.

FARMERS



HANDY WAGON

Low steel wheels, wide tires, make loading and handling easier. We furnish Steel Wheels to fit any axle, to carry any load. Plain or grooved tire. Catalogue sent free.

EMPIRE MFG. CO., Box 348 Quincy, Ill.

Young Women Wanted To Work On

Bradley KNIT WEAR

Located at Delavan, Wisconsin. The Bradley Mills are a short ride from Chicago or Milwaukee. They are large, clean, well lighted and ventilated. The work is of a kind that naturally appeals to women. There is no comparison between the light interesting work in the sociable, friendly atmosphere of the Bradley Mills and the trying conditions under which a woman must work in the average city plant. The work is readily learned so that new employees soon become expert and in a position to earn higher wages. There are no lay off seasons. To work for the Bradley Knitting Co. means steady all year round employment under ideal working and exceptionally fine living conditions. The Bradley Knitting Mills present an unusual fine opportunity for the young woman who wants to make her own way in the world and at the same time get more out of life than a mere living. Positions are waiting for you. For particulars write

Miss Margaret Ruth Johnson
% Bradley Knitting Co.,
Delavan, Wisconsin.

When writing advertisers please mention Hoard's Dairyman.



HOARDS DAIRYMAN JUNIORS



A DEPARTMENT FOR THE DAIRY FARM BOY

FROM OUR JUNIOR CORRESPONDENTS

WE hope that this page will interest the juniors quite as much as it did us when we were making it up. We think the letters which appear here are good indeed because they tell us some interesting facts. But not alone this, for they were very well written and we think that they demonstrate a very important accomplishment for all of us to attempt to attain the art of letter writing. We are proud to emphasize the fact that our juniors are making some rapid strides in this direction and believe that these letters prove our point. There were many others received during the past month which are very good and which we would like to have appear here, but since our space is limited we had to confine ourselves to what we considered the very best ones at this time.

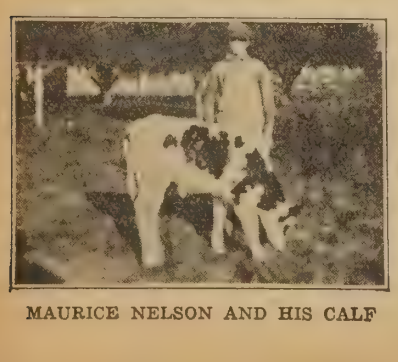
This bit of advice may not be out of place here. How many of you juniors read over your letters after you have written them before sending them? This is a most excellent practice to observe because many of the mistakes which we make when we are writing in a hurry will be caught in this way. Two people may say practically the same thing, but one may tell it in a far more interesting manner than the other. A little thought about this matter after our letters are written usually results in a better piece of work. I have heard boys and girls say that they never could write a good hand. We don't believe this. Good penmanship is the result of careful practice. The good penman is the fellow who has always been careful about making the letters of the alphabet correctly, and it soon becomes easier for him to write a good hand than one which can hardly be read. All of the letters which appear on this page were very easy to read because they were plainly and neatly written. This is one reason why we liked them so much. What others can do, you can do, so don't give up trying.

Hoard's Dairyman Juniors:—I received my fob, button, and creed yesterday and am well pleased with them. I am especially well pleased with the creed and I will try and live up to it. We are milking ten cows now, most of which are pure-bred Holsteins. We believe in pure-bred cattle and so are trying to sell off the grades and secure pure-breds.

It was through the efforts of the boys' and girls' clubs of Idaho that I secured my Holstein heifer. Thirty-two head of pure-bred Holsteins and fifty head of pure-bred Jerseys were shipped in from Washington and Oregon to Idaho. I received my heifer in May and in the middle of September she calved and I became the proud possessor of a pure-bred Holstein bull calf. He sure is a fine one and I value him at $150 right now. Excella Mercedes Fayne, which is my heifer's name, is a true dairy cow all over from her head to her tail. She gave over forty pounds of milk when she freshened and is giving thirty-five pounds now.

I am 13 years old and am a Freshman in high school. I am enclosing a picture of my calf. I would like to hear from some of the other juniors. My address is Boise, Idaho. With best luck to all the juniors,

Idaho. Maurice Nelson.



MAURICE NELSON AND HIS CALF

Hoard's Dairyman Juniors:—I received the knife on Christmas Day and I think it is a very fine present. I want to join the juniors' club and am enclosing the coupon taken from your paper; also one for my brother, Thaddeus. He is a real dairyman for he takes care of 16 pure-bred Holstein calves both night and morning. And he also helps dad run the milking machine.



HESTER AND SOME OF HER FRIENDS



THADDEUS, DAVID, AND PEANUTS

Thaddeus and I have four Bantams. I take care of mother's hens and I expect to have a flock of my own next year. We have a couple of saddle horses and we ride a great deal, especially in summer. Sometimes we borrow a horse and my younger brother, David, who is nine years old, goes along with us up into the mountains. We usually take a lunch and stay all day. We have lots of fun climbing, playing Indian, and cowboy, and gathering pine cones and queer stones. We go in swimming in the river every warm day and sometimes mother allows us to take blankets and go down in the willows by the river and sleep on the ground like real hunters and trappers. One night the horses came and smelled us. Often we take off our shoes and stockings and wade across to a nicer place on the other side.

We are skating on the river now. The boys got new skates for Christmas. We all read Hoard's Dairyman and think that it is a very fine paper.

Montana. Hester Hunt.

Hoard's Dairyman Juniors:—I have received your letter and I am very glad to know that you have received mine. Christmas Day I had a good time, and I now have a calf all of my own. But our farm bureau has no calf club and I don't know of any one else around here that has joined the club. I have read my creed over a number of times and I would like to learn it if I have the time. We have eight little calves and nine big ones. About a month ago, papa bought a big Shorthorn cow which gives about seven gallons of milk a day, and she gives more than any other cow in our barn. I milk her and I have to empty a three-gallon pail twice each time when it is three-fourths full. I help with most of the chores. I put the cows and calves out and get the hay down in the morning. In the evening I put the cows and calves in the stable and help papa with the chores. We are without a hired man until the first of March.

Illinois. Grover Thomas.

Hoard's Dairyman Juniors:—I received my pen knife with my name on it and I want to thank you very much for so useful a gift. And I also want to thank you for the three dollars for winning the prize. I have started a bank account in the Ridgely bank with it and hope to keep adding to it all of the time. I am proud to be a member of the junior club.



OWEN LYNCH AND HIS DOG

My father has helped to make the eastern shore part of Maryland one of the leading dairy sections of the East. He has a fine herd of thoroughbred Holstein registered cattle which we are all proud of.

I am 12 years old and in the fifth grade. We live in a large, brick, colonial house that was built in 1783. I am the owner of a cow and calf and I also have two mules of my own.

Wishing all the juniors a very Happy New Year, I am

Maryland. Owen Lynch.

Hoard's Dairyman Juniors:—Well, I am just going to write a few lines to thank you for the present. I got my subscriptions this way. First I went to my nearest neighbor, next I asked father, then I went to the election and got some more there, and at last I went to another of our neighbors.



JOHN HOLLAND AND HIS PET

We are milking fourteen cows now and we have a pure-bred Holstein bull. We also have two calves, one Holstein and the other Guernsey. They are both heifers. We have nine horses and one Indian pony, five brood sows and one Chester White boar that runs away and we have to chase him home. In the picture the cow I am sitting on is a pet.

Wisconsin. John Holland.

Hoard's Dairyman Juniors:—As I have not written for a long time, I thought I would write and tell you about club work in this part of the state. There are quite a few poultry clubs in the county, but no pig clubs until last spring when Mr. Turner started one, with Kenneth Craig and Lynn Patton as president and secretary. Other members were Marcus Craig, Joe Smerchec, Willard Collins, and two others whose names I have forgotten.

My pig gained 163 lbs. while in the contest, which was 92 days, at a feed cost of $10.09. I got first prize on my boar and gilt in the open class, and third place in the pig club class. My gilt was a little too heavy in the fore quarters, but stood on her feet extra good. The boar was really the best pig in the litter, being leggier, bigger boned, and smoother, but he has slightly long pasterns. I will keep three of my gilts for brood sows in the pig club work for next year.

I bred them to a big boned, long legged boar raised at Charter Oak farm. He's a little rough built and doesn't stand up on his feet the way he should, but at that he is the best boar around here. The big boned, rainbow backed, tall, yet broad kind of hogs look best to me. I have always liked black hogs the best.

Lynn Patton had a Duroc gilt en-

(Continued on page 151)



MAHLON BEACHY AND HIS FAVORITE

A Big Yield Guaranteed!

HAYES Big-Crop records extend back over 35 years—among nearly 300,000 users. And everywhere the story is the same. The Hayes Four-Wheel system of Human-Hand Planting positively does *increase* crops.

The first year's increase is usually enough to pay for the Hayes several times over. And these increased yields and profits continue for 18, 20, 25 and even 30 years.

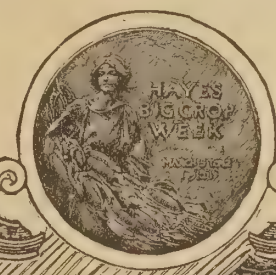
But these amazing records are not your only assurance. This Human-Hand planter is sold with a *Big-Crop Guarantee.* It says that if the Hayes Four-Wheel does not give you a better stand of corn, you may return it and the *full purchase price will be refunded.*

Why gamble with your planting? The Hayes Four-Wheel—the nation's leading corn planter—*guarantees* you an increased crop *beginning next season.* Don't wait. Go to the local dealer and order *now.*

Hayes Pump & Planter Co. Dept. 14, Galva, Ill.

HAYES

FOUR-WHEEL PLANTER





The rate for advertising in this department is 10 cents per word. Count address. Remit in advance. Copy must reach us 8 days ahead of date of issue. Farm labor advertising 7c per word.

STOCK FOR SALE

If you are in need of pure-bred Holsteins of any age or grade Holsteins it would pay you to see me as I have from 1 to 3 carloads on hand all the time. If I do not have what you want, I will help you find them as I know where to go. R. D. LEE, Cazenovia, N. Y. 3*

Holstein heifer and bull calves. Pure-bred, registered and high grade. Splendid individuals and breedings. Delivered to you, $25 and up. Your inquiry will be given our best attention. BROWNCROFT FARMS, McGraw, N. Y. 5*

I have usually 100 head of registered and high grade Holsteins on hand for sale. Also registered and imported Percheron and Belgian horses. RALPH HUDSON, Milton Junction, Wis. 12*

For Sale—At Elmwood Stock Farm, high grade Holstein cows, fresh and springers, by the carload. JOHN MURPHY, Mukwonago, Wis. 3*

"The Willows" offers fifty high grade Holstein cows for sale. S. D. SHAMBEAU, Waupaca, Wis. 12*

High Grade Holstein heifer calves, two to four weeks old, from tuberculin tested herds, $30 each, crated. Will ship C. O. D. WAUKESHA CO. HOLSTEIN-FRIESIAN BREEDERS' ASSOCIATION, Waukesha, Wis. 9*

High Grade Holstein and Guernsey calves, $25 crated. Safe delivery guaranteed. BROWN & COLLINS, Lima Center, Wis. 16*

Serviceable grandsons of Lola Segis Pontiac Homestead for sale, he a 34-lb., 1,000 lb. son of Piebe Laura Ollie Homestead King. Their dams are daughters of Joe Oak De Kol Fobes. Well grown, good individuals. Your choice, $150. R. W. MEAD, Stillwater, Minnesota. 10*

High Grade Holstein calves 6 to 8 weeks old, $30.00 each. We pay express and ship C. O. D. SPREADING OAK FARM, Whitewater, Wis. 11-tf.

For Sale—30 high grade Holstein milkers and springers. Will sell one or all. FRED JOHNSON, Waupaca, Wisconsin. 23*

Closing out herd of grade Holsteins, $100.00 each. H. A. KUHTZ, Waukesha, Wisconsin. 24*

Holstein bull, ready for service, 2 dams averaged 106 lbs. milk 1 day, 40.67 lbs. butter 7 days. $200. Terms. ROY HARRIMAN, Appleton, Wisconsin. 25-6

You take no chances when you order your Holstein heifer calves from me as I ship C. O. D. and pay express. Also a few real producing cows cheap. E. F. THOMAS, Oconomowoc, Wisconsin. 26-8

We have serviceable bulls, also bull calves, all out of good record dams for sale at real farmers' prices. Investigate and convince yourself. We always satisfy. DATE HOLSTEIN FARMS, Baroda, Mich. 1-4

Grandsons of Homestead Junior and of 37th for sale, from A. R. O. dams, of all ages. Pure-bred heifers and cows, bred. High grade heifer calves from producing dams a specialty. S. E. JONES, Watertown, Wisconsin. 1-4

For Sale—My entire herd of choice high grade Holsteins, mostly bred to and sired by thirty-pound bull. There is one full load of the best large heifers in southern Wisconsin, uniformly marked, about three-fourths white. C. L. SIMMONS, Belmont, Wis. 1*

Three Holstein bulls, fit for service, sired by sons of King Segis Pontiac. W. R. GATES, Fort Atkinson, Wisconsin. 2*

For Sale—Twenty high grade Holstein cows, fresh and close springers. Five Holstein calves, six weeks old, cheap if taken at once. L. W. MITCHELL, Whitewater, Wisconsin. 2-6

Baby Bulls—Registered Holstein-Friesian by high class sires and heavy producing dams. Price is right. C. S. MULKS & SON, Whitewater, Wisconsin. 3-*

Registered Holstein heifer by a 44-pound butter bull, soon due to a son of Wisconsin's Champion 40-pound cow. $500. ROY HARRIMAN, Appleton, Wis. 3-2

If you want the best pure-bred and grade Holsteins write BABLER CO., Monroe, Wisconsin. 3-4

Holstein Bull Calves from daughters of King Segis Pontiac, (the sire of Pabst and Hackney herd sires). Sire of calves a 32-lb. son of a twice 30-lb. cow whose dam has record 29½ lbs. butter and 731½ lbs. milk. Dam of calves has records up to 30 lbs. Prices $100.00 and up. Write for list. A. G. WADE, 1770 Old Colony Bldg., Chicago, Ill. 3-4

100 High-grade Holsteins, 35 cows, yearlings, two-year-olds, three-year-olds, and calves. Federally tested. In testing association. A. J. FAEBER, Davenport, Iowa. 3-4

For Sale—Three-month-old Holstein bull calf out of 30-lb. bull. For quick sale, $100. Perfect in every way. Herd under Federal supervision. FITCHOME FARMS, Aurora, Illinois. 4-3

Registered Holstein bulls all ages. Beautifully marked, excellent breeding at farmers' prices. Will ship C. O. D. CITY LIMITS FARM, Watertown, Wisconsin. 3-3

Fine, registered Holstein bull calves three months old, $60.00. A. B. ANDERSON, Route 4, Red Wing, Minnesota. 3-2

Don't buy calves without seeing them. I offer beautifully marked, high grade Holstein heifer calves at almost veal prices. Registered bull calves $35. Will ship C. O. D. and if calves don't suit don't take them. I guarantee safe delivery and satisfaction. J. M. McFARLAND, Watertown, Wisconsin. 3-3

Seven registered Holsteins. Four young cows, two heifers, one bull, $1,000.00. EDWARD APKING, Beecher, Illinois. 3-2

If you want a high class 30-lb. bull at a reasonable figure write BOX 589, care Hoard's Dairyman. We have several for sale. 3-2

Holsteins—37-lb. herd sire, young bulls, cows, heifer calves. PHILIP LEHNER, Princeton, Wis. 1-5

High grade Holstein calves, either sex, $20.00. Registered bulls, $35.00. Registered heifers priced to sell. Shipped C. O. D. safe delivery guaranteed. PAUL McFARLAND, Route 7, Watertown, Wisconsin. 2-4

Registered Holstein bull calf, two months old, excellent individual, beautifully marked, 22-pound grandams, best of breeding. Only $75. R. A. BOWER, Eureka, Kansas.

Three splendid pure-bred Holstein bulls. Two to four months. Grandsire, a thirty thousand dollar bull. Fifty dollars each. GLEN TAYLOR, Grinnell, Iowa.

Carload registered Holstein heifers sired by 34-lb. bull, 14 yearlings due next fall and 7 over 2 years due early spring. Would sell few young cows. My herd of 60 just Federally tested and not one reacted. R. P. CLEMENT, Route 8, Adrian, Michigan. 4-spl

For Sale—Two grandsons of King Korndyke Sadie Vale, 3 and 4 months old. $75 each. Herds under Federal supervision. FITCHOME FARMS, Aurora, Ill.

STOCK FOR SALE

Guernseys for Sale—Members of the Ohio Guernsey Breeders' Association own more than 2,000 registered females. Also some of the finest bulls of the breed. Think of the progeny that results each year. Write for sale list of males and females. OHIO GUERNSEY BREEDERS' ASSOCIATION, Box 602, Sylvania, Ohio. 4*

Serviceable and younger grandsons of Beauty Eagle, 846 lbs. fat, and of Bonny Boy of Riverdale. Out of heavy producing cows. Farmers' prices. LA BELLE KNOLL FARM, Oconomowoc, Wisconsin. 14*

For Sale—Guernsey bulls, some of serviceable age. Sired by May King's Vrangue of Ingleside and Cinderella's King of Mound City and from dams with good A. R. records. CHAS. A. WILKINS, Platteville, Wisconsin. 17*

My entire herd of grade Guernseys for sale. Also a few choice heifer calves at $30.00 delivered. SHADY HILL FARM, Whitewater, Wis. 23*

Guernsey heifer calves. Can ship you 10 at once about 4 weeks old. Calves out of my own herd, so know what I am shipping. $30 each crated, F. O. B. Waukesha. WERN FARMS, Waukesha, Wis. 18*

George-Washington Farms' Guernseys. Choice young bulls of serviceable age. GEORGE-WASHINGTON FARMS, Mankato, Minnesota. 19*

Guernsey bulls of May Rose breeding with records up to 700 lbs. fat in B. B. Beautiful heifers (grades) in calf, also few Holstein springers. H. A. KUHTZ, Waukesha, Wisconsin. 19*

Guernseys—All ages, both registered and grade. H. A. MAIN Sec'y, Jefferson Co. Guernsey Breeders' Association, Fort Atkinson, Wisconsin. 20*

For bargains on May Rose bulls with type and production, write KUHTZ BROS., Waukesha, Wis. 21*

Guernseys—High grade Guernsey calves, either sex, four to six weeks old, bred for production of milk and butter. Thirty dollars apiece delivered to any station, express charges paid here. Send orders or write. LAKE VIEW GUERNSEY PLACE, Whitewater, Wisconsin. 26-tf

For Sale—Registered Guernsey bull calves, good producing dams at farmers' price. OTTO KRUEGER, 427 East Broadway, Toledo, Ohio. 24*

Guernseys for Sale—From Federally Accredited herd. Bull calves, two bulls ready for service, sired by Clara's Sequel and out of high testing dams. Also ten pure-bred females. LLOYD RUNDELL, Roberts, St. Croix County, Wisconsin. 26*

For Sale—Registered Guernseys. Both sexes. Herd under Federal Supervision and free from disease. CLOVERNOOK FARM, Whitefish Bay, Milwaukee County, Wisconsin. 1-4

Guernsey calves six weeks old, $20. F. O. B. Knapp. THOMAS HAGERTY, Knapp, Wisconsin. 2*

Two-year-old registered Guernsey bull for sale. PETER JOHANSEN, Route 2, Ringsted, Iowa. 2-3

For Sale—15 registered Guernseys before March first, 1921. Six cows, two to five years; six heifers, two to fifteen months, one bred; two bull calves, three and seven months; herd bull 2½ years. Come and see them. JOHN V. PALMER, Route 1, Box 127, Cambridge, Illinois. 3-2

Fine, registered Guernsey bull, from 58-lb. dam per month. Born November 21. Price $60. Seed corn catalog. C. L. HAMMOND & SONS, Rockport, Indiana. 4-2

Bargains—Four highly bred registered Guernsey bulls. Ages about 3½ and 2½ years and 2 to 9 months. Herd tuberculin tested by Government. A. W. BROWN, Rhinelander, Wisconsin. 3*

Registered Guernsey bulls of serviceable age for sale. Grandsons of Governor of the Chene and Itchen May King and out of high producing dams. Choice individuals and priced to sell. HARVEY LONGLEY, Dousman, Wisconsin. 3-2

Two registered Guernsey heifers for sale. Two years old. Bred to Langwater Frenchman, due in April. Also serviceable Guernsey bull whose dam and grandam average 653 lbs. fat. Federal Accredited herd. HOMER RUNDELL, Livingston, Wis. 4*

Oshkosh Demonstration Farm offers registered Guernseys and Holsteins, both sex. T. G. BROWN, Director of Agriculture, Oshkosh, Wisconsin.

Guernsey heifer calves 4 to 6 weeks old from high producing dams. $25.00 each crated. Will ship C. O. D. AUGUST NELSON, Westboro, Wisconsin.

Accredited Guernsey Bulls—Best breeding and records. Ask for sale list. GUERNFALFA FARMS, Peebles, Wisconsin. 4-5

For Sale—Two May Rose Guernsey bulls, age 4 months. Sired by Langwater Frenchman, a half brother Ne Plus Ultra. Dams' Advanced Registry records 710 and 660 lbs. fat. HOMER RUNDELL, Livingston, Wisconsin. 4*

Registered Guernsey bulls and heifers. FAIRVIEW FARMS, Brodhead, Green County, Wisconsin. 2-9

For Sale—Jeresy bull Forfarshire Sam 109303 sired by Forfarshire Rex Imported. Sure breeder, gentle. WILLOW GLEN FARM, Womelsdorf, Pa.

For Sale—15 grade Jerseys from 9 months to 4 years. ALEX STEPHENS, Deerfield, Wisconsin 3-2

For Sale—Pure-bred and high grade Jersey cows and heifers, great bargain. FARM DEPARTMENT, Bank of Colfax, Colfax, Wis. 3-3

Ayrshires—Bull calves, best of breeding. Priced very reasonable. Overstocked. CHAS. DUNBAR, Elkhorn, Wisconsin. 3-2

Brown Swiss bulls of serviceable age. A. C. BOODY, Hudson, Wisconsin. 4*

STOCK WANTED

Wanted—Lists of registered and grade Holstein cows and heifers for sale. Report to any bank in Wisconsin or write to BANKER-FARMER EXCHANGE, 1822 Chadbourne Ave., Madison, Wis. 2-spl

Wanted—Eight grade Guernsey cows. R. E. GREENE, Milton Junction, Wisconsin.

Wanted—4 to 6 Brown Swiss heifers, 3 to 6 months old. Must be good individuals. H. C. CARGILL, Mason City, Illinois. 3-3

Wanted to buy, on one year's time at 10% interest with good security, from 20 to 50 good high grade or pure-bred Holstein cows and heifers. The heifers must be 5 months old, unless you will sell your entire herd. Must be A-1 stuff. Can give the best of reference. Address BOX 283, Marshalltown, Iowa.

STOCK BUYER

Registered dairy cattle bought and sold. EDWARD A. WALTER, 111 Monroe St., Chicago. 18*

AUCTIONEER

Charles W. O'Neill, Auctioneer—6 years' registered stock and farm sales' experience. Now graduate from Fred Reppert School. Write early for dates. Address BRIDGEPORT, Wisconsin. 3-4

POULTRY

Highest prices paid for live and dressed poultry, wild rabbits, pigeons, veal, hides, etc. Quick returns, fair treatment. C. E. McNEILL & CO., 325 W. So. Water St., Chicago. 24*

For Choice Single Comb Rhode Island Red Cockerels of the Winnebago strain write EDWARD NITSCHKE, Burnett, Wisconsin. 1-4

Single Comb White Leghorn eggs for hatching. FRED SCHROETER, Grafton, Wisconsin. 2-4

Baby Chicks—White, brown and buff Leghorns, Barred Rocks, Reds, Wyandottes. Pure-bred, unusual utility stock. Write for circular 108. CHICKDALE HATCHERY, Fort Atkinson, Wisconsin.

Superior baby chicks. Strong, healthy, pure-bred. White and Brown Leghorns, Anconas. Catalog free. SUPERIOR HATCHERY, Zeeland, Michigan. 4-2

Single Comb Black Minorca Cockerels, $2.50 each. Five, yearling hens $1.50 each. Hatching eggs, $1.50 per setting. LOUIS A. RIETZOW, Lone Rock, Wisconsin. 4-2

Single Comb Red cockerels from heavy winter egg-laying strain, $3 and $5 each. CHARLES BRACE, Lone Rock, Wisconsin. 4-2

DOGS

German Shepherd, airedales, collies, and old English Shepherd dogs. Brood matrons, puppies, farm helpers. 10 cents for instructive list. W. R. WATSON, Box 520, Oakland, Iowa. 20*

Hound and Horn. Prices. Photos. Write KASKASKE KENNELS, Herrick, Illinois. 3-4

Pups for Sale—Collie and English Shepherd. Male, $12.00; female, $5.50 from a $90.00 male and $75.00 female. You will be pleased with them. Bourbon Red Toms, $8.00. FRED HELVEY, Bellevue, Iowa.

SEEDS

Farmers, ranchmen and dairymen. Order your Grimm and Cossack alfalfa seed direct from the grower. All seed recleaned and guaranteed. Ask for samples. WM. H. K. WILLIAMS, Triangle Ranch, Cottonwood, South Dakota. 26*

Jacques' Seed Corn—Early maturity, high yield, perfect germination. Grown in Clark County, North Wisconsin twelve years. My Golden Glow ripens in 100 days, yields 60 bushels shelled corn per acre. My North Wisconsin Yellow Dent ripens in 90 days, yields 50 bushels shelled corn per acre. Picked before frost, thoroughly fire dried. Careful tests show 98% to 100% germination. Money refunded if corn is unsatisfactory. Write for folder and prices to WM. H. JACQUES, Neillsville, Wisconsin. 1-13

Wisconsin grown alsike clover seed. FRED SCHROETER, Grafton, Wisconsin. 2-4

For Sale—Eureka Ensilage seed corn. Grow one-third more tonnage than other corns. Sacks free. $3.00 per bushel. Other varieties also. EARL W. HAMMOND, Rockport, Indiana. 2*

Grimm alfalfa, soy beans, clovers, grasses, Iowar and Iowa 103 oats, field seeds all kinds. Ask for price list. DAVIS SEED CO., Dept. H, St. Peter, Minnesota. 2-7

Send for attractive price list of our select home-grown seed corn. Finest quality, several varieties. Fully guaranteed. Largest trade in Northwest. JOHNSON & ARNESON, Dassel, Meeker County, Minnesota. 3*

No. 1 alfalfa seed, bright yellow, plump, $10.00 bushel. No. 2, $9.00 bushel. WILLIAM VEAZIE, Jerome County Farm Bureau, Jerome, Idaho. 3-2

Seed Peas—Buy Northern grown Canada field peas direct from the grower, cleaned ready for seeding, 1,000 bu. for sale, 1 bu. $3.00; 2½ bus. $7.00; 5 bus. $12.50; 10 bus. or more at $2.25 per bu. Sacks included. Send for sample or order direct from this ad. L. P. MARTINY, Chippewa Falls, Wis. 4*

New Advance Wisconsin Pedigree barley, Iowa and other leading oats. Pure seed. Write for circular. KRUEGER'S SEED FARM, Beaver Dam, Wis. 4-6

New Golden Glow seed corn, bred for silage and high grain yield. $4.00 bushel in five-bushel lots. Wisconsin No. 7 oats, dairyman's favorite variety, ripen with barley, yield over 100 bushels per acre. $1.00 bushel, 25 bushel lots. NOYES RAESSLER, Beloit, Wisconsin. 4-4

MACHINERY

Want the cheapest, handiest belt power? Then ask me about my Little Twister Power Transmitter for Ford and Dodge cars. FRANK R. WEISGERBER, Salina, Kansas. 16*

For Sale Cheap—A small lot of standard make Swedish Cream Separators, 400 pounds capacity, $29.00, 500 pounds capacity, $34.00, 700 pounds capacity, $39.00. These are all new machines, wonderful bargains. THOMAS TAFFEE, Box 355, Lansing, Mich. 18*

For Sale, or will trade for dairy cows Twin City Tractor, 16x30. Best tractor made and good as new. Cost me $2,600 for tractor, $275 4-bottom plow. Will make a good proposition. JOHN SWIGART, 2149 Parkwood Ave., Toledo, Ohio. 2-3

Wanted—Equipment for small creamery; also one automatic bottle filler, milk cooler, De Laval clarifier. All must be in first class condition. CHARLES H. BURGESS, Wenona, Illinois. 3-3

For Sale—A double-unit Empire milking machine in first class condition with equipment for ten cows. Price right. B. L. PAINE, Limaville, Ohio. 3-2

Nursery Bargains—Send for catalogue. KANKAKEE NURSERY, Kankakee, Illinois.

For Sale—Three-unit Hinman Milker, Davis Watkins bottle washer, rinser and sterilizer. Both good as new. D. OFFRINGA, Ames, Iowa.

Three-unit Hinman Milker complete for 20 cows. First check for $90.00 will take it. J. A. FRANKEBERGER, Orangeville, Illinois.

Gas Machine for sale—One 150-light Matthews gas machine in first-class condition at half price. Address GEORGE P. MAYER, care F. Mayer Boot & Shoe Co., Milwaukee, Wisconsin.

For Sale—One No. 4 Sharples Suction feed separator $75.00, two No. 3 $65.00. Never been unpacked. H. A. BLUHM, Sedalia, Missouri.

FARMS FOR RENT

Share renter wanted on 275-acre farm; good house, modern barns and hog house, modern equipment. Want married man interested in building up herd of registered Guernseys and swine. Present herd consists of a few registered animals, balance high grades. Want a man to work into pure-breds who can handle A R. work. State experience and references first letter. Start March 1st or before. FRANK C. MEYER, Lancaster, Wisconsin. 3-2

For Rent—Model dairy ranch to responsible parties. Good market. Fine alfalfa land. Iron stanchions for forty cows. W. J. RHOADS, 15 N. California St., Stockton, California. 4-4

WANTED TO RENT

Wanted to rent by experienced farmer, good dairy and grain farm. Middle west preferred. Can invest $4,500. CARL STAUFFENEKER, Cortland, N. Y.

EXCHANGE

Wanted—To exchange 50 acres river bottom alfalfa land in ideal fruit and dairy section of California at $10,600—3,000.00 down—for small farm in central states as second payment. R. W. SHARP, 601 N. Fourth St., Fresno, California. 2*

FARMS FOR SALE

For Sale— Choice dairy farms in the dairy center of the world. R. B. HELLEN, Jefferson, Wis. 1*

For Sale—Choice Ohio farms. All sizes and prices, some great bargains. Write for list. I. J. MILLER, JR., Conneaut, Ashtabula Co., Ohio. 22*

Farms, ask French if he has what you want. Write him and state your wants. Reference any bank here. J. R. FRENCH, Cortland, N. Y. 24-13

Landology special number just out, containing 1921 facts of clover land in Marinette County, Wisconsin. If for a home or as an investment you are thinking of buying good farm lands where farmers grow rich, send at once for this special number of Landology. It is free on request. Address SKIDMORE-RIEHLE LAND CO., 47 Skidmore-Riehl Bldg., Marinette, Wisconsin. 25-12

Rose Valley Farm—137 acres; 17 miles macadam roads to City Hall, Philadelphia; owner's residence, electric lights, hot water heat, open fireplaces; beautiful lawn and shade; extended view; large stable and carriage house; modern cow barn, 48 head; tenant houses; purest water in abundance; all necessary buildings; macadam roads each side and through farm; $50,000 less than cost of buildings. FARM 2024 N. 10TH ST., Philadelphia, Pa. 26*

Free Wisconsin Bulletins, soil, climate, crops. IMMIGRATION BUREAU, Wisconsin Dept. of Agriculture, Capitol Drawer 125, Madison, Wisconsin. 26-13

Hardwood cut-over land, silt loam, clay sub-soil. Neither sandy nor gravelly; close to town; good roads; good schools; in the heart of the dairy country. You deal directly with the owners. No agents and no commissions. Easy terms. Also improved farms. Write for map and Booklet No. 4. NORTH WESTERN LUMBER CO., Land Department, Stanley, Wisconsin. 1*

Co-operative Land Sale Ass'n. Buy farms direct from owners. Send for free circular and descriptive matter. No commission to anyone, no real estate agents. A. E. WADE, Sec., Weldona, Colorado. 2-4

Farm for Sale—125 acres adjoining one of the best dairy villages in Wisconsin. 125 acres fine land, splendid barn, and goood house. Buildings only ¼ mile from bank, church and high school and ½ mile from R. R. station. One of the best known dairy communities in U. S. with world famous herds of Holsteins and Guernseys. Price $300 per acre if taken before March 15th. Address BOX 605, care Hoard's Dairyman. 3-2

Southern Michigan—Sixty acres, 2 miles from town, fertile clay loam, never rented, 50 acres under plow, balance timber and pasture, fine orchard, good buildings. Every respect a good farm and a fine home. $7,500, $1,500 down. MICHIGAN FARMS AGENCY, Box 928, East Lansing. 26-spl

Alfalfa, corn, grain and live stock farms. Best in famous prarie belt for the money. Write me what you want. H. H. HANSEN, Macon, Miss. 21-spl

Modern dairy farm on good road in Waukesha County. 200 acres, comfortable brick dwelling, furnace heat, running water, horse barn, two large connected modern dairy barns, two silos, tile milk house. Complete breeding establishment. Convenient to Waukesha and Milwaukee. Price reasonable. R. E. BENSON, Dousman, Wisconsin. 26-spl

Farm Bargains—60 miles Twin Cities. Free list, man. BAKER O 76, St. Croix Falls, Wisconsin. 8-spl

80-acre farm, $3,000. Splendid level land, clay loam soil, no stone, 8 acres cleared. New house, barn, and well. A bargain. CLOVERLAND COLONIZATION CO., Dept. 23, Merrill, Wisconsin. 4-2

$800 secures 75 acres with cow, machinery, hay, etc., near village; good tillage, wood, fruit, sugar maples; comfortable house, barn, etc.; $1,100 takes all. Details page 10 free Illustrated Catalog 1200 Bargains. STROUT AGENCY, 150 DL Nassau St., New York City.

For Sale—Noted farm offered by owner. 320 acres near suburbs Montgomery, Ala. Well improved, on extension of Cleveland Ave. Very rich land and in few minutes' drive of good markets. Now carrying 50 cows with nice retail milk route, 250-ton concrete silo, dairy barn for 40 cows, concrete floor, nice milk house, 3 rooms; stock and hay barn 80x60; one 4-room house, one hall, two porches; one 2-story frame dwelling, 10 rooms, 2 baths, 1 sleeping porch, 2 screened porches, halls and pantries. All above electric lighted. Six 2-room houses with plenty labor. Seven wells, fine water, wind mill, tanks and concrete troughs. One hay barn, 40x30. Thirty acres in alfalfa, around 1,000 bearing pecan trees, 120 acres in Bermuda and other native grasses, ideal pasture, about 20 acres of sandy hummock ideal for trucking and fruit, balance land rich bottom prairie. Mules and implements to run this place. A great proposition for the right man. Investigate. Come and see with your own eyes. Write CHAS. FORD, Box 1181, Montgomery, Alabama.

Death and taxes come slow and easy in wealthy Western New York. Good farms cheap! NEW YORK FARM AGENCY, Westfield.

For Sale—Southern New York farms, equipped, money-making farms of every description. Unrivalled advantages. List and large map free. F. B. WELLS, Sidney, New York.

170 acres creek bottom, no overflow causing loss of crops, etc. All alfalfa land with 30 acres now growing, balance in wheat, part to go into oats and corn this year. Capable of caring for 50 dairy cows year round. New barn 54x74, modernly equipped with 28 Star stanchions with individual drinking cups and city water. City electric current available. Loft room for 150 tons loose hay. Two hollow tile silos, capacity 140 tons each, milk house, city water, also natural gas for heating, etc. Good well for stock, windmill, good 4-room house. Two miles from center of city of Coffeyville, 17,000 population, ¼ mile to city street car line and ½ mile to city pavement. Well established dairy business selling 65 to 70 gallons milk per day, milk selling at 50 to 65 cents per gallon. Option of buying herd of pure-bred Holstein-Friesian cattle of 35 head and complete farming outfit. Price $250 per acre for quick sale. D. M. CAHILL, 512 W. 6th Street, Coffeyville, Kansas. 4-2

For Sale—160-acre farm in Dodge County, Wisconsin, 4 miles from Beaver Dam. Address S. C. KELLER, Route 2, Beaver Dam, Wisconsin. 4-2

For Sale—Farm of 363 acres. 30 head stock and tools included. Price $12,000.00. If interested write H. B. HINRICHS, Box 191, South Otselic, N. Y.

For Sale—320 acres. Located in best part of Huron County, Michigan. Suitable for general farming with stock and dairy. Four barns, cement silo, deep well, two tenant houses, one modern dwelling with bath, running water, steam heat. PEQUANNOCK FARMS, Pigeon, Michigan.

For Sale—High class dairy ranch of 216 acres, strictly modern buildings, finest in the state, 60 high class cows, full equipment of dairy and farm tools, only two miles from center of city. Write O. H. HARTSON, Olympia, Washington.

For Sale—An alfalfa farm in the beautiful Shawangunk Valley, Orange County, N. Y., the heart of Eastern Holstein-Friesian dairy country. Crops, fifty tons alfalfa, 100 barrels apples; planted to five acres young apples and peaches due this season; New York City available by truck; contains 127 acres, on state road; well watered. Buildings good, numerous, and large. Price $16,000. Write R. D. HOWELL, 255 Suydam St., New Brunswick, N. J. 4-2

PARTNER WANTED

Partner wanted to operate 200-acre farm on share plan. Must have own help and be capable. Holsteins or Guernseys. Fine location in city limits. Good buildings. Close to school, church and cheese factory. Address BOX 398, care Hoard's Dairyman. 13-*

Partner wanted to operate 200-acre farm in Northeast Iowa, 2½ miles from co-operative creamery. This is ideal dairy farm, carrying 32 head of grade Guernseys. Will sell ½ interest to man who will work for results. Good buildings. Address BOX 626, care Hoard's Dairyman.

Wanted by young farmer without help, working partner (single) with knowledge of registered Holsteins, who would buy half interest in personal property on 160-acre dairy farm. Excellent soil, Southern Wisconsin. References required and given. Address BOX 628, care Hoard's Dairyman.

HAY

Alfalfa Hay—100 cars good green hay cured without rain. Irrigated. Wire or write for price. W. H. McCORMICK SEED HOUSE, Billings, Montana. 26-8

Alfalfa and prairie hay for sale. Prompt shipments. Personally inspected loading. Wire or write GUNN HAY CO., Lexington, Nebr. Reference Lexington State Bank. 11*

Number one and choice alfalfa hay and seed ready for shipment. Address A. L. DAMON & COMPANY, Inc., Rapid City, South Dakota. 8*

Alfalfa Hay for Sale—Write or wire for delivered prices. ALBERT MILLER & COMPANY, 192 North Clark St., Chicago. 17*

SILOS

Silo, 12x24 Washington Fir Kalamazoo silo, 1 piece, complete hip roof. New. Never erected. Price reasonable. ALBERT C. WOLLIN, Johnson Creek, Wisconsin. 26-spl

AUTOMOBILES

For Sale—One tan Ford truck, stake body suitable for creamery or general farm work, $287.50. 1201 W. LAKE STREET, Chicago, Illinois.

AGENTS WANTED

Yes Sir, we have a special opportunity for you during spare time, an opportunity to do some good work in your neighborhood, for the betterment of dairy farming, that will pay you in cash for the effort you put forth. Write for our "Special Opportunity Getting Together" folder. Address HOARD'S DAIRYMAN, Fort Atkinson, Wis. 2-tf

CREAMERIES

Creamery and ice-cream business. Has paid for entire equipment. Bought a home and made a good payment on a farm. Owner wants to retire to care for farm. Sell for cash or trade on a farm. Address BOX 630, care Hoard's Dairyman.

Established creamery in city 25,000, four railroads. Bargain if taken soon. C. M. DOOLEY, Jackson, Tennessee.

PRINTING

Hoard's Dairyman Art Department designs your letter head free. Just tell us your breeds of stock. Book of 5,000 Farm, Ranch and Cottage names 25 cents. Ask for samples of letter heads, envelopes, shipping tags, cards, milk tickets, etc. Poor stationery is more of a damage than a help. Be sure and give correct post office address, including state. Address HOARD'S DAIRYMAN, Art Dept., Fort Atkinson, Wisconsin. 8-tf

TANNING

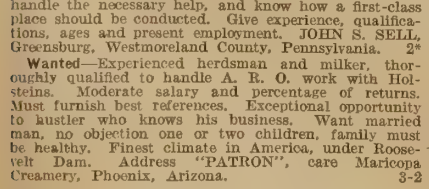
Let us tan your hide: Cow, horse, or calf skins for coat or robe. Catalog on request. THE CROSBY FRISIAN FUR CO., Rochester, N. Y. 1-52

STANCHIONS

Crumb's Stanchions are guaranteed to please the purchaser. They are shipped subject to trial in the buyer's stable. They are right. Send for booklet. WALLACE B. CRUMB, Box H, Forestville, Conn. 2-10

MISCELLANEOUS

For Sale—Registered Mammoth Kentucky Bred Jack, age 6. Safe and sure. CHAS. J. WOLFF, West Warren, Massachusetts. 3-2



Advertising in this department is 7c per word. Remit in advance.

POSITIONS WANTED

Manager open for position April 1st; 44 years, married, no children; 24 years practical experience in all branches of dairy farming and the breeding of purebreds. A practical man who has handled large propositions successfully, understanding the laws of heredity, breeding, selling, pedigrees and feeding for records. Leaving on account of changing owners, Jerseys preferred. Address BOX 571, care Hoard's Dairyman. 1-4

I have rented my farm and desire a position as manager on large grain and stock farm. I can give satisfaction and good results. Married, no children, could take charge March 1. Wire or write FOSTER WEIGEL, Barrington, Illinois. 4-2

Farm Superintendent—Scientific, practical, energetic, desires position on large modern farm or estate and will put same on paying basis. Experienced in Advanced Registry, pure-bred stock, modern farming, tractors, orcharding, road and building construction. Married, no family. Excellent references. Address BOX 544, care Hoard's Dairyman. 4*

Position Wanted—Good dry hand milker, good feeder, life time experience, willing to milk 15-30 cows, single, 29. State wages. California preferred. Address BOX 620, care Hoard's Dairyman.

Experienced man wants position on modern dairy. Single, middle age, honest and willing worker. No tobacco habits. Swiss descent, reference furnished, state wages and particulars. JOHN LUSCHER, Taopi, Minnesota.

Position wanted to operate good dairy farm, salary or shares. Have best references. Address BOX 627, care Hoard's Dairyman.

Married man wishes position as general farm manager, 7 years' experience. References. WM. M. McFARLAND, Fox Chase, Pennsylvania.

Energetic young married man desires job on farm. Have had herdsman and general farming experience. Agricultural training. State wages and full particulars in first letter. Address BOX 624, care Hoard's Dairyman.

Herdsman, experienced in making 31-lb. A. R. O. records, single, agricultural college graduate, with A-1 references, will be open for employment soon. State salary. BOX 222, Richland Center, Wisconsin.

Wanted—Change of position by expert calf raiser. South preferred. Long experience in raising calves on milk and milk substitutes for public and private concerns. Address BOX 629, care Hoard's Dairyman.

HELP WANTED

Wanted—Middle aged herdsman to take charge of modern dairy barn. Prefer married man with no children. G. J. THOMAS, Sioux Falls, South Dakota. 25*

Farm Couple Wanted—Man and wife above 30 years (no children) to be fully responsible on a 200-acre publically located dairy farm, where home and every detail is now, and must be maintained first-class; dairy and other machinery modern and electrically equipped where practical; product wholesaled exclusively—everything furnished and supplied. This is a plain, practical gentleman's place, requiring a conscientious, competent, dependable couple who want a permanent position, who can care for and handle the necessary help, and know how a first-class place should be conducted. Give experience, qualifications, ages and present employment. JOHN S. SELL, Greensburg, Westmoreland County, Pennsylvania. 2*

Wanted—Experienced herdsman and milker, thoroughly qualified to handle A. R. O. work with Holsteins. Moderate salary and percentage of returns. Must furnish best references. Exceptional opportunity to hustler who knows his business. Want married man, no objection one or two children, family must be healthy. Finest climate in America, under Roosevelt Dam. Address "PATRON", care Maricopa Creamery, Phoenix, Arizona. 3-2

HELP WANTED

Wanted—For general farm work a middle-aged man and his wife; farm well located twenty miles from Chicago; house furnished and all groceries. Wife to board two men and must be a good housekeeper and cook. No children preferred. State nationality and wages for both. A splendid opportunity for the right persons. Address BOX 613, care Hoard's Dairyman. 3-2

Wanted—Married couple, about March 1st, by the year, experienced for general dairy and potato farm work. Live in divided house with owner. Wife to assist with housework. Prefer no children. State wages, experience, age, nationality. WILBUR F. LEFEBER, Hartland, Wis. 3-2

Wanted—Single man for barn work in winter, help with field work in summer. Star equipped barn, Sharples Milker used. Pure-bred and high grade Guernseys. $50 a month, board and room furnished. State references and experience in first letter. ARTHUR A. COOPER, Elizabeth, Ill. 3-2

Men—Boys Wanted—Railway mail clerks. $135 month. Particulars free. FRANKLIN INSTITUTE, Dept. H 117, Rochester, New York. 4-3

Manager for dairy farm who is willing to make investment of five or ten thousand or more in Holstein proposition. Address BOX 623, care Hoard's Dairyman.

Manager for Holstein dairy farm, who can make same show real profits. Offer share in business to one who shows results. Address BOX 622, care Hoard's Dairyman.

Wanted—Herdsman, thoroughly experienced Register of Merit man who knows how, and not afraid to do the work. Also two first-class milkers and care takers. Write at once stating wages wanted with board and room furnished. Also references. Address BOX 621, care Hoard's Dairyman.

Herdsman—Married man to handle pure-bred Holstein herd on well equipped farm of 360 acres near Kansas City. Must have A. R. O. experience. State age, qualifications, salary and references. If able to furnish sufficient labor will consider profit sharing proposition. Address BOX 625, care Hoard's Dairyman.

Wanted—Single, experienced dairy hand, one who will work for advancement. Good home near city. State your experience and wages wanted. FRANK X. MEYER, Route 6, Canton, Ohio.

Wanted by March first, a married herdsman for a Guernsey herd. Give references, experience, and wages expected in first letter. CHAS. A. WILKINS, Platteville, Wisconsin. 4-2

Boy wanted on small dairy farm, between the ages of 14 to 17 years. A right good place. Write J. C. WARD, Belmont, Wisconsin.

Herdsman wanted, March 1, for modern dairy near Memphis, Tennessee. Guernsey herd, Louden equipment, A. R. testing. Must be married and have experience. Give age, wages, experience and references first letter. Will want man to come and look over proposition. C. H. CRABILL, Gayosa Farm, Horn Lake, Mississippi.

Wanted—Single man on dairy farm for general work and to assist in caring for and feeding Holsteins. State wages, references and experience. CHARLES BRACE, Lone Rock, Wisconsin.

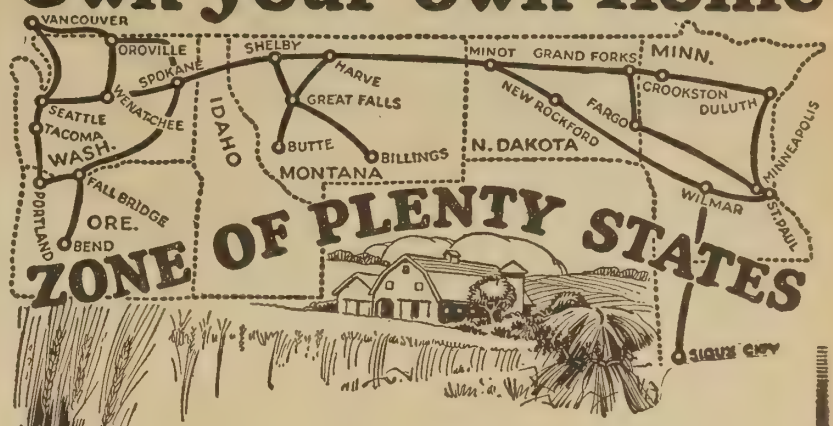
Wanted—Single man experienced on general farm. Must be good milker. State wages wanted. OLIN HOVRUD, Mt. Horeb, Wisconsin. 4-2

Wanted—Single herdsman to start April 1st or sooner. We have a herd of about 60 well bred but practically undeveloped Holsteins and most modern plant in our county and want a man who is able to assume responsibility and get results in long distance work, raising calves, producing certified milk, caring for equipment such as milking machines and electric plant and must have an innate sense of neatness and orderliness. Will pay $90 per month to start including board, etc., and will allow in addition a certain percentage of the herd profits. State your age, experience, etc., in your first letter. Do not answer unless qualified by some actual experience or training as you will be wasting your time and mine. Also want assistant to herdsman who wants to learn the trade. $70 to start with extra for 3- or 4-time milking. Address all replies to FRED M. MACK, Supt., Brownwood Farms, N. Bloomfield, Ohio. 4-2

Wanted—Good family, Dutch preferred, for dairy farm. Plenty of hard work. If you don't want that don't apply. State salary and size of family. TOM PEMBERTON, Greensboro, North Carolina.

Wanted—Married man for small dairy farm and orchard at Bayfield, Wisconsin. Write J. DAVID SMITH, Albia, Iowa. 4*

Own your own Home



In the newer Northwest States lies the real country of opportunity—the Nation's ZONE OF PLENTY STATES — Minnesota, North Dakota, Montana, Washington and Oregon abound in real opportunities for the small farmer or the large operator. This is a rapidly growing country. You may be sure of fair returns on your labor and investment. Renters of high priced land in the older settled states will find here an opportunity to secure a home.

Minnesota

Farming in Minnesota means good crops and low priced lands. The cut-over lands in Central and Northeastern Minnesota offer great opportunities in diversified farming, grain growing, potatoes and dairying. Clover and cows will support the family while the land is being cleared. The prairie section of the Red River Valley of western Minnesota contains vast areas of rich, black soil where all kinds of grain, corn, alfalfa, clover and live stock are produced successfully.

North Dakota

North Dakota has the largest body of rich, black, low-priced lands in the country. Smooth fields, easily farmed, well adapted to working tractors. Stock growing has opened a new era in North Dakota. Wheat, small grains, alfalfa, red and sweet clover all are money-making crops.

Montana

Montana has millions of acres of grain growing lands at low prices on favorable terms. This state has exceptional stock raising advantages combined with grain farming. Irrigated valleys insure big production. Dairying, diversified farming and fruit growing on cut-over Western Montana land. A substantial start can be made here on small capital.

Washington

Washington and Northern Idaho offer a wide range of farming activities. Good crops of grain, forage, vegetables on low priced land. Also adapted to dairying and mixed farming. Building material and fuel cheap. Water abundant. Climate delightful. Commercial fruit production highly developed under irrigation.

Oregon

Oregon offers vast farming possibilities combined with attractive climate. Low priced irrigated land east of mountains. Diversified farms, west of mountains, produce fruits, berries, mixed crops and dairy products.

Investigate Zone of Plenty States Without Delay

Good farm lands in Illinois, Wisconsin, Iowa, Nebraska, and other Middle Western States have advanced so high in price that today it is practically impossible for a man of small means to get started or the small farmer to insure a home and good income to his family.

To help you to a new home in the land of proved opportunity, the Great Northern Railway maintains an Agricultural Department. Complete information furnished FREE. All you need to do is to ask and details of the Zone of Plenty States will be promptly forwarded without charge. Send for state bulletins.

Low round-trip home-seekers' tickets on sale first and third Tuesday of each month, April to October.

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General Agricultural Development Agent
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Montana ☐ Washington ☐
Oregon ☐ Northern Idaho ☐
Please send me complete information.
Name.....
City ..... State.....

"See America First"
GREAT NORTHERN RAILWAY
Glacier National Park

New Champion Jersey for North Carolina

December 13, 1920, Eminent's Nina, a Jersey cow owned by the North Carolina State College, completed her Register of Merit test by producing 15,035.7 lbs. milk, 700.66 lbs. butterfat, and became the champion Jersey cow in milk production in North Carolina. She exceeded by 2,019.2 lbs. of milk the former state record held by the Jersey cow, Fortune's Admiration, owned by Mr. J. F. Diggs.

Eminent's Nina is ten years old and possesses the fine dairy temperament associated with so high a producer. In March, 1920, she produced 1,755 lbs. of milk, an average daily production of 56.6 pounds. For the 182 days from January 1 to August 31 she averaged daily 53.7 lbs. of milk. She is entitled to a Gold Medal awarded by the American Jersey Cattle Club to all cows producing over 700 lbs. butterfat and carrying a calf 155 days during test.

North Carolina. FRED M. HAIG.

DON'T PUT OFF

Seeing your friends and having them join in for a club of subscribers.

HUDSON (Formerly) **Strickler**

Make a Quick, Clean Job of Every Load

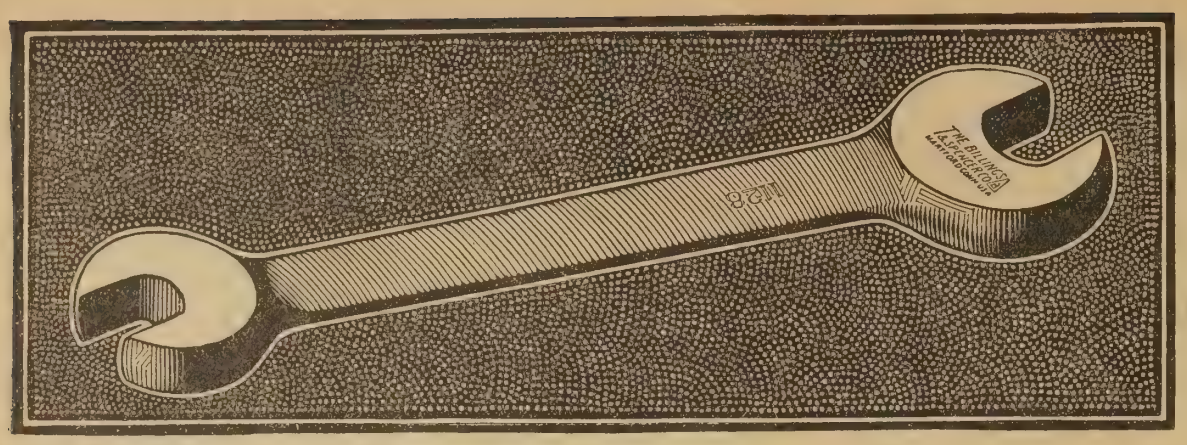
A Hudson Carrier in your barn this season will make quick, easy work of putting away your hay. These Carriers are simple, extra strong, positive in action and easy dumping. Used with either slings or forks they pick the load up clean, lift it quickly and easily. We make carriers for steel, cable or wood tracks, adaptable for use with any style of fork or sling.



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Get ready for haying now. The Hudson Catalog will be sent free and postpaid for the asking. Shows the labor saving way best suited to your barns. You will be surprised how little it costs to put in the Hudson equipment you need now. Insist on the Hudson dead-lock Carrier. Write for the free Catalog today and we will give you the name of our dealer near you or see that you are supplied. (11)

Hudson Manufacturing Co., Dept. 316 Minneapolis, Minn.



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Billings & Spencer wrenches are made for men who keep their machinery in good order and know a good tool when they see one.

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The BILLINGS & SPENCER CO.
HARTFORD, CONN.

SILOS
AT HALF PRICE

My Winter Sale of Silos is now on. I will allow a discount of 50% on all silos sold this month. My silos are of a well-known make, all new and first class in every way. Built of the genuine Clear Oregon Fir, the most durable material used for silos. Your neighbor probably bought one from me last year. Ask him how he likes it and how much he saved.

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United Milker
Really Sucks Like a Calf
Pump-pulsator type of machine. Gives complete vacuum release on teat—the smooth, natural way.





"SEE-THRU" TEAT CUP—
an exclusive feature. You know when all teats are milking. Simplest, most efficient made.

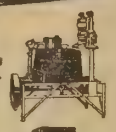
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With famous Full-Swing Dolly. High quality—low price.



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Marketing New Zealand Produce

(Continued from page 142)

market value and, at the producer's expense, and they said so pretty plainly at times. At first a butterfat levy was made on cheesemakers and buttermakers alike. This was very strongly objected to; and the government eventually returned the money so collected to the farmers. The next expedient was to subsidize those factories which supplied the local market from the funds of the state.

The parliamentary committee has just reported to the House of Representatives that butter should be retailed in the Dominion at 2-3 (48 cents) per pound for cash and 2-5½ to 2-6 (50 cents) for credit. The producers supplying the local market are to be subsidized out of the consolidated revenue to such an amount as will place them on a parity with exporters at 50 cents per pound. This will cost the country at the rate of £600,000 per annum equivalent to $2,400,000, with $4 equal £1. The answer of the farmer to charges of overreaching in the matter of prices is the ever increasing cost of production and the great enhancement that has taken place in the prices of dairying lands. The inflation of land values, however, has followed the high prices for butterfat and can hardly be fairly given as increased cost of production. However, late comers in the game have had to pay prices for their holdings that must ruin them if the values for butter and cheese fall to anything approaching pre-war levels.

There has been an orgy of land speculation on properties suitable for dairying, and dairy farmers have indulged in it and made huge profits out of it, as well as other people. This has gone on for the past five or six years all over the North Island and in many suitable localities in the South. The banks are now sternly discountenancing this kind of thing and there may be some check upon it in that way; but it is feared the evil has gone too far in the case of many of the younger entrants. Properties carrying seven to nine mortgages are by no means rare. It is disturbing to think of what must follow should there be a serious retrocession of prices for butter and cheese before the "last men in" have had time to turn around.

The Farmer and His Reading

(Continued from page 125)

about it I learned in that way. I had a little book called "Lessons in Astronomy" by Professor Young. I was not able to go much into the mathematics of the subject but I quarried out many facts about the sun, moon, planets, and stars. By means of the star maps in this little book, I picked out most of the well-known constellations and conspicuous stars. It is a satisfaction to understand what causes the phases of the moon, to be able to explain fairly well the "nebular hypothesis". It is a real pleasure to greet Orion as he rises in the eastern sky, to pick out the great equilateral triangle formed by Arturus, Spica, and Denebola, and to see the Great Dipper night after night traveling around the pole-star. It seems a pity for a man whose business compels him to be outdoors at night to go through life not knowing or caring anything about the heavens. Such knowledge may be acquired from a book and is within your reach. It puts interest and beauty into what might otherwise be at times gray, dull, and monotonous.

And astronomy is only one of the sciences that every farmer ought to understand something about. He ought to know all the different kinds of trees, their leaves, bark, wood, habitat, uses. There are the weeds. It makes it pleasanter business to kill weeds if you know what you are killing. My little boys, four and five years old, are already pressing pretty close to my limit on the names of our weeds. There are the wild flowers and tame ones, too. There are the birds and their songs and habits. Does the meadow lark ever cheer you up or have you ever heard its happy notes on a bleak day? There are many questions, interesting and practical, about the ground itself that most of us cannot answer.

Few of us have had our education so well rounded out that we possess all the knowledge about Nature that is worth having. You cannot find these things out from your friends if they know no more than you do.

In your business, in the great life of the world today, in the storehouses of literature and Nature, your reading offers you much. It holds out to you a deeper, richer, fuller life.

The busy world shoves angrily aside the man who stands with arms akimbo set, until occasion tells him what to do; and he who waits to have his task marked out shall die and leave his errand unfulfilled.—James Russell Lowell.

From Our Junior Correspondents

(Continued From page 146)

tered; Clifford and Joe Smerchec, Chester Whites; the Craig boys, Willard Collins, and I had Poland-Chinas. They were all pure-breds.

I like to read the junior letters and sure enjoy the Bob Ramsay—Jimmy Green stories. I was just wondering if there are any juniors from Chickasaw County, Mississippi. I lived there once. I wish some of the juniors would write to me. My address is Garnett, Kansas. Mahlon Beachy.

Hoard's Dairyman Juniors:—I received the fob, button, and creed and I like them very much. This is my second letter to the juniors. I live on a one-hundred-and-sixty-acre farm. We keep eighteen cows and eleven horses. Our cattle are registered Holsteins. I expect to buy a shoat this fall.

I like the stories about Bob Ramsay and Jimmy Greene, but I think that Jimmy hadn't better drink any more moonshine.

Wisconsin. Leslie Gilbert.

Hoard's Dairyman Juniors:—You said you could not guess that riddle I gave you, so I will tell you the answer. (What is the difference between an old dime and a new penny?) Nine cents of course! Here is another one. What is it that a gentleman never has had, never can have, but yet can give to a lady? Try to answer that.

We are going to school now, my three sisters and myself. We take a horse every morning and leave it in town. I take care of it at noon. It is quite dark when we get home so I do my chores after supper. We take hot lunches at school and they help out a great deal. I am studying manual training at school and like it very much. Well, my arm is getting tired so I will close.

Wisconsin. Ralph Churchill.

Hoard's Dairyman Juniors:—I was more than glad to hear from you, and I do believe that every junior should learn the creed. I am busy going to school now and we just got through our examinations. Our new building will soon be ready for us now. I am the bus driver on our route. The law says that no one can drive a bus until he is 21 years old and I am only 14. But it is impossible to get bus drivers so I have to do it. My father is president of the school board now.

We are milking 19 cows but do not get very much milk at present. That's what I am going to be when I am grown, a dairyman. I have six brothers but I do not know what will become of them. Please tell some of the other juniors to write to me. My address is Melvin, Iowa.

Erwin Kuester.

"The Cow" by a Ten-year-old Junior

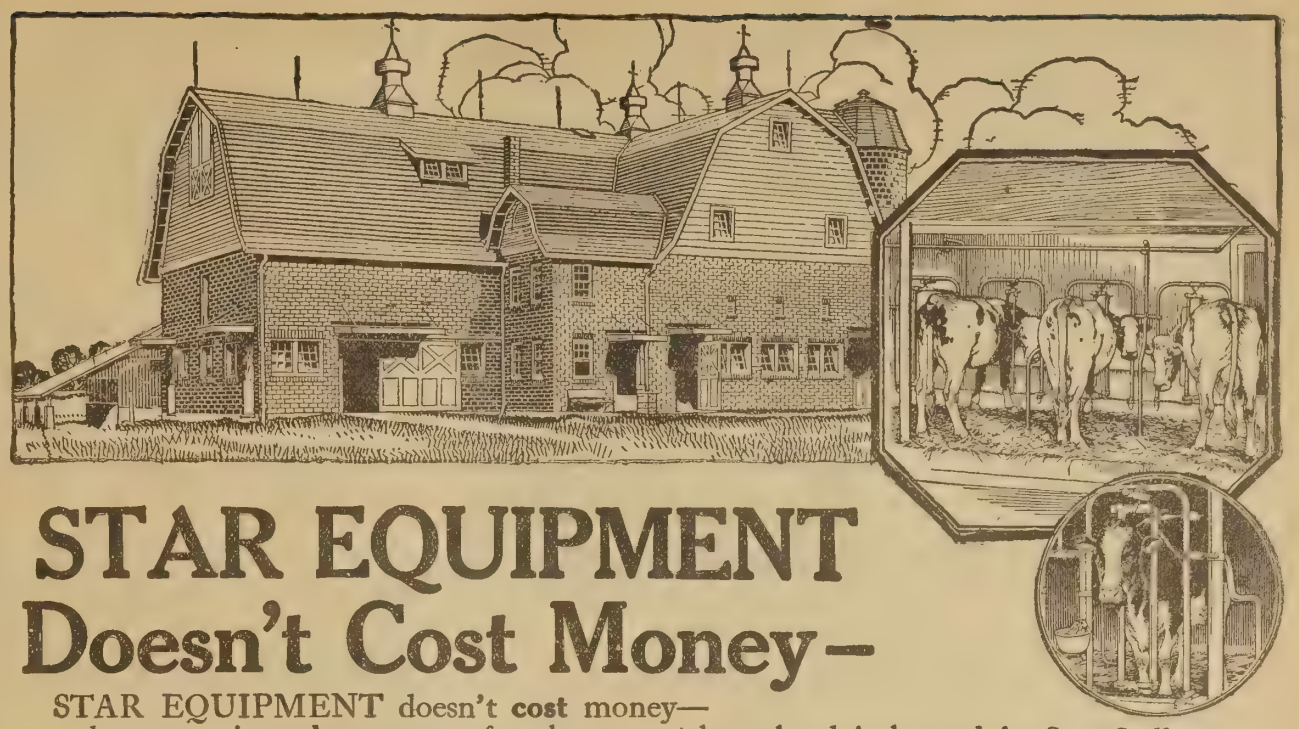
The cow stands ready there to give
A stream of snow white milk,
'Tis better far for sick and well
Than pearls or finest silk.

The farmer comes with stool and pail,
To milk the waiting cow.
The pail is full when he is done,
He separates it now.

The cream he sells for yellow gold,
The milk his pigs will drink,
Some cream upon the farmer's food
Is his best pay, I think.

Michigan. FRANCES FRAME.

Uncle Ab says: Some conceited folks he knows can't get over the idea that their sorrows and miseries are the greatest ever experienced by mortal man.



STAR EQUIPMENT Doesn't Cost Money—

STAR EQUIPMENT doesn't **cost** money—
—because—**it makes** money for the man whose herd is housed in Star Stalls.
Healthier cows—cows that give more milk—less work for you and the hired hands to do—don't those things represent more money in your pocket?

Well, that's what the STAR EQUIPPED barn means. Dairymen who have housed herds the old way and the modern way—the STAR way—say that the equipment pays for itself the first year it's in or soon after.

It isn't a question of whether or not you can afford it—the question is can you afford to be **without** it?



1—Star Alignment Device
Instantly lines cow at gutter after she is in stall—keeps stall, bedding and cow clean.

2—StarStanchionAdjustment
Narrows or widens stanchions to exactly fit cow's neck. Safety and comfort.

3—Star Curb Clamp
"Sets a stall in 60 seconds"—permits of concrete work being finished before stalls are set. Cuts time of installation in half.

4—Star Unit System Stall
Each stall assembled before shipment, ready to go in place the moment it arrives.

5—Star Wood Lining
Hard maple lining forced in U bar, anchored so it won't come out.

Soon Pays for Itself

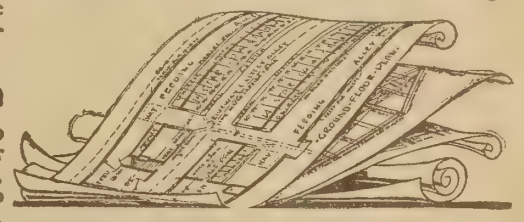
On every item of STAR Equipment, you'll find patented features, exclusive with this line, that mean added convenience, longer life, labor saving and money making.

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Gentlemen: Please send me free a special set of barn plans. I am thinking of BUILDING / REMODELING a barn
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I have.....Cows.....Young Stock.....Horses
Name.....
Address .....

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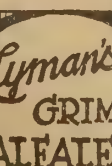
Harvard, Illinois **Albany, New York**

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Lyman's Genuine Grimm Alfalfa will not thin out or winterkill like ordinary varieties and will grow on any farmable land.
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A FARM and HOME in HAPPYLAND

We Make It Easy — This Free Book Tells How

You Will Prosper in Upper Wisconsin — America's Cloverland

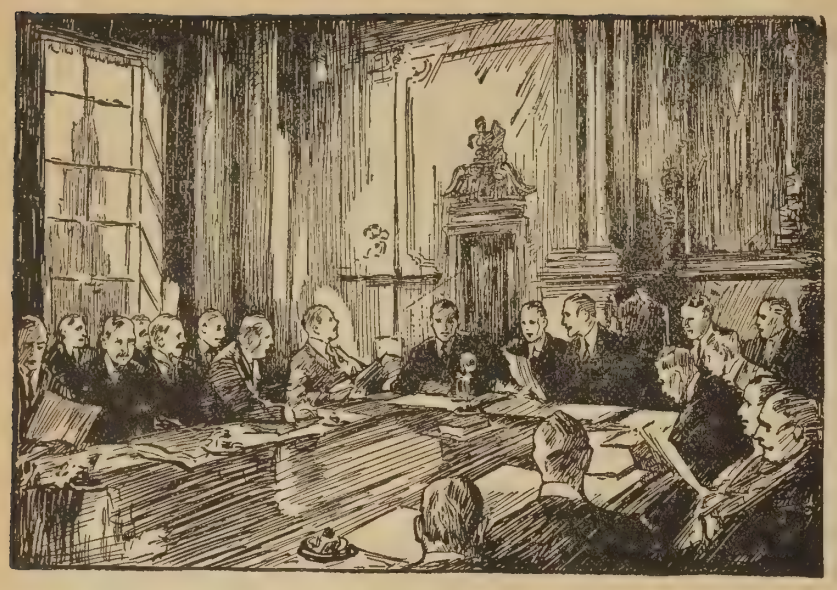
Here is a wonderful dairy country. Crops are always big. Abundant rainfall. Lakes and rivers everywhere. Seasonable hunting and fishing. Schools, societies and churches. Money is easily made in this fertile land. Every season offers special opportunities.
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Kansas City, Mo. 312 Victor Bldg.

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Have our tried our Choice Leafy Dairy Alfalfa?
It's the best for tests.
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Kansas City, Missouri.



On the Basis of Facts

The life of our country is built around its Public Utilities. Our social, industrial and Government activities could not exist today without the continued operation of their indispensable services.

That such services may be extended and developed to be of the greatest use to the greatest number, the Federal Government and practically all the states have appointed Public Service Commissioners as permanent tribunals to regulate public utilities with fairness to all concerned.

Facts as to the past and studies as to the future, the Bell Companies find are essential to the proper management and development of their business. This information is open to study by these Commissioners and through them by the public generally.

The solution of the problem of building up and maintaining the public utilities, which is of the greatest importance to the people of this country, is assured whenever all the facts are known and given their due weight.

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VETERINARY

Advice is given free in this department. Inquires must be signed by the writer, and should pertain to veterinary Matters only. Where an immediate reply and prescription are desired by mail, the inquiry must be accompanied by a fee of one dollar. In every instance it will be necessary to give a full description of the symptoms present.

Mammary Congestion

It is natural and necessary for the udder to enlarge before calving in preparation for the advent of the calf. Were enlargement not to occur there would be little or no milk for the nourishment of the calf, and the greater the enlargement, if normal, the greater is likely to be the yield of milk, should all go well.

The enlargement referred to is caused by increased flow of blood to the udder and to development of true mammary gland tissue, the function of which is to secrete milk. Such enlargement, therefore, is natural and desirable but occasionally it becomes extreme or excessive and then may be considered abnormal, and in some instances possibly alarming.

When the flow of blood into the udder is beyond the capacity of the mammary veins to remove perfectly, intense engorgement of the tiny blood vessels in the mammary glands and adjacent parts causes serum or plasma of the blood to be forced out. Soon after calving this liquid is utilized to form some 87 per cent of the milk produced. Before that occurs, however, it causes the doughy swellings (edema) of the abdominal wall about the navel, and often running upward between the hind legs.

When these edematous swellings are large and the udder is also immensely distended and "pits" under pressure of the finger, the teats may yield serum, when stripped. In some instances this serum is blood stained, from rupture of some of the minute blood vessels, or pure blood may be present. In cases where great congestion has existed for some time milk may replace serum or blood, as it does when lactation is established after calving.

The condition we have described is not "garget", properly termed *mammitis*, or inflammation of the mammary glands. In that condition *active congestion*, due to engorgement of the arteries, is present and is indicated by heat, redness, and pain, as well as swelling. The enlargement associated with edematous conditions, on the contrary, evidences *passive congestion* in which the veins are engorged with impure venous blood which they cannot perfectly carry away.

Excessive congestion of the udder prior to calving usually is induced by overfeeding, lack of exercise, and consequent constipation. If the udder while in such a condition should be chilled by lying upon a bare concrete floor or cold, wet ground, or is bruised when running, trampling by another cow in the stall, or other cause, mammitis may result. Similar causes of less severity but long continued prior to calving, quite commonly induce mammitis at calving time. Another common, mischievous, but usually unsuspected cause of such attacks of mammitis, and other abnormal conditions of the udder at the birth of a first calf, is sucking of the teats by other calves during calfhood days when the animals are penned together and hand-raised on milk. That always should instantly be stopped when noticed. To prevent excessive congestion of the mammary glands before and at calving time, heifers and cows should be made to take exercise daily and the ration should be light and laxative. Other causes mentioned in the foregoing should be avoided.

Treatment, when necessary, consists in administering a dose of Epsom or Glauber salts, followed by daily doses of saltpeter, together with frequent gentle massage of the udder and swellings and, in some instances, stripping away a little of any fluid present in the udder.

Salt Poisoning

Can you give me a report on the enclosed statement of salt being poisonous to hogs? I had two of my thoroughbred brood sows die lately. The veterinarian said it was the flu, but I keep salt so they can get all they want at any time.

Shabbona Grove, Ill. C. H. L.

The statement referred to is correct as hogs often are poisoned by meat brine or oversalting. It would be quite unusual, however, for hogs to take an injurious amount of salt when allowed to help themselves to it at all times. It is when salt has been withheld for some time and then allowed at will that hogs take poisonous amounts. Or they are poisoned by too much salt being mixed in their feed.

Grease Heel

Some time ago I saw in your paper a remedy for scratches consisting of a solution of (I think) concentrated lye. I have mislaid the paper and forgotten the proportions. As I have a horse that nothing seems to help I would like to know again what that was..

Roulette, Pa. C. S. W.

The treatment was prescribed for "grease heel" not for ordinary "scratches". It is as follows: Dissolve a small can of concentrated lye in 2 quarts of soft water and cork well in a bottle or jug. Twice daily bathe the affected parts with a small

Hood Farm Abortion Remedy
and
Hood Farm Breeding Powder
Will Check and Prevent
ABORTION

If you are having trouble from abortion, order these two Remedies at once, give them a thorough trial and we are sure that you will be pleased with the result.

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Gentlemen:—For the enclosed five dollars please send me the Abortion Remedy and Breeding Powder. Have had splendid success with your Remedies. No more abortion.

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PRICES: Abortion Remedy, prepaid, $1.25, $2.75 and $9. Breeding Powder, prepaid, $1.15, $2.75 and $5. Injection Tube, by mail, 90 cents. One medium Breeding Powder, one medium Abortion Remedy, one Tube, prepaid, $5.75. Please mention this paper.

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Take no chances of losing calves, cows and milk profits from Contagious Abortion. If it has attacked your herd, get rid of it at once. If you have escaped so far—KEEP IT OUT.

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Treats this disease scientifically through injections into the blood which kill the abortion germs and immunize healthy animals against them. Can't harm the cow. Has wonderful record of success. Prompt and positive in action—reasonable in cost.

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BOOK ON
DOG DISEASES
And How to Feed
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118 West 31st Street, New York

bucketful of soft water containing 2 ounces of the lye solution. Gradually add more solution if that proves necessary. Let the horse live without grain and run outdoors as much as possible.

Eye Disease

I have a horse which has a scum over the eyes and a hazy looking spot over one of them. Is there a cure for this case?
Hidalgo, Ill. C. C. H.

The horse in all probability is afflicted with periodic ophthalmia (moon blindness) which is incurable and causes cataract and blindness of one or both eyes after repeated attacks. This may be retarded somewhat by slightly darkening the stable and at times of attack covering the eyes with a soft cloth to be kept constantly wet with a saturated solution of boric acid. Also dissolve a dram of iodine of potash in the drinking water night and morning at such times. If a qualified veterinarian can be employed he may try the new plan of injecting Lugol's solution into the tissues above the eyes and also give treatment with a bacterin which is now being experimented with in this disease.

Warbles

I have a fine Holstein heifer with several large lumps on her back. They do not seem to bother her, but she is in poor and thin condition. I believe them to be the larva of the gad fly, and if so is there a remedy for them? Will salting on back be of any benefit?
Union, S. C. H. T. P.

The lumps or boils mentioned no doubt contain grubs (larvae) of the ox warble fly (hypoderma linlatum) and may be removed by slightly enlarging the openings and then squeezing downward with the open mouth of a large bottle. Destroy the grubs after extraction. Sprinkling salt upon the backs of cattle in fall and early winter when presence of the grubs is first noticed, induces cattle to lick one another and that may kill some of the grubs. At least this plan has been recommended by some stock men. Fly repellents should be freely applied by spraying in fly time.

Scours

Please tell me what to do for a sick calf 10 weeks old. We have an old dairyman from Wisconsin who feeds the calves and I did not know there was anything wrong with the calf before today. He is getting thin and scouring.
Mitchell, Ia. N. A. B.

Give the calf a dose of castor oil in milk and after it has operated give it a teaspoonful of a mixture of 1 part of salol and 2 parts of subnitrate of bismuth at intervals of 3 hours. Increase the dose if found necessary. Triple sulpho-carbolate tablets are also useful in such cases. Try them if the other remedy is not quickly effectual.

Suppression of Milk

I have two cows which were dry six or eight weeks. They got, once a day, alfalfa and marsh hay and twice a day silage with ground feed, oats, oil meal, and gluten. The cows bagged up big. They easily would produce between 50 and 60 pounds of milk but instead of that when they came fresh they didn't give anything. One now gives some milk and the other one is commencing to give some. They both were heavy yielders. Kindly advise me what causes that and what a person could do for it.
Burnett, Wis. L. S.

If suppression of milk were due to chill, shock, fright, or some such cause at calving time the cows will be likely to yield a normal amount of milk when they calve again. If it was due to mammitis (garget) it is quite unlikely that they will again milk normally. If that disease is present the udder will have been inflammed and swollen and the milk, such as is yielded, will be changed in appearance and consistency. When the udder develops normally and yet gives no milk at calving time secretion sometimes starts if the cow be given hypodermic doses of strychnin and pilocarpin, or these alkaloids may be given by way of the mouth dissolved in water. As strychnin is a dangerous poison it should be prescribed by a veterinarian and the correct dose of pilocarpin should also be decided by such an expert. In addition to the medicinal treatment an affected cow should be blanketed in a comfortable box stall and be given copious drinks of warm flaxseed tea well sweetened with molasses and sloppy feed such as usually stimulates milk flow.

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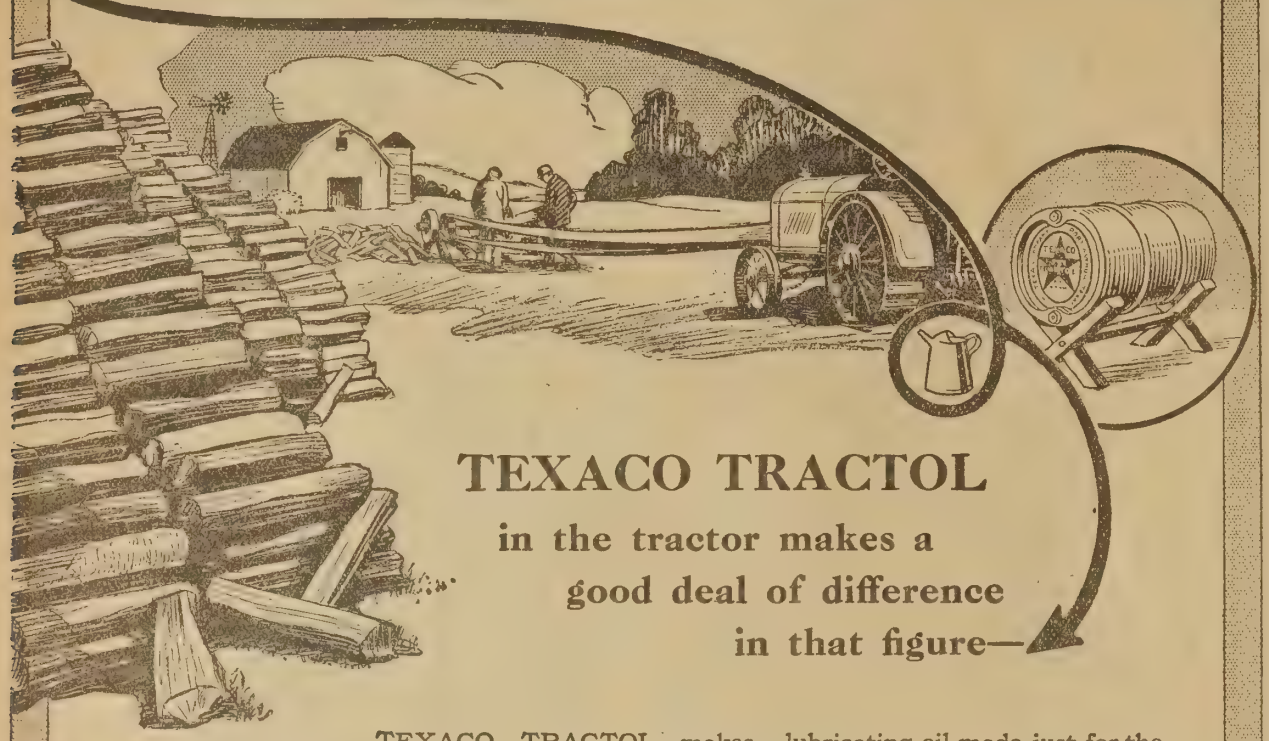
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By Prepaid Express—Order NOW—Prices Going Up. Our first quality, hardy northern-grown grass seed, famous for its frost and drought resisting qualities. High and strong in germination. Our price about two-thirds below last year, but now tending upward. Order EARLY. We pay all express or freight charges; bags free. Specials: Alsike and Timothy mixed $5.85 per bu.; Alfalfa $12.90 bu.; Medium Red Clover $13.50 bu.; Alsike $16 bu.; Timothy $3.95 bu.; Sweet Clover $4.50 bu.; Sudan Grass 8½c per lb. As seedsmen of many years experience we have carefully graded and tested these seeds. We guarantee them to be as represented, or your money back. You must be satisfied. We are not connected or associated with any other house selling direct to farmers. Order TODAY or send name for price list and full particulars. **World Seed Company**, 123 W. Madison St., Dept. P, Chicago, Ill.

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in the tractor makes a good deal of difference in that figure—

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The uniform oil that keeps your motor active. It is a fine lasting oil that completely retains its lubricating properties despite engine heat. It so perfectly seals the clearance between piston and cylinder, that no gasoline can leak into the crank case. Thus full compression is secured, and every last ounce of power used that the gas has to give. Be certain to get the can with the red Star and green T.

TEXACO TRACTOL makes the difference between having *all* the power developed by the engine transmitted to the belt because the bearing surfaces are properly lubricated, and losing a large part of the power transmitted because friction has become so great a factor.

Texaco Tractol is a special lubricating oil made just for the kind of work your tractor does—heavy load, with engine running full speed for long periods at a time.

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Here's genuine chewing satisfaction for you, hooked up with real economy.

A small chew of this class of tobacco lasts much longer than a big chew of the ordinary kind—that's because the full, rich, real tobacco taste lasts so long.

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Put up in two styles,

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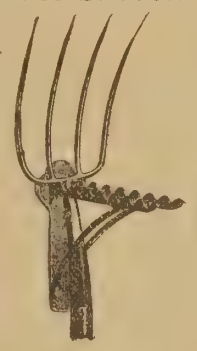
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place it in your barn and your problems will be solved. Get it from your dealer, or write



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Price 85c postpaid.

The Biggest Little Book on the Farm



Dairying in Scotland

(Continued from page 127)

market. Generally the animals used are grade Shorthorns or Shorthorn-Ayrshire crosses. They are put into the milking barn and fed heavily so that the maximum yield may be obtained from them and at the same time they may be kept in good condition. Then as soon as their milk flow becomes so low that it is not profitable to milk them, they are removed to a barn, separate from that in which the milking herd is kept, and rapidly finished for the butcher. These might almost be called dual-purpose cattle—they are milked and then slaughtered.

This system of milk production cannot be looked on as high-class dairying though it is of ancient and honorable lineage as the almost prehistoric and absolutely dingy street in Edinburgh called the Cowgate will testify. Boston is not the only town in the planning of which the cow has played an important part. In many of the old towns and villages of Scotland the Cowgate is a familiar street. The name is significant; as it was in some cases the alley in which the cows were kept and in others the route they followed to pasture.

Progressive dairying is most in evidence in the southwest where it forms one of the most important branches of agriculture, though beef and mutton production and horse raising are not neglected. Here a small proportion of the milk is retailed in the towns and some, especially in winter, is shipped to the larger cities lying in other sections. The greater proportion of the product is converted into cheese and butter, the whole milk being sold to the local creameries, where cheese and butter are made, or converted into cheese on the farm. Cheddar cheese manufacture predominates though Dunlop cheese is also popular and the farm-made cheese generally commands a premium on the market as it is of better quality than the factory product.

The dairying of Scotland is founded on the Ayrshire cow as it was her development that made profitable dairying possible. Practically all of the herds in the southwest are pure-bred or grade Ayrshires though Shorthorn-Ayrshire crosses are also found, especially in the herds of the men who have a trade for heifers of this type in the south of England. A few herds of British Friesians, or Holsteins, have also come into this locality in recent years and their future makes a very interesting study as practical men are fairly evenly divided in opinion as to the prospects for their development.

The dairy herds vary considerably in size, the most numerous being those with thirty to fifty head of milking cows, though of course smaller herds and others running up to 120 or even 150 head also occur. When considering the size of these herds it should be remembered that they are practically all owned by tenant farmers and not by the large landowners—the landowners would often be in better circumstances if they owned fewer acres and more cows.

Farm Practice

With a moist climate and no extremes of temperature the Scottish pastures are luxuriant and this renders the cheapest milk production possible in summer. Consequently some of their practices vary greatly from the best principles in this country. As a general rule, except where a city milk trade is catered to, the cows are allowed to freshen about February or March and are fed roots, chiefly rutabagas and mangels, with some grain until the pastures are good

in April or May. The main grains fed are ground oats, corn meal, bean meal, soybean meal, and cottonseed cake. The oats and part of the bean meal are home products while the others are all imported.

When the cows are put to pasture no grain is fed as a general rule until late in summer when it is common to use cottonseed cake as a supplement. Turnips and cabbages are also frequently supplied in the fall. Not only is the best yield obtained on pasture but the cheese produced then is also of better quality than winter cheese.

In the fall the cows are dried up and given a rest of two to three months and fed on oat straw and roots with a little grain where it is necessary to get the animals in good condition. The use of oat straw as the sole dry roughage in winter may seem peculiar but owing to the fact that the oat crop ripens more slowly in Scotland than it does here and is cut rather earlier, it is of greater value for feeding purposes and it fits in admirably with the roots. The root feeding is generally heavy, averaging 50 to 60 pounds, and in some cases 100 pounds per cow daily. On some farms where only a limited amount of cropping is done, mixed clover and rye-grass hay or meadow hay is fed in place of oat straw and fewer roots are used.

The producing herds are in the barns at milking time only during the summer and in winter they are turned out to the pastures for a few hours daily except in stormy weather. As a general rule young stock are never housed from weaning time until they are brought in to be prepared for their first freshening. Although the majority of the herd is allowed to freshen in spring, heifers are frequently bred to freshen in the fall and milked through the winter and following summer as it is believed that this lengthened milking period tends to develop the latent capacity for production to its fullest extent.

Prospects

Dairying has always been one of the best branches of farming in Scotland as there is a large demand for raw milk from the cities which cannot be interfered with by foreign competition. The cheesemaker, like the grower of beef and mutton, has sometimes had his profits reduced by the overstocking of the markets with foreign products, but present conditions are such that the prospects for all branches of dairying are bright.

Good grade dairy cows which were worth $60 to $75 a few years ago are now in brisk demand and bringing $200 to $300 and though the cost of labor and feeding stuffs has gone up, the increased price for dairy products, especially cheese, is leaving a safe margin to the farmer.

The home herds cannot supply all the dairy products needed by the dense population, as was clearly shown during the war when the people suffered for lack of them, and, now that the importance of dairying as a national asset is being realized, the man with a herd of good cows has nothing to fear. The amount of imported products on the market will again increase but the provision of milk for immediate consumption and a high quality of cheese will ensure a fair profit to the Scottish dairy farmer.

Cowpeas for Pasturing

It is not considered the best farm practice to use cowpeas strictly as pasture, but under certain conditions it is advisable and profitable, say the authors of Farmers' Bulletin 1153, Cowpeas: Utilization, which may be secured from the U. S. Department of Agriculture, Washington, D. C. Cowpeas furnish a pasture crop during a period of the year when such forage can be used to the best advantage. The small amount of work and the small cash outlay always associated with the grazing of stock commends the practice to the average farmer, and scarcity of labor often makes it necessary to pasture a crop whenever possible. Another advantage in pasturing cowpeas is that not only is the soil benefited, but the waste vines and animal droppings are also left on the land. The soil, after cowpeas have been pastured, is in an excellent condition of productivity for the fall sowing of wheat.

It's mighty difficult to get too much milk in the daily deit. Milk is a liquid, but it comes close to being a perfect food.



The Healthy Cow, the Hungry Cow is the Business Cow

She's the cow that will convert her feed of grain and fodder into pails of milk.

Remember, the better the appetite, the greater the food consumption, the greater the milk production. Hence, good health, a strong appetite and good digestion are the absolute essentials of a big milker.

Dr. Hess Stock Tonic

Keeps cows healthy. It makes cows hungry.

It contains Nux Vomica, that greatest of all nerve tonics. It whets the appetite, brightens the eye, invigorates the system. It contains Quassia, that bitter Stomachic tonic that produces appetite. It contains Iron that helps to replenish rich red blood, so essential to a cow in milk.

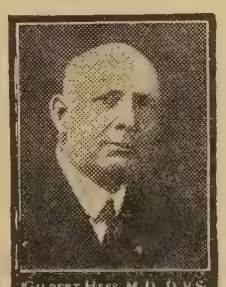
Lastly, but just as important is it—it contains Laxatives and Diuretics that cause the kidneys to filtrate and the bowels to operate regularly, so as to throw off and carry off the waste material. There is no clogging of the system where Dr. Hess Stock Tonic is fed.

Good alike for cattle, horses, hogs and sheep. It keeps animals healthy, the whole herd thrifty. It expels worms. Always condition your cows for calving with a course of Dr. Hess Stock Tonic before freshing.

Dr. Hess Stock Tonic is compounded strictly on scientific lines. You buy it according to the size of your herd. Tell your dealer how many cows you have. He has a package to suit. We guarantee good results in the milk pail.

25 lb. Pail, $2.50 **100 lb. Drum, $8.50**

Except in the far West, South and Canada. Smaller packages in proportion.


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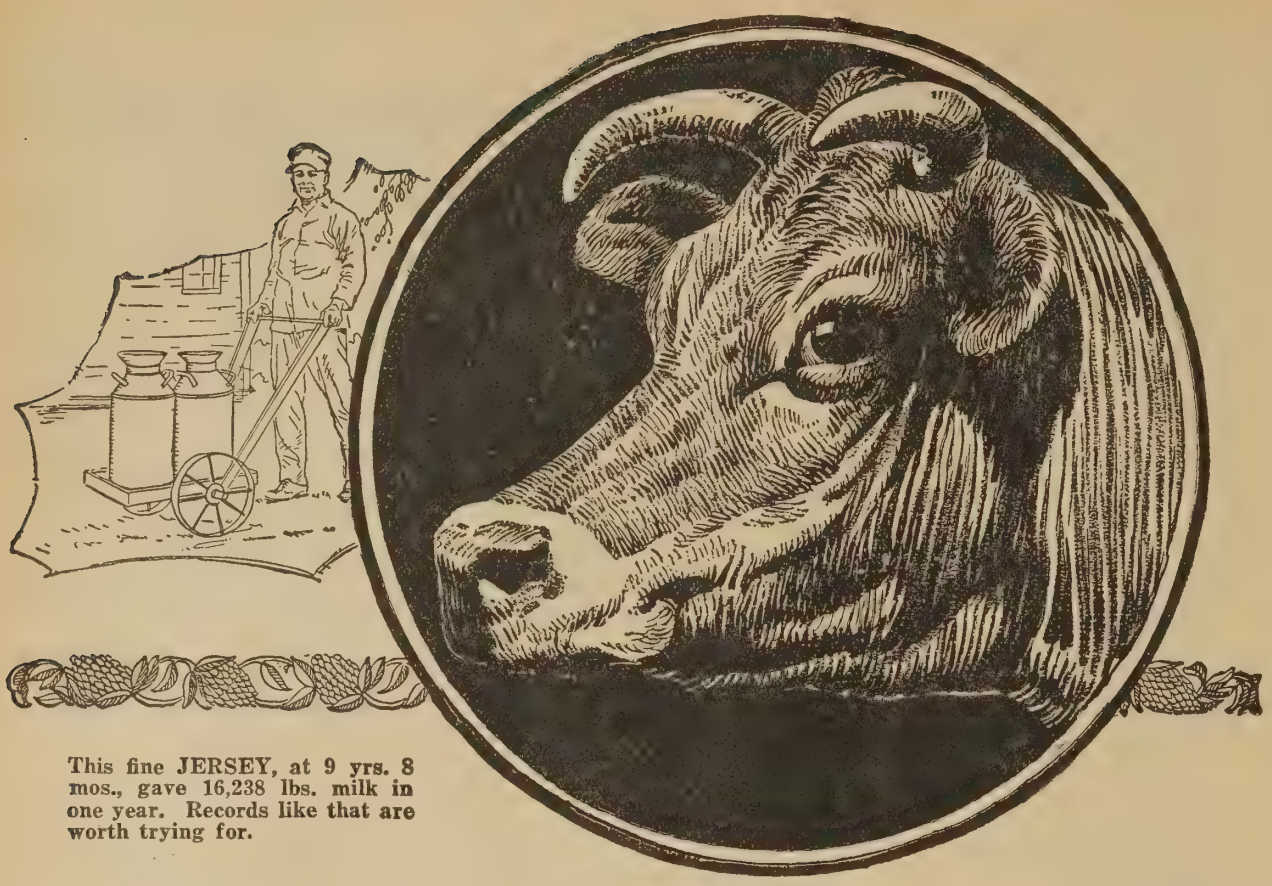
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The recognition of this fact by scientific dairymen is in large measure the reason for the extensive use of Kow-Kare. While primarily a medicine for treating sick cows, the recognized tonic and strengthening effect of Kow-Kare on the organs of production have caused it to be widely used as a preventive of disorders such as are common to cows. Every cent thus spent in assisting Nature will return dollars in increased milk yield alone—to say nothing of avoiding expensive losses through sickness.

When disorders do arise—such as Abortion, Barrenness, Retained Afterbirth, Scouring, Lost Appetite, Bunches, you'll find Kow-Kare a reliable, prompt remedy. Its action on the digestive and genital organs is restorative and strengthening. Such diseases disappear when these organs are strong.

Whether you have sick cows or not you can increase your milk income by the proper use of Kow-Kare—if only as a preventive of trouble.

The expense is slight. Kow-Kare is sold by feed dealers, general stores and druggists; 70c and $1.40 packages.

Write us for our valuable free book, "The Home Cow Doctor."

DAIRY ASSOCIATION COMPANY, Lyndonville, Vt

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Cow Waters Herself



with this wonderful new Libbey Automatic Water Bowl. Animal moves lever, opening water valve, when it starts to drink. Lever swings back, closing valve, when animal stops drinking.

15% More Milk

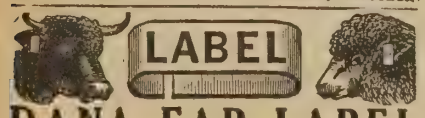
Milk is 87% water, and cows cannot give their greatest yield unless they have plenty of water constantly within reach. Farmers who use Libbey Bowls report an increase of 15% to 20%, which soon pays for the bowls.

Libbey Automatic Water Bowls

are the most sanitary and successful ever invented. Each bowl controls its own water supply, operated entirely by cow, and may be put at different heights, or in any stall or pen. No float tank required. Cannot overflow; cannot get out of order. Almost no water left in bowl to become stagnant. They save labor and feed and increase milk. Prevent spread of contagious diseases, as each cow has her own bowl and no water can pass from one to another, as with old-style bowls. Very simple and easy to install. Write for circular and prices, also FREE DAILY MILK AND FEED RECORD.

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DANA EAR LABEL

Stamped with owner's name or address and serial numbers. Send for free samples.
C. H. Dana Co., 55 Main St., W. Lebanon, N. H.

Finely Ground

Raw Rock Phosphate

increases the fertilizing value of manure 60%.

Dairy Farmers

get particularly good returns from money invested in rock phosphate.

The car supply is much improved and we can now make immediate shipment. Write for our prices and free booklets.

ROBIN JONES PHOSPHATE COMPANY,
212 Steger Building, Nashville, Tennessee.

Do Your Own SHREDDING



with a **ROSENTHAL Corn Husker and Shredder**

Most economical and satisfactory way of handling your corn crop. No delay, no extra help. Do it in your own spare time. Two sizes for individual use, 6 to 15 h. p. Also make two larger sizes for custom work. Over 20 years in the field. Write for catalog and prices. State h. p. of your engine.

SOLD ON TRIAL YOU TAKE NO RISK
ROSENTHAL CORN HUSKER CO., Box 20, Milwaukee, Wis.
Also Makers of Feed Cutters and Silo Fillers

An Oregon Community Progresses by Organizing

HOARD'S DAIRYMAN:—Community breeding of dairy animals was decided upon in Alsea, in Benton County, Oregon, last spring when the community program of the farm bureau was developed. As a result forty-six registered Jersey females were taken into the community during the year and also six registered bulls. In addition, two bulls were brought to the community for a Jersey bull club which was organized among the farmers who kept but a few cows. Several of the Jerseys were placed on official test, the first cows in Alsea to be tested. A cow testing association with a membership of sixty-seven farmers owning 477 cows was also organized and four new silos were constructed by dairymen.

This progress along dairy lines was a part of the community farm bureau program. There were other important features included in the program which were carried out with equal success and as a result not only is the community consciousness of Alsea quickened, but marked progress of direct economic value has been made.

The program was carried out to a much greater degree than the most optimistic farmer anticipated. Nearly twice as much work as was originally slated was completed by June and more work was outlined. Indications that this might be the case were evident when the farm bureau membership list was checked over and it was found that there were a few more farm bureau members than there were farmers in the Alsea community. The following accomplishments were attained in addition to the work along dairy lines: Seven hundred and twenty pounds of tested seed corn and fifty pounds of sunflower seed were distributed. The Alsea Fruit Growers' Association was organized and six additional acres of berries were set out. More than 600 moles have been trapped and rodent poison has been distributed by nearly all the farmers. A tract of land bordering the Alsea river was purchased and developed as a community park and free automobile camp ground. The Alsea community entertained the County Farm Bureau on the occasion of its annual picnic. A chautauqua was held in July and a community fair was held in September. The children in the Alsea schools were weighed and measured and the home demonstration agent gave suggestions regarding diet to insure better physical condition. A teacher of agriculture was secured for the Alsea schools.

This program is fundamental in its value to the community. All of the projects included in it helped to make Alsea a better agricultural district. Its development was the aftermath of a three-day extension school held last January. The attendance increased each day and on the last afternoon the majority of the people in the valley were present. At the last session of the school the Alsea situation was analyzed and the above program was the result. In discussing the Alsea accomplishments, County Agent Geo. W. Kable expresses himself as follows:

"One hundred twenty-two farmers did not join the farm bureau just because they had an opportunity to do so. Those forty-six registered Jersey cows were not taken into the valley just because the county agent said it was a good thing to do. There was motive power some place to develop and put the Alsea program across.

"The Alsea community was not greatly different from other communities in the county. It had about the same kind of people and similar farms. It had the same doubting Thomases and about the same number of barley beards in the community shirt. A year ago it was very much like any other community in the county.

"The secret of Alsea's success is simple. A few men and women had a conception of Alsea as it might be. This conception was embodied in the community program. Then, instead of saying, 'Let George do it', a 'few of the few' buckled down and said, 'If that program is a good thing for Alsea, we will devote enough of our time and energy and money to see it through'. The brunt of the whole program has fallen on a group of public spirited, live wires who have the vision. It always does. Much of the credit for the Alsea program is due to Ray L. Jenkins, chairman of the community council."

Oregon. F. L. BALLARD.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.



A Typical BERTLEY FARM litter of Durocs

Sows & Gilts

that will produce litters like this are bound to be profitable. We are offering such sows at bargain prices, bred for spring litters to our great herd boars **Masterpiece, Model Sensation, Bertley Orion Cherry King** and **Panama Special 15th.** Let us sell you one on our guarantee to satisfy.

BERTLEY FARMS, P. O. Box 1
GLENWOOD, ILL.
JUST OUT OF CHICAGO

Cedar Crest Farms

have never possessed a finer lot of **BERKSHIRES** than at present. Let us name you prices on fall and spring boars and young gilts.

J. K. Dering, Owner, Lake Villa, Ill.

JERSEYS
The Profit Breed

"The Key to Dairy Profits" and *"Jersey Facts"*—two important books, telling how farmers are making real profit today with Jerseys—how anyone can do it anywhere. Whether you are interested in one cow or a hundred, these books will show you how to make money. Free—Write today
American Jersey Cattle Club, 324-E W. 23 St. New York

Full Value For $200.00
HOLSTEIN BULL CALF

Born May 10, 1920. Sired by King of the Rag Apples, a 39-lb. son of Rag Apple Korndyke 8th. Dam of calf has 25.56 lbs. butter, 540 lbs. milk, 4 years old and in line for much better record. She is by a 31-lb. son of Pontiac Korndyke. Her dam is nine years old and dam of 4 A. R. O. daughters. Picture of dam and calf sent to interested parties. Both are handsome animals. Calf nearly white and well grown.

Grayfield Farms
Greenwich, - New York

Ready For Service

For sale a grandson of Sir Pietertje Ormsby Mercedes out of 18-lb. Junior 3-year-old. Come and see him.
BEND VIEW FARM
Peter J. Bowe, Bloomer, Wis.

Cheese Markets Inactive With Firm Tone Lacking

[Report by U. S. Bureau of Markets.]

Demand for cheese was less active during the week ending January 29, and markets were for the most part quiet and inactive. Some improvement in trading developed at primary markets toward the close of the week, but on the whole the firm feeling which had prevailed generally throughout January disappeared and markets could be termed little more than steady. Consumptive demand has fallen off and buyers are again taking goods little in excess of immediate demands.

Fancy held cheese is becoming scarce and owners are in many cases holding for an advance in spite of a desire to move some portion of their stocks. There is more pressure to sell medium grades of summer and fall cheese as well as last year's stuff, and the lower prices offered have attracted some trade to this class of goods.

Price Tendency Downward

Prices in general have not shown any radical changes during the past three weeks. Early in the month trading became active and prices made a jump of about 2c. Some styles, notably Longhorns and Young Americas which were temporarily scarce and got somewhat out of line, have suffered declines but this is as much in the nature of an adjustment as anything else. The price tendency at present seems to be downward.

The average wholesale prices on American cheese (style Twins) for the week ending January 29, 1921, and for the corresponding week last year, were as follows:

	Week ending Jan. 29 1921	1920
	cents	cents
New York	27.7	31.5
Chicago	24.5	30.2
Boston	25.0	32.5
San Francisco	23.2	27.7
Wisconsin	24.4	30.5

The total receipts of American cheese at these markets were 2,605,828 lbs. as compared with 2,562,068 lbs. for the corresponding week a year ago and 2,863,923 lbs. for last week.

An ounce of prevention is still worth more than the proverbial pound of cure. Wholesome, hygienic living amidst clean, sanitary surroundings is one of the simplest ways of protecting health.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

Semi-Dispersion Sale
HOLSTEINS
Saturday, February 26th
12 O'CLOCK

This herd represents three of the breed's best strains—the three last sires used were:—

1*—*King Hendriekje Piebe, by Piebe Laura Ollie Homestead King and out of Lady Hendriekje DeKol 3rd, a 32.9-lb. three-year-old with 966 lbs. in a year.

2*—*A 29.4-lb. son of Sir Pietertje Ormsby Mercedes 43rd.

3*—*One of the best sons of King Korndyke Sadie Vale, out of a 20-lb. two-year-old daughter of Sir Veeman Hengerveld.

Forty-nine head offered without reserve because I give possession of one of my farms March first. This is one of the best herds in Wisconsin in type and production. Time on Bankable Notes.

Catalogues ready for mailing

Transportation to main line after sale

GRASSLAND DAIRY FARM
JOHN WUETHRICH, Greenwood, Wisconsin

Registered Holstein Bulls
4 Yearlings, 7-4 to 6 months old
$100.00 and up if taken soon

All sired by 30-pound bulls. Out of A. R. O. dams with records made on the farm running from a 17-lb. two-year-old to 21-lb. two-year-old, and aged cows from 22 to 30 pounds. We have 13 granddaughters of King of the Pontiacs in our herd and one of his sons out of a 30-lb. dam. Also a grandson of Pontiac Korndyke out of 1,105-lb. dam, 30 pounds, 7 days.
C. A. PARKS, Mgr. Assumption, Ill.

$100 to $200 Buys A Bull From A Good Record Dam

Am offering several for those prices sired by a 26-lb. bull and from A. R. O. dams with records up to 25.46 lbs.

Write at once. They'll go fast.
H. W. Crawford, R. 5, Campbellsport, Wis.

SALE ANNOUNCEMENTS

Feb. 15—Holsteins. Spring Creek Holstein Farm Dispersal, Russell Trumpy, Clarno, Wis.
Feb. 18—Holsteins. G. H. Pounder, Ft. Atkinson, Wis.
Feb. 24—Dispersion Holsteins owned by C. O. Ruste, Blue Mounds, Wis. F. H. Everson, Sale Manager.
Feb. 25—Duroc Jerseys. Waupaca County Duroc Breeders' Sale. Floyd Dunn, Secretary, Waupaca, Wis.
Feb. 26—Holsteins. John Wuethrich's Holstein Sale at Greenwood, Wis.
Mar. 15-16—Holsteins. Fletcher Bros. Dispersion at Fond du Lac, Wis.
Mar. 15-16—Holsteins. Wisconsin Breeders' Sale at Fond du Lac, Wis. S. H. Bird, Mgr.
Mar. 17—Guernseys. Elkhart County Guernsey Breeders' Association Consignment. C. M. Enders, Secretary, Wakarusa, Ind.
Mar. 22—Holsteins. Blue Earth County Holstein Breeders' Consignment Sale, Mankato, Minn.
Mar. 28—Holsteins. Isaac DeMunck & Sons, Plymouth, Wis. I. DeMunck, Sale Mgr.
Mar. 29—Holsteins. Fred Gessert, Plymouth, Wis. Fred Gessert, Sale Mgr.
Mar. 29-30—Holsteins. Watertown Holstein Sales Co., Watertown, Wis. F. Darcey, Secy.
Mar. 29-30-31—Holsteins. Philadelphia, Pa. Second Brentwood National Sale.
Mar. 30—Guernseys. La Crosse Co. Guernsey Breeders, West Salem, Wis. H. W. Griswold, Mgr.
Mar. 31-April 1—Holsteins. H. J. Goelzer's Sixth Sale at Plymouth, Wis. E. E. Goelzer, Mgr.
Mar. 31—Guernseys. First Consignment Sale of Calumet Co. Guernsey Breeders' Association at Chilton, Wis. F. E. Fox, Waukesha, Wis., Sales Manager.
April 1—Guernseys. First Consignment Sale of Registered males and grade females. Calumet Co. Guernsey Breeders' Association at Chilton, Wis. F. E. Fox, Waukesha, Wis., Sales Manager.
April 2—Holsteins. Pabst Stock Farm Second Semi-annual Sale at Oconomowoc, Wis.
April 7, 1921—Holsteins. Central Wisconsin Holstein Breeders' Ass'n. 13th Semi-annual Consignment Sale at Marshfield Sales Pavilion, Marshfield, Wis. R. A. Peterson, Wisconsin Rapids, Wis., Sale Mgr.
April 15—Holsteins. Virginia Holstein-Friesian Breeders' Club Sale, Richmond. W. L. Kirby, Manager.
April 19—Holsteins. Ohio Holstein Breeders' Association Second Annual Sale at Columbus,
April 19-20—Holsteins. Ohio Holstein Breeders' Association Second Annual Sale at Columbus, Ohio. H. C. Barker, Sec.
April 21—Brown Swiss. Illinois Brown Swiss Breeders' Association Annual Spring Sale, Morton, Illinois. Chester G. Starr, Pekin.
April 25-26—Holsteins. Waukesha County Holstein-Friesian Association Sale at Waukesha, Wis. W. L. Baird, Sec'y.
May 2—Holsteins. Walworth County Holstein Breeders' Association Eighth Semi-annual Sale at Elkhorn, Wis. Ben Bachhuber, Mgr.
May 3—Holsteins. Clark County Quality Sale at Owen, Wis. J. Wuethrich, Sale Mgr.
May 9—Holsteins. Brown County Holstein Breeders' Sale at De Pere, Wisconsin.
May 12—Holsteins. Jefferson County Holstein-Friesian Breeders' Ass'n. second consignment sale. A. F. Gafke, Sec'y.
May 12—Holsteins. Marathon Co. Holstein Breeders' Association Sale at Wausau, Wis. Francis Darcey, Watertown, Wis., Mgr.
May 13—Holsteins. Chippewa Falls, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 17—Holsteins. State Fair Grounds, Milwaukee, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 18—Jerseys. Monroe County Jersey Breeders' Consignment Sale at Tomah, Wis.
May 18-19—Holsteins. Manitowoc County Holstein-Friesian Breeders' Association, Manitowoc, Wis. Chas. Hampke, Manager.
May 25—Guernseys. Portage Co. Guernsey Breeders' Association Annual Consignment Sale of Registered Guernseys at Amherst, Wis. R. K. McDonald, Sec'y. F. E. Fox, Waukesha, Wis., Sale Manager.
May 26—Guernseys. Portage Co. Guernsey Breeders' Association Annual Consignment Sale of Registered Guernsey males and grade females at Amherst, Wis. R. K. McDonald, Sec'y. F. E. Fox, Waukesha, Wis., Sales Manager.
May 26—Holsteins. Marshfield, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
June 9—Holsteins. First Annual Bred Heifer Sale. Thorp, Wisconsin. W. H. Krause.



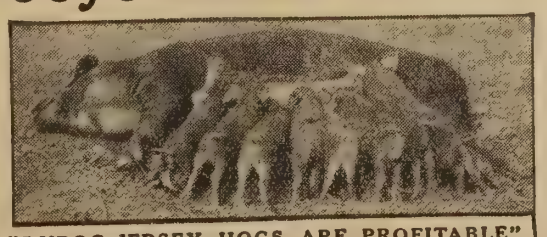
Sir Pietertje Ormsby Mercedes 43rd out of Aaggie Wayne Peep, 34.59 lbs. butter, 657 lbs. milk, 7 days; 1,250 lbs. butter, 27,762 lbs. milk, 365 days; world's record cow for first five years.

Ashburn Aaggie Ormsby Wayne

2-year-old son of S. P. O. M. 43 and out of a 27-lb. granddaughter of King Segis. He is three-fourths black and a good individual. Buy this young bull to sire type and production.

J. J. Reid & Son, Oconomowoc, Wis.

Duroc-Jerseys Are Prolific
and
Profitable



They raise *big* families. Hardy, easy-feeding, quick maturing. That is why Duroc-Jerseys today outnumber any other breed in the United States. Out of *all* the hogs marketed in 1918, 51 per cent were Durco-Jerseys.

WRITE FOR BOOKLET—"DUROC-JERSEY HOGS ARE PROFITABLE" published and mailed free by the largest swine record association in the world (over 10,000 members) for the benefit of hog raisers everywhere.

THE NATIONAL DUROC-JERSEY RECORD ASSOCIATION
Dept. 300—PEORIA, ILLINOIS

Foreign Butter Competes With Minnesota Product

Butter from Denmark and New Zealand is winning favor in New York and other eastern cities and is therefore coming into competition with the best grades of Minnesota butter. Butter from Canada and South American countries is being imported on a rather large scale and is competing strongly with our second grade product.

These are some of the findings reported by A. J. McGuire, dairy specialist with the agricultural extension division of the University of Minnesota, who has been studying butter markets in New York and Chicago. "If Minnesota co-operative creameries are to hold their eastern markets," he says, "they must make more butter scoring over 92 and less butter scoring under that mark. Minnesota makes the best butter in the world, but unfortunately only one-third of our butter is of the best grade. There are three things we ought to begin to do at once:

"First, we must bring all our butter up to the standard.

"Second, we must make all our butter uniform in color, salt, and texture. All the Danish butter is as uniform in characteristics as though it had been made by one man.

"Third, we must establish our own selling agencies and ship in carload lots. The butter should be graded here in Minnesota and shipped out under one sales management.

"I believe that the grading of cream and proper pasteurizing of all cream made into butter should be made compulsory by law in Minnesota. Co-operative creamery companies should take action on this matter at once."

Uncle Ab says: He doesn't mind the wrinkles on his face, but he doesn't want any in his heart.

BROWN SWISS



BETTY OF LAKE VIEW

Breed Brown Swiss Cattle

As producers they are worth every cent you pay for them. Cows are easily sold at reasonable prices. Their earning power has not been capitalized. Brown Swiss meet the ideals of working farmers.

BROWN SWISS CATTLE BREEDERS' ASS'N
IRA INMAN, Secretary, Beloit, Wis.
William B. Hale, Pres., Aqueduct Bldg., Rochester, N. Y.

JUBILEE FARM
Brown Swiss Cattle

Young stock for sale. Individuals of Quality. The best producing blood lines of the breed.

BOX 747, PEORIA, ILL.

Fairview Dairy Farm
Brown Swiss Cattle
FOR SALE
Both Male and Female

F. P. MINNETTE & SON, Sauk Center, Minnesota

AYRSHIRES

Delchester Farms Ayrshires

Tell us your wants and we can supply them at prices you can afford to pay.

Aged cows, bred to Glenury, an A. R. son of Finlayston.

Aged cows, bred to Rena's Baron of Highland, an outstanding son of Baron's Best of Bargenoch.

Heifers, bred to these two great sires.

Young heifers.

Bull calves.

All the above stock carries some of the best producing blood of the breed with A. R. ancestry on both sides.

Herd free from tuberculosis

DELCHESTER FARMS
Edgemont, Del. Co., Penn. - Thomas W. Clark, Supt.

World's Champion Ayrshires

Fully Accredited Tuberculosis Free — 200 Head in Herd



AUCHENBRAIN WHITE BEAUTY 2D

A. R. 14,721 lbs. milk, 4.33%
In 13 years, 112,486 lbs. milk and 13 calves
110 animals in herd are descended from this cow

The 1st, 2nd, 6th and 7th highest records were made here. Four cows average 22,823 lbs. milk, 1,046 lbs. butter. 100 A. R. records made here average 13,246 lbs. milk. Choice stock of all ages for sale at prewar prices. Special — Young bulls line bred to Auchenbrain White Beauty 2d.

PENSHURST FARM, Narberth, Pa.
(7 miles from Philadelphia)

BLACKBURN FARM
HOME OF
Addington's Champion

Grandfathers—Nox'emall and Finlayston
Father—Rena's Champion, 17 A. R. Daughters
Mother—Addington Queen 3d, two Mature Records each over 19,000 lbs.

For Sale —
4-year-old cow—Fresh Dec. 12, 1920
2-year-old heifer—Fresh Jan. 16, 1921
Also Young Stock
Tuberculin Free Herd

Sewickley, Pennsylvania

Weymouth Farms
"Ayrshires of Quality"

All cows on Advanced Registry Test. Herd Tuberculin Tested.

We can supply you a herd sire of choicest breeding.

MARTIN A. TOWLE, Mgr.
NORTH WEYMOUTH, MASS.

Lippitt Farm Ayrshires

For the first time we offer females for sale. They are producers with type.

Write for prices to Hope, R. I.

Pure-bred Ayrshire Cattle For Sale

Best of breeding. Calves sired by a Grandson of Brown Kate, record 1,080 lbs. butter in year.

Wm. Nisbet & Sons, Richland Center, Wis.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

Official Milk and Fat Records Completed in 1920 by the Gossard Breeding Estates

All but one record made at the Indiana plant. A dozen other records being made at the Kansas plant will be listed later.

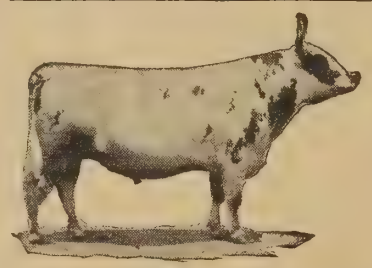
Name	Class	Age	Start	Milk	Fat
Henderson's Dairy Gem 35176	M	9-30-11	Apr. 1919	20,042	803.71
Highest official record in Indiana 1920					
Willowmoor Lily 9th 46060	S 3	6-10-16	Apr. 1919	16,300	649.31
Willowmoor Woodbine C	J 3	7-21-15	Jan. 1919	16,761	590.05
Willowmoor Roxana 37768	S 4	6-22-14	Jan. 1919	15,002	582.94
Willowmoor Katherine 37050	M	1-26-14	Nov. 1919	15,680	577.34
Average for five cows				16,757	635.47
Willowmoor Woodbine 4th 46099	J 2	1-25-17	May 1919	14,950	571.32
Willowmoor Mandy 42842	J 3	10- 7-15	Mar. 1919	13,626	549.80
Willowmoor Lily 10th 46079	S 2	9-16-16	Apr. 1919	12,472	537.82
Willowmoor Bright Girl 2nd 26004	M	8-21-09	Nov. 1919	14,173	536.48
Willowmoor Barleith Snowdrop 29475	M	8- 4-10	May 1919	13,806	521.11
Average for ten cows				15,282	391.38
Willowmoor Sarah 37055	M	2-16-14	Feb. 1919	13,792	520.15
Willowmoor Bluebird 37763	S 4	4-14-14	Feb. 1919	13,981	516.93
Willowmoor Hattie 2nd 46092	J 2	12-20-18	Apr. 1919	12,201	514.96
Willowmoor Soncy Girl 29470	M	7-24-10	Aug. 1919	13,786	504.34
Willowmoor Jess 39316	J 4	9-29-14	Feb. 1919	13,048	500.91
Average for fifteen cows				14,641	564.69
Willowmoor Happy Girl E 37063	M	12- 6-13	Mar. 1919	12,990	495.20
Willowmoor Brownie 2nd 42950	S 3	1- 3-16	Sep. 1919	13,312	486.55
Willowmoor Cherry Maid 42936	S 3	7- 6-18	May 1919	12,923	479.54
Willowmoor Lily 11th 46090	J 2	11-26-16	Apr. 1919	11,156	469.00
Willowmoor Elsie Ruth 49087	S 2	7-14-17	Oct. 1919	11,367	456.13
Average for twenty cows				14,068	542.82
Willowmoor Lily Pan 42920	J 2	4-14-15	Sep. 1919	11,307	453.43
Willowmoor Dahlia 38078	M	8- 4-14	Oct. 1919	11,425	450.09
Willowmoor Thrush 42925	J 4	5- 7-15	Oct. 1919	13,164	439.32
Willowmoor Woodbine 3rd 46097	S 2	1- 4-17	Sep. 1919	10,951	435.32
Bida of Middlesex 45419	J 2	3- 7-17	Oct. 1919	10,878	420.89
Average for twenty-five cows				13,564	522.23
Willowmoor Hilda Poultney 46096	J 3	12- 3-16	Sep. 1919	10,594	402.46
Willowmoor Dolly 38076	M	8- 1-14	Dec. 1919	10,217	392.56
Willowmoor Inez 39322	S 4	12-16-14	Aug. 1919	11,399	388.20
Willowmoor Diana 42046	S 3	11-11-15	July 1919	10,194	380.43
Willowmoor Lady Beauty F 35853	M	10- 3-13	Feb. 1919	10,149	379.25
Willowmoor Primrose 53634	J 2	3-25-14	Sep. 1919	9,450	346.51
Willowmoor Crystal 42957	J 3	2-26-16	Sep. 1919	8,448	316.24
Willowmoor Barleith Snowdrop C	S 3	8-28-15	May 1919	8,389	311.45
Average for thirty-three cows				12,664	484.03

23 out of the 33 cows making records are under five years of age.

We have the finest kind of sons and daughters from these cows to offer discriminating buyers now. Write to Box 100 E, Martinsville, Ind., for prices on females and young bulls.

AYRSHIRES Preston, Kansas — BERKSHIRES Martinsville, Indiana — PERCHERONS Axial, Colorado

GOSSARD BREEDING ESTATES



We Have For Sale

the well bred Ayrshire bull, Bargenoch "Drexel" (18474) Imported. Bred by John Logan, Bargenoch, Scotland. Born Feb. 2nd, 1919. Color white and red. Sire, Bargenoch Magnificent (9579). Sire of Bargenoch "Royal Champion" sold at Bargenoch sale, 1919, for $7,267.00.

Dam, Bargenoch Victoria (37003). Scotch record: 9,221 lbs. milk, 4.23% fat in 43 weeks; 11,070 lbs. milk, 4.50% fat in 47 weeks.

BARCLAY FARMS, John Cochrane, Manager, ROSEMONT, PENNSYLVANIA

Middlesex Meadows Ayrshires

NANCY WHITEHALL, World's Jr. 4-yr.-old Champion Ayrshire, has just completed another record of 22,075 lbs. milk, 858 lbs. butterfat. Her bull calf, *NANCY'S CHANCELLOR OF MIDDLESEX*, born September, 1919, by a show ring champion with great milk production behind him, is a winner in the show ring this year, and is now being used on all the Middlesex Meadows Farm heifers. He is offered for sale for immediate delivery. Guaranteed a breeder and right in every way. Price $2,000.

H. Henry Higginson

South Lincoln, Mass.

Linndale Farm Ayrshires
"Are bred for Production"

Bull calves out of A. R. cows and sired by sons of World Record cows, for sale.

Our { Breeding, Conformation and Prices } are right.

See what we offer before you buy.

JOHN LINN & SONS,
Manhattan, Kansas.

Bensalem Ayrshires

For Sale:—Bull Calves from our best A. R. Dams, and sired by "Queen's Favorite", whose Dam, "Bloomer's Queen", holds the World's Record as an Ayrshire Four-year-old with 21,820 lbs. milk, 1,009 lbs. butter. Grandam of Sire, Auchenbrain Brown Kate, Ex-world's Champion, 23,022 lbs. milk, 1,080 lbs. butter.

FRIENDS HOSPITAL, Frankford, Phila., Penn.

Ayrshire Stock

of all ages for sale. Satisfaction guaranteed

L. W. McCONNELL, Wellington, Ohio



ALTA CREST AYRSHIRES

Special Offering of

Ayrshire Bull Calves
Imported — Home Bred

which we believe to be the greatest lot of Ayrshire Youngsters ever offered by any breeding establishment in America.

Write for Sale List

Animals of all ages for sale. Over 200 head in the Herd. New Importation direct from Scotland to arrive August 1, 1920.

ALTA CREST FARMS,
Arthur H. Sagendorph William Hunter
SPENCER, MASSACHUSETTS

Orchard Lodge AYRSHIRES

Stock for sale, all ages.
Both sexes, prices reasonable.

G. W. STOLLER, Johnstown, New York

Winner of Kildee Cup Tells How Success was Won

F. L. CLARK, IOWA

FROM Edward Geraghty of Iowa, one of the three sons of John Geraghty, who with their father won the Kildee Cup this year as having the highest producing grade herd in Iowa cow testing associations, the following statement has been obtained concerning their success:

"We joined the McGregor Cow Testing Association when it was organized in May, 1918. We had fifteen grade Jersey cows. We knew they were pretty good cows but did not know how good until we put them on test. They showed up pretty well from the first in comparison with other herds in the association and we did not weed out any.

"The cow tester talked feeding to us from the very first but we did not do much the first year. We were afraid if we bought concentrates and fed our cows heavily, the feed costs would run up so we wouldn't make any more or at least not enough more to make it pay.

"Beginning with the second year, we divided to give feeding a trial. In the first place at the cow tester's suggestion we kept the cows off the pastures considerably later in the spring. The grass was good when we finally turned them in. In the fall we took them off the pastures earlier than usual. On the whole, we cut the pasture season from about six and a half months, down to five months, feeding more silage.

"The only grain feed we had given the first year consisted of an average of 495 pounds of ground oats for each cow. We changed from the ground oats alone to bran, corn and cob meal, and ground oats. About 1,100 pounds of this ration was fed each cow during the year and in addition about 220 pounds of cottonseed meal.

"We fed according to production, the year's portion of cottonseed meal varying in the herd from 201 pounds for the lowest producing cow to 235 for the highest, and the grain feed ranging from 1,088 pounds to 1,379 pounds. Only clover hay was fed and ess of that than the first year, a standard amount of 1,570 pounds being fed each cow. The first year the hay fed had run from 1,637 pounds a cow to 2,497 pounds. Five thousand, seven hundred ninety-six pounds of silage was fed to a cow the second year as compared with 4,850 pounds the first year.



BARNS AND SILO ON GERAGHTY FARM, WHERE THE HIGHEST PRODUCING HERD IN IOWA COW TESTING ASSOCIATIONS IS KEPT

"The cost of feed the first year ranged from $49.76 to $56.86 a cow. The cost of feed the second year ran from $81.15 to $88.32 a cow, showing it had cost about $30 more a cow.

"The profit above feed cost the first year ranged from $102.66 to $150.44. The profits the second year above feed cost had increased per cow an average of about $90. In other words, by spending $30 more for feed for each cow we had made the cows earn us $90 more apiece.

"As our cows are freshening this winter we are feeding them up to production and hope to maintain a higher average production this year than last. So far we have beaten each month's record of last year."

Take Good Care of the Tractor

The farmer who takes proper care of his machinery gets the biggest returns on his investment. Five rules on the care of the tractor in winter are presented by J. L. Larson of University Farm, Minnesota, assistant instructor in farm motors:

Clean the tractor thoroughly, using kerosene and a brush where necessary.

Put about an oil-can full of oil in cooling systems before draining water. Then be absolutely certain the cooling system is entirely drained so that no water remains to freeze and burst water jackets of motor or pump. Drain out fuel tank, carburetor, and entire fuel system.

After motor is cold, pour about a pint of heavy oil into each cylinder and spin motor a few times to distribute oil thoroughly. Inspect all motor bearings and coat with oil if not oily. Are bearings loose?

All interior surfaces that are finished or moving parts should be covered with a coat of heavy oil.

See that magneto is well covered with oiled paper or protected from moisture. If tractor cannot be placed in a good shed, cover with canvas or anything else that will protect it from the elements.

"Now is the time to remember that leakly radiator, motor knock, those broken bolts and the gear that needed replacement," says Mr. Larson. "Make a list of all the extras you need and order them. Also make a notation of other repair work needed on tractor. There will be sufficient time to do this before the spring work starts."

John Burroughs says: "The best and most hopeful feature in any people is undoubtedly the instinct that leads them to the country to take root there, and not that which sends them flocking to the town and its distractions. The lighter the snow, the more it drifts; and the more frivolous the people, the more they are blown by one wind or another into towns and cities."

JERSEYS

If You Buy a Jersey Bull

From Hood Farm

You buy size, constitution, type and inherited dairy production of the very highest quality. Our Sophie Tormentor Jerseys are large and are the kind that pay $ $ $ $ at the pail.
Bulls and bull calves for sale, pedigree and description on request.

HOOD FARMS, Inc.
Lowell - - Mass.

N. B. We are trying to supply bulls with the size and breeding to produce $ $ $ for the dairymen. It will save time and correspondence if intending purchasers will tell us about their herd and about the price they want to pay.
JIMMY DODGE, Mgr.

For Better Jerseys

We do not retain in our herd any cow which under favorable conditions will not produce 500 lbs. of butterfat (600 lbs. butter) in 1 yr. on official test.

We have a few young bulls for sale.

THORNBURY FARM
LIBERTYVILLE, ILLINOIS
W. A. BREWERTON, Owner L. A. BENT, Mgr.

MILK 10509 Lbs. FAT 586 Lbs.
Average of 175 R. of M. records made by Ayredale cows. Forty R. of M. records made in 1920 by 16 two-year-olds, 4 three-year-olds, 1 four-year-old and 19 mature cows average 10,596 lbs. milk, 586 lbs. fat. With 16 two-year-olds bred at Ayredale in the 1920 lot, they equal previous records made largely by mature cows.
This 1920 performance is pleasing, because it proves our herd sires are breeding on and up.
Bulls and bull calves from above cows for sale. They insure big cows that are big profitable producers. To save correspondence, I would appreciate an inquiry from you giving age, color and priced bull you wish to purchase.
AYREDALE STOCK FARM
F. W. Ayer, Bangor, Maine

BELSWOOD FARM
Financial Bred Jerseys
We are offering for sale a splendid lot of bulls and bull calves out of R. of M. dams with records of 500 lbs. butter. Also several heifer calves. Send for illustrated catalog, containing pedigrees and delivered prices.
A. F. Block, Mgr., Norwood Park, Illinois.

Montpelier Jerseys
Three young bulls ready for service. Trace three times to Oxford Lad. Fine typy individuals. Right in every way.
Montpelier Manor Farms, Laurel, Md.

POLLED JERSEYS
Breeders' names and Spillman's "Inheritance of the Poll Character in Cattle" mailed free.
CHAS. S. HATFIELD, Secy, R4, Box 5, Springfield, Ohio.

Jersey Cows For Sale
FROM FEDERAL ACCREDITED HERD
I have six cows for sale with Register of Merit records from 400 to 500 lbs. butterfat, age from 3 to 8 years. Prices from $250.00 up. One of these is a daughter of Noble's Fawn Prince, record 493 lbs. Five will freshen between January 5th and April 15th. These are all good individuals of right type.
P. G. WARMINGTON, Honey Creek, Wis.

MERIDALE JERSEYS



Interested
Prince 2d 95708

Sire of 27 Register of Merit cows, including Interested Jap's Santa, 15,569 lbs. milk, 1,007 lbs. 85% butter.

His pedigree blends the blood of those conspicuously prepotent cows, Interest and Sayda.

He has 50% the same blood as five Gold Medal cows in the Meridale Herd. A few of his sons are for sale, out of excellent Register of Merit cows.

AYER & McKINNEY
300 Chestnut Street, Philadelphia, Pa.

CLOVERDALE
Jersey Bulls For Sale
$125—Age 13 mo.—$125
No. 1. 1,289.6 lbs. butter average R. O. M. record for 2 grandams. Two grandsires of 2 nearest sires premium winners National Dairy Shows.
No. 2. Sire out of cow with 865 lbs. butter R. O. M. record. Grandson Noble of Oaklands. Dam's 2-year-old R. O. M. record 446 lbs. butter. Her sire's dam R. O. M. record 886 lbs. butter. Others $75.00 up.
E. O. ANDERSON, Shelby, Michigan

Bulls—JERSEY—Bulls
A splendid lot of Majesty bulls out of Register of Merit dams for sale at very low prices. We must sell to make room for our winter and spring calves. These bulls are from three months to two years old and sell with full guarantee to be breeders. We have a Federal Accredited Herd. For pedigrees, descriptions and prices, write Thos. T. Bacheller, Jr., Mgr.
ELMS JERSEY FARM
M. D. Munn Forest Lake, Minnesota

Pine Lawn Dairy Farm
is offering 2 young bulls out of high producing cows. One, a grandson of Golden Maid's Viscount, 18 months old. One, a son of Beauvoir's Chief; he a son of Western King's Chief. Also a few cows and heifers. Write for pedigrees. Will sell cheap to make room.
H. S. Hager, Prairie du Sac, Wis.

MAJESTY BULL—Dropped Oct. 15, 1919
Sire—A son of Golden Maid's Viscount. Dam—Gypsy of Larch Farm, a R. of M. Cow. This bull is solid color and is a fine, typy individual. For full pedigree and price write
E. E. Hill & Sons, Tomah, Wis.

REGISTER OF MERIT JERSEYS
For Sale—Several choice young bulls ready for service, dams in R. of M. Sire has daughters in R. of M. Also a few choice heifers, bred to freshen in March.
O. R. WIEGAND, Cleveland, Wisconsin.

Six Splendid Jersey Bulls
FOR SALE. Good type, well bred and well grown, 12 to 18 mos. old, from dams in R. of M. or on test. Rich in the blood of H. F. Torono, Figgis, H. F. Pogis 9th, Pedro, Loretta D, King Sappho King and Golden Maid's Prince.
J. Q. EMERY & SON, - Edgerton, Wisconsin

Valley Farm is Offering
Several bulls, 6 to 12 months old, from R. M. cows. Sired by Golden Maid's Viscount and Kilda's Royal Majesty, two of the best Island bred bulls living. At prices to sell. Write
FRED STUBLEY, Black Earth, Wis.

JERSEYS—DUROCS
Just one bull old enough for service and a few young calves. Hood Farm breeding.
F. R. Constance & Sons, Waupaca, Wis.

Hillcrest Jerseys
Bull calf born March, 1920. Sired by Imp. grandson of Golden Fern's Noble. Priced right for quick sale. Write
ROLLIE VANDERVORT, TOMAH, WIS.

Register Merit Jersey Herd
At Head, Mona's Jacoba Premier grandson: Pogis 99th of Hood Farm. Dam, Mona's Jacoba, record 806 lbs. butter; Granddaughter Jacoba Irene, young stock; St. Lambert breeding for sale. R. C. Green & Son, Albion, Wis.

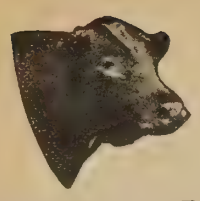
JERSEY CREST FARMS

A son of this splendid cow, Time's Fern 351856, Register of Merit record 1026.7 lbs. milk, 659 lbs. butter, can be had at a reasonable price.

Fern's Oconto Boy 175791, dropped March 20th, 1919, was a winner at Minnesota and Wisconsin State Fairs and is now ready for service.

Any Breeder of Jerseys can afford to own this bull, who is a splendid specimen of the quality Jersey Crest Farms demand and produce. We would be pleased to have you come and inspect this fine fellow. Herd Tuberculosis free—under Federal supervision.

JERSEY CREST FARMS, Oconto Falls, Wis.



Economy in Production ← GUERNSEYS → Quality of Products



One Guernsey cow dropped her first calf at two years, her second calf within 12 months and produced in one year at three years of age 692 lbs. of butterfat. At four years she dropped twin bulls, each weighing 90 lbs., and then made a record of 915 lbs. of butterfat. This cow has been milked and cared for by her owner, on a New York farm. Let us tell you more about Guernsey cows.

THE AMERICAN GUERNSEY CATTLE CLUB, Box H24, Peterboro, N. H.

A. R. COWS FOR SALE

Trifle Oaks Farms, Perry, N. Y., offer a few A. R. Guernsey cows of excellent conformation and breeding, all descended from one cow. Also a few bull calves sired by a grandson of Ne Plus Ultra and out of A. R. dams. Herd 100% clean first accredited herd test.

Your opportunity to get good stock at bargain prices. Satisfaction guaranteed. Write or come to see us at once.

Lewis A. Toan, Batavia, N. Y.

Harbor Hill Guernseys

Masher's Galore 8572 A. R.

Increased the Average Production Credit of 12 A. R. daughters out of A. R. dams by 181 lbs. We offer his double grandson out of another daughter also making a better record than her dam.

C. H. Hechler, Superintendent
Box 30, Roslyn New York

Forestdale Farm

3 Bully Baby Bulls 8 Handsome Healthy Heifers — 2 to 18 months

from Superior Standard Sires, also a few A. R. matrons. May Rose Breeding. Tuberculin tested. $250 lowest price.

R. D. DeForest, Amsterdam, N. Y.

SAUGERTIES FARM GUERNSEYS

For Sale Bull Calves sired by Ultra May King, 27600. A. R. breeding. May Rose strain. Send for Sales List. Federal Accredited Herd No. 1511.

SAUGERTIES FARMS,
Saugerties, New York.

Guernsey Cows

I am offering for sale several head of Registered Guernsey cows of excellent breeding. They are the natural increase of my herd. Also have young bulls sired by Pencoyd's Secret Premier No. 49474. These bulls are splendid individuals, showing type and production.

Herd under Federal Inspection

OTTO W. POST, ENSENOR, N. Y.
R. R Station, Owasco Lake

Falcon's Grenadier (65834)

Dropped Feb. 12, 1920

Sire: *Falcon's Proud Warrior* (*47559*). Pronounced by many experts as "the greatest son of Langwater Warrior".

Dam: *Stockbridge Olive* (*30883*), from a noted family of high producers. Olive has an A. R record of 11,503.2 lbs. milk, 617.36 lbs. fat and dropped two calves during the year.

Grenadier is a high class, well grown bull; priced very conservatively at $600 f. o. b., Litchfield.

Write about him today.

Falcon's Flight Farms, Litchfield, Conn.

The Mixter Farms

For Sale at farmers' prices,—bull calves sired by May Rose bulls and out of May Rose dams with records of 500 to 700 lbs. fat. Also a number of producing females—animals that will be a credit to any herd and prove profitable in dollars and cents.

Write us before purchasing elsewhere. Mixter Farms have bred over 3,000 pure-bred Guernseys. J. S. Clark, Supt., Hardwick, Mass.

300 Guernsey Females.

Hillswold Farm

Shrewbury, Mass.

Registered Guernsey bull calves for sale. Dams in Advanced Registry and tuberculin tested. Prices right. and animals guaranteed to suit. W. A. Cloues, Mgr.

Major Oliver S. Johnson



The Dairy Auctioneer

Tipton, Ia.

Koshkonong Place Guernseys

Herd Bull: ANTON'S KING CECIL
(6 May Rose crosses).

BULL CALVES 6 mos. to 1 yr. old from A. R. daughters of

Jury and Gilt-Edge of K. P.

Herd on Federal Accredited list.

A. R. HOARD, - Fort Atkinson, Wis.

MAPLE HILL FARMS

May Rose bulls for sale from 2 to 16 months old with A. R. backing.

Fruit Bros., - Waukesha, Wis.

Here's Your Opportunity !

Good Grade Cows in car lots. Pure-bred Males, Females with type and good producing ability. Investigate.

Fox River Valley Guernsey Breeders' Association
Harry Leppla, Sec'y, Appleton, Wis.

Iowanola Guernseys

We are offering

A Very Fine Son

born July 25, 1920, out of Imp. Kitchener's Express 43925, his dam has 592 lbs. of fat, and out of Franseca of Homa Della who has 12,855.2 lbs. of milk and 640.09 lbs. of fat in Class D. This is a very typy calf and should appeal to any one in need of a bull. Correspondence solicited.

MOUNTAIN BROS.,
Carrier 403, Des Moines, Iowa.

Guernsey Bulls For Sale

Polly's Anchor No. 42845, born August 24, 1916, and Imp. Bluebird of Lakeside No. 45329, born June 15, 1917. Good, straight bulls, very gentle and sure breeders.

For Sale by

RADISSON FARM, ANOKA, MINN.

Guernseys

Best May Rose breeding. Both sexes and all ages from an Accredited Herd. Write your wants and send for lists.

E. S. Person, Minot, N. D.

Do You Want A Guernsey Bull

Closely related to Pergue's Crescent A. R. with a record of 13,316.9 lbs. milk and over 582 lbs. fat in Class EE and dropping two calves within the year, entitling her to second place in her class? Some excellent young bulls closely related to Pergue's Crescent ready to head your herd. Write for descriptive circular, or come and see them.

Ernest W. Sass, Box H, Streator, La Salle County, Illinois.

Guernsey Bulls

Our last 9 official records average over 510 lbs. fat, including all ages. Our herd sire has 8 A. R. daughters, including one with 572 lbs. fat in Class GG. His three nearest dams average 822 lbs. fat. Send for pedigrees and prices on young bulls with this backing.

Folly Farm, Box 587, Libertyville, Ill.

Thorn Hill Farm Guernseys



Have several well bred young Guernsey bulls for sale at reasonable prices. All my own breeding. May Rose and Glenwoods, out of A. R. cows with records from 500 to 750 lbs. of fat. Write for sales list to

AUGUST ZIESING, Deerfield, Ill.

GRASSLAND FARMS GUERNSEYS

Choicely bred males and females for sale. (The natural increase of the herd.)

Herd federal tested for tuberculosis. Send for sales list. Satisfaction guaranteed.

Taconic, Conn., Litchfield Co., (C. N. E. R. R.)

Meadowland Guernseys

Sixty-five females, priced conservatively, are offered from which to make selections.

MEADOWLAND FARM, Litchfield, Conn.



ANTON'S PASHA OF PROSPECT (61884)
Dropped October 31, 1919

SIRE—Anton's King Confidence (43517)...DAM—Buttermaker of Prospect (68769)

Anton's Pasha is one of the "big type" bulls. His picture gives a good idea of his length and the rest of his body is in good proportion.

He is sired by Anton's King Confidence, who has six May Rose crosses. The dam of A. K. C. made 764.65 lbs. of fat as a junior 4-year-old.

The dam of Anton's Pasha is now on test and has made 295.87 lbs. of fat in 243 days, while running with the herd, receiving the regular herd rations and being milked but twice a day.

This bull will go mighty soon so if you want him write immediately.

Hoard's Dairyman Farm

Fort Atkinson - - Wisconsin

RELIABILITY BANKER FARMER QUALITY of WISCONSIN BANKERS' ASSOCIATION EXCHANGE

Guernseys For Sale

Pure-breds — A large number of bulls, bull calves, cows, heifers and heifer calves.

Grades — Cows, heifers and heifer calves. Listed for sale through the banks of Wisconsin. Send us your wants.

Other Live Stock: Breeders are listing with us other dairy cattle, beef cattle, horses, sheep, and swine. Write us if you want stock. We will answer promptly.

BANKER FARMER EXCHANGE.
D. H. Otis, Director. 1822 Chadbourne Ave., Madison, Wis.

Just What You Want!

An 8 months old bull calf. Partly white, light fawn, very fine individual.

SIRE—Cream Cup's King Regent of Allenwood 33889, by Allenwood King Regent 23641 and Allenwood Cream Cup 41291 who has a record of 436.89 lbs. fat Class G.

DAM—King Regent's Fanny of Allenwood 2d 73637, now on test in Class FF and will finish between 500 and 600 lbs. fat and has milked as high as 49 lbs. in one day. She is a daughter of Noble Regent 31691 and King Regent's Fanny of Allenwood 58290 who has a record of 347.64 lbs. fat at 2 years.

CORIUM FARM, F. J. Rueping, Owner, Fond Du Lac, Wisconsin.

Young Bulls For Sale From A. R. Dams

I am offering several young sons of Golden Noble of Craigmoor A. R. He is a son of Langwater Raritan A. R. and from Imp. Daisy Moon 4th (639 lbs. fat).

These bulls are from A. R. dams with records up to 648 lbs. fat.

They are from 3 months to a year old. For prices and pedigrees call or write

Maple Heights Guernsey Farm

Frank E. Swan, Wauwatosa, Wis.

Federal Accredited Herd.

CityView Farm GUERNSEYS

FOR SALE: Typy May Rose bulls out of A. R. cows or cows on test with records up to 615 lbs. fat AA Sired by Bell Buoy of Linda Vista, 17 A. R. daughters, and Langwater Good News. Some of these bulls trace 18 times to May Rose II and are priced to sell.

O. R. SCHWALEN, Roberts, Wis.

Wern Farm Guernseys

I am offering for sale 20 head of choice Grade Guernsey springers coming with first and second calf. Also have two bulls highly bred along May Rose lines just ready for service, that I will sell. For full particulars, write, wire, or come and see the stock.

Wern Farm, Waukesha, Wis.

Homestead Farm

Offers for sale bulls from 11 to 13 months of age from A. R. dams. Also a few young bull calves of excellent breeding, and three A. R. cows. Write for sale list or come and see them.

JAMISON BROS., Appleton, Wis.

Tilden Farms Guernseys

FOR SALE: Several typy, May Rose bulls out of A. R. cows and sired by Hope's May Rose of Maple Hill (35903), whose dam is a class leader with 776 pounds of butterfat at 3 years. Also several choice pure-bred females and a few excellent grade cows. Herd on Federal Accredited list.

TILDEN FARMS
James H. Murphy, Mgr. Delavan, Wisconsin

Tratt Guernsey Herd

Herd headed by Bob Rilma's Monogram whose dam and grandam have A. R. records averaging 887.5 lbs. fat.

Bull calves for sale by him out of cows with good A. R. records.

Write for pedigrees and prices.

RALPH TRATT, WHITEWATER, WIS.

GORDONDALE

Guernsey bulls of serviceable age offered for sale, also younger ones. They carry May Rose breeding, are from A. R. dams and have splendid A. R. backing Ask us about them.

Herd under Federal Supervision.

L. E. GORDON, JR.,
Nelsonville, Portage Co., Wisconsin.

SARNIA FARM GUERNSEYS

We are offering several very high class bull calves, 1 to 10 months old, nearly all out of A. R. cows. Send for sale list and circular giving pedigrees and pictures of the herd sires. Place your order now for bred heifers from 1920 importations.

Charles L. Hill & Son, - Rosendale, Wis.

Bulletins of the Week

Elimination of Germs from Dairy Utensils, by M. J. Prucha and H. A. Harding. Bulletin 230, Illinois Experiment Station, Urbana, Ill.

Profitable Cows, by A. J. Cramer and R. T. Harris. Circular 129, Extension Service of the Wisconsin College of Agriculture, Madison, Wis.

Relative Values of Feed Proteins for Dairy Cows, by C. Larsen, T. Wright, H. Jones, H. Hcover, and B. Johnson. Bulletin 188, South Dakota Experiment Station, Brookings, S. D.

Heavy vs. Light Grain Feeding for Dairy Cows, by F. W. Woll, E. C. Voorhies, and C. V. Castle. Bulletin 323, California Experiment Station Berkeley, Calif.

The Correlation Between Milk Yield of One Lactation and That of Succeeding Lactations, by J. W. Gowen. Bulletin 289, Maine Experiment Station, Orono, Me.

Variation of Butterfat Percentage With Age in Jersey Cattle, by J. W. Gowen. Bulletin 290, Maine Experiment Station, Orono, Me.

Hog Cholera and Immature Corn, by J. W. Connaway. Bulletin 174, Missouri Experiment Station, Columbia, Mo.

Spotted Apple-tree Borer, by F. E. Brooks. Bulletin 886, U. S. Dept. of Agr., Washington, D. C.

Forestry and Farm Income, by W. R. Mattoon. Farmers' Bulletin 1117, U. S. Dept. of Agr., Washington, D. C.

Proso or Hog Millet, by J. H. Martin. Farmers' Bulletin 1162, U. S. Dept. of Agr., Washington, D. C.

Potato Wart, by G. R. Lyman, L. O. Kunkel, and C. R. Orton. Circular 111, U. S. Dept. of Agr., Washington, D. C.

Tree Surgery, by J. F. Collins. Farmers' Bulletin 1178, U. S. Dept. of Agr., Washington, D. C.

A Splendid Young Bull For $150.00

Sired by my De Kol Hengerveld Burke bull, and out of an A. R. O. daughter of King Pieter Segis Lyons 170506, an extra well bred and very promising young sire, whose 3 nearest dams have A. R. O. records as follows: 30.12, 31.06, and 33.31 lbs. of butter in 7 days. He now has 10 A. R. O. daughters, 3 of them as junior 2-year-olds made from 19.21 to 21.65 lbs. in 7 days. This calf is a splendid individual and about ⅞ white.

Write for further information and pedigree.

I. M. SHORMAN, Fowlerville, Mich.

THE TRAVERSE HERD

We have what you want in

BULL CALVES

the large, fine growthy type, guaranteed right in every way. They are from high producing A. R. O. ancestors. Dams' records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.

Traverse City State Hospital, - Traverse City, Michigan

The Pontiac Herd

"Where the Champions come from"

Offer Bull Calves sired by sons of *Pontiac Korndyke, Hengerveld De Kol, Pontiac Dutchland, or Admiral Walker Pietertje.*

Do you want a Pontiac in your herd?

PONTIAC STATE HOSPITAL, Pontiac, Mich

Fairhurst Herd

On the Accredited List

We offer young bulls, fine individuals and well grown. Sired by 33-lb. bull and from dams with records up to 30 lbs. Write for pedigree and price.

KITTLE BROS., Holland, Ohio.

BULL CALF

Sire's dam, butter, 1 yr., 848 lbs.; her daughter, 1,055 lbs. Grandsire's dam, 987 lbs. at 11 yrs.; her full sister, 1,344 lbs.; another, same dam, 1,322 lbs. Dam, Miss Pietertje Alexina 3d, sister to Miss Pietertje Alexina 2d, 1,290.91 lbs. A dandy calf, priced right. Write quick to

McKAY BROS, - - CADDOA, COL

870 Lbs. Butter—17444 Lbs. Milk

is the average of 3 of his two-year-old sisters. Several about to finish as 3-year-olds. Ready for heavy service. Holstein.

BLUEBELL FARM, Riceville, Iowa

BULL CALF FOR SALE

Sire is a 27-lb. son of Johanna McKinley Segis, the 40-lb. bull that sold for $25,000. Dam is a granddaughter of Pearl of the Dairy's Joe De Kol with 78 A. R. O. daughters. Marking ⅔ white.

Long Distance Phone 389.

DUETT ROBINSON, R. 3, Capron Ill.

Buffalo Creek Farm Holsteins

This yearly record bull calf for sale, born Nov. 28, 1919.

Name, King Lavera Ormsby No. 297926. Sire: King Pietertje Homestead Ormsby No. 221488. Dam: Lavera Hortensia Bawn 2d, No. 124734, with a record of 26,010.2 lbs. of milk and 1,050.55 lbs. of butter in a year. Write for price and pedigree. This calf won 5th premium at the Dairy Show.

Herd under Federal Supervision.

H. L. BINGHAM, Supt., Arlington Heights, Ill.

Whitehurst Farms

BULLS FOR SALE FROM SEMI-OFFICIAL DAMS. Priced Right.

A. F. Randolph, Prop., Canton, Ill.

HOLSTEINS



SOUTH DAKOTA HOLSTEINS

King Segis + Sir Korndyke Heng. DeKol

Bull of show type, 14 months old. More black than white, well grown and ready for heavy service. Dam sister to Minnesota's first 39-lb. cow. Nearly 16-lb. 3-year-old. Sire's dam 30 lbs. butter, 740 lbs. milk, nearly 1,000 lbs. butter for year. Write for chart, pedigree, price and picture.

CHEDI-LAKE STOCK FARM,

Gage & Kurtz, Groton, S. D.

"SPOT"



Elf Aaggie Fayne Johanna
Milk 27949 lbs.
Butter 1001 lbs.

Breeders of Holstein Cattle

2 WORLD } RECORD COWS IN OUR HERD
4 STATE }

Holstein Bull Calves For Sale

A Few Exceptional Individuals Ready for Service

Write for Bull Sale List. LISLE FARMS CO., LISLE, ILL.

Lord Netherland Rag Apple

Son of Ex-Champion 4-yr.-old Heads Our Herd

Five of his six nearest sires have 40-lb. daughters. Four of his six nearest dams have 31-lb. daughters. His two nearest dams average over 40-lbs.

We have his first sons for sale.

LAWRENCE PAUMIER, - - (Stark Co.) - - Louisville, Ohio

ZEHRINGHURST HOLSTEIN FRIESIANS

A Few Splendid Young Bulls

for sale that have show ring type, that are backed by 7-day and yearly records and by the best productive breeding in Ohio. They are from an accredited herd, are guaranteed right and are priced to sell.

Zehringhurst Farm, Germantown, O. Oscar O. Zehring, Prop.

HOLSTEIN CATTLE

Indiana School for Feeble-Minded Youth, Fort Wayne, Indiana, G. W. Bliss, Supt., writes:

"We engaged in breeding Holsteins to secure a more sure foundation for breeding, increase our milk production, make a better farm profit, secure better milk for food and have a better sale of surplus stock."

Send for Free Booklets

The Holstein-Friesian Association of America

101 American Building Brattleboro, Vermont

King Pietertje Ormsby Piebe 25th Is For Sale

He's a show calf like the rest of the sons and daughters of K. P. O. P. You saw them win last fall at the big shows.

His sire is King Pietertje Ormsby Piebe, the best long distance bred bull in the country as well as a sire of show winners.

His dam, Lady Mutual Sadie, is now making a splendid yearly record as a first calf heifer. Shes' a daughter of King Mutual Korndyke, a son of the world record 2-year-old Finderne Mutual Fayne.

This is a chance to buy a son of K. P. O. P. that is sure to increase in value as his dam develops in our herd.

He is priced right and we offer easy terms of payment.

Hargrove & Arnold Norwalk, Iowa

Herd Under Federal Supervision

SIR JOHANNA FAYNE



42147

now has 9 daughters 20,000 pounds or over. All of his yearly tested daughters, 3½ years old or over average 21,465.1 pounds milk and 831.45 pounds butter. 17 daughters average 20,000 pounds. A few young sons left at reasonable prices. Herd under Federal Supervision.

IOWANA FARMS

DAVENPORT, IOWA



Home Farm Wayne Sir Clyde

This Typy Son of Woodcrest Sir Clyde

was third in his class at the North Iowa Fair; he was born January, 1920. Dam is a daughter of K. K. S. V. 24th with an 18-lb. 1st calf record; will finish her year with about 550 lbs. butter. His sire's dam is a 33-lb. cow with 970 lbs. in a year and his dam's dam a 29.7-lb. cow with 600 lbs. in a year as a 3-year-old. He is very moderately priced; send today for pedigree.

W. B. BARNEY & SONS, Chapin, Iowa

Mr. Holstein Breeder—

You are Invited to

Pinehurst Farms

at any and all times. Come if you want a herd sire or foundation females. Come if you don't want to buy. We believe you will be interested in Sir Ormsby Beauty Pontiac Segis and his get and in our herd of producing females, many of them now doing very well on 7-day and year test.

You will be welcome and remember if you should buy from us, we stand back of every animal sold.

Pinehurst Farms Co., Sheboygan Falls, Wis.

Cows and Heifers

A Few Good Bulls

Because I am overstocked, I am offering some very good registered females for sale. They either have A. R. O. records or are from A. R. O. dams.

Can also offer some excellent young bulls by a 33-lb. sire and from A. R. O. dams with records up to 28 lbs.

Every animal sold is guaranteed to be as represented.

Write or come and see for yourself.

J. D. McDonald West Salem, Wis.

SERVICEABLE SONS

OF

Sir Bess Ormsby Fobes

Young bulls out of tested dams and by "the best individual son of the best son of S. P. O. M." Let one put production and type in your herd.

Linden Lawn Stock Farm

B. W. RABENHORST, - Jefferson, Wis.

BULL CALVES

For Sale

Out of A. R. O. dams up to 27 lbs.

Herd Federally Tested

WM. MEISEGEIER, R. 4, Barron, Wis.

Serviceable Bulls For Sale

Sired by Pabst Pontiac Hengerveld, a son of King Pontiac Champion from Pabst Hengerveld Colanthus (31.5 lbs. butter in 7 days, 1,057 lbs. in a year.

These are nicely marked, well grown youngsters out of good producing dams. Several are ready for service, others are younger.

Write today.

John Alexander, Baraboo, Wis.

Foundation Holsteins



20 Young Bulls

15 Good Foundation Cows

The Bulls

Will include 20 of the best we have ever raised—many of them by Creator from daughters of King Pontiac Champion. This is one of the greatest combinations of breeding ever produced.

The Females

Will include fifteen very desirable foundation cows, some of them in calf to the famous Creator.

Bear in mind Pabst Stock Farm won first place as breeder of prize winners last year, which means that Pabst animals are producers in the herds of others.

Get your name on the catalogue list now.

Pabst Stock Farm

Oconomowoc, Wisconsin

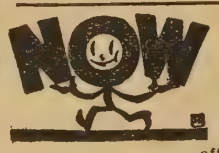
(Waukesha County)

Bull For Sale — Born January 2, 1920

Dam:—A 22.62-lb. granddaughter of Johanna McKinley Segis. She has several good daughters in the herd with records up to 33.48 lbs. butter in 7 days and 112 lbs. milk in one day.

Sire:—A son of Molly Johanna Korndyke, former world's record 2-year-old with 30.62 lbs. butter in 7 days. Write for pedigree and price.

W. J. McROBERT, Waupun, Wis.



River Meadow Farms

offer

Pure-bred Holsteins Cows, Heifer Calves and Bulls, of all ages

High Grade Holsteins Cows of all ages, and Heifer Calves

From our best Producers

400 head always on hand. In writing for prices, please state exactly what you require, in order that we may quote most favorable price. Our record of 30 years proves our ability to supply the best cattle in New York State to buyers who appreciate such animals. Tuberculin Tested for interstate shipment and accredited herds.

River Meadow Farms, Portlandville, N. Y.

Yearling Bull Ready For Service

His sire is a son of the world famous "IT" whose dam held the world's record for a year. His dam is a double granddaughter of Pontiac Aaggie Korndyke, the famous sire of long distance champions. Price $150.

G. G. Burlingame, Cazenovia, New York.

Holstein Bull

Tuberculin tested and ready for service. Sired by King of the Changelings, a 33-lb. son of King of the Pontiacs. Dam, a daughter of a 33-lb. sire and has an A. R. O. record of 15.57 lbs. butter in 7 days at two years of age, averaging almost 4%. He is well grown and a splendid individual. First check of $175 takes him.

HARRY W. PETZOLD, Owego, Tioga Co., N. Y.

LAKESIDE STOCK FARM

of SYRACUSE, N. Y

offers serviceable young bulls of the highest individuality, several of them by 30- to 40-lb. sires, and from 30- to 34-lb. dams, part of them State Fair prize winners. In individuality they can not be easily excelled. Lakeside also offers a very choice lot of yearling and two-year heifers and young cows.

E. A. POWELL, Prop.



S. C. P. S. BEEDA

$250 Buys This Bull—

Born May 2, 1920

He is sired by a 30-lb. bull and has 22 sisters with yearly records.

His dam made 16 lbs. at first freshening (age 2 yrs.) and is now on yearly test, she by a 33-lb. bull and out of a 22-lb. daughter of a 37-lb. bull and a 30-lb. cow.

Winterthur Farms, Winterthur, Del.

Federal Accredited Herd

Just a Few Good Bulls Left

THEY ARE SONS OF

Sir Pietertje Ormsby Mercedes 41st

the son of S. P. O. M. and Spring Brook Bess Burke

and of

King Pontiac Artis Sadie Vale

a 34-lb. son of K. K. S. V.

These youngsters are of different ages—one or two ready for service. They are from our good foundation cows that have good 7-day records and have made or are making good yearly records. There is one of them that is just what you want. His price is reasonable and he is guaranteed right.

Gustave Pabst's Hollyhock Farms

Fred J. Southcott, Manager Dousman, Wisconsin

2 Serviceable Bulls

ALL SONS OF THE 1235-LB. YEARLY SIRE

Sir Korndyke Bess

The Dams' yearly records all over 800 lbs.

R. E. Benson - - Dousman, Wisconsin



Yearly Records

Choice Young Bulls

from one to fourteen months old for sale. Sired by Cloverlawn Johanna Piebe whose five nearest dams average 1,070 lbs. of butter, 23,809 lbs. of milk a year. Herd numbers 140 head, forty cows with yearly records. State exactly what you want.

JOHN PULS, - HARTFORD, WISCONSIN

A. R. O. BULLS—2 Weeks to a Year Old

At Bargain Prices

They are sons of Rag Apple Pontiac, a 30-lb. grandson of King of the Pontiacs, from well bred dams with records up to 27 lbs. in 7 days. Write today for prices and pedigrees. I'll answer your inquiry promptly.

W. W. Quackenbush, - West Salem, Wis.

HOLSTEIN BULLS



AND HEIFERS ! !

To make room in our barn we offer a 3 years of age. They are backed by Also a few bulls sired by King Korndyke age over 37 lbs. butter in 7 days. Come

dozen or more heifers from 1 month to some of the best families of the breed. Veeman, whose two nearest dams aver- and see them or write to

WISCONSIN STAR STOCK FARM, ED. M. SHULTZ HARTFORD, WIS.

Sons of a 36-lb.—1315-lb. Sire

They are sons of Dutchland Creamelle Denver Prince. His sire is a 30-lb. 1,028-lb. grandson of Colantha Johanna Lad and his dam, the highest record daughter of the same sire, with 36 lbs. in 7 days, 1,315 lbs. in a year.

They are from tested (records up to 20 lbs.) and untested dams — Good producers rich in the blood of Mooie Mutual De Kol and King Segis Pontiac.

The calves are from 2 to 8 months old. Priced right.

Jefferson County Asylum, Jefferson, Wis.
W. E. Voigt, Supt.

1000---HERD---1000

Quality Holsteins

GRADES AND PURE-BREDS

Just now we have a splendid lot of grade heifers. Write for our pure-bred bull list.

Jefferson County Holstein-Friesian Breeders' Association,
A. F. Gafke, Secretary, Jefferson, Wis.

Bull Ready For Service

Nicely marked and a good individual. Dam 20 lbs. butter at just 3 years. Next dam a 23-lb. 4-year-old. Two nearest dams of his sire average over 32 lbs. and ten nearest dams over 29 lbs. in 7 days Not a break in a three-generation pedigree. Priced to sell. Call or write

Halsey J. Sedgwick, Limeridge, Wis.

A BULLY CHANCE

to get a serviceable sire—born March 15, 1919. A fine individual—well bred—well marked—well grown. Sire, a son of King Segis Pontiac out of a 26-lb. daughter of Juliana King of Rock. Dam, A 26-lb. daughter of King Korndyke Veeman Wayne, he out of a 31-lb. daughter of Sir Veeman Hengerveld. Will trade for pure-bred Holstein females, liberty bonds or cash. If you want a herd sire—what have you got that you don't want? Write or call for price, pedigree, photo. Also have some younger bulls. Herd tuberculin tested.

RIDGEHURST STOCK FARM.
Glen C. Ramsey, Ft. Atkinson, Wis.

A Fedral and State Accredited Herd Offers—

two serviceable sons of M. M. Rag Apple Oak Denver, a grandson of the 36-lb. cow, Dutchland Colantha Denver (1,315 lbs. butter, 25,431 lbs. milk in a year).

No. 1—Born Oct. 7, '19. Dam's record 16.04 lbs. as a heifer; second dam 24.79 lbs.; third dam 28.88 lbs. Bull mostly white, very good individual. Price $250.

No. 2—Born Nov. 5, '19. Dam's record 19.75 lbs.; second dam 18.75 lbs.; third dam 21.45 lbs. Half white. A show bull. Price $200.

For complete information and pedigree write

A. M. Anderson, Whitewater, Wis.

5-10 WELL BRED HEIFERS

SEVERAL GOOD YOUNG BULLS

are what we are offering just now. The heifers are registered two-year-olds, bred to freshen this fall. The bulls, old enough for service, are from A. R. O. dams and by Sir Ormsby Homestead Butter Boy, a 35-lb. bull. One is by a 42-lb. grandson of S. P. O. M. Come and see them.

ANDREW FRANK, FOX LAKE, WIS.

Auction Sale Feb. 18th

26 head registered Holstein cows and calves. Also some grades. Tuberculin tested Jan. 18th.

WILL MILLER, ½-mile east of Koshkonong Station, Wisconsin, or G. H. POUNDER, Fort Atkinson, Wis.

ORMSBY BULL - Born Feb. 28, 1919

Sire, King Ormsby Pontiac De Nijlander, whose two nearest dams average over 30 lbs.

Dam, Aaltje Hengerveld Tritomia Segis. A. R. O. 17 lbs. at 3 yrs., next dam 29.68 in 7 days. Color light, fine individual. Ready for service. Price $300.

Fairview Stock Farm Whitewater, Wis., W. G. Marshall, Prop.

WAUPACA COUNTY HOLSTEINS

The Home of Healthy Holsteins

More Federal Accredited Herds than any other County in Wisconsin

200 Grades and Pure-breds ready for immediate shipment

WAUPACA COUNTY HOLSTEIN-FRIESIAN BREEDERS' ASSOCIATION, A. B. Rowe, Secretary, Waupaca, Wis.

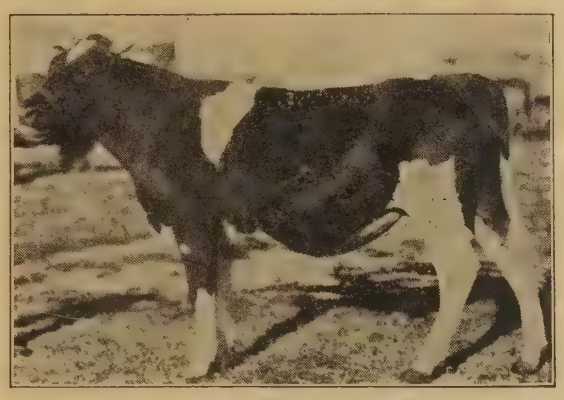
Minnesota Holstein Breeders' Association

Be sure that you buy Minnesota Holsteins from state association members. They are responsible. For list of members and other information address

THE SECRETARY, 406 MARKET BANK BUILDING, MINNEAPOLIS, MINN.

This Splendid Son of Sir P. O. M. 41st

For Sale—Ready For Service



Born January 22, 1920

He is an outstanding individual, straight as a line and of unusual quality

HIS SIRE

Sir Pietertje Ormsby Mercedes 41st is destined to become one of the world's greatest sires. His sire is known as "The World's Greatest Sire of Show Ring Winners and Yearly Producers." His dam is the only 1,000-lb. cow in the world having three daughters above 1,000 lbs. or six averaging 995 lbs. No sire in the world equals him in point of proven transmitting ability in both sire and dam—and "41st" is proving it by handing it down to his offspring. The greatest show cow out this past year was one of his daughters. His first daughter to complete a yearly record is finishing with over 1,100 lbs. as a junior four-year-old.

HIS DAM

Edenvale Bessie Homestead, a grand individual with a record of 28.75 lbs. butter and 622.3 lbs. milk. Her dam is a three-fourths sister to Jessie Fobes Bessie Homestead, former world's champion 4-year-old with 34.96 lbs. in 7 days. Her sire is by the noted show bull, Sir Beets Cornucopia Netherland and from a 29-lb. cow. Mooie Mutual De Kol, Homestead Junior De Kol and De Kol 2d's Paul De Kol No. 2—all close up in the pedigree.

Send for pedigree and further information

E. C. Schroeder Farms, Moorhead, Minn.

(Herd under Federal Supervision)

Minnesota Holsteins



Miss Korndyke Akkrummer Ormsoy 30-lb. 4-year-old. 39.67 lbs. butter at full age. Owned and developed by J. B. Irwin.

For Your Next Herd Sire

get a son of Sir Ormsby Banostine Champion, son of Duchess Skylark Ormsby, world record cow. We have some good ones for sale from dams with good 7-day and year records.

Woodlake & Clover Farms,
John B. Irwin, Station F,
Minneapolis, Minnesota.
"The Home o the Ormsbys."

THE LASHBROOK HERD



ELMWOOD MARIE NETHERLAND

Offers A High-Class Bull

Ten months old, sired by SIR WALKER SEGIS HOMESTEAD, a son of "PIEBE" and "Beauty Beets Walker Segis" world's greatest heifer, with two yearly records over 25,000 lbs. milk and 1,000 lbs. butter.

Dam, an 18-lb. junior two-year-old heifer, of rich A. R. O. breeding. Soon to freshen as senior two-year-old and go on yearly test. Will double value of bull in short time. He is evenly marked, a good, typy bull and a bargain for $500.

Send for pedigree and photo.

A. J. Lashbrook, Northfield, Minn.
Federal Accredited Herd



Lola Segis Pontiac Homestead

the highest record bull in southern Minnesota, heads our herd. His sire, Piebe Laura Ollie Homestead King, has more daughters that as 2-yr.-olds have produced 20,000 lbs. milk in a year than any other. His dam, a 34-lb. 4-year-old daughter of King Segis Pontiac Count, has 3 records averaging 33 lbs. and has made over 1,000 lbs. in 1 year. We have a few serviceable bulls and younger from A. R. O. dams for sale.

Clover Lea Farm, W. W. Walker, Owner. Austin, Minnesota

Grandsons of "Count" and "Piebe"

I have just purchased from the University of Nebraska, which owns the highest record son of PIEBE from BEAUTY GIRL PONTIAC SEGIS, the World's Record Daughter of COUNT,

Eight Young Bulls

from six to eighteen months old, all from good A. R. O. dams. Individuality faultless. Beautifully marked.

Most Popular Combination of Breeding of the Day
They Won't Last Long **Write Me At Once For Prices**

J. M. HACKNEY

ARDEN FARMS, 602 Merchants Bank Bldg., St. Paul, Minn.

Bull Calves of Ormsby Breeding

from A. R. O. dams for sale, 2 to 8 months old. Prices $200 to $1,000. We can also offer several good, typy cows bred to a good Ormsby bull. Write or come and see us.

MINERAL SPRINGS STOCK FARM, - - SAVAGE, MINNESOTA
Stuart—McIntyre—Hansen, Owners.
Address correspondence to Axel Hansen, formerly with John B. Irwin.

Proven Sire for $225

4 years of age. Two nearest dams average 931 lbs. butter. We are closing out all grades, 8 head. Three yearly cow testing association records. Herd averaged over 300 lbs. fat yearly for 3 years. Will sell one or all. Also baby bulls.

Federal Accredited Herd.
B. A. Norris, Anoka, Minn.

Grandsons of Sir Pietertje Ormsby Mercedes

The sire is Sir Pietertje Ormsby Mercedes 22d, a son of Minnesota's first 1000-lb. cow. These bulls are all nicely marked, straight top lines. Very good individuals from good A. R. O. dams.
For pedigrees and prices, write
O. J. GROVER, - GLYNDON, MINN.

Grandsons of
Duchess Skylark Ormsby and of S. P. O. M. 38th.

for sale. These youngsters are from A. R. O. dams that are now making good yearly records. Write today for further information.

POPLAR HOLLOW STOCK FARM,
Bertram D. Scott, Prop., Richfield Station
Minneapolis, Minn.

Bull Calf

advertised last week is sold. Here is another good one ready for light service. Sired by a 30-lb. bull. Dam a 14-lb. 2-year-old who will be tested again next spring. Priced so reasonable that you can't afford to be without him. $150.00 for immediate sale.

V. R. Holmes, Anoka, Minn.

6 Good Cows For Sale

THE MINNESOTA KIND

They are all by a 36-lb. sire, are bred to a son of King Korndyke Colantha Ormsby, and are due to freshen this fall and winter. They are from 3 to 5 years old and absolutely straight and right. Lack o[illegible]s us to sell.
Write or come and see them.

E. J. Broslous, - Stillwater, Minn.

We Have a Bull

A year old and nearly all white. He is sired by a 1,000-lb. son of Sir Korndyke Bess. His dam made 28 lbs. in 7 days at 11 years and completed the largest 305-day record ever made by a cow of her age. He is for sale.

Flecks Farm, Faribault, Minn.

MONEY

Is Hard to Get. So Are the Right Kind of Bulls!
We have both. Don't go without the bull you need just because money is tight. LET US HELP YOU. We also have a few females. WRITE FOR OUR BARGAIN LIST AND PAYMENT PLAN. Every milking animal in our herd has an official record. We need the barn room. Take advantage of this opportunity. SATISFACTION GUARANTEED.

GRAHAMHOLM FARMS, Holstein-Friesians
Federally Accredited.
H. R. Searles, Mgr., Rochester, Minn.

COME TO BISCAY

for your next purchase of pure-bred or grade Holstein cattle, mature or young stock. Large selection, also a few select male calves to offer. Located near station
BISCAY SALES CO., - BISCAY, MINN.

Mankato Holstein Farms

Offer a Son of
King Colantha Ormsby Bess, A Sir Pietertje Bess Burke combination. Nine dams average over 1,000 lbs.
Dam is going at better than 800 lbs. butter for the year. Has over 25 lbs. butter in 7 days.
This calf was Grand Champion over all bulls at a Southern Minnesota district fair.
Several bulls at prices warranting their use in grade herds.
Write or better still come and see them
(A Federal Accredited Herd)
Marlow & Randall, Mankato, Minn.

RICHLY BRED
HOLSTEIN BULL CALVES

out of A. R. dams and sired by our two richly bred herd sires — **King Piebe Ormsby Mercedes,** a 35-lb. son of Sir Korndyke Bess and every dam in pedigree over 22 lbs. and **King Pietertje Mercedes Ormsby,** a son of Sir Pietertje Ormsby Mercedes and out of a 19-lb. senior two-year-old dam.
Herd tuberculin tested. Write for information or visit herd.

P. FROST SPAULDING FARM CO.
C. L. Spaulding, Mgr., Warren, Minn.

Sir Korndyke Ormsby De Kol 15th—21 Months Old

His sire is a son of Sir Korndyke Hengerveld De Kol; 51 A. R. O. daughters, one of whom has a 7-day record of 39.56 lbs. and several above 1000 lbs.
His dam has a record of 23.778 lbs. and now on yearly test.

Geo. H. Elwell, - Minneapolis, Minn.

Lake Shore Farm

Offers May 22nd, 1920, bull calf. 795 lbs. butter over 20,000 lbs. milk is his dam's yearly record. King Segis breeding, light color. Price for January $250.

E. J. OPPLIGER, Box 20, Forest Lake, Minn.

Edinboro Lake Farm

Show Type HOLSTEINS Production

Six state yearly record champions 1918-19.

We offer bull calves by Sir Paul Veeman Hengerveld and Sir Ormsby Skylark Fredericka, out of yearly record dams with type.

Edinboro, Pa.

ORIGIN FARM

HORNLESS HOLSTEINS, Registered and A. R. O. Animals, all ages, for sale. Federally Tested.

GEO. E. STEVENSON, Scranton, Penna.

4 Holstein Bulls for Sale

All by King Segis Pontiac Cor-Will, 190512, whose sire is King Segis Pontiac, 44444, and whose dam is an A. R. O. daughter of Pontiac Korndyke. Also two fine young registered cows, one a granddaughter of Pontiac Korndyke. **Wm. N. Osborn, Wanatah, Ind.**



...ing a mechanical milker, father had to be convinced by actual results. For thirty-five years he had bred and developed the black ... until our herd was among the best in this section. But the Perfection Way won every cow from the start." —LEE M. BRAY.

Why Milk By Hand?

ARE you milking by the old hand method? If you are we want you to visit a Perfection owner and see his Perfection milk. Better than that, try one on your own farm. After seeing the Perfection in action you'll give up hand milking.

Notice the remarkable saving in time and work. One man and a Perfection replaces three hand milkers. This means enough saving in wages of hired help to pay for a Perfection in less than a year.

Watch how your cows take to the action of the Perfection teat cup. Put your finger in the teat cup and feel that gentle suction followed by a downward squeeze and then a period of rest.

That action explains why thousands of dairy farmers have given up hand milking for the Perfection. It's a perfect copy of the calf's milking.

Owners say that the Perfection wins their cows from the start. They say their cows give more milk to its uniform action.

How You Can See the Perfection

Write and we will send the names and addresses of Perfection owners near you. At the same time we will send you a free copy of "What the Dairyman Wants to Know." Why Milk By Hand? Cows prefer Perfection.

Perfection Manufacturing Company

442 S. Clinton St.
Syracuse, New York

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PERFECTION MILKER

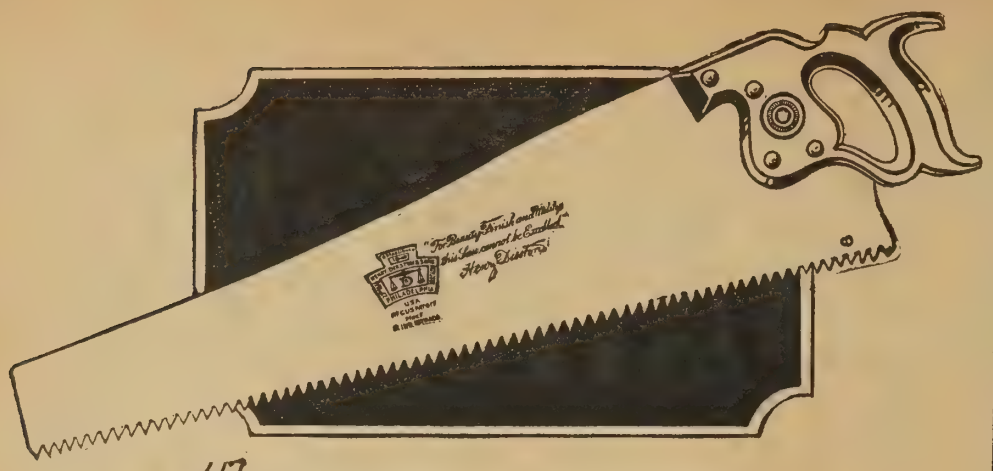
SC Dairy 31
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Urbana Ill.

HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING



Fort Atkinson, Wisconsin Volume LXI, No. 5 February 18, 1921





"It takes seven years to make a good saw-maker"

And more than eighty years have made the present quality of Disston Saws.

There is something more in Disston Saws than their ability to make fast, clean cuts; to stay sharp and set a reasonable time; and the fact that they cost a fair price and last for many years.

It is a *character* or personality that makes men write letters to us which reveal real affection for their Disston Saws. This character is difficult to express in words, but every workman who uses Disston Saws—every lover of good tools—knows what we mean. It is similar to honesty and friendship in men.

Disston workmanship and Disston-Made Steel—the qualities of both resulting from generations of experience—produce "the saw most carpenters use" and every saw, tool, and file in the Disston list.

HENRY DISSTON & SONS, INC.
Philadelphia, U. S. A.

A List of What Disston Makes

And in these Saws, Tools and Files is that quality found in

"The Saw Most Carpenters Use"

Back Saws
Band Saws for Wood and Metal
Bevels



Buck Saws
Butcher Saws and Blades
Circular Saws for Wood, Metal, and Slate
Compass Saws
Cross-cut Saws and Tools
Cylinder Saws



Drag Saw Blades
Files and Rasps
Grooving Saws
Gauges—Carpenters' Marking, etc.
Hack Saw Blades
Hack Saw Frames
Hand, Panel, and Rip Saws
Hedge Shears



Ice Saws
Inserted Tooth Circular Saws
Keyhole Saws
Kitchen Saws
Knives—Cane, Corn, Hedge
Knives—Circular—for Cork, Cloth, Leather, Paper, etc.
Knives—Machine
Levels—Carpenters' and Masons'
Machetes
Mandrels



Milling Saws for Metal
Mitre-box Saws
Mitre Rods
One-man Cross-cut Saws
Plumbs and Levels
Plumbers' Saws
Pruning Saws
Re-saws
Saw Clamps and Filing Guides



Saw Gummers
Saw-sets
Saw Screws
Screw Drivers
Screw-slotting Saws
Segment Saws
Shingle Saws
Slate Saws—Circular
Squares—Try and Mitre

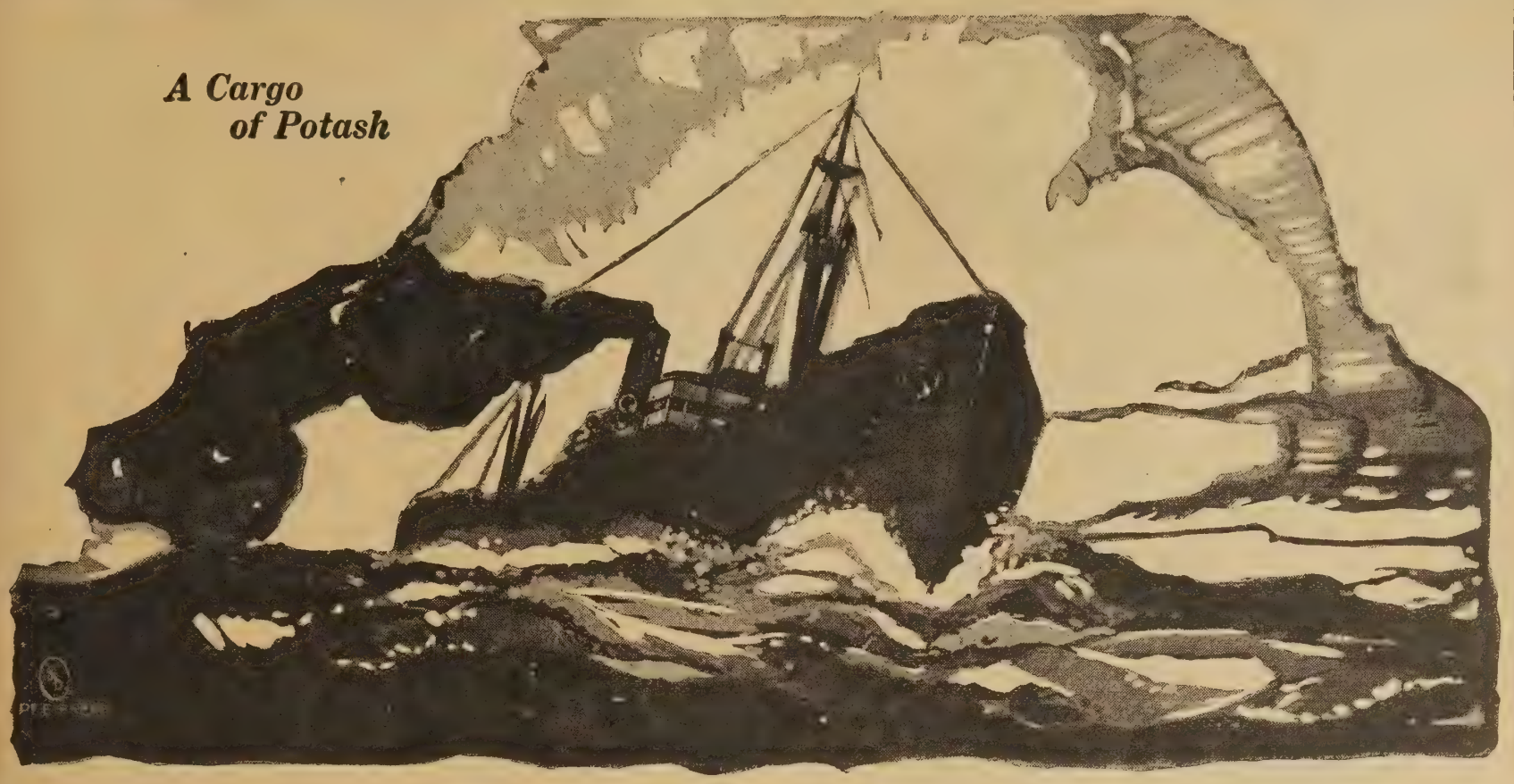


Stave Saws
Sugar Beet Knives
Swages
Tools for Repairing Saws
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Trowels—Brick, Plastering, Pointing, etc.
Veneering Saws
Webs—Turning and Felloe

This is a partial list. There are thousands of items in the complete Disston line.

DISSTON

SAWS TOOLS FILES



Action or Reaction

A private soldier, mustered out at the close of the Civil War, became in turn a farm hand, a tenant, a farmer of his own land, a recognized authority on farm management and farm markets, and finally Governor of a great state in the Central West.

He followed always one fixed principle. He held that the time to expand activities in any direction was when others were beginning to reduce or abandon their interest in that line. He began when others quit.

As long as he lived he put his theory to the test on his own farms and his remarkable success proved its correctness.

Today many farmers are uneasy and are said to be considering giving up the use of commercial fertilizers.

For five years conditions beyond their control have brought about high fertilizer prices and made it necessary to accept fertilizers radically different in composition from those formerly in use.

Is the solution of the trouble to be found in giving up the use of things that have proved profitable in the past or in a careful consideration of the question of the purchase of fertilizers that will be as good as, or better than those formerly used?

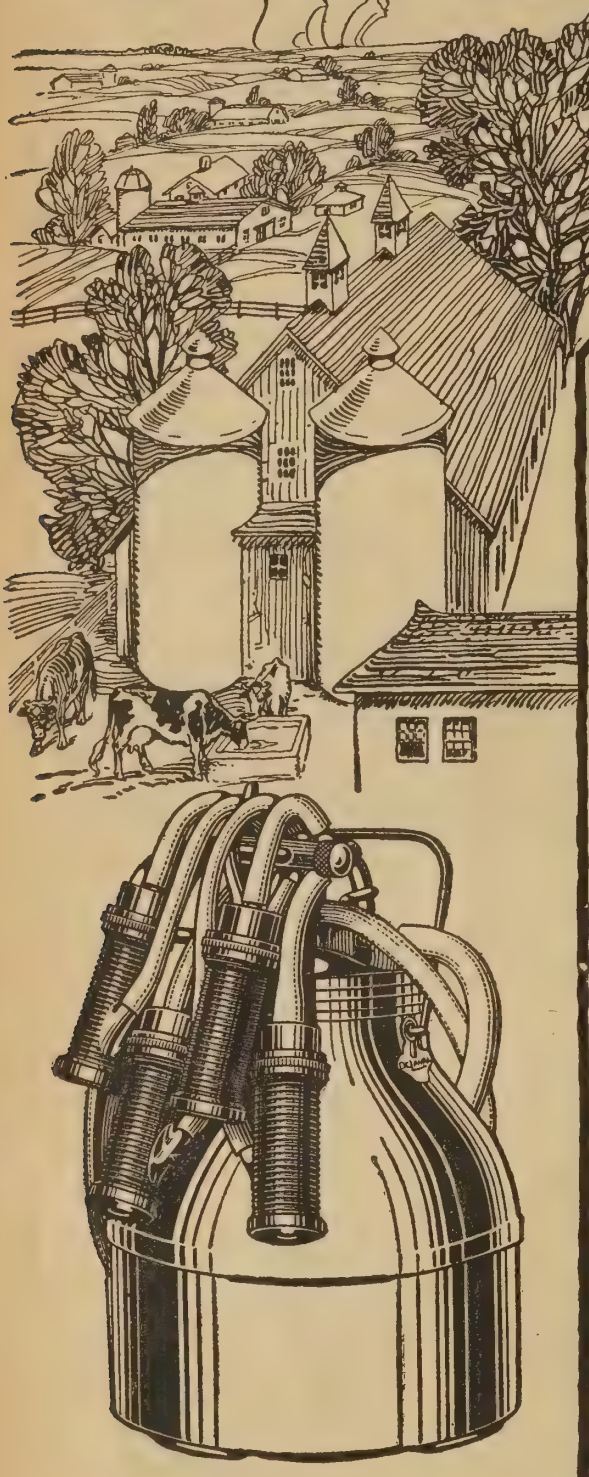
There has been a period of *Potash Starvation.* Now all fertilizer materials are obtainable. Fertilizers high in Potash, 5 to 10 per cent, can be made and if you will insist on buying them you will find that

Potash Pays

—just as it did before.

SOIL AND CROP SERVICE, POTASH SYNDICATE
H. A. HUSTON, Manager
42 Broadway **New York City**

A Better Way of Milking



The De Laval Milker

THE FUTURE of the dairy business is dependent on a better way of milking. Think of the loss in time and loss in production of milking the twenty-five million cows of the United States and Canada twice a day by hand. No other industry of equal importance is laboring under such a handicap, and every year it is becoming increasingly difficult to secure good hand milkers.

The De Laval Milker is the greatest aid to one of the nation's greatest industries. It is a better way of milking. Better because it saves time. Better because it milks the cows with absolute uniformity from day to day, which De Laval users claim actually increases the flow of milk even over good hand milking. Better because it is easy to keep clean. Better because it is built to De Laval standards. And better because it is backed by De Laval service.

The De Laval Milker is ready to serve and save for you now—write for full information

The De Laval Separator Company

NEW YORK	CHICAGO	SAN FRANCISCO
165 Broadway	29 E. Madison Street	61 Beale Street



Sooner or later you will use a De Laval Milker or Cream Separator

HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING

Volume LXI • FORT ATKINSON, WIS., FEBRUARY 18, 1921 • Number 5

THE FATS FIGHT

Farmers Must Foot the Bill

HOWARD JONES, WISCONSIN

VEGETABLE fats are making a deadly attack on butterfat. What the vegetable fats have already done to the price of butterfat is a mere curtain raiser, unless—but that is getting ahead of the story.

During the war and since, fats from the Orient and the Tropics have been dumped into the United States. However, the slaughter of European dairy cattle and the strong demand for condensed milk and cheese for export kept up the price of butterfat for the time being, so that we dairy farmers did not sense what was going on right under our very noses. But now Europe is dead broke and cannot buy even at a low price. So we are largely shut up to the home market and, alas, we find that the vegetable fats are strongly entrenched here. Condenseries have shut down, butter and cheese have hit the toboggan. Worse yet—the use of butter substitutes has become eminently respectable, for during the war the use of "substitutes" of all sorts was preached as a patriotic duty. A prosperous man who would be ashamed to be caught wearing a paper collar, or brass jewelry, or any other sham, was proud of having counterfeit butter on his table, for was he not "beating the high cost of living and helping win the war?"

Vegetable Fat Dealers Make Hay

Vegetable fat dealers seized this chance to make hay while the sun shone and put on a tremendous advertising campaign, pushing many margarines, lard substitutes, and cooking and salad oils. We farmers "fell for it". With the wisdom of ostriches, we ate our competitor's goods, ham-stringing our own market. If ever there was a case of "sawing off the limb one was roosting on", we dairymen did it. One would have to hunt with a fine tooth comb, even in Wisconsin, queen among the dairy states, for a country general store that does not keep butter and lard substitutes for sale to farmers. Today there is as much substitute lard eaten (cottonseed oil, cocoanut oil, soy bean oil, etc.) as real lard, and one quarter as much substitute butter eaten as real butter. Don't forget the cheaper fat makes the price.

Germany for Vegetable Fats

Before the war Germany took the lead in the vegetable fats trade. German ships scoured the Orient and the Tropics for cheap fats. German chemists led in utilizing them for cheap food, but the war drove German ships off the sea. Our Pacific ports were just the place to lump these oriental vegetable fats. Importations increased greatly. Industrial chemists, in the employ of packers, makers of soaps, toilet supplies, paints, varnishes, etc., are always looking for new sources of fat, and are perfecting the processes of extraction, the best grades of oil selling for food. For example, only a few years ago cotton seed was a worthless by-product. In 1919 we used in the United States 1,302,196,000 pounds. Our good pal, "Old Bossie", must look out for her job. Just now peanuts are trumps, for a ton yields 600 pounds of oil, to say nothing of 1,200 pounds of oil cake. Let us fight squarely; peanut oil and peanut butter are good wholesome foods, we admit it, but we can prove conclusively that butterfat is a heap better.

Every slice of bread and every biscuit buttered with a vegetable fat will not be buttered with real butter. Thus the very ground is being cut from under our feet. Possibly when we dairymen tumble into the hole the vegetable fat crowd is digging for us with a steam shovel working over time, we will take another "tumble", to the fact that a vast advertising campaign is on, costing millions, to break down the age-long custom of eating real butter on our bread and frying our doughnuts in real lard.

Our Friends are Mislead

Aside from the strict vegetarians, who make it a religion to preach against eating animal foods, there are multitudes who really do believe that "pure vegetable oils" are somehow cleaner and more digestible than animal fats. Therefore, in all their cooking they use only oils. This "purity" fake is featured in this advertising campaign by the makers of margarines, soaps, toilet creams, cooking and salad oils, thus indirectly but really slurring butterfat.

Under the plea of patriotism, a masterly campaign was put on during the war, popularizing "substitutes", and speeding up the new discovery, "the same food value at less cost". This changed attitude of mind in the public has been a godsend to our competitors. Is it too late to turn the tide? Are we already too "groggy" to sense who it is that is hammering us on the solar plexus for the final "knockout"? No! It is not too late. Science is on our side. Common sense, based on experience old as the human race, knows that milk and its products are the very best foods for these supremely important things, namely, growth and health. Very recently science has further analyzed milk, and found and named those growth elements, calling them vitamines. Furthermore, science has shown that while vegetable fats are wholesome food, they do not contain vitamines, the elements so essential to growth in the young and the restoration of adults who are run down in health. Many feeding experiments on rats, pups, guinea pigs, yes, on children also, have proven conclusively that the vegetable fats fail miserably in comparison with milk and its products, the God-given food of all young mammals (sucking animals). That is our case in a nutshell.

We have the goods. We can win. "Old stuff", you say? Yes, it is old stuff to about one in a hundred of the general public, but get these facts thoroughly rubbed into the subconsciousness of the mothers of this country and they will feed their families on milk and milk products regardless of a little extra cost. Our boys, shot to pieces in the war, grew new tissue and healed up their wounds faster on a milk diet than on any other foods or medicines known. Milk is medicine as well as food. Here again we can trump all the exploiters of vegetable fats. Milk is the only perfect food.

Money Makes the Mare Go

"Not the best but the cheapest fat will win," says some one. Grant that and the dairyman might as well quit first as last. Vegetable fats are cheap and are growing relatively cheaper all the time. Cheap lands and cheap labor, the world over, can produce them. They grow wild in the tropics. The shrewdest dealers with plenty of capital are after "the fat of the land". In the last issue of one of the leading magazines appears a full page ad, in beautiful colors, of a butter and lard substitute used in cooking. That ad for that single insertion costs just about $10,000; if it had been in black instead of colors, it would have cost only $7,500. Some millions of eyes will see that ad. The substitute in question is put out by a large southern corporation. It is made of cottonseed oil. Cottonseed oil has fallen from 28 cents to 12½ cents lately. Butterfat at 40 or even 30 cents is going to have hard sledding against that kind of competition. In the same magazine, one of the Chicago packers has a full page ad in colors (cost from $9,000 to $10,000) booming his oleomargarine, assuring the uninstructed public that his substitute is "Supreme on pancakes", "Equally good in cooking and baking",



FARMSTEAD OF A. SHERRARD, MICHIGAN

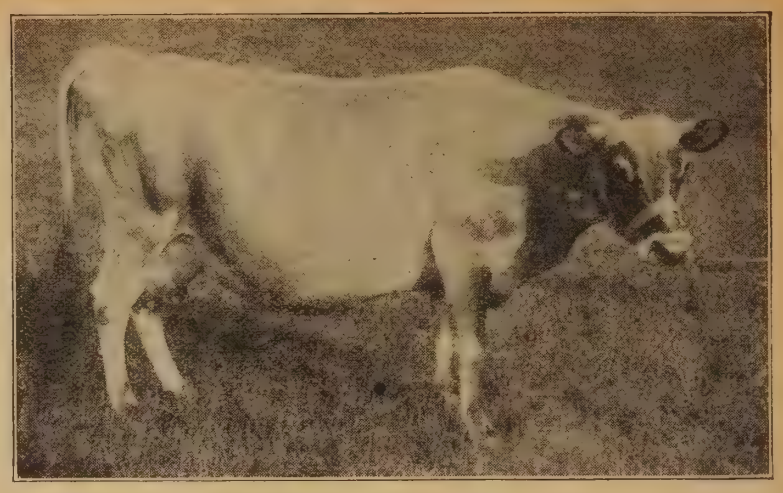
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From Milk Route Driver to Farm Owner

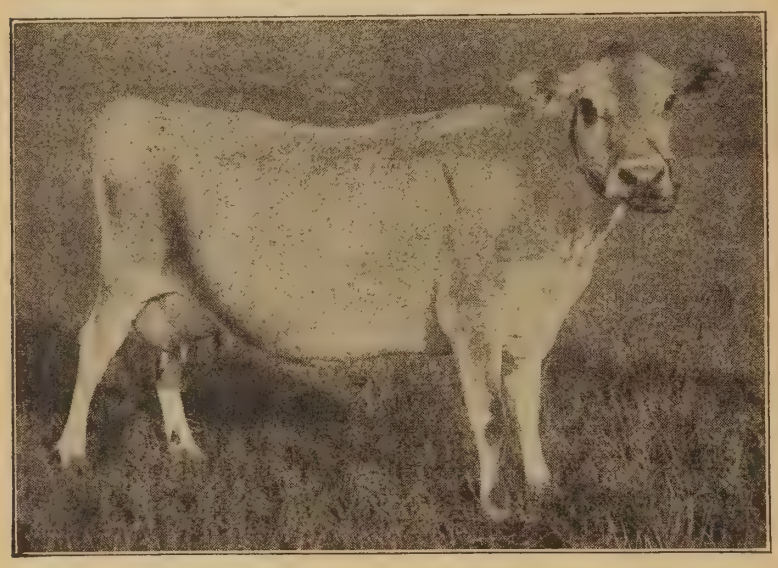
H. E. BREMER, VERMONT

GEORGE E. Griggs owns one of the highest producing herds in Vermont testing associations. In 1920, his Jerseys averaged 396.9 lbs. fat. Mr. Griggs began as a driver on a milk route. Here he learned the essentials of distribution and marketing. During spare hours he worked on the farm and later became the manager. His fancy for good cattle led the owner to purchase four pure-bred Jersey calves. After developing and keeping records on these for eight years he decided it would be wiser to cash rent the farm and reap the fruits of his own managerial ability. Moreover, by so doing, he would get the gain on live stock inventory which he figured would be no small item in a few years.

In 1913 he, therefore, rented the farm. In three years he took seven cows as his increase and purchased the farm on which he now lives. The first year or two crops were discouraging and the dairy did not come up to his standard. Probably the main reason was that the land was not in shape to grow the right kind of roughages, the fences and buildings needed repairs, and the soil lacked plant food. These shortcomings he remedied one by one. A four-year rotation has been practiced. Corn, oats, and hay two years seemed most desirable. The superiority of clover over common roughages was well known to him. Hence, the seed mixture has been about as follows: Twelve pounds red clover, 3 lbs. alsike, and 1 peck timothy.



LADY EDOLA, DAM OF BUTTERCUP, OWNED BY GEO. E. GRIGGS, VERMONT



BUTTERCUP, 3-YEAR-OLD JERSEY, THE SECOND HIGHEST PRODUCER IN VERMONT COW TESTING ASSOCIATIONS
OWNED BY GEO. E. GRIGGS, VERMONT

All the meadow land is now top-dressed in the fall with about ten loads of manure to the acre. To retain all the flavor and quality, the hay is cut in June and cured in the cock. An early maturing variety of corn silage is grown. With such roughages the grain needed for winter becomes a less important factor than with most farmers. However, during the winter months grain is fed at the rate of one pound to every 2½ to 3 pounds of milk produced. Some grain is fed during the summer months and dry cows never go without a liberal feeding. It is the belief of the owner that graining the cows when dry is the time when it does the most good. Heifers are bred to freshen as two-year-olds and not under that age. The cows are allowed to stand dry six weeks on the average. They are cared for and milked regularly, watered not less than twice a day, and have the chill taken off the water in winter by using a tank heater. Each animal is groomed thoroughly every day during the stable months.

The records and the cows speak for themselves. In competition with approximately 5,000 cows in 191 different herds in Vermont, this herd took first honors for production for the year ending July, 1920. Mr. Griggs believes in keeping records in testing associations. The Rutland County Association ended the year with 633 cows on test, averaging 5,041 lbs. milk, 213.9 lbs. of butterfat, and an income over feed cost of $70.93.

The thirteen registered Jerseys in the Griggs herd, two of which were two-year-olds and three three-year-olds, averaged 7,505 lbs. of milk, 396.9 lbs. of butterfat, and an income over feed cost of $164.32 per cow. They received on the average 1,920 lbs. of early cut hay, 6,472 lbs. of well matured corn silage, and 3,053 lbs. of a well balanced grain ration. The total feed cost per cow, including pasture, was $182.38 for the year.

A Movie in the Making

DOROTHEA MC DOWELL, WASHINGTON, D. C.

SOMEONE has said that movie acting is all bluff. It isn't. I know it isn't, not because I am a movie star—I am not even a movie actress—but I have just seen a movie in the making and I can assure you that those who act their parts well not only act, they live the parts.

The movie I saw in the making was planned, prepared, and acted out by the Bureau of Animal Industry of the United States Department of Agriculture. As nearly all the actors and actresses are employees of the Department of Agriculture, it seems best to refer to them by using their stage names. The principal characters are farmer Benton, Mrs. Benton, their 15-year-old daughter, Mary, and little Baby Benton. The Bentons live on a large, rich farm. The purpose of this story is to show that all dairy cattle should be tested for tuberculosis and that, when this is neglected, great financial loss and even sickness and death may result.

Mr. Benton is a prosperous farmer. He lives in a fine farm house, has good barns and silos, uses up-to-date farm machinery, owns many work horses, employs several hired men, and he is proud of his fine looking herd of registered Jerseys. In building up the herd of Jerseys, he has selected high producing dairy cows and bred them to first class dairy sires. The cattle have always been well fed and well cared for in every way. In building up the herd, Mr. Benton has been careful in every respect except one, he has not tested the animals for tuberculosis.

A chain is no longer than its weakest link. The error of failing to test for tuberculosis proved to be a fatal one. Mr. Benton sells some of his hogs. Much of the meat is condemned on account of tuberculosis. A few of the chickens die and it is discovered that they died of tuberculosis. Finally skilled veterinarians test the cattle for tuberculosis and condemn 39 out of a herd of 57. Mary Benton has been sickly for some time. The doctor is called and he diagnoses her case as tuberculosis.

When Mr. and Mrs. Benton lose a large part of the hog money on account of tuberculosis, they are disappointed; when their cattle are condemned, they are quite discouraged; but when the doctor announces that Mary has tuberculosis, the parents are heart broken.

On the doctor's advice Mary is sent to a tuberculosis sanitarium where she stays for three long years. Her return home after she is completely cured is a joyful occasion. When she reaches the corner of the yard, she jumps from the auto and waving her hat to her father, mother, and little brother, she runs all the way to the front porch. Here she is welcomed with open arms and her mother cries from very joy.

After the greetings are over, Mary goes with her father and little brother to see the chickens, the hogs, the calves, and the cows. Her father presents her with a beautiful yearling heifer. Proudly he shows Mary the fine new tuberculosis-free accredited herd of Jersey cows and joyfully he announces that Mary may now have all the pure, fresh, wholesome Jersey milk she wants, and that she may drink it freely and without danger as the herd has been carefully tested and pronounced free from tuberculosis.

There are a few amusing and many impressive scenes in the play. While the hogs are being loaded for market, they are as contrary as hogs usually are. About the time of Mary's return Baby Benton feeds a calf, the little boy gets scared and runs and the calf chases him. The scene where Mary says farewell to her Betsey cow is very touching. Mary puts her arms around the cow's neck and weeps. She knows her cow has been condemned for tuberculosis, but Mary does not know that she herself is afflicted with the disease. One of the saddest scenes is where the doctor tells Mr. and Mrs. Benton that their daughter has tuberculosis and that she probably caught it from the cows. Baby Benton is cute and when he appears in the later scenes he plays around the farm house and is happy.

To me the acting out of the various scenes was very interesting and inspiring. It is one of the first plays of its kind to be produced by the Department of Agriculture, but it will probably be followed by many more in rapid succession. The director is a master hand, the actors did their work well, and the man in charge of the movie camera is an artist in his line. Layman though I be, I predict a quick and far reaching success for the new series of pictures of which this is among the first. In this play, at least, the movie film drives the lesson home. It teaches that a farmer may be emi-

(Continued on page 204)



THE FARM WHERE THE MOVIE WAS MADE

MILK IN AN ARKANSAS SCHOOL

R. L. FOSTER, ARKANSAS

DOES good milk make happy, healthy, and mentally wide awake boys and girls? This picture of a group of pupils of the school at McGehee, Arkansas, seems to prove that it does. These happy faces are not there merely because the photographer came around to take their picture. It has been proved that milk in the ration of the school boy and girl helps them to do better work, makes them more cheerful, helps them to get more fun out of their play, and, last but not least, makes their grades in deportment at the end of the month rank higher. Of course there is an added attraction in drinking milk through a straw from bright shiny glasses, but it is a universal fact that where boys and girls have the chance to drink milk they like it.

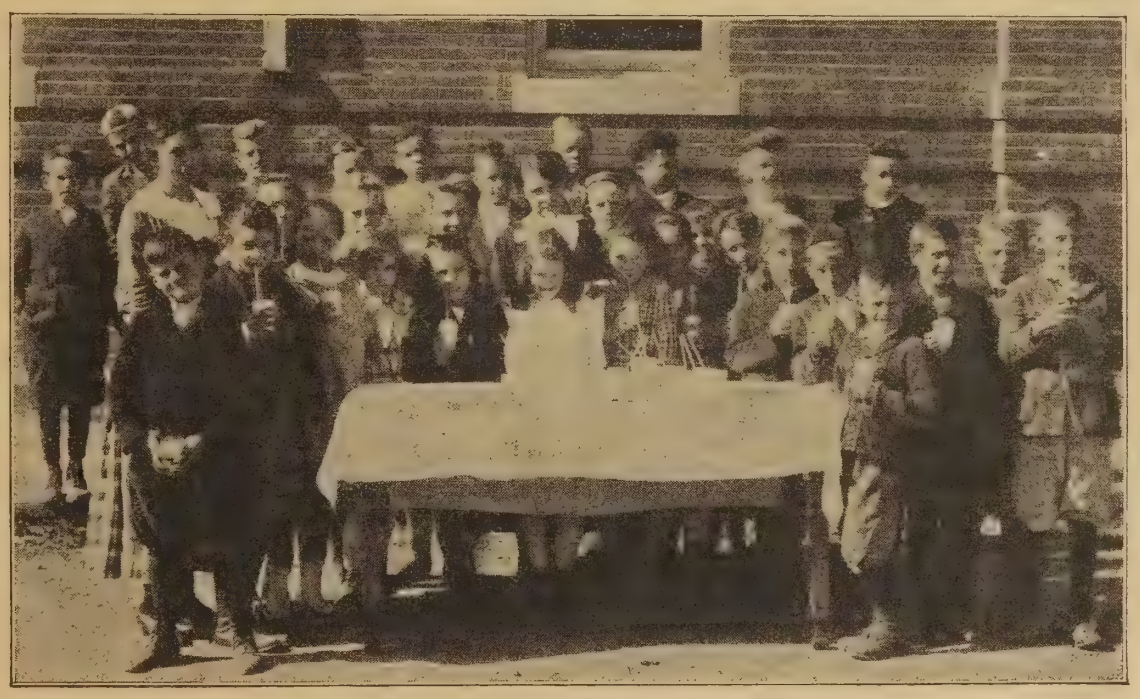
The school at McGehee has the distinction of being the first school in Arkansas where a demonstration in feeding milk to school children has been carried out. Miss Mabel K. Stayton, home demonstration agent for Desha County, in visiting the schools noticed that some of the children showed signs of malnutrition, so she enlisted the aid of her live home demonstration club in McGehee. Mrs. Homer Corley, an enthusiastic club worker, gave them some facts that Dr. E. V. McCollum has worked out in 16 years of experimental work at the University of Wisconsin on food and its relation to the growing body. Dr. McCollum found that there are certain elements which are absolutely essential for proper growth. All foods do not contain these elements, and milk is the only one that contains them in sufficient quantities to sustain proper and vigorous growth. At the conclusion of his investigation, Dr. McCollum makes this sweeping statement: "The civilization of a nation depends upon the amount of milk and butter which that nation uses." So, to paraphrase the old saying that "Civilization follows the plow", we might better say that "Civilization follows the cow".

At a meeting of the home demonstration club, a committee was appointed to confer with W. H. Woodley, dairy specialist of the Agricultural Extension Division, University of Arkansas, to work out a plan to carry an experiment in feeding milk into the school. In February, 1920, Mr. Woodley visited Desha County and brought inspiration to this definite piece of work. He helped plan the demonstration in serving milk in one of the grades of the public school and gave a lecture on the food value of milk that was a great message. Mrs. G. W. Griffing, president of the demonstration club, and Miss Stayton easily secured financial aid from the business men of McGehee and the work was begun. Mrs. Kirk, teacher in the third grade, was enthusiastically in favor of trying the plan in her room and gave every assistance.

Very few objections were found among the parents of the school children. When one mother said to her little son that she was afraid they would all have to drink out of the same glass he replied, "No'm, they are going to paralyze all the glasses." The boy had the right impression, even if he did have his methods mixed a little. Each boy and girl had an individual glass in which the milk was served. The glass was thoroughly sterilized after being used each time and for further precaution the milk was served with a straw. No objection to drinking through a straw was found. A graham cracker was also served with each glass of milk.

The teacher was furnished with two sets of cards, one to be filled out before the work was begun and the other at the close of the demonstration, so that results could be checked. Under "habits of play" it was found that the children were happier and played more. "Habits of work" were much improved and deportment was better. "General health" was much improved. The children had better expression, were less fidgety, learned more easily, and there was improvement in color, and the old hungry expression was gone.

The principal of the school is much interested in the experiment and says it has been very helpful to the pupils. The people of McGehee are well pleased with the work. L. M. Gary, superintendent of schools in Desha County, with the aid of Mr. Woodley and Miss Stayton, is carrying on the work again this year with increased satisfactory and pleasing results.



LOYAL MILK FANS OF McGEHEE SCHOOL, ARKANSAS

The Human Side of Cow Testing

Horace Evans, Tester for the Plainfield Association, Tells His Former College Roommate How Charley Dean and Philip Overton Were Won Over to Better Methods

Nov. 28.

DEAR Mike:—Were the cow tester, in addition to his other qualifications, an expert psychologist and a trained diplomat, he would find use in the day's work for all his talents. In other words, it is quite as important for him to be able to accomplish his work smoothly and to present a few simple facts tactfully, yet effectively, as to have on tap a vast fund of dairy information.

Occasionally there is a farmer who is constantly on the alert for new bits of information that he can use in his business. This man is the one in a hundred. He does not shy at a technical term or two, and you can usually count on him as a leader in his community. The ninety and nine, however, present a different proposition. Many of these are not particularly interested in finding out new facts about their farming; the old way will do, and if they do accept a new idea it must come in a sugar-coated, easy-to-take form. Others—and this is by far the larger class—have a very real desire to know, but they are in the primary grade so far as scientific knowledge is concerned. Here is the big field for the cow tester's labor, and, to know when to use a liberal coating of sugar and when and how to present an experiment station truth in the language of the first reader, is the final measuring rod of his ability.

There I go again! Perhaps you are getting tired of this flow of cow tester's philosophy but, Mike, if you had been with me the last week-end probably your mind would be running in about the same channels. I tested for Charley Dean Saturday, also spending the greater part of Sunday with him. Charley has been one of the most difficult of the members for me to get to change his methods. Underfeeding is the principal failing of his dairy management. He has some cows of excellent ability, mostly good grades by a good sire, but also several registered animals that have all the breeding and appearances of high-caliber milk-makers. With the right kind of feeding I should expect some new association milk records to be hung up by this herd, but Charley never has given his cows a chance to show what they could do. Since coming to Plainfield I have talked to Charley about balanced rations, concentrates, carbohydrates, protein, and maintenance rations until almost breathless, but all of which, including any conversational attack of last Saturday, proved of no avail.

On Sunday I accompanied the Dean family to the little neighborhood church. The services were scarcely comparable to those which you and I used to attend at the university, yet out of the preacher's very ordinary discourse I obtained an idea. He was discussing the educational methods of the Great Teacher, as he had done probably a hundred times before, explaining that the repeated use of parables was because Christ was dealing with very simple folk who could understand only very simple things.

I suppose that in Sunday School and church I have heard the same thought expressed at least once for every year of my life, but something in the simplicity and timeliness of this rural pastor's talk set me to thinking about it especially. During the remainder of the service and the ride back to the Dean home I wondered whether I, in performing my little part as a missionary of better dairying, did not sometimes talk about things in a manner not wholly clear to men who, though just as intelligent, had not had the particular advantages that two or three years of college had given me. I resolved to give the lesson of the parables a tryout, and I did not have long to wait for an opportunity to do so.

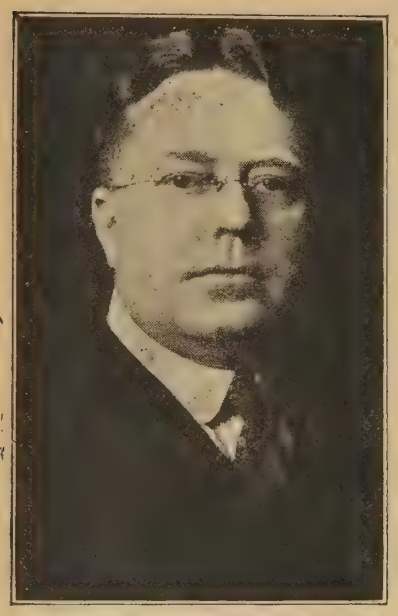
While we were at church the wind switched 'round to the North, reminding us that late November could have its wintry days. It became so cool in the house that a fire was needed, so while Mrs. Dean and her daughter were getting dinner Charley and I moved the heater from its summer resting place in the woodshed into position for its annual engagement with Old Man Winter. As the weather was not severe, Charley started only a light fire, adding but little coal. Though it burned, the heat scarcely warmed the heavy iron walls of the stove, distributing practically no heat to the room. While amiably discussing our fire-building, a happy thought struck me.

"Building a fire," I said innocently, "is a good deal like feeding a cow. You have to give her a good deal of feed just to keep her body warm before she uses any of it to put milk in the pail."

Charley instantly stopped his firing

(Continued on page 200)

Oregon Dairymen's By-Products Corporation



A. D. KATZ

It was under his leadership and organizing ability that the Oregon Dairymen's Co-operative League and Oregon Dairymen's By-Products Corporation were formed. He is a successful business man and bears the enviable reputation of being honest. The farmers have put their faith in him and he has made a splendid fight for them and won.

SOME day we may write a complete history of the Oregon Dairymen's By-Products Corporation, for it will make a story as engrossing and exciting as Dr. Carl Graves' book describing the work of Germany's Secret Service Department. But at this time it is perhaps a bit early to relate all the personal experiences and opposition the organizers met when they were forming this co-operative enterprise, and, furthermore, we do not desire to detract from the description we shall give of the work and purpose of the Oregon Dairymen's By-Products Corporation. It will be sufficient to say that this corporation came into existence because there was a demand for it. There was opposition by the milk distributors and other agencies buying milk in Oregon. The men who had the work of organizing in charge were maligned, misrepresented, and held up to scorn and derision, but they had a worthy purpose and continued their task till it was completed and their enemies defeated. The Oregon Dairymen's By-Products Corporation is a reality; it is organized on a truly co-operative basis; it is conducting its affairs upon a businesslike basis and the milk producers are masters of their own products. It is the best organized co-operative dairymen's by-products corporation that we have studied.

The headquarters of the Oregon Dairymen's By-Products Corporation is Portland. That city's milk supply is distributed by 200 wagons, 62 owned by milk dealers and 128 by producer — distributors, that is, persons who produce their milk and distribute it, and they deliver about 55% of the bottled milk. The milk supply of Portland must come from tuberculosis-free herds or it must be pasteurized. The distributors in November were receiving 14½ cents per quart and the producer—distributors from 16 to 18 cents a quart. The milk varies from 4 to 6 per cent in fat content. The By-Products Corporation retails no milk or other dairy products, but sells milk to distributors, wholesales both bottled and bulk milk to hotels and restaurants, and manufactures so-called surplus milk into butter, cheese, or cream.

It will be immediately observed that the large number of producer—distributors presented a somewhat different problem of handling milk than is found in most cities. It also gave the organizers of the Oregon Co-operative Dairymen's League and the Oregon Dairymen's By-Products Corporation a difficult situation to handle. All the producer—distributors did not join these associations and those that did failed to give them proper support. In fact, they were dead timber, but they needed just what the two organizations would provide. It was through the Oregon Dairymen's Co-operative League and the Oregon Dairymen's By-Products Corporation that they were able to advance the prices of their milk, yet they do not give those who are trying to organize the milk producers proper support.

Like most sections throughout the country, the milk producers made little or no attempt to organize or to co-operate in carrying on their business. Each producer conducted his affairs the best he could and sold his milk to the firm that would give him the best price. This continued till 1917 when the milk producers found themselves in a most unprofitable business and if they were to stay in the business better prices would have to be paid for their product. The milk distributors held they could not pay more, for the producer—distributors would undersell them and take their customers away. In 1917 milk was being sold as low as $1.35 per hundred. Some years before this the milk brought a return to the producers that would not only buy the feed for their cows but also their groceries, but the 1917 price scarcely paid for the feed the cows consumed.

The situation grew so bad that a few of the leading business men of Portland realized that the milk supply was in danger. Among these men were the late W. W. Cotton, attorney for a large railroad and owner of a farm; Alma D. Katz, head of a large life insurance company and also owner of a dairy farm; and W. S. Ladd, banker and breeder of Jersey cattle. Here was a group of business men who realized that to save the dairy industry, to stabilize the price of milk, the milk producers must bind themselves together that their product might be handled and marketed co-operatively. Circumstances brought Mr. Katz the burden of bringing the farmers together and organizing them into a co-operative milk producers' association formed upon the plan of the New York Dairymen's League. This was a beginning, but there followed the demand for another organization which would care for the surplus milk, establish cheeseries, creameries, and a milk plant in Portland for preparing milk for wholesale purposes. In short, a co-operative manufacturing and marketing company.

This co-operative marketing company is formed upon a truly co-operative basis. It is a form of organization which we can commend to all communities desiring to establish a co-operative enterprise. It is a non-profit association, but permitted to issue $502,500 worth of stock of which $500,000 is preferred, bearing 7 per cent interest, and $2,500 is common. There are 250 shares of common with a par value $10.00 per share. The common stock is owned by the Oregon Dairymen's Co-operative League, but single shares of stock are placed in the names of individuals to qualify them as stockholders for the purpose of acting as directors of the corporation. It is provided in the constitution to retire one-fifth of the preferred stock each year beginning December, 1921. A certain percentage is deducted from the products sold to provide funds for retiring the preferred stock as it comes due. We publish on page 180 the constitution and by-laws which give in detail the method of organization and show clearly how the business of the co-operative marketing company is carried on. There will also be found elsewhere the Oregon Dairymen's Co-operative League Marketing Agreement.

Contracts

The milk producers sell their milk to the Oregon Dairymen's Co-operative League and this association hands over the milk to the Oregon Dairymen's By-Products Corporation to be manufactured into butter, cheese, or cream or sold for direct consumption



ALBERT S. HALL

Manager of Oregon Dairymen's By-Products Corporation. Mr Hall's service was not obtained till after the close of the World's War as he was in the service.

or to be marketed. The contract covers a period of five and a half years and provides penalties if a milk producer violates it. It would have been unsafe for the organizers to have proceeded with their work unless the milk producers were willing to tie themselves to a binding contract covering several years. Many a man will make a verbal agreement to sell his product to his own association, but has no hesitancy in selling it to some corporation or person if a little more is offered for it or at some critical period when sticking together would mean success. In order to prevent any such action on the part of any of the milk producers a contract covering five and a half years was drawn, and it has teeth.

This agreement between the milk producers and their own organization gave opportunity for the opponents of the marketing company to point out its penalties, to say it was autocratic, that it was equivalent to signing away the farm, and, depending upon its interpretation, the life of the producer and his family. The producers rallied to their own organization, for their lesson in marketing had been so disastrous that they felt no matter what happened they would be no worse off under a binding contract which forced them to stick together than under the old system of each one for himself and the devil take the hindmost.

The circumstances which followed emphasize the necessity of a contract, at least when organizing upon a large scale and on a truly co-operative basis. The co-operative marketing company began to receive milk on July first, 1920, and on November first not all the milk had been paid for. At the end of each month certificates of indebtedness amounting to 75% of the value of the milk or cream delivered are issued and the other 25% is not paid till all the product of that month is sold and paid for. We shall later explain the pooling system and how it is operated. The fact that full settlement had not been made for July milk on



BUILT BY OREGON DAIRYMEN'S CO-OPERATIVE LEAGUE IN 1919
Now owned by Oregon Dairymen's By-Products Corporation and used for processing milk.

November first caused some of the milk producers to become concerned about getting their balances and a letter was directed to A. D. Katz, president of the marketing company, and A. S. Hall, manager.

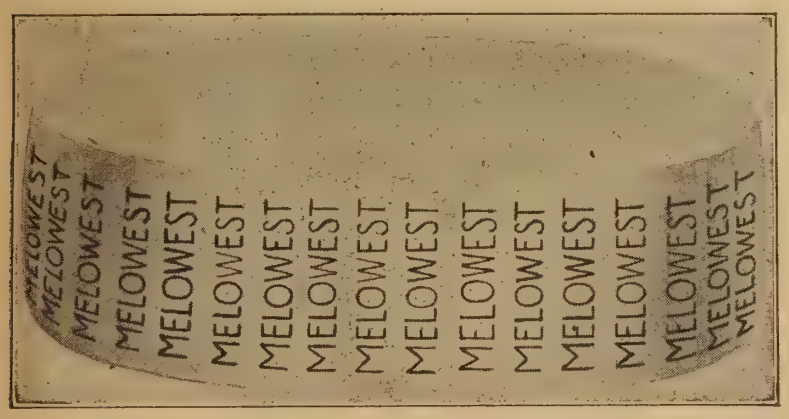
In this letter complaint was made of the slowness in paying for all producers' products, and this suggestion was made: "We are producing daily butter and cheese for which you are receiving money daily. As fast as this money comes in, check it out to the members, have a pay day every ten days, reserving enough to pay necessary expenses and overhead. The returns are in for July, August, and up to September 15th. There is no plausible excuse for not paying for this milk and fat." It should be borne in mind that these producers had been paid about 75% of what was due them. A longer time was required to market and get returns on all products sold for the month of July than these producers could appreciate. The situation caused them to view their own association and officials with concern, and if it had not been for the contract these producers would have sold their milk to another market. This would have brought disaster to their own co-operative marketing company and when it was doing better than private concerns by them. This will be shown by the July cheese account is collected. The closing of other pools will follow.

"You say that we have had your 'entire revenue for our produce since July 1st'. As a matter of fact have you not turned your produce over to your own organization—yourselves?

"Your board of directors has instructed us not to pay any money out to patrons until we collect it, and the by-laws adopted by them are emphatic on that point Your organization by following this plan will never wreck on a financial shortage.

"The pooling system was thoroughly explained to you before you signed, particularly the fact that the product will be sold and the proceeds put into a pool and that each draws out his share of the pooled proceeds. It is beyond human ability to give anyone a definite figure as to what you are going to receive on the product until the money is actually received. If you were selling to someone else besides yourselves, that someone would pay you a fixed price and would pay the balance into his own pocket. You have gone into an organization with the definite intention of putting the money all back into your own pocket, and no one knows how much that is going to be until the last of it has been collected.

"You are members of an organization that is financially sound. It is



Melowest is the brand chosen for the best grades of butter and cream. This illustration indicates how the cheese is branded.

report which we shall publish in connection with this article.

We print a portion of the letter which Mr. Katz wrote to the producers as it explains why the balances for the months of July and August were not paid by November first and how the pooling system operates:

"We believe your records will show you received partial payments for July and August shipments, and all cream shippers have received partial payment for September. These partial payments approximate three-fourths of the pool payment.

"We hope that you clearly understand that no true co-operative organization like ours can announce a price nor make final payment for any product until that product has been sold and the money collected. However, our trade acceptance plan, which we have previously explained to you, enables you to get the money not yet due.

"The milk pools for Coos and Curry counties cannot be closed until final settlement is made for July cheese. July being the first month of operation under the pooling system, we were all inexperienced. Two months ago the accounting department thought the pool could be closed within a few days, and our field representatives reported to the members. Unfortunately the delay in closing up the legal phases of the transfer of some of the plants and the delay in selling some of the July cheese of poor quality, the closing has been impossible.

"You will get your balance of July money just as soon as the last July

founded on the right principle. It has been approved by the State and Federal Bureau of Markets, and by the State Dairy and Food Commissioner. Its success is limited only by the ability of its members to work together and by the quality of the product they produce.

"Thousands of dollars have been spent by the enemies of co-operative marketing in an attempt to disrupt it. Their reasons are apparent to every one. They do not want you to succeed. We feel confident that you will take these matters seriously and refuse to listen to the propaganda they are circulating."

A banker in behalf of a milk producer wrote to Mr. Katz regarding the solvency of the co-operative marketing company and we quote two paragraphs of Mr. Katz's letter to him:

"The League started in on July 1st with a string of factories which had been poorly financed and poorly arranged. Salary and expenses in many cases were out of reason and such a thing as efficiency scarcely existed. These things could not all be changed in a day; such changes have to come about gradually, for reasons which you as a business man realize fully. The quality of product had been irregular, not uniform, and very poor generally for such a long period that the produce was definitely branded in the market as low grade. During the time the League has operated we have succeeded in more than doubling the percentage of first grade product, which improvement will eventually overcome the bad reputation that your section has in the markets. We

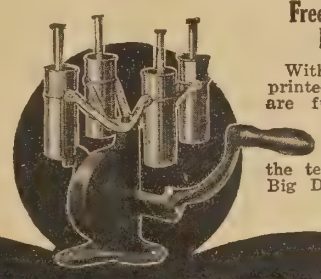
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For $6.95 we furnish a high grade, accurate, 4-bottle testing machine, one acid measure, pipette, two brushes, one bottle acid, and instruction sheet. Everything complete for testing.



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With each machine printed instructions are furnished which are plain and simple. A child can make the tests. Write for Big Dairy Catalogue.

THE CREAMERY PACKAGE MFG. COMPANY.
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"Dandelion Butter Color" Is Big Prize Winner

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In many of the State Buttermakers' Shows, first awards were won by users of old reliable "Dandelion Brand." You can't miss by giving a trial to the butter color which helps 90% of the successful buttermakers of America.

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WELLS & RICHARDSON CO., Inc. BURLINGTON, VERMONT

Primrose—Motor Driven

A snap of the button and—let there be cream!

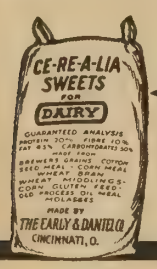


THAT is all the work there is to separating with the **motor-drive Primrose** once the supply can is filled with milk. Electricity takes the place of human energy. The willing motor shoulders this task and turns the separator at the same uniform speed from the beginning of the run to the end.

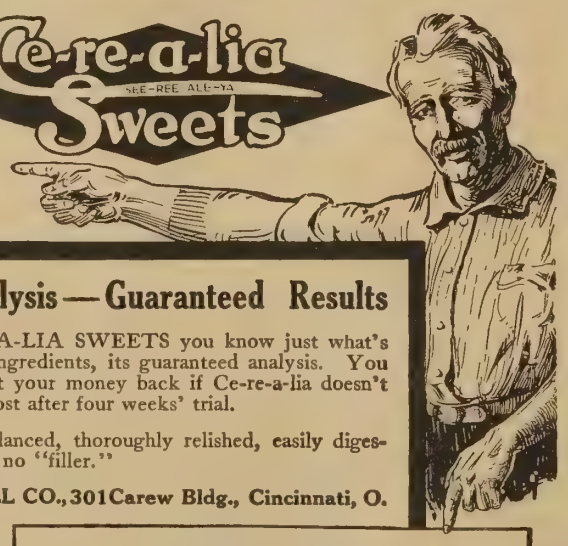
The **motor-drive Primrose** is a self-contained power unit and cream separator. Securely mounted on a substantial base which is an extension of the shelf at the top of the separator stool, the economical, tireless motor is ever ready for instant service. A snap of the electric switch—and the separator is put in motion. The motor is completely enclosed to exclude dirt and water.

Where electric power is available on the dairy farm, the **motor-drive Primrose** must be of more than passing interest to the dairyman. **Primrose** skimming efficiency plus electric operating efficiency makes an unbeatable combination. See the International dealer.

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have cut down the operating expenses of the factories enormously and have built an organization of competent men who will cut down manufacturing expenses very materially as time goes on. We have put the factories on a business basis, setting up reserves to cover depreciation and setting aside funds for the payment of interest, taxes, etc., so that we know what our factories are doing; whereas, in the past the factories have worked on the system of calling all money collected earnings and have fooled themselves as to what the actual net returns were on their product. We have met the worst jam which has ever occurred in the history of the dairy industry in Oregon and believe we have worked out our business so that we can weather it without letting the industry go to pieces as it inevitably would have done were it not for the marketing association to hold it together.

"Now, regarding the financial statements, it is absurd to talk about financial responsibility of the League. Different bankers have asked us for financial statements, thoughtlessly, but have laughed at themselves when they came to realize the kind of financial statement they wanted. Here you have a quantity of milk being turned into the League to be sold between the 1st and the 30th of the month. All of this milk is sold; all of the expense of selling and manufacturing is deducted; and all of the balance is returned to the dairyman in proportion to the amount of milk he delivers. At the end of the month and the beginning of the next month, the same thing happens over again. The entire assets of the organization are its furniture and fixtures and its factories. The liabilities of the organization are, naturally, the price paid for furniture and fixtures and factories. Any credit which we ask the banks to extend to our farmers is on a basis, not of the League, but is a straight out credit on a fraction of the amount of product which the dairyman has delivered to the League and which has not yet been collected for. Trade acceptances are issued only to about three-fourths the estimated value of actual delivered product."

It will be observed how difficult it is for the producers and their bankers to fully understand the system of pooling milk and the necessary delay in paying for it. There is no capital to pay for milk. The producer cannot receive payment in full for his product until it has all been sold and paid for. Then he gets all it brings less cost of manufacture, taxes, interest on preferred stock, and sinking fund for retiring the preferred stock.

Pooling

The Oregon Dairymen's By-product Corporation operates throughout the state, but it has established several zones for the pooling of milk and cream. Take zone one from which Portland gets its milk supply, and there are three pools within this zone. Pool 1-x is milk for city supply and condensers, pool 1-y is sweet cream, and pool 1-z is sour cream. Each pool is operated as a separate account and the producers receive for their products what the pools to which they belong return. It will be noted in the following statements that the whole milk pool in zone one paid the producers $2.839 per hundred for milk; the sweet cream pool returned producers .813 cents per pound for fat, and the sour cream pool returned .549 cents per pound.

Statments of the July Pool

Closing figures, November 20, 1920, are as follows:

July Pool Closing Figures November 20, 1920.

Pool	Gross earnings per cwt.	Expenses manuf. & selling & overhead	Sinking fund to retire preferred stock	Interest on preferred stock fund	Net earnings to member
Willamette Milk, city, condensery	$3.107	$.23	$.028	$.0095	$2.839 cwt.
Willamette Sweet cream	.952	.128	.008	.003	.813 lb. fat
Willamette Sour cream	.636	.08	.005	.002	.549 lb. fat
Coos-Curry Milk	2.315	.41	.02	.007	1.869 cwt.
Coos-Curry Cream	.655	.075	.006	.002	.571 lb. fat

These figures are based on pounds butterfat in cream pools and on 3.8% milk in milk pools.

This is only explanatory. The so-many-cents-per-point method is not used in making payment to members, although dealers pay us on 3.8 base with 5c per point.

Tests above or below 3.8% make a difference of about 5c per point in Zone 2 milk and 7c per point in Zone 1 milk. Expenses include all manufacturing, selling, shipping, advertising, overhead, office, and all other expenses.

Sinking fund is the plant retirement fund, and interest fund is interest on outstanding stock.

Zone	Gross receipts	Paym'ts. & advances	Gross expenses	% of gross	Plant Paym't.	Account Oregon Dairymen's By-products Corporation Interest Paym't.	Final Paym't. on Product	Am't. of Product Lbs.
1—X (Milk)	$126,313.83	$95,701.68	$9,369.10	7.4	$1,142.35	$399.82	$19,700.88	3,922,311
1—Y (Sweet cream)	8,885.82	4,616.74	1,200.83	13.5	80.77	28.27	2,959.21	9,330
1—Z (Sour cream)	13,223.75	8,386.48	1,702.48	12.8	120.00	42.00	2,972.87	20,678
2—X (Milk)	75,344.75	47,162.57	13,372.38	17.7	680.80	238.28	13,890.72	3,076,722
2—Z (Sour cream)	31,403.81	19,455.37	3,626.28	11.5	283.86	99.35	7,938.95	47,804
Total	$255,171.96	$175,322.76	$29,271.07		$2,307.78	$807.72	$47,462.63	

Note:—Gross receipts is gross collections for product.

Payments and advances cover all trade acceptances, advances, and payments prior to closing.

Gross expenses include depreciation of factories, selling, shipping, manufacturing, overhead and all other expenses.

% of gross means relation of gross expenses to gross receipts.

Plant payment is deduction set aside to pay for factories by preferred stock retirement.

Final payment is balance due members at closing.

Amount of product is actual pounds of milk and pounds of butterfat.

Zone 1 constitutes the Portland market and the condensery section.

Zone 2 is for Coos and Curry Counties where practically all the milk was made into cheese.

It has not been our purpose to give the obstacles which the organizers of the Oregon Dairymen's Co-operative League and Oregon Dairymen's By-products Corporation had to meet and overcome or to give the personal difficulties which they encountered, but rather an outline of why the co-operative marketing company was formed and how it is operated. Its success de-

pends upon the milk producers and its management. The officials have the confidence of the producers and the business men of Portland. They have proved their business abilities. It is our opinion that the hardest part of their work is over, for the period just before final settlement for July milk was most trying, but now each month a pool is closed and paid for in full.

We consider the Oregon Dairymen's By-Products Corporation organized



M. S. SHROCK
Field organizer of Oregon Dairymen's By-Products Corporation and editor Oregon League Dairyman.

on the proper basis for a truly co-operative enterprise. If it is in any danger of failure it is because the corporation has been forced to expand rapidly. Expansion came faster than the officials desired. In less than four months they built an organization and provided equipment for handling dairy products whose value amounted to $5,000,000 annually and under conditions that would have defeated men less determined to succeed.

Bull Association "Reconstructing" Fire Swept Minnesota County

HOARD'S DAIRYMAN:—Not infrequently misfortunes prove stepping stones to greater achievements—the set-back of today becoming the blessing in disguise of tomorrow. Rarely, however, does the aftermath of a devastating forest fire take such a peculiar turn as to give impetus for the formation of co-operative bull associations as illustrated by the example of the Minnesota Fire Sufferers' Relief Association in St. Louis County. The quickening effect of the misfortune of the conflagration of 1918 was no less far-reaching in influence than instantaneous in producing results.

All told, nine bull associations are functioning in this one county, involving a membership of 364 farmers, 35 pure-bred Guernsey and Holstein-Friesian bulls, and 26 pure-bred cows in an aggregate cow population of 1,859 animals. This formidable organization represents two years' effort, a rescue effort to recover from the losses sustained by the ravages of fire which swept the farming areas of the county in 1918. The co-operative bull association, as the term would imply, as operative in St. Louis County, signifies that groups of farmers exercise joint ownership in the use and exchange of sires of certain breeding qualifications. Marketing surplus animals and dairy products and combatting diseases of cattle are likewise promoted by the mutually pledged interests of the co-operative enterprise. An investment of $50 by the individual farmer acquires a share in five pure-bred bulls.

Perhaps imbued by the amazingly swift success of the St. Louis County association, and in the hope of stimulating other counties to duplicate this example, the Dairy Division of the United States Department of Agriculture has compiled data relating to eight dairying districts in Iowa, Minnesota, and Massachusetts in which no co-operative bull associations existed. The inventory included 1,219 farmers, owning 817 bulls, valued at $76 each. The conclusion is that if these dairymen, properly organized, had made an equal investment in pure-bred sires instead of inferior ones, they could have acquired bulls having a valuation of $283. Four animals are being supported where one of superior quality would suffice.

The average price paid by co-operative organizations for registered sires is approximately $240, whereas bulls in use prior to the formation of these associations were appraised at $89. In one organization, with a membership of 100 farmers, the original outlay for pure-bred bulls was only $23.

Farmers and dairymen, 150 strong n Maryland, Michigan, and Minnesota, esteem their membership in co-operative bull associations of such value as to enhance the financial worth of the offspring in the first generation of calves from 30 to 80 per cent with an average of 65 per cent. "Dairymen unable to purchase such bulls as needed to develop a profitable pure-bred herd are realizing that the bull association overcomes the difficulty and saves money that can be used toward the purchase of registered females," is the expression voiced by the United States Dairy Division.

Douglas County, Minnesota, has the distinction of having successfully formed the first co-operative bull association in the United States, organized in 1909. The college of agriculture of Michigan made the first attempt in organizing such associations, but its efforts struck boulders and, while ironing out the kinks in the tangle, Douglas County, Minnesota, attained the coveted goal first. The latest compilation places Pennsylvania in the forefront for its number of bull associations.

The plan of organization, as generally subscribed to, is simple in operation. The association is parcelled into blocks, each of which maintains the requisite number of cows, with the exclusive use of one of the sires of the organization. Bulls are exchanged with companion blocks every two years, thereby obviating inbreeding. Each unit is divided into three or four blocks. The original cost of a bull is divided by the number of cows comprising the block. Concretely illustrated, a $200 sire for a block of 50 cows would entail an assessment of $4 to the animal.

Washington, D. C. S. R. WINTERS.

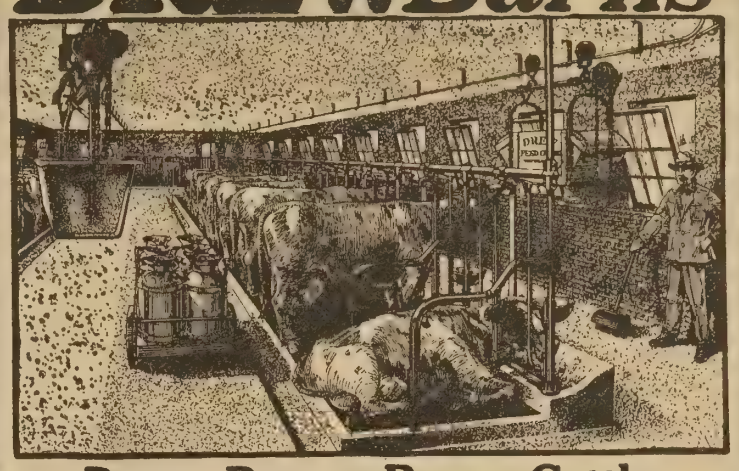
Outlines of Dairy Bacteriology in Eleventh Edition

The eleventh edition of Russell and Hastings' "Outlines of Dairy Bacteriology" is now in print. This book had its origin in a series of lectures in the University of Wisconsin. It is published in such form as to serve as a practical guide not only to the student but to those who work with dairy products. The discussions of bacteria, yeasts, and molds in non-technical terms are easily understood by the milk plant operator and the butter and cheese maker who have not had laboratory training. The book's aim, as expressed by its authors, is "to tell in simple language the facts the successful operator must know and must use".

The new edition of this practical book is available for distribution from this office at the publisher's price of $1.60.

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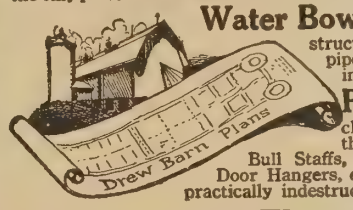


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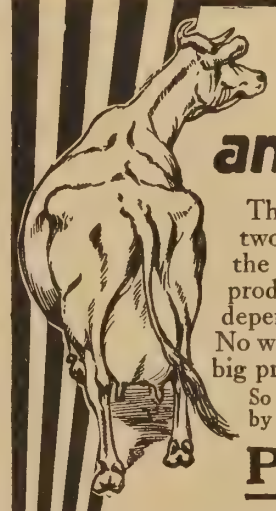
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EDITORIAL COMMENT



It has been said that to hold the World Dairy Congress in this country in 1922 will help to dignify the dairy industry in the minds of the consumers. We can think of a still better and a more permanent way of dignifying the dairy industry and that is to produce all high quality dairy products.

In the year 1920, there were severe declines in the prices of most farm products. The rapid falling off in the prices of farm products began about October 1st and continued the rest of the year. In the aggregate, the value of farm products and of farm animal products and animals in 1920 declined about $5,105,000,000 below the total of 1919. The 1919 crop sold for $24,961,000,000 and the 1920 crop sold for $19,856,000,000. Notwithstanding the decrease in the number of dairy cows in 1920, which was 1.3%, there was an increased return in 1920 for dairy products over 1919, amounting to 311 millions of dollars.

We have pointed out many times the stability of the dairy industry. Here we have a concrete example of the dairy business returning 311 millions of dollars more in 1920 than in 1919, when other farm products sold for $5,105,000,000 less. Here and there are bad spots in the dairy industry and considerable dissatisfaction is found but an industry that has gained in returns when other branches of agriculture have lost should assure the most sceptical of its stability and the safety with which it can be followed.

MUST FEDERATE

It does not require deep study of the butter market or the demands of the consumer to learn that high quality butter, uniform in grade, is the most salable and brings the highest returns. Those who do not fully appreciate this should note the prices being paid for lower scoring butter compared to that scoring 92 or better. The larger creameries have appreciated the importance of making a uniform grade of butter for they know the consumer becomes accustomed to it and prefers it to butter varying in quality. The co-operative creameries which have been working individually, independent of each other's welfare, may well consider the necessity of federating themselves by communities or sections for the purpose of producing a uniform quality of butter and establishing a central sales agency.

Professor A. J. McGuire of the Dairy Extension Service at Minnesota, after studying New York and Chicago markets, says, "First, we must bring all our butter up to standard; second, we must make all our butter uniform in color, salt, and texture. All Danish butter has a uniform characteristic as though it had been made by one man. Third, we must establish our own selling agency, ship in carload lots, the butter to be graded here in Minnesota, and shipped out under one sales agency."

In order to bring about such a system of marketing and the making of a uniform grade of butter, requires at least two steps: First, the creameries must associate together in order to establish a system of instruction that will bring about a uniform grade of butter. It means the grading of cream and paying for it according to its quality. It also requires federations to establish an agency for handling and shipping their product. We look upon the federation of creameries and cheese factories as being highly essential. If they fail to see the necessity of taking this step we have considerable concern regarding their future.

COST OF MILK PRODUCTION

Monthly reports have been gathered by the University of Wisconsin from representative districts in the state on the cost of producing milk. An effort was made to find out how the different common farm practices affect the cost of production and what the relation is between costs and prices. B. H. Hibbard and S. W. Mendum have charge of this work.

The two main items in the cost of producing milk are feed and labor which constitute 75% of the total when labor is figured at 40 cents per hour. Prices in 1919 and 1920 have only yielded market values for feeds on the farms of the most skillful dairymen owning high producing herds. In the studies made it is assumed that the sale of surplus stock and the value of manure offset other items in the cost.

A very important factor in the cost of milk is the producing capacity of the cow. While it has been found that the cost of keeping a 10,000-pound cow is more than 50% above that for a 4,000-pound cow, it is proved that the milk from the high producer is made at less than 50% of the cost of that from the low producer. The time of year has a great influence on prices, influencing both the cost of production and the price received. While many farmers failed to receive as much as $2.00 per 100 lbs. for milk during summer while cows are on pasture and in heaviest production, the winter price was above $3.00. This made it possible for one dairyman who produced milk averaging a test of 3.57% to net an average of $3.01 per 100 lbs. though the price was above $3.00 in only four months of the twelve and fell to $2.37 one month.

In Sheboygan County complete records were kept on six farms for twelve consecutive months. The average production of the 89 cows in the six herds was 9,900 lbs. of milk. One herd averaged 7,700 lbs. and two averaged 12,000 lbs. Only one-third of the cows were pure-breds. On these six farms, the equivalent of about 73 lbs. of grain was fed for each 100 lbs. of milk produced, the actual pounds of grain being less than one pound for each three of milk. Pasture was estimated to make up about 22% of the feed consumed. It was found that while the cost for pasture was very much less than for the quantity of feed it replaced, those farmers who rely on the low cost of pasture to make profits from their herds received low prices for their milk, since the bulk of their production comes in the months of low milk prices. The amount of labor required in the production of 100 lbs. of milk varied from 1.2 hours to 2.93 hours. Figuring grain at $60.00 per ton and labor at 40 cents per hour, the average cost of milk on these six farms was $2.93, the range being $2.40 to $3.27. It is pointed out that the six farms studied are far above the average in quality of their herds. Also the fact is emphasized that the cost of milk increases as the rate of production decreases, all factors pointing to the advantage of keeping high producing cows.

B. F. HARRIS

In the death of B. F. Harris, banker and farmer, the agricultural interests of this country suffer a severe loss. Mr. Harris fully appreciated the necessity of establishing a system of credit which would properly finance agriculture and he also appreciated the meaning of agriculture to the welfare of the nation. No other banker in the country did so much to arouse the bankers of America to the proper interest in, and their obligations to, agriculture as our basic industry. He was a man of keen intellect, of untiring energy, and had an enthusiasm and understanding of the relationship between the farmer and the banker which enabled him to lead the bankers to see the necessity of serving the farmers better.

Mr. J. R. Wheeler, former chairman of the Agricultural Committee of the Wisconsin Bankers' Association, says: "While chairman of the Agricultural Commission of the American Bankers' Association, Mr. Harris called a convention at Chicago of the leading educators, journalists, bankers, and farmers in the United States. The accomplishments of this meeting will never die. It demonstrated that the bankers were not attempting to teach agriculture, but rather to cooperate and assist to connect up with the sources of knowledge on better agriculture and better country life conditions. It indicated to the bankers what they were not to do, as well as what they could do. It emphasized the necessity of a greater development of the basic industry, agriculture, and it stimulated an interest on the part of the farmers, bankers, journalists, and educators which vitalized the agricultural and educational movement."

The following statement made by Mr. Harris in an address before the convention in Chicago well shows the motives which guided his thought and action. He said: "The man who devotes all of his time to the accumulation of property, straddling or evading vital business and governmental questions, oblivious of the debt he owes society, absorbing everything he touches, giving nothing in return, is the type of citizen that is little better than the one who goes wrong, for his selfishness makes the other possible."

If we had more bankers and citizens engaged in other industries like the late B. F. Harris of Champaign, Illinois, there would not be the prejudice or the complaint so often heard by those engaged in agriculture against the man whose duty it is to help finance agricultural activities. Mr. Harris was preeminently a great man because he assisted in not only promoting principles and practices which developed the banking industry and farming but also good citizenship.

WHY PURE-BREDS

The customary answer to the question, "why are pure-breds kept", is that they will produce more milk or fat than grades. This is not necessarily true. The grade herd may produce more than the pure-bred. The real purpose of keeping pure-breds is to give the breeder the opportunity to build through his skill and efforts a herd of high production and of good quality and type. A breeder who does not see the necessity of raising the average production of his herd or of keeping it free from disease has not fully comprehended the responsibilities placed upon him.

We have been dazzled by the high prices paid for some exceptional animals and by the phenomenal production of the leading dairy cows of our several breeds. It is well enough to show the possibilities of our dairy cows but we should be more concerned about the average price and production of our good cattle than of our exceptional animals. The breeder must ever bear in mind that he is building and developing more efficient live stock and that it is his duty to keep his herd free from disease or his purpose will be defeated. The late Dr. Henry B. Favill stated clearly and well in one of his addresses the duty of the breeder. We quote as follows from his address:

"The breeder who purchases his pure-bred stock, breeds them, tests them, and develops them, with reference to elevating the whole standard and quality of his herd and farm will succeed and will profit correspondingly by being in the pure-bred ranks. The breeder who buys, breeds, and tests with the sole purpose of making large records, and of being able to sell at sensational prices, is more than liable to fail. The farmer who makes his agricultural operations primary and handles his stock as an essential, but still subordinate part of his operations, will progress. The farmer who, carried away by the glamor of exceptional production and intoxicating publicity, neglects his farm and allows it to be subordinate to his stock interests will retrogress."

The breeder who is carried away with high prices and phenomenal records is likely to fail because he is following speculative ideals rather than ideals which are genuine and sound and fundamental for the building of agriculture and better producing dairy cattle.

Unfavorable Sunflower Experience

For the past two years I have grown sunflowers for ensilage. The result, however, has not proved entirely satisfactory. The first year the sunflowers were cut when about one-third were in bloom, but when the silo was filled a large quantity of "juice" leaked out of the silo. It occurred to me that the sunflowers should be cut later.

The last year the first cutting was of a variety that matured earlier than the Mammoth Russian and was put in silo when quite a lot of the seeds were ripened. We have not yet reached this, so cannot see how this will turn out. The balance of the silo was filled with the Mammoth Russian which did not mature and only about one-third of it was in bloom. This was very "sappy". The cows do not take to it very well at first. We grew about 12 tons to the acre, although one of the neighbors grew nearly 40 tons to the acre.

None of the articles that I have read give information as to what stage the sunflowers should be to give the best results. Can you advise on this? The next season we intend to use one-third clover, one-third oats, and one-third sunflowers as this will be more palatable.

Husum, Wash. D. H. A.

It has not been altogether unusual to have poor results from making sunflower silage, but possibly if we get to know better the necessities for ensiling, we will be able to control our results. There is considerable argument and uncertainty as to just when sunflowers should be cut for silage. This is partly due to the fact that in the sections in which they have been grown to the greatest extent, the growing season is rather short and the sunflowers are seldom matured. In these sections it has been the practice to cut sunflowers for silage when they are about 10 to 25 per cent in bloom.

It is reasonable to expect that a somewhat more nutritious silage would be secured if the sunflowers were allowed to reach a greater maturity, say when 80 per cent of the plants are in bloom and the most advanced heads have developed seed. Where it is possible to do so, it might be well to ensile them when the majority of the seed is in the milk stage and the most advanced seed heads are commencing to get hard. Even at this stage, there will be more juice in the stalks than would seem apparent when they are first cut and before they have passed through the ensilage cutter. From personal experience we should judge that where sunflowers and corn are planted together, the sunflowers will be best for ensiling some two weeks before the corn is ensiled.

Many readers of Hoard's Dairyman have tried this new crop. Others would like to hear of their experience, how they planted, when they cut, and how the cows liked the silage.

Amount of Ice to Cool Milk

How many pounds of ice are required to lower the temperature of 100 lbs. of milk from body temperature reasonably soon after milking to 50°? How much to lower it each 10°? Pound for pound, is ice from a well packed house put in in cold weather better than ice from an ice house filled during a thaw or mild winter weather and poorly packed? Has all ice that is simply frozen water the same cooling value?

Littleton, N. H. G. A. McD.

Because of the varying conditions under which ice is used and stored, it is impractical to give any definite figures. It is generally estimated that in the northern states a supply of about five tons of ice is required for the average sized family. When cream only is to be cooled, allowance should be made at the rate of one-half ton per cow, but if whole milk is to be sold, then the requirement will be approximately one and one-half tons per cow. This allows for reasonable wastage from storing as well as for actual cooling. From forty to fifty cubic feet is required for the storage of one ton of ice, including the packing materials. The experience of most farmers is that it is always better to allow for an ample supply and build a larger house than is necessarily indicated by the present demands.

There are so many factors concerned that it is impractical to discuss as to just the number of pounds of ice required to cool 100 pounds of milk. This is due to the varying temperature that prevails throughout the summer and to the relative efficiency of cooling methods adopted. Where milk is run over a cooler, it will require much less ice than if the attempt is made to cool the same milk in a can immersed in a tank of water and ice. In the latter case there will be the added factor that if the milk is kept agitated it will cool faster than when allowed to stand quietly in the can.

A technical as well as practical discussion of the use of ice is contained in U. S. Department of Agriculture Bulletin No. 744, entitled, "Cooling Milk and Storing and Shipping at Low Temperatures". This bulletin will give information upon the cooling efficiency of various kinds of tanks, how milk can be cooled quickly, and various other information, both of practical nature and also explaining some of the theories of cooling.

We do not have at hand any scientific reinforcement for our opinion, but it has been our observation, as well as that of a large number of others, that ice will vary in its effectiveness as a cooling agent according to the method under which it is frozen. Frequently we secure a soft, snowy ice and this will melt rapidly, whereas the clear, crystal ice produced under ideal conditions will have a larger efficiency.

The question of the storage of ice is not so important as relates to its cooling effect as it is to the wastage of ice while in storage. It is the general impression that artificially frozen ice does not ordinarily last as well or give quite as good results as ice that is naturally frozen. We can see no reason for this and question whether public opinion is correct on this point.

Soiling Crops

What do you consider the best soiling crop to raise for dairy cows in northern Illinois? We aim to feed silage, alfalfa, or clover hay in abundance. We have no pasture, but depend upon soiling for the pasture. We like a variety so as to change the feed often. Have tried oats, Canada field peas, sudan grass, sorghum, sweet corn, and other rapidly growing feeds. Your advice along this line will be appreciated.

San Diego, Calif. J. H. M.

It appears to us that a series of crops something like this comes as near as one can expect to get to a soiling system in this section of the country, which would be considered at all practical. Winter rye alone, or perhaps seeded with winter vetch, would be about the earliest crop that one could expect to soil. There is a period of about two weeks that rye can be soiled successfully, during which cattle will eat it with a relish. Following this would come the first cutting of alfalfa, succeeded by red or alsike clover and peas and oats or oats alone. Sudan grass and millets could be used later in the season, along with the second crop of alfalfa and red clover. This, followed by green corn, would practically complete the cycle of crops that one can use successfully here. Soy beans might also be considered as a crop that should be ready by the first weeks in August.

South's Feed Cache

HOARD'S DAIRYMAN:—Dairy profits in the South are in proportion to the winter cost of feed more than for any other one thing. In fact, the southern dairyman has neglected the winter feeding phase of his business more than any other. This neglect is not because of difficulties, but rather a lack of difficulties. It has resulted in indifference and neglect.

An inventory of the dairy feed situation for this winter is not discouraging, rather the contrary. As usual, however, there is too little succulent feed cached in the silo. The silage will run short before pasture comes in and the flow of milk will drop when that time comes. Until the southern dairyman can put enough feed in his silos to bridge the winter his industry is not permanently founded.

In the sorghum the southern dairyman has a silage asset unsurpassed. When it is planted in alternate rows with corn, the two combined afford the largest per acre contribution of desirable silage, but sorghum alone is an excellent and very economical material. Sorghum should not be cut, however, until its grain is matured. In the lower south, Japanese cane is a source of silage but it is not the equal of sorghum because of its lack of grain.

It has widely become the custom to grow velvet beans in the corn fields. Where this is done, no ensilage is gathered, but a wealth of splendid grazing is afforded throughout the winter. The corn stalks and velvet beans afford both a roughage and a concentrate, the beans carrying high percentages of protein. Though the beans be exposed for two or three months, they do not deteriorate materially. The amount of velvet beans grown this year has evidently increased. For this reason it is expected that there will be larger offerings of velvet bean meal to feeders and that it will follow the trend of cottonseed meal and sell at a lower price than has been asked for the past two years.

In some sections of the South considerable peanuts are grown. The tops make excellent hay. Tests made in Texas reveal that peanut tops make good silage when associated with "blackstrap" molasses—a refuse from the sugar cane mills of Louisiana—or with any carbohydrate material.

As a source of hay, peanut tops run 12% protein, 47% carbohydrates, and 2% fat. In regions of peanut production considerable hay of this nature is baled and put on the market. It is nearly on a par with alfalfa. Unless care is observed in handling peanut hay it will carry a good deal of dirt taken up on roots.

All the crops that the dairyman has grown last year are expensive crops, made so chiefly by the high cost of labor. This being true, it is thought that the trend of southern dairy products is not so likely to decline materially during the winter. If this holds true, the southern dairyman will be able to clean up the big burden of cost represented by the contents of the silo and feed loft. If it does not, then the dairyman who has not looked well to an economical production of winter feeds will be up against a very trying situation.

Georgia. C. A. WHITTLE.

Grass Seed for Drained Land

Please advise me what kind of grass seed would stand the most wet. I got about three-fourths of an acre drained into a hill of gravel. Grain or corn will drown out.

Hartford, Wis. M. M.

Undoubtedly the best thing to do with this piece of land is to get it into a grass sod of some kind. Assuming that it has been drained sufficiently so that water will not cover it for any length of time, it should be a fairly easy matter to seed it down to a mixture of redtop and Kentucky blue grass. The former grass will do well on low moist lands and if it is not too wet the Kentucky blue grass will maintain itself when once established.

If it is possible to get this piece plowed and a seed bed prepared, we would advise seeding it to winter rye next fall, seeding with it about 15 lbs. of redtop grass, 10 lbs. of Kentucky blue grass, and about 5 lbs. of timothy. This should be a sufficient amount to sod it over in good shape. We are suggesting the timothy because this grass grows so much faster than the others in establishing itself. Redtop and blue grass seeds may be purchased from any reliable seed house.

Seed Corn to Grow

Kindly inform me where I can obtain the best quality of seed corn for ensilage purposes to be grown in Waukesha County, Wisconsin. I would also like to know what quantity should be sowed per acre for a good stand. I am figuring on planting 8 to 10 acres for a silo 16x40. Heretofore we have planted the ordinary yellow or white corn but the results have not been at all satisfactory in quantity.

Chicago, Ill. C. J. M.

Our inquirer states that the ordinary white and yellow corns have not done well in Waukesha County. We do not know to what special varieties he refers, but we know of nothing better than either the Silver King, Wisconsin No. 7; the Golden Glow, Wisconsin No. 12, for this county, the former being a white corn and the latter, a yellow variety. These are two of the most popular varieties grown in this part of the state and both are considered very excellent yielders under normal soil and seasonal conditions. If planting for ensilage purposes, we would advise planting about eight to ten pounds of seed per acre.

Keeping Sand Out of Well

HOARD'S DAIRYMAN:—We have lots of quicksand in the West and heavy pumping will attract all there is. If there is any coarse material at all present galvanized curbing punched from the inside with a cold chisel arrests it and jackets the curb on the outside so that quicksand ceases to enter. In California they sink curbs to big depths and then with a special machine puncture them from the inside. However, all that is necessary is to have the curbing punched whilst in the flat sheet with an inch or inch and a half cold chisel at intervals of two inches each way, then round into a curb and place in the well. A sack of charcoal weighted down with coarse gravel can be placed in the bottom. Some quicksand will enter for a time but this can be removed with a valve bucket if necessary. As a rule, however, the pump will care for the small quantity that can enter.

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Cow Testing Associations

RECORDS, PRICES OF FEEDS, FAT, AND MILK

Following is the summary of reports received during the week and up to the time of going to press of this issue:

State	Association	Tester	Month	No. of cows tested	No. of cows producing over 40 lbs. fat	Fat production of high cow	Owner
Cal.	Bodega	Charles Rosa	Dec.	1142	221	61.2	J. D. Williams
"	Petaluma	C. B. Wiborg	"	941	222	71.3	S. G. Gambonini
Kans.	Cowley Co.	Ira L. Plank	"	95	12	108.5	J. C. Dulaney
Ia.	Delaware Co.	W. K. Bullock	"	193	11	65.0	D. J. Schintzer
Ill.	Effingham Co.	F. Schwarzlose	Jan.	211	38	61.6	Wente Bros.
"	Macoupin Co.	H. L. Fletcher	Dec.	323	55	76.4	John Kahl
Wis.	Elkhorn—East Troy	E. D. Burr	"	475	133	68.0	A. T. Palmer
"	Arkansaw	Leo M. Harder	"		7	64.8	Wm. Harmon
Ohio	First Portage	Lowell W. Lee	Jan.	245	32	67.9	Carl Straight
"	Coshocton Co.	Joe Emig	Dec.	212	6	54.8	Levi Pew
Pa.	North Branch	F. G. Holt	"	312	14	61.5	J. E. Lenher
"	West Branch	Hiram Savidge	"	244	17	59.3	W. B. Bryson
"	Upper Columbia Co.		"	15	31	55.4	J. E. Miller
"	Lower Columbia Co.		"	22		86.1	Wm. J. Fairchild
Iowa	Dallas County	Don L. Chase	Jan.	200	37	89.3	Leaverton & Son
Ind.	Orleans	A. C. Walker	"	352	28	58.7	J. A. Cloud
Wis.	Unity	Carl D. Smith	"	390	31	62.4	Ed. Becker
"	Richland County	Henry Engsberg	"	350	9	53.2	Joe Cooper
"	Fort Atkinson	Wm. Seales	"	501	118	79.1	H. J. Yandry
Ill.	De Kalb County	E. R. Jackson	"	399	62	88.4	Roberts Hol. Co.
"	Lake County	A. Christiansen	"	431	106	88.8	L. J. Hutchings
"	First Kane Co.	R. J. Young	"	819	76	83.7	Albert Krahn

Association Notes

Petaluma, California:—There are only three herds out of 36 that have not pure-bred bulls. The average pounds butterfat per cow per day for December was 1.07. The herd with the highest average has grown from 1.24 in September to 1.61 pounds in December.

Effingham County, Illinois:—One pure-bred cow and two pure-bred bulls were purchased during the month of January. Market milk testing 3.5% sold for $2.35 per cwt. and 4c per point above. Local feed prices are: Corn, 75c per bushel; oats, 55c; bran, $1.85 per cwt.; cottonseed meal, $2; oil meal, $3; Purina Cow Chow, $3; alfalfa, $28 per ton; clover, $25; silage, $5.

This is the end of the Effingham association year. During the year 19 unprofitable cows have been disposed of and 38 head of pure-bred cattle purchased. Bernard Kralman owns the highest averaging herd for the year, with an average of 362 lbs. fat for five cows. Wente Bros. own the highest producing cow, which made a record of 11,769 lbs. milk containing 471 lbs. fat.

Macoupin County, Illinois:—Excellent results have been obtained by feeding properly balanced rations and by more regular milking. Several members are getting good results from sunflower silage. Seven of the 55 honor cows this month produced over 60 lbs. butterfat and 21 produced over 50 lbs. December market milk testing 3.5% sold for $3.15 per cwt. and 5c per point above. Milk retails for 14—16c per quart. Feed prices are: Corn, 90c per bu.; oats, 65c; hominy feed, $1.90 per cwt.; oil meal, $3; cottonseed meal, $2.50; malt, $3.30; Purina Cow Chow, $3.40; molasses feed, $2.50; clover hay, $27 per ton; alfalfa hay, $30; corn silage, $7.

Elkhorn—East Troy, Wisconsin:—A new member of this association, who was formerly a member of another association, states that he now sees his mistake in having given up testing, as his herd is now run down as a result of selling his best cows thinking they were not the best. During December six cows were sold as unprofitable and two registered Holsteins were bought into the association. Fourteen members operate milking machines and ten own lighting plants. The local prices for feeds are: Vitex, $62 per ton; gluten feed, $47; Unicorn, $52; oil meal, $55; bran, $33; oats, $32; ground corn, $33; mixed clover and alfalfa hay, $24; corn silage, $6.

Branch and Hillsdale Counties, Michigan:—The third year of this association has just been completed with the following results: In 24 herds 310 cows started the year. Of these 58 were sold, 32 of which were "boarders", and 3 died; 38 cows were bought. The members have learned the value of pure-bred sires, for there are 17 registered bulls and only two grades in the association. Four of the registered sires were bought this year. Six cows produced over 400 lbs. of butterfat during the year and 72 cows produced more than 300 lbs. The highest yearly butterfat record was made by a grade Jersey owned by Roy Strang which produced 7,783 lbs. of milk containing 460.1 lbs. fat. The highest milk record was made by a grade Holstein owned by H. J. Lindsey, 11,702 lbs. of milk containing 423.9 lbs. fat being produced by this cow.

First Portage, Ohio:—January was the best month during the testing year for high records and honor roll cows. Not much improvement on feeding has been noticed since September. Two unprofitable cows were butchered during the month. December market milk testing 3.5% sold for $3.40 per cwt. and 5c per point above. Milk retails for 14c per quart and butter for 50c per pound. Prices paid for feed are: Oil meal, $2.40 per cwt.; cottonseed meal, $2.05; bran, $2; middlings, $2.70; gluten, $2.70; chop, $1.40; hay, $20 per ton; corn fodder, $7; silage, $8.

North Branch, Pennsylvania:—Several members are improving their barns by the addition of stanchions and drinking cups. About five herds have been slaughtered or greatly diminished in the county during the year as a result of tuberculosis and dairymen are beginning to understand why ventilation and sanitation are important in checking this disease. Three per cent market milk in December sold for $3.60 per cwt. and 4c per point above. Milk retails for 13c per quart; butter for 67c per pound and cheese for 37c per pound. Feed prices are: Mixed hay (farm price), $20 per ton; alfalfa, $30; corn silage, $8; corn stover, $8; root crops, $8; cottonseed meal 43%, $70; linseed meal, $62; corn and cob meal, $24; ground oats, $35.20.

West Branch, Pennsylvania:—Two members have made application for accredited herds. One unprofitable cow was slaughtered and one sold during December. Through better feeding and management, one member has increased the production of five of his cows from below 700 lbs. of milk to above 1,000 lbs. per month. Four per cent market milk sold for $2.50 per cwt. and 4c per point above. Feed

prices are: Cottonseed meal, $3.25 per cwt.; linseed oil meal, $3.25; wheat bran, $2.30; corn and cob meal, $1.30; ground oats, $1.70; gluten feed, $3.75; mixed hay, $24 per ton; corn stover, $7; corn silage, $6.

Dallas County, Iowa:—A registered Holstein bull was purchased during January, and one cow sold for beef. Market milk sold for $3.30 per cwt., 3.5% test being required and 5c paid for each point above. Feeds sold as follows: alfalfa, $25 per ton; clover, $20; silage, $8; corn and cob meal, $13; ground oats, $25; bran, $40; oil meal, $47; cottonseed meal, $50.

Orleans, Indiana:—One member has increased his butterfat production 44% by feeding a balanced ration. Four per cent milk sold for $4 per cwt. in January. Milk retailed for 12c per quart and butter for 35c per pound. Feed prices are: cottonseed meal, $36 per ton; corn, $21; oats, $33; bran, $40; alfalfa, $28; clover, $25; timothy, $21.

Unity, Wisconsin:—Satisfactory balanced rations have been worked out with the members and all have proved their value when used for a few months. One car of mixed feeds was bought by members. The association is now about 80 per cent in the use of pure-bred bulls. Three herds have been tested for tuberculosis. Thirteen unprofitable cows were weeded out during January. The members have purchased a soil testing outfit for the association. The association slogan is rubber-stamped on all its correspondence, and each member is given a poster for his farm entrance indicating that he is a member of a cow testing association. The tester reports that their efforts are united to make al possible progress in dairying. During January market milk sold for $2.30 per cwt. and the cheese factory paid 51c per pound for fat. Milk retails for 10c per quart and cheese for 36c per pound. Feed prices are: gluten, $55 per ton; oil meal, $50; bran, $34; oats, $29; barley, $39; corn, $30; Wisconsin Balanced Ration, $46—$50; hay, $12; silage, $6.

Richland County, Wisconsin:—Twenty unprofitable cows were sold for beef during January. Market milk testing 3.5% sold for $2 per cwt. The condensery paid 47c per pound for fat and the creamery paid 49c per pound. Milk retails for 11c per quart, butter for 52c per pound, and cheese for 24c per pound. Feed prices are: oil meal, $60 per ton; bran, $36; oats, $35; barley, $40; Schumacher, $45; silage, $6; alfalfa, $25; clover and mixed hay, $18; prairie hay, $15.

Fort Atkinson, Wisconsin:—January condensery milk sold for $2 per cwt., a test of 3.5% being required and 4c paid for each point above. The creamery paid 57—66c per pound for fat. Local feed prices are: silage, $6 per ton; clover hay, $22; alfalfa, $26; corn, $23—26; bran, $32; cottonseed meal, $45; oil meal, $50; brewers grain, $56; oats, 54—60c per bushel.

De Kalb County, Illinois:—Eighteen boarder cows were sold during January. Market milk testing 3.5% sold for $2.50 per cwt. and 4c per point above. Prices for feeds were: bran, $38 per ton; oil meal, $50; cottonseed meal, $50; gluten, $50; oats, 43c per bushel; corn, 58c; barley, 70c; alfalfa, $30 per ton; clover, $25.

Lake County, Illinois:—One member saved $70 during January by changing from prepared feeds to home grown feeds balanced with oil meal, cottonseed meal, and bran. Several others have changed to good advantage and with as high production. Two carloads of Holsteins were bought in Wisconsin, one load being of pure-breds. About one-half of these will remain in the association. One farm installed drinking cups and one has put concrete in the barnyard. Three members did seven-day work with very creditable results. Dairymen received $2.50 per cwt. for 3.5% market milk and 4c per point above. The creamery paid 48c per pound for fat. Feeds are bought at the following prices; silage, $8 per ton; alfalfa, $24—$28; mixed hay, $20—$24; stover, $6; bundle corn, $8; ground oats, $30; corn and cob meal, $20; wheat bran, $34; cottonseed meal, $42; oil meal, $50.

First Kane County, Illinois:—One car of feed was purchased co-operatively during January. The average fat production for the association is 1.3 lbs. per cow greater than in December. January 3.5% market milk sold for $2.50 per cwt. and 4c per point above this test.

Good Gains Through Testing

James R. Warren reports that the Kane County No. 2 Testing Association of Illinois has closed its year's work with a grade Holstein owned by Fred Read returning $2.32 for each dollar's worth of feed consumed. Two other Holsteins returned $2.29 and $2.24. The high herd in the association averaged 8,890 pounds of milk and made a profit of $160.35. In Bert Lakin's herd three years of testing has shown an improvement in the average production of 3,627 pounds of milk and 132 pounds of fat. There has been an increase in the return above feed cost of $101.04. In Henry Lee's herd there is an increase in the second year of testing over the first year of 3,478 pounds of milk containing 155 pounds of fat. In the Anderson and Carlson herd a grade Holstein, purchased from a dealer as a "canner", gave 14,722 pounds of milk containing 558.4 pounds of fat in her second year's testing.

An unusual record by a grade Jersey cow, "Dell", owned by Miss Juliet Hollard, is reported by L. Rasmussen, tester in the Madison County No. 1 Association of Illinois. Last year this grade produced 13,288 lbs. milk, 608.76 lbs. fat. In 1919 her record was only 6,095 lbs. milk, 327.88 lbs. fat. She was not regarded as a cow of special worth and her owner considered disposing of her to prevent her pulling down the average of the herd. With a ration suited to her needs, she has made so good a production in 1920 as to have a high rank in the herd. She was purchased with her calf for $90, but would not now be sold for very much more than that. Mr. Rasmussen says of the herd of Miss Hollard, "The Jerseys are housed in an up-to-date barn with steel stanchions, water-cups, cork brick platforms, box stalls, and so on. Miss Hollard takes a loving care of her little herd, does all the work, including the milking, herself, she believes in knowing what she is doing with her cows and dairy and therefore she tests. It is a pleasant task for a cow tester to work at a place where ideas are easy and intelligently transformed into practical results."

Through the work of the class in agriculture in the Winfield high school of Kansas, a high quality Holstein cow has been discovered and developed. The boys in this class help with the testing and record keeping in the Cowley County Testing Association. The records convinced Mr. J. C. Dulaney of the high productive worth of his pure-bred Holstein cow, Walpurga Fairview Girl Caseholm, a senior four-year-old which he has lately put on seven-day test. In this period she has produced 22.936 lbs. butterfat. This is the first official seven-day record completed in the county.



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Once in a while you hire a man who's worth two or three ordinary men to you. If you've got that kind of a man this spring, hold on to him.

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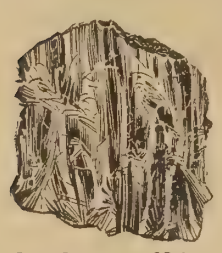
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A generation from now this same Asbestos Roof will be on duty

IN TWENTY YEARS, a barn roof ordinarily sees a good deal of patching, painting, repairing and often entire replacement. But not so if the roofing is Johns-Manville Asbestos, like that shown in the picture. For you can trust a Johns-Manville Asbestos Roof to protect your live stock and your crops for years without failing in its duty. Impervious to seasonal changes—snow, sleet, wet spells or blood-heat dry spells—Johns-Manville Asbestos Roofing remains unchanged and unimpaired.



Out of the tons of Johns-Manville Asbestos Rock mined by us every day, only the best is selected for Johns-Manville Asbestos Roofing.

Why it is permanent

This absolute imperviousness of Asbestos Roofing to time and weather is due to the marvelous properties of asbestos rock, from which it is made. Imagine blasting this mineral from the earth where it has lain for centuries, separating it into millions of silken fibres and felting these fibres together with natural asphalts into flexible roofing. That is what Johns-Manville Asbestos Roofing is. So you see that since Johns-Manville Asbestos Roofing is virtually flexible stone, it is naturally permanent. It can never rot or disintegrate. Nor does it ever need painting any more than the boulders in the field. Asbestos is its own protection.

Everybody knows it is firesafe

In fact, that is the first thing anybody thinks of in connection with asbestos. And it is a pretty satisfying thought to know that your barn is safe from a roof-communicated fire for all time. The Underwriters' Laboratories, Inc., whose business it is to rate fire-risk, give to Johns-Manville Asbestos Roofing the highest classification.

Look upon us as Roofing Advisers

—rather than manufacturers. It is Johns-Manville's honest intention to give the buyer of roofing the most durable and at the same time the most economical roofing possible.

We also make rag felt roofing (the type generally but incorrectly called rubber roofing). So when we advise Asbestos Roofings, it's not from any personal bias, but because of our firm conviction of the superiority of Asbestos.

Your Johns-Manville Asbestos Roofing may be registered with us. Thus we can keep tabs on its service on your building. That is your assurance that it will give the service claimed for it.

Johns-Manville Roofings

Johns-Manville Asbestos Shingles, Colorblende Asbestos Shingles, Asbestos Built-Up Roofing for flat roofs, Asbestos Ready to Lay Roofing in roll form, Asbestos Corrugated Roofing.

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Articles of Incorporation by the Oregon Dairymen's By-Products Corporation

We, the undersigned, all of whom are citizens and residents of the state of Oregon, have this day voluntarily associated ourselves together for the purpose of forming a corporation under the laws of the state of Oregon.

First. The name of the corporation shall be Oregon Dairymen's By-Products Corporation.

Second. The purposes for which said Corporation is formed are:

(a) To pack, process, can, manufacture, store, warehouse, handle, and market any milk or milk products by any means and in any way whatsoever.

(b) To pack, process, can, manufacture, handle, and sell all kinds of agricultural products, both for its own account and on commission for others, and to contract accordingly; to acquire, buy, lease, and operate warehouses, factories, ice plants, cold storage plants, creameries, condenseries, and any other plants, wherever necessary or expedient in order to process, can, manufacture, handle, store or dispose of any milk or milk products; to purchase, acquire, own, hold, lease, and control any real and personal property necessary or convenient for the transaction of the business of the corporation; to lend money upon and to negotiate loans upon such agricultural products; to borrow money; and to establish domestic and foreign agencies to carry on the general purposes of the corporation.

(c) To buy or otherwise acquire, and to own, operate, mortgage, lease, sell, or otherwise dispose of, any and all kinds of property, real, personal, or mixed, or any interest therein, or to any extent, and to contract for the purchase, sale, disposal, lease, or rental of any such property, for the purpose of furthering any of the aims of this corporation.

(d) To acquire, hold, guarantee the payment of, pledge or otherwise contract with reference to, or to sell or otherwise dispose of, shares, bonds, obligations, or other securities of this corporation or of any other corporation, firm, or individual.

(e) To contribute in any manner to the expense of promoting, constructing, acquiring, improving, or maintaining any work or enterprise by whomsoever owned, within the general purposes of this corporaton.

(f) To make contracts of any kind relating to any of the said property or business, in either an independent or representative capacity.

(g) To promote, do, acquire, hold, and dispose of anything incident to, or necessary, convenient, or proper to carry out any of the things or purposes aforesaid or which from time to time may be declared by the Board of Directors of this corporation then in office to be necessary, useful, incidental, or auxiliary to accomplish any of the purposes of the corporation or to promote its welfare.

(h) The primary purpose for the organization of this corporation is to process, manufacture, store, warehouse, and handle the milk and milk products delivered to it by the Oregon Dairymen's Co-operative League, under an agreement whereby this corporation shall process, manufacture, warehouse, store, deliver, and market, if required, the milk and milk products delivered to it by the said Oregon Dairymen's Co-operative League on a non-profit basis, as far as the law will permit and will receive for such services only the actual costs of such operations and an amount, apportioned over the entire operations of any one season, sufficient to pay the dividend on the then issued preferred capital stock and an amount sufficient to retire in each of the five calendar years beginning with 1921, one-fifth of the entire issued preferred stock of the corporation or one class thereof, and sufficient amounts for taxes, insurance, depreciation, betterment, and for proper reserves for advertising, general commercial hazards, development, work, and other secondary charges.

It is contemplated that under such agreement all of the above charges shall be charges against the cost of operations of this corporation, excepting the amounts required to pay the dividends on capital stock as aforesaid; and after such payments all operations of this corporation, except operations, if any, as a public warehouse or as an ice or cold storage plant, shall be without profit.

(i) To conduct public warehouses and cold storage plants under and according to the statutes of the state of Oregon and in compliance with all of the state or federal rules or regulations.

(j) To do any one or more of said things in any part of the world.

Third. The principal office and place of business of this corporation shall be at the city of Portland, Multnomah County, state of Oregon, but offices and plants may be established elsewhere by the corporation.

Fourth. The term of the duration of this corporation shall be for fifty (50) years from and after date of incorporation.

Fifth. The capital stock of this corporation shall be $502,500.

Sixth. The amount of capital stock of said corporation shall be $502.000. and number of shares into which it is divided shall be 50,250 shares, of the par value of $10 each, of which 50,000 shares shall be preferred capital stock, and 250 shares shall be common capital stock, all shares being of the par value of $10 per share.

The said preferred stock shall receive annually, out of the profits of the corporation, a dividend of seven per cent (7%) per annum, payable upon all outstanding shares of preferred stock, before any dividends whatsoever shall be declared or paid upon the common stock or any thereof of the corporation. The said 7% dividend shall be cumulative; that is, if the full amount of 7% per annum shall not be paid to the holders of the outstanding shares of preferred stock in any one year out of the profits of the corporation, then the unpaid portion of the said 7% dividend shall be paid out of the profits of the corporation for succeeding years until the full amount of the dividend of 7% per annum on all outstanding shares of preferred stock shall have been paid. And no dividend whatsoever shall be declared upon the shares of common stock unless and until every annual 7% dividend upon all outstanding shares of preferred stock shall have been theretofore paid in full.

The said preferred stock or any or all outstanding shares thereof may be retired, at any time by the corporation, at its option, by order of its Board of Directors, upon payment in cash of the par value thereof, plus accumulated dividends, if any, including the proportionate dividend for the fraction of any year, and a bonus of 2% of the said par value.

The said preferred stock shall be divided into five classes known as "A", "B", "C", "D", and "E".

There shall be 10,000 shares of each class of preferred stock and all of the conditions and preferences thereon shall be the same, excepting as to retirement.

All of the outstanding shares of the class "A" preferred stock must be retired by the corporation by payment in cash of the par value thereof, plus cumulative dividends, if any, including the proportionate dividend for the fraction of the year, and a bonus of 2% of the said par value, at some time, in the discretion of the Board of Directors, during December, 1921. No preferred stock of class "A" shall ever be issued by this corporation after the calendar year 1921.

All of the outstanding shares of the class "B" preferred stock must be retired by the corporation by payments in cash of the par value thereof, plus cumulative dividends, if any, including the proportionate dividend for the fraction of the year, and a bonus of 2% of the said par value, at some time in the discretion of the Board of Directors, during December, 1922. No preferred stock of class "B" shall ever be issued by this corporation after the calendar year 1922.

All of the outstanding shares of the class "C" preferred stock must be retired by the corporation by payment in cash of the par value thereof, plus cumulative dividends, if any, including the proportionate dividend for the fraction of the year, and a bonus of 2% of the said par value, at some time, in the discretion of the Board of Directors, during December, 1923. No preferred stock of class "C" shall ever be issued by this corporation after the calendar year 1923.

All of the outstanding shares of the class "D" preferred stock must be retired by the corporation by payment in cash of the par value thereof, plus cumulative dividends, if any, including the proprotionate dividend for the fraction of the year, and a bonus of 2% of the said par value, at some time, in the discretion of the Board of Directors, during December, 1924. No preferred stock of class "D" shall ever be issued by this corporation after the calendar year 1924.

All of the outstanding shares of the class "E" preferred stock must be retired by the corporation by payment in cash of the par value thereof, plus cumulative dividends, if any, including the proportionate dividend for the fraction of the year, and a bonus of 2% of the said par value, at some time, in the discretion of the Board of Directors, during December, 1925. No preferred stock of class "E" shall ever be issued by this corporation after the calendar year 1925.

The corporation shall issue the various classes of the said preferred stock in as nearly equal amounts as, in the discretion of the Board of Directors, may be advisable.

The shares of common capital stock shall each have one vote but the preferred capital stock shall have no voting power whatsoever; and the owners thereof shall be entitled to participate in the meetings of the stockholders of the corporation but shall not be able to vote on any matters there introduced; excepting that if the corporation fails to pay any annual dividend on the preferred stock and such default shall continue for a period of six months or more, the preferred stock shall acquire and have full voting power and the holders thereof shall be entitled to vote at any and all meetings of stockholders on all propositions on the basis of one vote for every share.

All the common capital stock shall be issued to the League, as such, in consideration of the contract referred to in paragraph second (h), or of cash and the League shall there-

by control the corporation and elect the directors, officers, and managers thereof.

Single shares of stock shall be placed in the names of individuals to qualify them as stockholders for the purpose of acting as directors of the corporation; but all such certificates must be endorsed back to the League and be returned to the possession thereof.

In the event of a dissolution of the corporation or any division of its net assets, nothing shall be distributed to the holders of the common capital stock until the holders of each and every outstanding share of the preferred stock shall have received the full par value of his said shares of preferred stock, together with accumulated dividends, if any; and thereafter the balance of the net assets shall be proportionately distributed among the holders of the common capital stock.

Seventh. The corporation, through its Board of Directors, shall have the right to purchase any or all of the shares of preferred stock of any stockholder at $10.20 per share, plus proportionate dividend, whenever, in the judgment of the said Board, it is advisable so to do for the general good of the corporation.

Eighth. The gist of paragraphs sixth and seventh shall be printed on the face of all certificates of stock of the corporation.

In Witness Whereof, we have hereunto set our hands, in triplicate this 26th day of May, 1920.

In the presence of
ALBERT S. HALL,
C. DOUGLAS TYLER.

ALMA D. KATZ,
F. W. BOESEL,
J. W. POMEROY.

By-Laws of Oregon Dairymen's By-Products Corporation

ARTICLE I

The purposes for which this corporation is formed are set forth in the second paragraph of the Articles of Incorporation thereof.

ARTICLE II

The corporate seal shall consist of a circle, having on its circumference the words: "Oregon Dairymen's By-Products Corporation, Incorporated 1920, Oregon".

ARTCLE III

Board of Directors

Section 1. Number. The corporation powers, business and property of the corporation shall be exercised, conducted, and controlled by a Board of Directors of twenty-five (25) members.

Sec. 2. Election. The directors shall be elected annually at the regular annual meeting of the stockholders from the stockholders of the corporation and shall hold office until their successors shall have been elected and shall have accepted office.

Sec. 3. Vacancies. Vacancies in the Board of Directors shall be filled by the other directors in office; and such new directors shall hold office until the election of their successors by the stockholders.

Any director who ceases to be a stockholder shall cease to be a member of the Board as soon as a majority thereof pass a resolution to such effect.

Sec. 4. First Meeting of Directors. Immediately after each election of directors, the newly elected directors shall hold a regular meeting and organize by the election of a president, vice-president, a secretary (treasurer), and transact any other business. Notice of such meeting is hereby dispensed with.

Each director must, at the first meeting after his election, cause his address to be entered in the minutes, to which all notices may be directed until another similar notice and entry of residence has by him been given in writing to the secretary who shall register the same. Such service of notice shall at the next meeting thereafter be noted on the minutes of the corporation, and said minutes, upon being read and approved at a subsequent meeting of the Board, shall be conclusive upon the question of service of notice.

Sec. 5. Regular Meetings. In addition to the first meeting mentioned above, a regular meeting of the Board of Directors shall be held quarterly at such time and place as the Board may determine.

Sec. 6. Notice of Regular Meeting of Directors. Notice of the regular meetings of the directors shall be mailed to each director at his last known address at least three (3) days prior to the time of such meeting.

Sec. 7 Special Meetings. A special meeting of the Board of Directors shall be held whenever called by the president or by a majority of the directors. Any and all business may be transacted at a special meeting. Each call for a special meeting shall be in writing, signed by the person or persons making the same addressed and delivered to the secretary, and shall state the time and place of such meeting.

Sec. 8. Notice of Special Meeting. Notice of each special meeting of the directors shall be mailed to each director, at his last known address at least 3 days prior to the time of such meeting.

Sec. 9. Quorum. Thirteen directors shall constitute a quorum of the Board at all meetings.

Sec. 10. Compensation. The directors shall receive no compensation for their services as directors other than reimbursement for railroad fares actually expended by them in attending the meetings of the Board of Directors, and any other necessary traveling expenses.

The directors may, in their discretion, provide reasonable compensation for the members of the executive committee of the Board.

ARTICLE IV

Power of Directors

The directors shall have the power:

1. To conduct, manage, and control the affairs and business of the corporation; and to make rules and regulations for the guidance of the officers and management of its affairs.

2. To appoint and remove, at pleasure, all officers, agents, and employees of the corporation, prescribe their duties, fix their compensation, and require from them, if advisable, security for faithful service.

3. To call special meetings of the stockholders when they deem it necessary; and they must call a meeting at any time upon the written request of one-third of the stockholders.

4. To select one or more banks to act as depositaries of the funds of the corporation and to determine the manner of receiving, depositing, withdrawing, and disbursing the funds of the corporation and the form of checks and the person or persons by whom same shall be signed, with the power to change such banks and the person or persons signing said checks and the form thereof at will.

5. To incur indebtedness for the conduct of the business.

6. In addition to the powers expressly conferred herein the Board may exercise such powers and do such lawful acts and things as in its judgment may be necessary or expedient for carrying out any of the corporate purposes.

ARTICLE V

Duties of Directors

It shall be the duty of the Board of Directors:

1. To keep a complete record of all its acts

(Continued on page 198)



Slipping tires are worse than useless — they are wasteful. They waste power, waste gasoline and waste time.

Caterpillar tires don't slip. They are unequaled in traction power by any truck tire except the big pneumatics and are more dependable than pneumatics because they are not subject to blowouts and punctures.

They cost considerably less than pneumatics and give so much more mileage than either pneumatics or ordinary solids that their purchase is a real economy.

Made in sizes suitable for trucks of all types and weights.

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FOREMOST AMONG BETTER GRINDERS
Crush and grind all the grains that grow; **fine** for hogs or coarser for cattle feeding **Corn** in husk, **Head Kafirs, and all small grains.**
Strength, Durability and Service radiate from every line of these Masterful Grinders. Simple but effective in adjustment.
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10 sizes—2 to 25 H. P. or more. Also Sweep Mills. It pays well to investigate. Catalog FREE.
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.....ft. by.....ft.

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Name.....

Address.....

Hoard's Dairyman

Fort Atkinson, Wisconsin

Founded 1885 by W. D. HOARD

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Subscription Rates

Subscription in United States and Mexico $1.00 per year; 3 years, $2.00; Canada, $1.50 per year.

FOREIGN SUBSCRIPTIONS may be sent through news dealers and book sellers in all foreign countries.

All foreign countries in the Postal Union $2.50 a year; not in the Postal Union $3.00, including postage.

Correspondents must not expect us to acknowledge the receipt of letters containing remittance for subscription. The receipt of Hoard's Dairyman is sufficient notification that money has been received. The label on the paper will show date to which subscription is paid. In case of renewals, if date on label is not changed within two weeks after remittance is sent, inform us at once.

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Entered at Fort Atkinson, Wis., as second class matter.

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Coming Events

Feb. 22-25—Stockmen's Week, University Farm Davis, California.

Butter Markets Badly Shaken During Past Week

[Report by U. S. Bureau of Markets.]

Conditions in the butter markets were exceptionally bad during the week ending February 5. Eastern markets, particularly New York, were extremely weak and suffered sharp and almost daily price declines. Chicago alone, because of lower existing prices and light supplies of butter, offered some resistance to the general depression.

Storage butter suffered most from the market weakness. While the withdrawals have been fair there has been comparatively little sale of storage on the open market, buyers in many cases having turned to fresh butter. Prices have shrunken badly, both on spot and future sales. The best storage centralized sold as low as 39c at Chicago Friday. Some warehouse auction selling at Chicago was reported at 31c to 33c.

The greater weakness in the East was caused by the surplus of the foreign butter arriving at New York. Danish butter from the cargo of the steamer Frederick VIII which arrived the previous week proved to be of excellent quality and many buyers took it in preference to domestic so long as it could be purchased at or below domestic prices. This caused such a backing up of regular arrivals that receivers simply had to drop prices to a point where Danish competition would be cut.

Further Danish Shipments Expected

The steamers Sartartia and Homor City arrived during the past ten days with cargoes totaling about 1,000 casks and 1,900 boxes of Danish butter. The Drottingholm was reported in Friday with a cargo approximately 4,300 casks. The steamer, United States, was expected to sail from Copenhagen on Friday with a heavy cargo on board. Some of this butter will cost 42c C. I. F., and further offerings were reported during the week down to 42½c C. I. F., duty paid for future delivery. Receipts of about 1,000 boxes of Argentine were reported at Boston and more is rumored to have arrived at New York during the week.

The average wholesale prices on 92-score butter at five of the principal markets for the week ending Feb. 5, 1921, and corresponding week last year, were as follows:

	Week ending Feb. 5 1921	1920
	Cents	Cents
New York	47.5	66.6
Chicago	45.6	61.6
Philadelphia	47.6	67.5
Boston	48.3	64.8
San Francisco	39.2	63.2

The receipts of butter at these markets were 7,701,510 lbs. as compared with 6,104,374 lbs. last year and 7,364,386 lbs. for last week.

Wisconsin Farm Bureau

Over five hundred farmers attended the first annual meeting of the Wisconsin Farm Bureau Federation at Madison on February 2nd. Although only seven counties were then permanently organized, reports showed temporary organizations in several others and that by early next summer the membership will be not less than 20,000 with further organization work to be done.

Plans were laid to further expand both the organization work and the activities of the association. Particular stress this year will be placed upon marketing problems, with aid to be given in the federation of cheese factories and creameries, in the promotion of milk producers' associations, and in assisting to advance co-operative marketing for growers of canning crops, sugar beets, and tobacco.

The officers elected for the ensuing year are: Geo. McKerrow, president; Jas. H. Murphy, vice-president; C. J. Schroeder, secretary; and C. W. Keys, treasurer. The following resolutions were adopted:

1. We are grateful that this truly representative, American, and strongly financed farm bureau movement has come to our state and that Wisconsin farmers have so wisely welcomed it. We believe that through this organization we may so meet our common problems in a personal, state, and national way that we can come to a better understanding and finally solve our many difficulties. We believe that this organization, with a national membership of over a million farmers and its officers so directly representative, can and does speak, for the first time with authority for the farmers of America.

2. We favor the organization of farm marketing organizations on a commodity basis in individual communities and the federation of these into district, state, and national organizations in-so-far as practical. We believe that through this system of marketing we may best improve the quality of our products, standardize our grades, and benefit both producer and consumer without injury to any distributing or manufacturing agency that fills a real need and performs a real service to the community at large. We believe that by these means we may save the speculative profits which have heretofore harmed both producer and consumer, and that we can so organize our industry as to largely eliminate the disastrous periods of surplus and shortage.

3. As the main industry of Wisconsin is dairy farming, we believe one of our first projects should be to give all support possible to the expansion of the Wisconsin Cheese Producers' Federation, to encourage the federation of creameries for the better standardization of marketing of butter, and to aid and advance the formation of milk producers' association of the proper kind. We believe that the producers of milk, whether their market be whole milk or one of the various manufactured products, should be so organized that they can sell their product collectively and in such manner that they may find the best market and secure the assurance of correct tests and weights. What has been said of dairy products applies in like measure to canning crops, sugar beets, tobacco, potatoes, and other crops in which a number of Wisconsin farmers are interested.

4. Other states are investigating the practicability of the establishment of market and weather reports by wireless direct to farmers and we therefore request our State University to also investigate this problem and see if some practical system cannot be evolved.

5. We extend to our retiring president, Mr. Geo. W. Hull, our thanks for his able, sincere, and enthusiastic services during the formative period of our growth. From the inception of the movement in Rock County a year ago he has carried the gospel of the farm bureau into practically every county of the state and we regret that other duties require that he now cease the work so well begun. Our felicitations and gratitude will be with him through all the years of his life.

6. Inasmuch as co-operative associations in Wisconsin have had and are having difficulty in purchasing and selling supplies because of opposition by certain interests with which they may come in conflict, we request our state legislature to take such action as will eliminate such discriminating practices and so place these co-operatives on a like basis with their competitors.

Bank Gives Bulls Free to Patrons

HOARD'S DAIRYMAN: — The City Bank of Hobart, Oklahoma, gave away a high class Jersey bull and a registered Shorthorn bull of good blood lines to their customers on January 27. About 300 people were present at the meeting and nearly everyone had a handful of tickets with numbers on them each representing one chance on one of the bulls. The lucky man in the case of the Jersey was Geo. Neal. R. E. McLain drew the Shorthorn.

Kiowa County, Oklahoma, has been largely a cotton and grain farming section for many years and the bankers have seen too many lean years to believe in the one crop system. About a year ago D. S. Wolfinger, president of the City Bank of Hobart, took the lead in the promotion of more and better live stock. He purchased a good beef bull and a good dairy bull of the predominating breeds in the county and sent out notices to all his customers that these bulls would be given away a year later. One chance on either of the bulls was given by the bank to anyone for each payment of fifty dollars on a note or each fifty dollar deposit made. Provisions were made requiring that a person must be in the trade territory of the bank and live in the country before being eligible for chances. We have no figures showing their increased business due to this activity but their business among the farmers must have been enormous as they had a large sized washtub heaped full of stubs from the tickets issued.

It was a big day in Hobart. The farmers began coming in very early and by 9:30 the streets were filled with men who had brought ropes and halters prepared to lead their bulls home. At ten o'clock everyone assembled at he auditorium where Mr. Wolfinger explained the rules of the contest and also spoke on the attitude the City Bank had taken toward the development of that community. F. W. Atkeson of the Southwest Jersey Cattle Breeders' Association then discussed the pedigree of the Jersey bull and spoke on the use of better bulls in the development of dairy communities.

Then—the fun began. All the ticket stubs were placed in a large tub on the stage in plain view of everyone. A boy was blindfolded and he was instructed to pick up a ticket. Talk about excitement; it was worse than Saturday night at a tent show when the diamond ring is given away. The judges of the contest read the number —3730—absolute quiet reigned while everybody read their tickets in feverish haste. Finally someone said "Here!" and Geo. Neal had won the Jersey bull. Mr. Neal already had one heifer calf sired by the new bull so he is well on the road to becoming a Jersey breeder. The Jersey bull was bred by A. L. Churchill, Oklahoma, and was of exceptionally good breeding. He was sired by Gamboge You'll Do who is by You'll Do Champion and out of a granddaughter of Gamboge Knight. On his dam's side the bull traces close up to Sultan of Oaklands. The only stipulation regarding the ownership of the bulls was that they stand at public service at a reasonable fee for three years within the trade territory of the City Bank. The new owner received all registration papers and health certificates and had the privilege of selling at any time but the purchaser must keep the bull in service in the community until the three-year period transpires.

After the drawing of both bulls everyone adjourned to a vacant lot nearby where the bulls were inspected. Then all the people joined in a parade around the square behind the bulls and a moving picture was taken of the crowd. After the parade a cow judging demonstration was given on three registered Jerseys. And, by the way, Mr. Wolfinger had a bred heifer on exhibition that would worry any contending showman at a state fair.

In the afternoon the crowd was entertained by addresses by specialists from the Oklahoma Agricultural College, among whom was C. W. Radway, dairy specialist and secretary of the Oklahoma Jersey Cattle Breeders' Association.

Mr. Wolfinger was very enthusiastic over the results of his experiment and is planning to repeat it again this year. Plans were also made by Mr. Radway, Mr. Atkeson, and A. I. Jordan, the live wire county agent, for a bull and calf club campaign in that county the latter part of March.

We need more bankers with a vision like Mr. Wolfinger in this country instead of money lenders. He knows that when the rural population prospers, so does he. It is in a way a selfish motive on his part but some bankers don't see far enough ahead to really be selfish in a big way. Tell your banker about this plan.

Missouri. F. W. ATKESON.

Western Guernsey Association Changes Name

At its 22nd annual meeting held at Madison, February 10th, the Western Guernsey Breeders' Association voted to change the name of the organization to the Wisconsin—Illinois Guernsey Breeders' Association. This action was taken because the name formerly used has been adopted by an association of Guernsey breeders on the west coast. The two states, Wisconsin and Illinois, alone were included in the new organization because of the common interest among the breeders in these two states.

C. R. George of Indiana addressed the meeting on the subject of Guernsey calf clubs, which proved to be a very popular one and in which most of the breeders show much interest. He stated the "big problem before the Guernsey breed is not one of cattle but one of men". He emphasized the value of the calf club in developing boys and girls in a larger knowledge of dairy cattle breeding. The Indiana plan of these clubs is outlined for three years' work, the club member taking a calf at the age of about six months, caring for it, showing it at a fall show, carrying it through the next year's work, and showing it again in the fall; and then keeping records on it for one more year when the heifer has freshened and bringing it into a final show at the end of three years. Mr. George insisted that the permanent ownership of the calf by the member is a vital factor in the success of a calf club and stated that the third year of the work is the most important. He also pointed out the fact that a local leader is necessary who will see that the club member makes a monthly report of his work and that the work is kept up in good condition. He stated that the Indiana clubs, which own more than 200 pure-bred Guernseys, have been a big help to the breed in that state, that the clubs have resulted in showing an increased number of animals at the fairs, in the ownership of good Guernseys by many new young breeders, and finally that the clubs "have done more good for the parents than for the boys and girls themselves".

A dozen breeders at the meeting pledged themselves to furnish Guernsey calves for clubs at a cost of $150, it being evident from reports made that the difficulty in securing calves is handicapping the formation of new clubs.

A. L. Hyzer of Iowa, who has sold Iowa farmers over a thousand head of grade and pure-bred Guernseys, reviewed the present economic situation on Iowa farms and said: "Iowa farmers readily see the mistake we have made in not keeping more cows on our farms. We have come to the conclusion that to uphold the present high price of our land, we must have more dairy cows."

J. E. Stallard, newly appointed fieldman for the Middle West, in a review of the opportunities for Guernsey extension work in this territory, listed calf clubs and the increased ownership of pure-bred sires as the two most important projects which he will undertake.

B. F. Sheridan, who has lately been very successful in advanced registry work, declared that the making of records is a very easy matter "after you get started". He said: "If you are a cow man, records are easy. If you're not, don't start. Just start; that's about all there is to testing. I can't see for the life of me how a breeder can be successful without testing. I don't believe he can."

H. W. Griswold presented data showing the marked persistency of the Guernsey throughout her twelve-month record period as compared to other breeds and drew the conclusion that the 365-day record is the most satisfactory for the breed. He showed that for the ten highest producing cows among the Holsteins the average production for the first month is 112 pounds of fat. This declines until the average for the twelfth month is 76 pounds. With Jerseys the average in the first thirty days is 88 pounds and, in the twelfth month, 60 pounds. Ayrshires run from 70 pounds in the first to about 55 in the last month of testing. As compared with these figures, the first month of the ten high Guernsey records averages 80 pounds of fat. Throughout the year the production is never over 90 pounds or under 80, until the last year when the average is 76 pounds.

Following this discussion the association adopted a resolution asking the Executive Committee of the American Guernsey Cattle Club to continue the double letter classes and, if the addition of new classes must be made, to form a 305-day class which shall be a real farmers' test in which the milking is done twice a day and in which a calf must be dropped before the year's end.

Another important resolution passed was one demanding that all cattle entered for dairy shows and fairs shall be tested for tuberculo. is not earlier than the first of July previous to showing, that certificates shall be called for when the animals enter a fair ground, and that these must be certified to by qualified federal or state inspectors. The resolution also calls for strict observations of sanitary precautions by state fair managements.

Plans were made for the holding of a consignment sale the day following the annual meeting of the American Guernsey Cattle Club in 1922 and a committee appointed to have charge of the sale. Charles Hill of Wisconsin was made chairman; Charles Wirt, Minnesota; Drew Ten Broeck, Illinois; H. W. Griswold, Wisconsin; and Percy Jones, Iowa, being other members. F. E. Fox and J. A. Murphy form a committee to supervise the selection of a Wisconsin herd to be entered at the National to represent the state in the state herd class.

In the election of officers, B. F. Sheridan was made president; Ernest Sass and Jay Fruit, vice-presidents; and H. W. Griswold was re-elected secretary. J. A. Murphy and Homer Rundell were elected to the executive committee.

About sixty breeders attended the evening banquet at which talks were made by the following breeders: F. K. Babson, Bert Hyzar, C. R. George, Drew Ten Broeck, Delbert Kingston, W. A. Munn, G. R. Ingalls, B. F. Sheridan, H. W. Griswold, and J. E. Stallard.



PEARL'S DOT. A TRULY GREAT COW, OWNED BY SHOREWOOD FARM, MINNESOTA

This five-year-old Guernsey cow has produced in a trifle more than three years, without a single day's rest period, three living calves, three records averaging 12,053.5 lbs. milk containing 632.36 lbs. fat. The first record placed her third in her class, the second made her champion of all three-year-old Guernseys in the Roll of Honor, and had she produced twelve more pounds in the last record she would have qualified for a place among the Class C leaders. She now holds ninth place in Class GG and second in Class EE.

Eastern Milk Notes

HOARD'S DAIRYMAN:—The immense new plant of the Williamsport, Pa., Milk Products Company now under construction for John H. Hurr and his business associates, while primarily an ice cream manufacturing plant, will include facilities for the proper pasteurization of milk, with a capacity of from 8,000 to 10,000 quarts each day. The company intends to operate a fleet of trucks throughout the rural section of that vicinity collecting milk for the plant and will establish retail delivery routes in the city.

⚜

The Grove City Creamery of Grove City, Pennsylvania, continues to manufacture foreign types of cheese by methods developed in the laboratory of the Dairy Division. The production of Roquefort, Swiss, and Camembert cheese during the past year exceeded 130,000 pounds.

⚜

The Tioga Manufacturing Co. of Wellsboro, Pennsylvania, is to be incorporated with $200,000 capital for the manufacture of powdered milk, milk chocolate, butter, and other milk products.

⚜

The Franklin Dairy Co. at Ravena, New York, has posted notices that wages at their plant will be reduced $.25 to $1.00 per day. Heretofore the company has been paying $4 and $5. Some milk plants in Pennsylvania have cut their employee's monthly checks 10 per cent.

⚜

At a recent meeting of the Dairymen's League of Deposit, New York, it was voted to purchase the old Mutual creamery building for a new creamery in that village. It was planned to sell shares in the creamery on the basis of $10 per cow and a committee was appointed to procure the subscriptions at once as large improvements are to be made on the building, and they want to be ready for business by April 1.

Another League plant that is rushing its construction so as to be ready to receive milk on April 1 is the new Dairymen's League Creamery at Accord, New York. The contract for the erection of this plant has been awarded to Ludke Brothers of Auburn, New York, specialists in this kind of construction, who built the League buttermaking plant in Auburn so quickly.

⚜

A report was recently given by the Warren Settlement Cheese Company of Black River, New York, for the season of 1920. This factory opened April 1 and closed November 7. The total pounds of milk received was 1,033,601; total pounds cheese made, 99,848; gross receipts, $25,-456.79; net proceeds, $23,366.88; expenses, $2,089.91; net price per hundred pounds of milk, $2.26; average price per pound of cheese, $.254; average pounds of milk to pound of cheese, 10.33.

⚜

The Royal Dairy Company of Elmira, N. Y., has been dissolved.

Pennsylvania. E. M. L. BLANCHER.

Cheese Prices for January

The daily quotations of the U. S. Bureau of Markets show the following average prices for American cheese (style Twins) for three large markets in January, 1921 and 1920:

	Average price Jan. 1921	Jan. 1920
	Cents	Cents
Wisconsin Boards	23.88	30.84
Chicago	23.56	30.13
New York	23.50	31.00

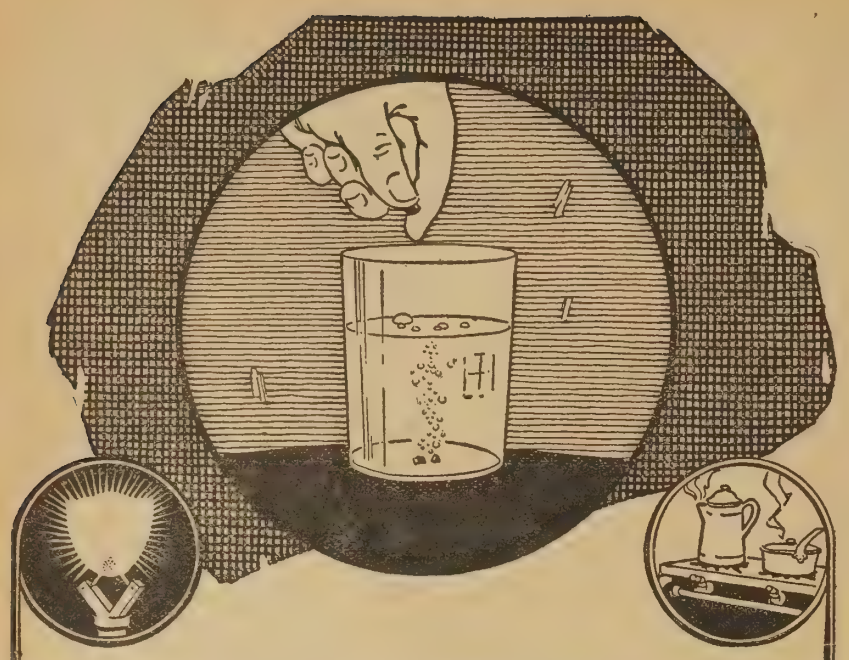
This represents an advance of two cents over the December average on the Wisconsin boards, with Chicago showing a one cent advance and New York receding a cent and a half. Longhorns averaged 26.75 cents on the Wisconsin boards, or nearly three cents above the price of Twins and two and a half cents above the average they sold for in December. In January a year ago Longhorns averaged 32.65 cents, or six cents higher than for the current year.

Dr. Jordan Retires

HOARD'S DAIRYMAN:—It has been understood for some time that Dr. Jordan, head of the state experiment station at Geneva, is soon to leave that institution and return to his native state of Maine. It was not, however, until last week that his resignation was formally presented to the board of control. Hoard's Dairyman had an account of the doctor's activities about a year ago and it will be unnecessary for this statement to go into his life work materially. Dr. Jordan said to the writer that he has been at the head of the Geneva Station for twenty-five years and was similarly engaged in Maine for eleven years, and he believes that he has carried a burden of that proportion long enough. Dr. Jordan goes about the first of June and he carries with him the confidence of the state as regards agriculture.

New York. H. H. LYON.

The American Farm Bureau has employed as the general office manager A. R. Simpson, recently assistant secretary of the American Poland China Record Association. Mr. Simpson is a native of Wisconsin, a graduate of the University of Illinois, and had practical farm experience before taking up editorial work with the Swine World and later with the Shorthorn World.



Crushed stone and water —and a machine to mix them

THAT is Colt Carbide Lighting-and-Cooking reduced to its simplest terms. And what a wonderful combination! The Colt machine brings carbide (crushed stone) and water together, producing a marvelous gas.

This gas produces the *hottest* cooking-flame known; and a light that is seemingly a miniature of that great orb that rises in the east and sinks in the west.

Cook and Illuminate with a Colt

The Colt Carbide Lighting-and-Cooking Plant drops a handful of carbide intermittently into a self-contained tank of plain, ordinary water. The water releases the gas from the impregnated stone, and there you are!

There is no waste. The Colt machine shuts off automatically as you draw upon it for fuel and light. The carbide residue is slaked lime, good for fertilizer.

Picture a cool, sweet kitchen, even in sweltering summer, made possible by carbide fuel for the gas-range, the hot-plate and the flat-iron.

Picture your house, barns, outbuildings and driveways a blaze of radiant glory in the pitch black of the country night. And the little old Colt machine making gas as you need it, with the ease and dignity of the old-fashioned windmill!

You want to know what it costs and all about it. We'll tell you gladly, if you'll just send us your name and address on a postcard. *Do* that.

J. B. COLT COMPANY

30 East 42d St., New York

COLT TRADE MARK CARBIDE LIGHTING-AND-COOKING PLANTS

C-4-21

Natco Hog Houses Help Save the Pigs

Build the farrowing houses of Natco Hollow Tile. The three hollow spaces filled with air in a Natco wall provide perfect insulation through which heat, cold or moisture will not pass. Thus Natco Hog Houses are warm in winter and cool in summer. Moisture does not condense on these walls as on other forms of masonry. And the smooth glazed surface of Natco walls is easy to disinfect—it affords no hiding-place for germs or vermin.

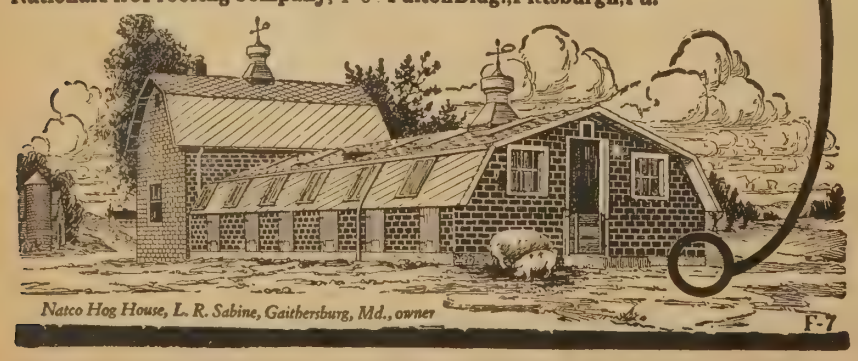
Section showing foundation

Natco Hog Houses soon pay for themselves in pigs saved. They cost almost nothing for upkeep—never need painting and seldom any repairs.

Write for our *free* book, "Natco on the farm."

Ask your building supply dealer to quote you on Natco Hollow Tile.

National Fire Proofing Company, 1515 Fulton Bldg., Pittsburgh, Pa.



Natco Hog House, L. R. Sabine, Gaithersburg, Md., owner

F-7

When Writing to Advertisers, Mention Hoard's Dairyman

Oregon Dairymen's Co-operative League Marketing Agreement

The Oregon Dairymen's Co-operative League, a non-profit, co-operative association, with its principal office at Portland, Oregon, hereinafter called the League, first party, *and the undersigned dairyman, second party, agree:*

1. The dairyman is a member of the League and is helping to carry out the express aims of the League for co-operative marketing, for eliminating speculation and waste, and for dairymen and the public, by this and similar stabilizing food markets in the interests of the obligations undertaken by other dairymen.

2. The League agrees to buy and the dairyman agrees to sell and deliver to the League all of the milk or cream produced by or for him, in Oregon or at any place tributary to Portland, during the years 1920 (after date hereof), 1921, 1922, 1923, 1924, 1925.

The dairyman may retain milk for home, farm, or local consumption or for retail distribution to consumers.

3. The dairyman expressly warrants that he has not heretofore contracted to sell, market, consign, or deliver any of his milk or cream to any person, firm, or corporation, except as noted at the end of this agreement. Any milk or dairy products covered by such existing contract shall be excluded from the terms hereof for the period and to the extent noted.

4. (a) All milk or cream shall be delivered to the order of the League, as when and where directed by the League.

(b) *Any deduction or allowance or loss that the League may make or suffer on account of inferior grade, quality, or condition at delivery, shall be charged against the dairyman* individually.

(c) The League may make rules and regulations and provide inspectors to standardize the quality, method, and manner of handling and shipping such milk and the dairyman agrees to observe and perform any such rules and regulations prescribed by the League and to accept the grading established by the state and federal authorities and the League.

5. The League agrees to resell such milk or cream, or the by-products manufactured therefrom; together with milk or cream or by-products of like variety and grade, delivered by other dairymen under similar contracts at the best prices obtainable under market conditions; and to pay over the net amounts received therefrom as payment in full to the dairyman or dairymen named in contracts generally similar to this contract according to the value of the milk or cream delivered by each of the dairymen after deducting therefrom the costs of maintaining the association and of handling, grading, and marketing such milk or cream or by-products; and also reserves for advertising, credits, and other general commercial purposes said reserves not to exceed one per cent of the gross resale price, within the discretion of the League.

6. The League shall for all purposes here, pool or mingle milk or cream of the dairyman with milk or cream of a like grade from the same districts, delivered by other dairymen named in contracts generally similar to this contract. The dairyman agrees that his milk or cream or products thereof may be so mingled and that the returns therefrom, less all costs, advances and charges, shall be credited and paid to him on a proportional basis out of the receipts from the sale, marketing or other disposal of all such milk or cream of like grade, or of the by-products therefrom, each pool to be for a calendar month payment to be made monthly for whole milk or cream, and as and when determined by the League, for by-products therefrom.

7. The dairyman expressly agrees that the League may handle in its discretion some of the milk or cream in one way and some in another; and may manufacture into by-products such amounts of milk, cream and milk products as the League may deem proper, but the net proceeds of all milk, cream, and milk products of like variety and grade from the same districts less all charges, shall be divided ratably among the dairymen in proportion to their deliveries to each pool. Such distribution shall be made from time to time, in such amounts as the League may deem advisable until all the accounts are completely settled.

8. The League may sell the said milk or cream or the by-products therefrom within or without this state, at such time and upon such conditions and terms as it may deem fair and advisable; and it may sell all or any part of the milk and cream products to any agency for the co-operative marketing of the milk products of the Pacific Coast or of other states or group of states and under such conditions as will serve the joint interests of the dairymen and the public; and any proportionate expenses connected therewith shall be deemed marketing costs under Paragraph Five.

9. The dairyman further agrees that the League shall borrow money in its name for any purpose on the by-products or on any warehouse receipts or on any accounts for the sale of milk or cream or by-products or on any commercial paper delivered therefor. The League shall pro-rate the money so received among the dairymen according to the district pools and pay to each dairyman his proportionate amount thereof.

10. The League may establish selling offices, manufacturing plants, marketing, or other agencies in any place.

11. The dairyman shall have the right to close his dairy at any time in his free dis-

50 bushels of Corn per acre on $30 Land—



LIVESTOCK PAYS ALONG THE

Seaboard

the south's newest great railway

Productive prairie land that only costs about $30 per acre often produces 50 bushels of corn.

Home-Grown Concentrates Year-Around Pastures

Instead of having to buy quantities of cotton seed, soy bean and velvet bean meal, the farmers along the Seaboard grow their own soy beans, velvet beans and peanuts.

As a pork maker, the average acre of peanuts is equal to 60 bushels of corn per acre. The average acre of sweet potatoes is equal to 100 bushels of corn.

Pasturage every month. No sheltered barns are needed. Dairying, cattle and hog raising pay the maximum profit.

The Seaboard opened up a new prairie country in Florida, Georgia, Alabama, South Carolina, North Carolina and Virginia.

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SEABOARD AIR LINE RAILWAY
Room 122, Royster Building, Norfolk, Va.

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Finely Ground Raw Rock Phosphate is the cheapest source. Your inquiries solicited.

M. H. Gray, Mt. Pleasant, Tennessee

BUY YOUR **COFFEE** WHOLESALE IN 5 LB. LOTS
from JEVNE'S and SAVE 10c per pound
We Pay Parcel Post. We sell only High Grade Coffee and Tea
Send for our Money-Saving Price List, or better still
Send $1.45 for 5 lbs. JEVNE'S ECONOMY COFFEE
or $1.55 for 5 lbs. JEVNE'S EXCELLO COFFEE
or $1.70 for 5 lbs. JEVNE'S SPECIAL COFFEE
or $1.80 for 5 lbs. JEVNE'S PERFECTION COFFEE
JEVNE COFFEE CO. (Est. 1881) Coffee Specialists
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EVERY FARM will have a silo within the next few years. Be the **Green Mountain Silo** man in your neighborhood. *Liberal terms to agents. Write for complete silo book.*

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Send for catalog No. 6
W. S. Dickey Clay Mfg. Co.
Macomb, Ill.
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PERMANENCY

Is what you get in CORN BELT TILE silos. They are repair proof, paint proof, storm proof. Thoroughly glazed, beautiful in appearance, strongly reinforced. Include tile chute, feed room, steel back ladder and hip roof rafters. Discounts for early shipments.

The Corn Belt Silo Company
Evanston, Ill. Dept. H, Brazil, Ind.

When writing advertisers please mention Hoard's Dairyman.

cretion; but if he produces any milk, or acquires or owns an interest in any, during the term hereof, it shall all be included under the terms of this agreement and must be sold only to the League.

12. This agreement shall be binding upon the dairyman during the period above mentioned as long as he produces milk or cream, directly or indirectly, or has the legal right to exercise ownership or control of any commercial milk or cream or any interest therein or of any dairy cows during the term of this contract.

13. From time to time, the dairyman will mail to the League any statistical data requested on the forms provided for that purpose by the League.

14. This agreement is one of a series generally similar in terms comprising, with such agreements, signed by individual dairymen, one single contract between the League and the said dairymen, mutually and individually obligated under all of the terms thereof. The League shall be deemed to be acting in its own name, for all such dairymen in any action or legal proceeding on or rising out of this contract.

15. The dairyman hereby expressly authorizes the League to deliver to the Oregon Dairymen's By-products Corporation any or all of his milk or cream for handling, processing, manufacturing into by-products, or under an obligation to pay all proportionate costs of such services and the retirement of 20 per cent of the preferred stock annually, beginning with 1921, and the 7 per cent dividend of all outstanding preferred stock, such other costs, charges, or advances and on such terms and conditions as the League may deem advantageous and profitable to the dairyman.

16. (a) If the League brings any action whatever by reason of a breach hereof, the dairyman agrees to pay to the League all costs of court, costs for bonds and otherwise, expenses of travel and all expenses arising out of or caused by the litigation and any reasonable attorney's fee expended or incurred by it in such proceedings; and all such costs and expenses shall be included in the judgment and shall be entitled to the benefit of any lien securing any payment hereunder.

(b) Inasmuch as the remedy at law would be inadequate and inasmuch as it is now and ever will be impracticable and extremely difficult to determine the actual damage resulting to the League should the dairyman fail so to sell and deliver all of his milk or cream, the dairyman hereby agrees to pay to the League for all milk or cream delivered, sold, consigned, or marketed by or for him other than in accordance with the terms hereof, the sum of 5 cents per gallon as liquidated damages for the breach of this contract, all parties agreeing that this contract is one of a series dependent for its true value upon the adherence of each and all of the contracting parties to each and all of the said contracts.

(c) The dairyman agrees that in the event of a breach by him of the provisions hereof, regarding delivery of milk or cream, the League shall be entitled to an injunction to prevent further breach hereof, and to a decree for specific performance hereof; and the parties agree that this is a contract for the purchase and sale of personal property under special circumstances and conditions and that the buyer cannot go into the open markets and buy milk or cream to replace any which the dairyman may fail to deliver.

17. The parties agree that there are no oral or other conditions, promises, covenants, representations or inducements in addition to or at variance with any of the terms hereof, and that this agreement represents the voluntary and clear understanding of both parties fully and completely.

READ, CONSIDERED, AND SIGNED AT ....., State of ....., this .....day of ..... 1920.

Dairyman .....
By .....
P. O. Address .....
Number of Dairy Cows .....
County .....
To whom shipping .....
Kind of product .....
Payments or terms, $10 membership fee.....
Contract secured by .....

By authority of a resolution of the Board of Directors of the Oregon Dairymen's Co-operative League, adopted on the 7th day of June, 1920, this agreement is approved, accepted, and executed.

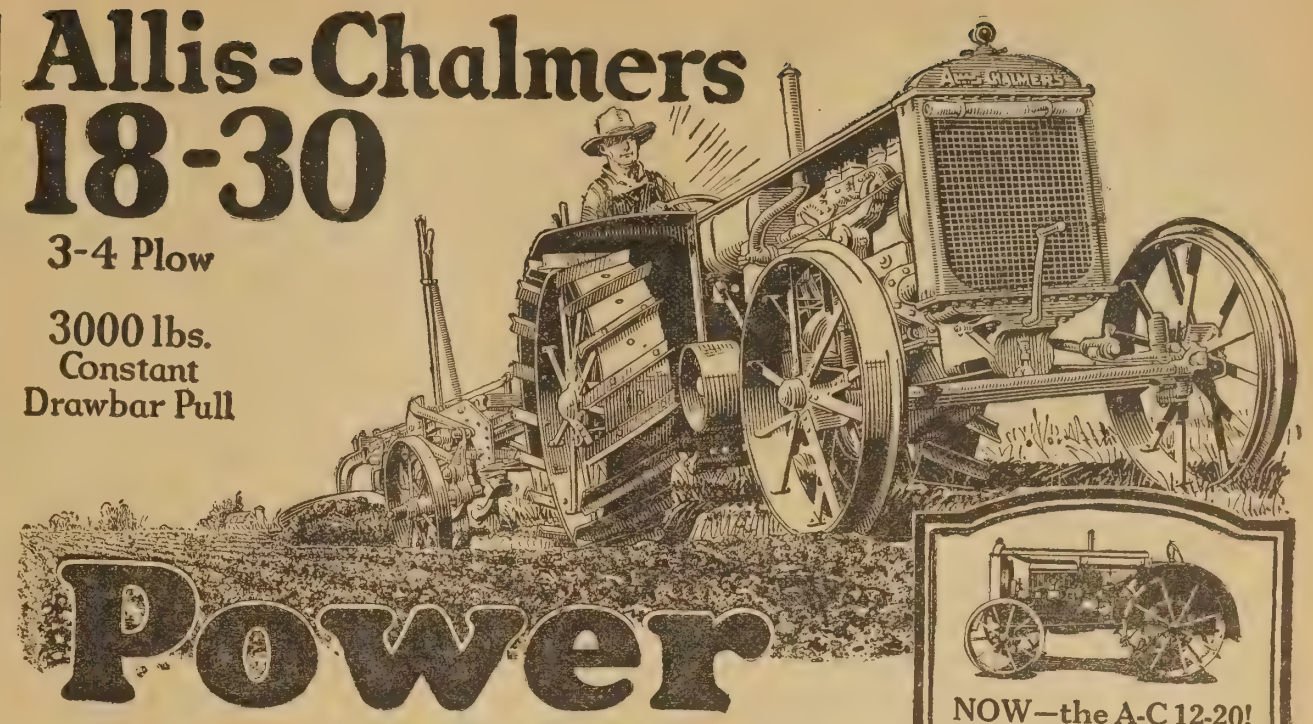
OREGON DAIRYMEN'S CO-OPERATIVE LEAGUE.
By .....
Secretary.
Portland, Oregon,....., 1920.

The Jersey breed has three new state champions in Georgia. These are all owned by Mr. J. R. Humphries. Raleigh's Lily North, as a junior 3-year-old, has broken the state record with a production of 10,615 pounds of milk containing 528 pounds of butterfat; Raleigh's Louise of Brookhill, as a junior four-year-old, has produced 8,553 pounds of milk containing 494 pounds of butterfat; while the third record broken is that of Raleigh's Rose of Brookhill, who produced as a senior four-year-old 12,292 pounds of milk containing 609 pounds of butterfat.

Allis-Chalmers 18-30

3-4 Plow

3000 lbs. Constant Drawbar Pull



Power

How Seven Years' Development Gave Tremendous Reserve Power

DEEP plowing—*quick plowing*—that's the test of a tractor. It's a race against time and the weather—and your tractor must deliver tremendous power at high speed!

But with speed must be combined abundant reserve power. The going is fine on the level, but what of the grade? The draft for a time holds constant, but wait for the hard pans you strike farther on down the field!

Surely, the farmer who is buying a tractor should look first to the factors of *power and speed.*

NOW—the A-C 12-20!

SEVEN years and $3,000,000 were spent in perfecting the A-C 18-30. Now every proven feature developed in this model has been incorporated into the new A-C 12-20 2-3 plow tractor. Reserve power, long life, accessibility, simplicity—these are 12-20 features you'll appreciate. And large scale production—combined with the enormous buying power of this $42,500,000 company—makes this tractor, like the 18-30, one of the greatest values in the country.

$3,000,000 to Build Brute Reserve Into This Tractor

Seven years ago, when work first began on Allis-Chalmers tractors, the designing of an engine was entrusted to America's foremost consulting engineers.

Scores of *different* motors were produced in order to arrive at final design. After being assembled, each was "run-in," and then torn down for inspection. Then every motor was reassembled again—given another test.

So Allis-Chalmers re-designing went on—care, skill and persistence constantly guiding every construction operation. New power standards were sought—new power standards attained. Motor vibration was made no more noticeable than in the finest motor car or truck.

After years of testing, proving and improving, a complete A-C 18-30 tractor was built. Long-time tests were conducted—in every kind of soil. But production was still delayed! Finally a limited number of A-C 18-30's was released. Would they deliver the brute reserve that Allis-Chalmers wanted?

That Allis-Chalmers tractors more than made good is a proven fact today. Not a single A-C 18-30 owner made complaint. And now Allis-Chalmers tractors are perfected. Now, after seven years' development—*climaxing the expenditure of $3,000,000*—one of the world's largest manufacturing organizations goes into volume production!

Burns Kerosene—All Working Parts Accessible

The perfected four-cylinder valve-in-head 18-30 motor starts on gasoline, and after warming up works equally as efficient on kerosene. A twin-bowl carburetor and a two-way intake valve enable operator to switch from one fuel to another without leaving the driver's seat. It is nothing unusual for 18-30 owners to plow an acre an hour with a fuel consumption of only 2 gallons per acre.

Then, too, the A-C 18-30 owner is his own mechanic. Though enclosed in dust-proof housings, every working part is almost immediately accessible. Removal of two large side inspection plates exposes entire crankcase; clutch shoes can be taken out for re-lining in 15 minutes; valves can be reached for grinding or cleaning of carbon by removal of two cylinder heads.

WRITE FOR BOOKLET TODAY—Ask for the 18-30 or the 12-20 booklet—or both—giving complete details of exclusive Allis-Chalmers construction features which make these tractors so advanced in design.

DEALERS—Write today for attractive dealership and jobber proposition. Share in the mammoth sales co-operation program which goes with Allis-Chalmers 100-tractor-a-day production capacity!

ALLIS-CHALMERS MFG. CO., DEPT. 28D Milwaukee, Wis.

Watch ALLIS-CHALMERS this Year



SCOTT'S SOY BEANS

We specialize in Soy Beans.

Soy Bean Hay is richer in protein than Alfalfa Hay. When planted with corn for silage, Soy Beans greatly increase the feeding value.

Soy Beans, when inoculated will store up as much as 125 pounds of Nitrogen per acre.

Other important facts about this valuable crop are to be found in Scott's Field Seed Book and Scott's Soy Bean Catechism.

Write at once for this free information

O. M. SCOTT & SONS CO.
85 Sixth St. Marysville, O.

Biggest Co-operative Creamery —Bigger Than Ever—



I. O. SIMONSON, HEAD BUTTERMAKER

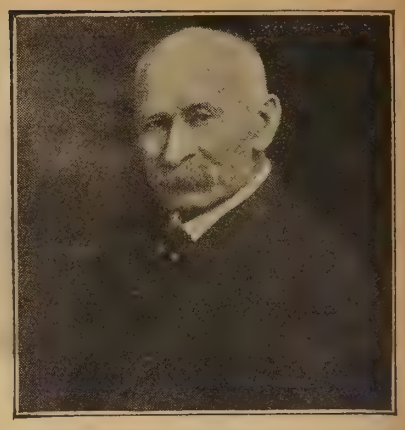
"NOTHING succeeds like success." The biggest co-operative creamery in the world, operated by the Barron Creamery Company of Wisconsin, is bigger than ever. The nineteenth annual report made to the stockholders at their annual meeting February 12, shows that more pounds of butter were made in 1920, and the selling price of the product and the returns to patrons were greater than in any previous year. The butterfat received in 1920 totalled 1,517,893.7 lbs. from which 1,805,694.75 lbs. of butter were made, an overrun of 18.95 per cent. The sale of butter amounted to $1,044,617.14, the total receipts of the creamery being $1,056,279.88. The average monthly price paid for butterfat was 65.5 cents and the average net price received for butter, 57.87 cents. The cost of making 100 lbs. of butter and placing it aboard a shipping car was $2.29. The average number of patrons was 928.

The Barron organization was started in 1902. Its first churning of 120 lbs. was made March 17, 1902, and sold for 27 cents per pound. Since that time it has made 16,766,389 lbs. of butter which it has sold for $6,107,563.81 and for which it has paid its patrons $5,684,629.85. This unusual record points the way for smaller and less prosperous co-operative creameries.

There are several reasons for the growth of this creamery. One of these is A. W. Arndt, manager and treasurer since 1910. Poor management is the rock on which co-operative efforts without number have wrecked. The saving made by paying a low salary and employing a manager of corresponding ability is a speculation few successful organizations risk. Mr. Arndt has given skillful, faithful service. He runs a big business by big business methods.

Volume of business is a prime factor in the Barron creamery's success. Its overhead per pound of butter is less than would be possible with a smaller output. Mr. Arndt states that increasing volume has enabled the managment to keep the cost of making a pound of butter as low as it was seven years ago. It commands a market for its butter not open to a small creamery. It affords more efficient equipment, more skill in its manufacturing, and buys its supplies to better advantage because of its size.

Uniformity of product contributes liberally to the net returns. The butter manufactured is of such quality that it sells to retail as a special brand. It is uniformly of high grade primarily because the cream is gathered frequently. Mr. Arndt says, "We don't want shipped in cream." Also the cream is handled by an expert buttermaker, I. O. Simonson, who is able to control most of the factors which cause lack of uniformity in other creameries. He knows what goes into the four big churns which churned nearly two million pounds of butter last year and he knows what will come out. Mr. Arndt believes the character of the water used in the creamery is partially responsible for the butter quality. He states that the limiting factor in quality is on the farms and not at the creamery—that an extra premium of one cent per pound could be obtained if the patrons would give better care to their product. One cent on the output of the creamery would have netted over $18,000 in 1920.



A. W. ARNDT, MANAGER AND TREASURER SINCE 1910

The sale of Barron butter is based on confidence, buyer and seller meeting each other fairly and allowing for the conditions which control prices. The creamery depends on quality and uniformity to make its market; the buyer recognizes this and pays accordingly. Since April, 1902, the bulk of the output of the creamery has gone to one firm in Buffalo, excepting in 1912 when shipments went to Chicago. A new contract is made each year without controversy because, as the manager states, "We don't want to lose the market and they don't want to lose the butter". The price for New York extras is paid at Buffalo which saves the heavier shrinkage and higher freight of New York shipping. A 63.5-lb. tub, as weighed at Barron, is paid for on the basis of 63 lbs. Also a slight premium is paid for June, July, and August butter.



THE BIGGEST CO-OPERATIVE CREAMERY, WHERE 1,805,694.75 LBS. OF BUTTER WERE CHURNED IN 1920

Drop in Feed Market Assumes Wider Proportions

[Report by U. S. Bureau of Markets.]

The feed market during the week ending February 5 was extremely weak. Prices of several feedstuffs were reduced $3 to $5 per ton. The demand remained unimproved. Inquiries received were mostly from feeders actually in need. Little speculative or investment buying was in evidence. Uncertainty as to the probable future demand has tended to restrict the placing of a larger number of shipments in transit unless sold. Rulings providing for the reconsignment of cars at local rates under certain conditions made this inadvisable.

A recent order to carriers generally to incorporate in their tariffs the rules recommended by the Interstate Commerce Commission in Docket 10457, providing that cars shall be reconsigned on the basis of the through rate whether orders are filed before or after arrival may possibly result in heavier transit offerings from now on.

Wheat Mill Feeds—The demand for wheat feeds was limited. While offerings from the North and Middle West were heavier, many of the recent sales are reported to have been made by short sellers who expect the improvement in the flour demand to be permanent. Season bran was quoted by Minneapolis jobbers around $19 to $20 per ton. Continued lower offerings made buyers timid and as a result bran and middlings closed about $5 per ton lower than a week ago. No particular increase in the country demand was noted on this break, although stocks on hand are reported as depleted. Stocks of flour middlings and red dog are heavy.

Cottonseed Meal and Cake—Southern jobbers quote guaranteed prime 43% protein cottonseed meal at $23 f. o. b. cars, Texas common points and 41% meal at $22. The 7% ammonia or 36% protein meal is bringing around $27 f. o. b. southeastern markets. The demand is light and mostly for quick shipment. Exporters are inactive and stocks at mills remain sufficient to take care of requirements. A fair inquiry is reported for hulls in the Southeast.

Linseed Meal and Cake—The demand for meal, while not so good as during previous years, is reported as fair. Carload business is increasing. Prices are somewhat easier and and jobbers' prices are still materially lower than those asked by mills. In the Chicago market, meal was bought at $38 when mills were offering on a basis of $40. The export demand for cake and meal was light.

Gluten Feed—A further reduction of $5 per ton was announced by the principal manufacturers on Wednesday, and other mills lowered their prices accordingly. The demand has slowed up while the production has increased.

Hominy Feed—There has been considerable activity in hominy feed, particularly in the East. Market prices appeared to be established by buyers rather than manufacturers. A large volume of business was reported booked at around $21 and $22 in the Chicago and St. Louis markets. The discount at which yellow hominy is selling under white hominy was further reduced and was only 50c to $1 per ton in several markets. Much of the feed is said to be used by farmers who are mixing their own dairy rations instead of buying the more highly concentrated feeds, already mixed. Production and movement are good.

Beet Pulp—Arrivals of foreign dried beet pulp continue. For the six months ending December, 1920,

Carload Prices of Hay and Feed at Important Markets February 5

(In dollars per ton)

Commodity	Boston*	New York*	Philadelphia*	Baltimore*	Atlanta	Jacksonville	Pittsburgh	Memphis*	St. Louis*	Shreveport	Chicago*	Minneapolis*	Omaha†	Kansas City*	San Francisco†
HAY															
Timothy and clover:															
No. 1 Timothy	30.50	32.50	25.50	.....	32.00	3.200	24.50	29.00	25.00	30.00	24.50	20.00	.....	‡21.50	.....
No. 1 Clover, mixed	29.50	27.00	.....	23.00	28.50	29.25	23.00	.....	21.00	.....	20.00	16.00	.....	19.50	.....
No. 1 Clover	.....	25.00	.....	25.00	.....	.....	23.00	.....	23.00	.....	20.00	16.00	.....	‡16.50	.....
Alfalfa:															
No. 1 Alfalfa	.....	.....	.....	.....	34.00	34.00	.....	29.00	28.00	30.00	25.00	22.00	21.00	‡22.00	21.00
Standard Alfalfa	.....	.....	.....	.....	31.50	33.00	.....	27.50	24.00	28.00	23.00	20.00	18.00	18.50	.....
No. 2 Alfalfa	.....	.....	.....	.....	28.00	31.00	.....	23.00	22.00	.....	20.00	17.00	11.50	14.50	.....
FEED (Bagged)															
Wheat Bran:															
Spring	30.00	30.00	29.00	32.00	.....	34.00	29.00	.....	.....	31.50	22.50	21.00	.....	.....	.....
Soft Winter	32.00	30.50	32.00	32.00	35.00	36.00	32.00	30.00	23.00	32.50	.....	.....	.....	.....	46.00
Hard Winter	30.00	30.00	29.50	.....	33.50	.....	31.00	28.00	23.00	.....	23.00	.....	22.50	24.50	.....
Wheat Middlings:															
Spring (Standard)	29.00	27.50	28.00	30.00	33.00	33.50	28.00	.....	.....	.....	21.00	20.00	.....	.....	.....
Soft Winter	34.00	.....	33.00	31.50	35.00	35.00	32.00	.....	24.00	44.00	.....	.....	.....	.....	.....
Hard Winter	32.00	.....	30.00	.....	34.00	.....	32.00	.....	24.00	.....	.....	.....	.....	.....	.....
Rye Middlings	30.00	.....	29.00	31.00	.....	.....	26.00	.....	.....	.....	21.00	20.50	20.50	.....	.....
High protein meals:															
Linseed	41.00	42.00	44.00	.....	.....	.....	‡42.00	.....	40.00	.....	40.00	38.00	40.00	41.50	.....
Cottonseed (41 per ct)	40 00	.....	37.00	.....	.....	.....	37.50	29.00	33.00	31.00	34.75	35.00	.....	32.25	36.00
Cottonseed (36 per ct)	37 00	36.50	35.00	36.50	33.50	34.25	35.00	27.00	30.00	.....	33.50	34.00	.....	.....	.....
No. 1 Alfalfa meal (med)	32 00	.....	.....	37.00	31.00	34.00	.....	25.00	23.50	.....	25.00	.....	21.00	21.50	29.00
Gluten feed	43.00	44.00	37.20	45.00	.....	.....	39.00	.....	38.00	.....	35.00	.....	.....	.....	.....
Hominy feed (white)	31 00	31.00	30.00	29.00	34.00	.....	.....	21.00	20.50	.....	22.00	.....	19.50	.....	.....
Ground barley	36.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	32.50	24.00	.....	31.75	†30.00
Beet pulp	38.00	36 00	39.00	37.00	40.00	46.00	.....	.....	.....	.....	.....	44.00	.....	.....	.....

*Hay quotations represent average of cash sales at these markets. ‡Normal. †Rolled.

these imports amounted to about 16,000 tons compared with about 5,000 tons for the same period, 1919. Trading in this commodity continues disappointingly quiet and heavy stocks are reported in Buffalo and other markets. Present offerings are more than ample for current needs and prices are irregular. Dutch pulp being quoted at $36 spot f. o. b. New York, and Michigan choice in transit at $44 delivered New York rate points.

Other Feeds—Continued favorable weather in nearly all feeding sections caused a light demand for the less important feeds. Oat feed sold as low as $6 in the Chicago market and white corn bran was offered at $31 delivered eastern points. Irish dried brewers grains could be bought at $33 f. o. b. cars New York and corn feed meal at $33 to $35 delivered New England territory, depending on quality. Flour middlings were generally offered at from $2 to $5, and red dog about $10 over the price of standard middlings.

Hay Markets Continue Dull and Irregular

While a few of the principal hay markets report steady prices caused by light receipts and better demand during the week ending February 5, southern and southeastern markets were lower and receipts were more than sufficient for the limited demand. The average prices of No. 1 timothy at 15 of the principal markets was about $27 per ton which is $8.50 per ton lower than at the corresponding time last year and $3.50 per ton lower than during the first week of February, 1919.

The continued mild weather is curtailing demand in all sections but dealers report that conditions generally are showing a slight improvement and that orders for single car shipments are increasing. The demand is not sufficiently broad, however, to absorb any material increase in receipts.

Not much improvement in the movement of hay is expected because of the bad condition of the roads in many sections and disinclination on the part of the farmers to sell at the current low prices.

Alfalfa held fairly steady for the better grades in most of the markets. At Omaha the receipts of good hay were very light and the railroad yards on Friday were entirely cleared of hay for the first time in many days. Only four cars of alfalfa were received at Chicago, which were not sufficient for the demand. Some Idaho hay has been sold to arrive but shipments are slow because of the stormy weather in that state. A considerable part of this hay was received at Kansas City during the week but was of much poorer quality than was expected. Grades lower than No. 1 are not selling so freely as during the previous week.

Unless later receipts are of better quality it is thought that but little of this hay can be handled at Kansas City except at considerably lower prices. The Memphis alfalfa market continues dull. Good stocks of hay and excellent pasturage are contributing to the weakness of the Pacific Coast alfalfa markets.

Straw prices have fluctuated somewhat during the week but are generally from 50c to $1 per ton lower. Reports from Indiana state that the paper mills in that state have accumulated large stocks of straw and are now out of the market. Wheat straw is quoted as follows: Baltimore $14.50, Pittsburgh $15.50, Cincinnati $12, Chicago $12.50, Minneapolis $7.50. Oat straw: Kansas City $9, Omaha $8.50, Minneapolis $8; New York $12, Chicago $15, Pittsburgh $15.50. Rye straw: New York $17.50, Pittsburgh $16, Cincinnati $14, Omaha $8, Chicago $14.50, No. 1 straight rye straw Baltimore $23.50.

Corn Prices

HOARD'S DAIRYMAN:—As the key to the prices of all feedstuffs, corn holds out satisfactory promises to dairymen eager for low ration costs. Corn is selling at the lowest price level since the opening of 1913 and on even a lower basis as compared with that year when the higher freight rates are taken into consideration. The technical position of the market for corn does not point to any sharp rise in prices for many weeks, hence the probability that the coarse grain will continue to serve as a powerful factor in holding down the cost of all dairy rations.

Corn is selling on Middle West markets around 50 to 60 cents a bushel, largely below a cent a pound. In the country the grain is selling around an average figure of about 35 cents a bushel net to the farmer. At this time a year ago cash corn was bringing around $1.50 a bushel on Middle West markets, and the same grades of corn which now are selling around a cent a pound sold as high as $2.40 a bushel in August of 1917, when the highest prices in history were reached. Only last June the price of corn was up to $2 a bushel, the decline of as much as $1.50 a bushel in a period of eight or nine months having been the most sensational in the history of the coarse grain trade of the United States.

Corn at $20 a ton compares with the current prices of about $40 a ton for linseed cake and meal, about $35 a ton in the Middle West for cottonseed cake and meal, $25 a ton for alfalfa meal, $30 for alfalfa molasses feed, $22 for bran, and $25 for shorts. Alfalfa hay in Kansas City at $25 a ton is fully $5 a ton over the market price of corn.

Immense supplies form the principal bearish argument in the corn market. The harvest last fall was the largest in history, amounting to 3,232,367,000 bushels, following a near record crop of 2,858,509,000 bushels in the preceding year. Such an immense supply of corn might be disposed of under ordinary conditions without wielding too much bearish influence upon the price. But the corn crop alone is only a part of the super-abundance of feeds. Kafir and milo, close competitors of the coarse grain, yielded the largest crop in history, the outturn of oats was enormous and virtually every other feed is available on a larger scale than in many years. The demand situation offers additional bearish arguments. The extremely mild winter weather has effected a rather sharp reduction in the consumptive demand for corn and feedstuffs as a whole. Also, there are 5,000,000 fewer hogs on farms of the United States and fewer beef cattle to consume the enormous crops, the radical readjustment of live stock prices being a further restricting influence in the demand situation.

The movement of corn to market is not large in comparison with the enormous stocks available in the interior, yet the arrivals at terminals are far greater than the trade can absorb. The only important buyer of corn on markets is the elevator operator, who takes the cash grain and immediately hedges or sells a similar amount of corn in the future market. A discount of about 8 cents a bushel has prevailed on the cash under the May delivery in the future market and, naturally, the elevator operator has profited by his buying of the cash grain. This, however, is really a bearish argument and is one of the strong depressing influences in the coarse grain trade. Each time the elevator dealer sells grain as a hedge in the future market the buyer is contracting for actual corn, not merely an imaginary supply which the speculative shortly hopes to be able to "buy in" at some future time at a profit. And, unless the buyer of the futures has a real consumptive outlet for his purchases of corn, he may find himself with a considerable lot of grain on his hands which lacks an outlet. The stocks of corn on markets are piling up rapidly, and, with prospects of no great enlargement in the feeding demand for the coarse grain, elevators doubtless will be forced to deliver their accumulated stocks on their hedged sales or contracts.

High prices, or at least relatively high values, for hogs have been held by some market observers as a bullish factor in corn. Normally the price of hogs per hundredweight on markets and corn per bushel is on a ratio of ten to one. Hogs around $9 per hundredweight and corn at an average of 55 cents a bushel reflects an abnormal discount for the grain. But this is not an important strengthening influence for corn, owing to the relatively small supplies of the pork animals, not enough being available to consume the enormous corn crop. Cattle prices, on the other hand, also sheep, are at a discount under the coarse grain, with the demoralized condition of the market for these meat animals a depressing factor on corn.

The first two months of the year often witness the low point on corn. Marketings of the grain usually begin to fall off during February, and with pressure of renters' supplies out of the way by March 1, settlement time, values often strengthen. The influences surrounding the demand and supply situation this year, however, are so vastly different from those of previous years that close observers of the market express serious doubt whether prices can fluctuate in their usual course in 1921. Moderate rallies from the present extremely low levels are expected in the corn market from time to time, but material advances are improbable over a lengthy period.

Missouri. SANDERS SOSLAND.

Wisconsin Bankers Pushing Farm Accounting

The Wisconsin Bankers' Association has a committee on farm accounting. Special arrangements have been made whereby a very simple and complete farm account book can be secured through any bank in the state. A sample copy of the account book with an appropriate display card has been mailed to every bank in Wisconsin for display in the bank lobby. Arrangements have been made whereby the totals from the farmers' account book will be accepted for income tax purposes and thus save much time in making out tax returns.

The Bankers' Association has also published an illustrated Banker—Farmer News Bulletin on farm accounts and the farmer's income tax which is being distributed by the banks to their farmer patrons.

This effort of the Bankers' Association is meeting with a hearty response from the farmers. The banks believe that this work will promote better business methods on the farm and increase farm profits.

January Condensery Prices

[Report by U. S. Bureau of Markets.]

Reports from manufacturers indicate that there is little change in the condensed milk situation. Few additional plants were closed during January, but it is estimated that the majority are not operating up to normal.

Reports indicate that over 50 plants are temporarily closed. While this is a larger number than was reported last month, it should be noted that last month a number of plants which had suspended condensing operations were included among those which had not arrived at a price decision, on account of the milk bought having been made into butter or cheese for sale on the open market. The number of factories either temporarily shut down or not having determined producers' prices increased from 55 in December to 73 in Jan.

Considerable butter from condenseries which are accepting milk, skimming it, and returning the skim to factories was received at the large markets during January, although the quantity seems to have fallen off toward the last of the month. Some cheese has also been seen on the markets.

The outstanding feature of the month was the reduction in the cost of milk. The January average for the United States as paid by factories manufacturing both case and bulk goods was $2.13 per 100 lbs. which compared with $2.44 in December. It is interesting to note that this price is $1.36 lower than January, 1920. Lowest prices were reported from states in the Pacific Northwest and highest prices from New York, New Jersey, and Pennsylvania. A number of condenseries resumed operations on Feb. 1, and it is said that further reductions in buying prices will occur. Selling prices in January were also somewhat lower than the previous month.

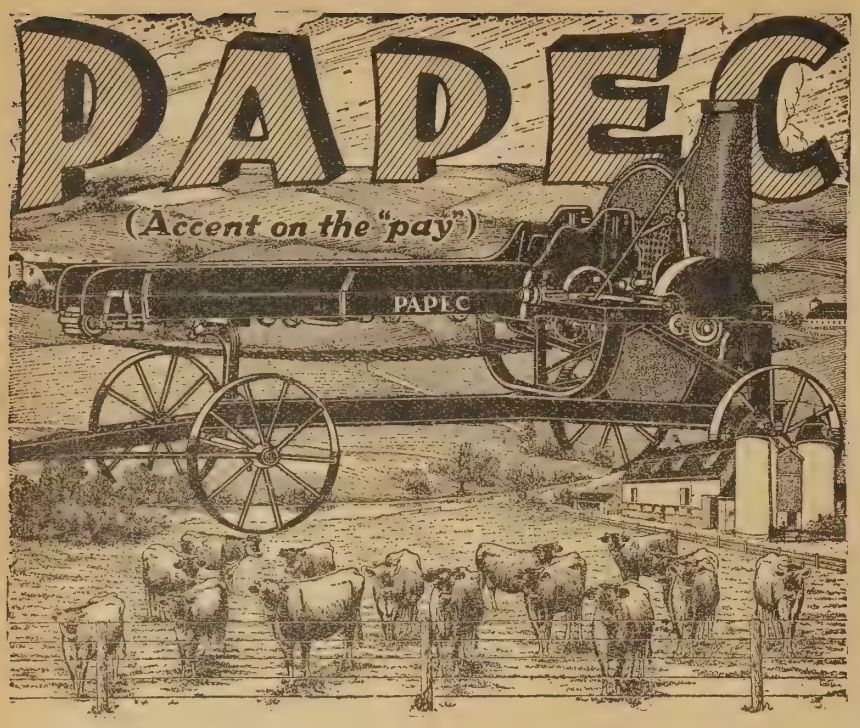
Prices Paid Producers for 3.5 Per Cent Milk at Condenseries
[Per 100 pounds.]

Geographic section	Dec. 1, 1920 Case and bulk goods	Dec. 1, 1920 Bulk goods only	Jan. 1, 1921 Case and bulk goods	Jan. 1, 1921 Bulk goods only
New England	$2.72	$3.95	$2.39	$3.49
Middle Atlantic	3.38	3.02	2.93	2.81
South Atlantic	3.02	2.43	2.89	2.30
E. North Central	2.24	2.95	2.04	2.85
W. North Central	2.40	2.59	2.15	
Western (North)	1.93	2.94	1.71	2.73
Western (South)	2.27		1.91	
United States	2.44	2.99	2.13	2.83

Statistically, the situation appears somewhat improved in certain respects. Total stocks Jan. 1 were some 38,000,000 lbs. lighter and unsold stocks 26,000,000 lbs. lighter than Dec. 1. Some manufacturers whose stocks were light reported that they were ample for immediate needs, but that they would be short if jobbers were buying normal amounts. Unfilled orders were reported as amounting to practically nothing. Export business in December showed some improvement over November, especially on evaporated milk, over 3,000,000 lbs. going to Germany alone, and total exports being 2,000,000 lbs. heavier.

Wholesale Prices of Condensed and Evaporated Milk November and December

Geographic section	Sweetened condensed, case of 14-oz. cans Nov.	Sweetened condensed, case of 14-oz. cans Dec.	Unsweetened evaporated, case of 16-oz. cans Nov.	Unsweetened evaporated, case of 16-oz. cans Dec.
New England	$9.59	$9.71	$5.32	$5.52
Middle Atlantic	8.92	8.58	5.57	5.57
South Atlantic	9.92	9.78	5.79	5.75
E. North Central	9.83	9.80	5.51	5.01
W. North Central	9.70	9.63	5.66	5.63
South Central	9.83	9.67	5.84	5.78
Western (North)	9.70	9.63	5.68	5.56
Western (South)	9.63	9.42	5.71	5.57
United States	9.55	9.39	5.62	5.51



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Kansas Records Broken

R. B. BECKER, KANSAS

A NEW state record over all breeds and ages in both milk and butterfat has been established in the Sunflower state. The record of Lady Volga Colanthus 2d, a five-year-old Holstein cow owned by Geo. Young, sets a new standard for Kansas breeders.

In 365 days this cow produced 24,638 lbs. of milk containing 771.78 lbs. of butterfat. This displaces the mature Holstein record made by Maid Henry at the Kansas State Agricultural College in 1912, of 19,600.4 lbs. of milk, 716.27 lbs of butterfat. It also exceeds that of Canary Bell, the Ayrshire cow at the college that established a state record in both milk and fat in 1918, with 19,863 lbs. milk, 744.51 lbs. butterfat.

Lady Volga Colanthus 2d was the first cow in the state to produce over 20,000 lbs. of mlk, when as a senior three-year-old she completed a yearly record of 21,396.2 lbs. of milk, 659.346 lbs. fat. This milk record was exceeded in 1920 by Charlotta Empress Fobes, also a Kansas college cow, who made 24,546.9 lbs milk, 694.25 lbs. fat as a senior four-year-old.

Lady was fed grain according to her production of milk and butterfat. This was supplemented by corn silage and alfalfa hay. Considerable credit is due to the sudan grass pasture which was available during the months of June, July, August, and September. This succulent pasture makes splendid growth under Kansas conditions and supplies a much needed green feed at a time when natural pastures are past their prime. During the year Lady was milked and cared for by Clemens Young, who attended the Agricultural College and at the same time gave this cow good care and attention. Just after she finished this record, Mr Young was a member of the dairy judging team which represented Kansas at the 1920 National Dairy Show. He was the high individual among 63 contestants from 21 states. The Kansas team was high team of the contest, winning the sweepstakes cup offered by the National Dairy Association for the highest scoring team on all breeds. The "Hoard's Dairyman" cup, Holstein-Friesian cup, American Jersey Cattle Club cup, and the Jersey scholarship were all numbered among the winnings of this team.

Needless to say, Mr. Young appreciates the value of good type and production in building up a herd of pure-bred dairy cows.



HOLSTEIN COW, LADY VIOLA COLANTHUS 2D
Kansas state champion in milk and fat production. She is owned by Geo. Young.

Beware of "J. Brown"

Managers of dairy cattle sales may profit from the costly experience of consignors at a Red Poll sale at Dixon, Illinois, January 12. If an affable stranger appears at an auction as a buyer and fills the description of "J. Brown" who bought "foundation stock" at Dixon, it were well to ask him, "How come?"

So ingratiating was this "J. Brown" that he was put on the Red Poll banquet program and readily taken into the fold. He furnished ample identification, partially through a telegram received at Dixon—which it appeared later he had obligingly sent himself from Chicago. This message, purporting to be from a wealthy partner in Kansas, directed "Brown" to buy, and gave minute shipping directions. "Brown" followed directions. He selected $3,650 worth of Red Polls, well fleshed animals of quality, proving himself a very good judge. The sellers were highly pleased and showed their liberal buyer every courtesy, even to assisting him in loading and shipping his purchases on a late afternoon train Chicago-bound. He gave his check in full payment.

Could the consignors have foreseen what happened on the train, they would hardly have helped load their red pure-breds on it. Enroute to Chicago the shipping bill was changed so the cattle would not be "put in an Arms Palace car and shipped via the Santa Fe to Kansas"—but so they would go to a commission firm in the Union Stock Yards! The following morning they were sold for slaughter, netting "J. Brown" a check for $1,360 which he promptly cashed.

These facts the breeders discovered several days later when the check for $3,650 was returned, "protested". Now they have employed the aid of the Wm. J. Burns detective agency in what has thus far proved a vain search for "J. Brown, German, speaking with accent; 45 to 50 years old; heavy, weighing about 230; complexion ruddy; hair dark brown; slightly bald; eyes blue; short mustache; features full; heavy jowl; scar on inside of right hand, commencing between little and third finger and running inward on palm".



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BOTH the work that Goodyear Cord Tires do, and the advantages they exhibit in mastering the severest conditions of farm hauling, are best described in such testimony as that furnished above.

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Ross' Eureka Corn grows the tallest, has the most leaves, is very short jointed and will produce more tons of good sweet silage per acre, than any other variety. It outyields all others under any climatic conditions. We have been selling Eureka corn for nearly 40 years and we know before shipping that it will grow under favorable conditions. This corn usually germinates 90 per cent or better.

Ross' Eureka Corn

From a letter of C. B. Deremer & Son, Scranton, Pa.

"I planted three plots of your Eureka corn. Plot No. 1 I planted May 12th stood 15 to 17 ft. high and eared very heavy. Plot No. 2 has been planted to corn 4 years. Planted it May 22nd, averaged 15 ft. high and was eared good. Plot No. 3, good sod, plowed under the first week in June, planted June 8th and averaged 16 ft. high."

From a letter of George E. Peer, proprietor Meadowbrook Farm, Chili Station, N. Y.

"—we got simply an immense yield from your Eureka Seed, in fact, we filled one immense silo from nine acres alone, and a friend of mine near here, a Mr. Ely Buell, even had more phenomenal success than we did."

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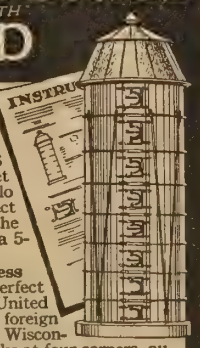
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Oleo Interests Denied Hearing On Dyer Bill

February 8th the House Committee on Agriculture voted to hold no hearing on the Dyer Oleomargarine Bill during this session of Congress. This action followed a reconsideration of the committee's previous vote granting a hearing for February 15.

The purpose of the Dyer Bill is to let down the bars for the sale of oleomargarine, either colored or uncolored, in competition with butter. This bill has been pending in Congress since April 13, 1920, when it was introduced and referred to the Committee on Agriculture. The decision of the Committee on Agriculture to hold a hearing is the first indication in the present Congress of any consideration of oleomargarine legislation.

The representatives of the Institute of Independent Margarin Manufacturers had been asked by their officers to be present in force for this hearing. It appears that the oleomargarine manufacturers considered they could take advantage of the difficulties of the butter manufacturers, by reason of the recent ruling of Commissioner of Internal Revenue Williams, to press this oleomargarine bill and to find that the dairy interests are not united to oppose it.

The Dyer bill proposes that the word "margarin" shall be substituted for "oleomargarine" in naming or labelling all the manufactured "substances, certain extracts, and certain mixtures and compounds, including all those heretofore known as oleomargarine, oleo, oleomargarine oil, butterine, lardine, suine and neutral; all mixtures and compounds of oleomargarine, oleo, oleomargarine oil, butterine, lardine, suine, and neutral; all lard extract and tallow extracts; and all mixtures and compounds of tallow, beef fat, suet, lard, lard oil, vegetable oil, annatto, and other coloring matter, intestinal fat, and offal fat made in imitation or semblance of butter, or when so made, calculated, or intended to be sold as butter or for butter."

The change in the name is the first object of this bill and the second one is cleverly hidden in the above quotation, for it specifically authorizes in the wording above the use of coloring matter. A manufacturers' tax of $600 per year is provided, a wholesale tax of $200 per year, and an internal revenue tax of one cent per pound, to be paid by the manufacturer. No retailer's tax or supervision is provided for.

Section 4 provides that all oleomargarine should be put up by the manufacturers in their factories in cartons or in other packages of one, two, three, four, five, and ten pounds and in no larger or smaller sub-divisions, and a label is required on which shall be printed the word "'Margarin' in letters which shall be plainly legible, the internal revenue number of the factory, the district and state in which it is situated," and in addition to all other requirements a notice to the effect that the package and stamp cannot be used a second time.

There are numerous provisions relating to the other reading matter which might appear on the label or package, none of which prohibit the use of the word butter or any devices or wording which may tend to convey to the purchaser thereof that the product is a substitute for butter. The proposed law further provides that such parts of the butter definition law as impose a tax upon and regulate the manufacture, sale, exportation, and importation of oleomargarine, and of the act of May 9, 1902, entitled "an act to make oleomargarine and other imitation dairy products subject to the laws of any state or territory or the District of Columbia into which they are transported and to change the tax on oleomargarine and to impose a tax, provide for the inspection, and regulate the manufacture and sale of certain dairy products," etc., are repealed. This one paragraph (section 12) wipes out at once, if it is passed, the inspection laws and the butter and other dairy products standard laws now in force.



BEAUTY COLLIER 2ND, AT THE LEFT, AND HER DAUGHTER, GALLATIN GIRL, BROWN SWISS COWS SOLD BY W. O. BOHART, MONTANA, TO DEAN & SON OF NEW YORK. THE SELLING PRICE OF THE FORMER WAS $1,000

⚜

A well attended meeting of the Maryland—Virginia Milk Producers' Association was held at the assembly room of the National Board of Farm Organizations on Saturday, February 5, when the matter of providing a method of taking care of the surplus milk which is developed in this territory was taken up and the association authorized its officers to equip and conduct a butter and cheese plant in Washington. Manager McLaughlin reported that he had plans well in hand for this new enterprise and it is likely that the plan will be in operation within the coming month or six weeks. The Maryland—Virginia Association has already reduced the price of milk from 44 to 36c per gallon.

⚜

J. D. Miller, vice-president and counsel of the Dairymen's League, is spending some time in Washington in the active interest of getting final action on the Capper—Volstead Collective Marketing Bill. In co-operation with President Milo D. Campbell of the National Federation of Milk Producers, this matter has been brought anew before the conference

committee which was appointed some weeks ago on which Senator Dillingham of New Hampshire has replaced Senator Nelson of Minnesota, who resigned, and to which Senator Walsh of Montana has been added. There is now prospect of a compromise whereby the objectionable Senate amendment will be modified so that it will be satisfactory to the dairy interests.

⚜

Internal Revenue Commissioner Williams has granted the request of the butter manufacturers for a hearing on the adulterated butter ruling and has postponed the time for the beginning of the collection of the tax to April. The hearing will be held before Commissioner Williams at his office in Washington on February 25. Professor McKay of the National Association of Creamery Butter Manufacturers spent several days of the past week in Washington on this matter. Many protests have been received from dairy interests and several members of the House and Senate united with the representatives of the butter manufacturers in asking for this delay and the new hearing.—NATIONAL DAIRY UNION.

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One Warner Trailer, Model G31, capacity 2,500 pounds. Pneumatic tires 34x4½. Slightly used.

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One Highway Trailer, slightly used. Capacity 2 tons; suitable for use with two-ton trucks or larger. Solid tires 32x3½.

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One NEW Warner Trailer, suitable for use with large touring cars and trucks; capacity 1¼ tons; pneumatic tires, 34x3½.

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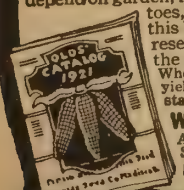
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New York Butter Market

NEW YORK CITY, FEBRUARY 8:—The long expected slump has finally hit the market. While there has been a gradual decline in butter prices since the holidays, there has been no decided slumps until recently. One week ago, the quotation on extras was 49½c, while today the quotation stands at 42½@43c, and the market is very weak. There is an absolute absence of buying interest and stocks are accumulating very fast. It is stated that the present decline is due largely to one receiver who has been getting large quantities of excellent butter from one creamery on consignment. In his eagerness to prevent an accumulation of the butter, he has been offering it at extremely low prices on the Exchange. The result is that there has been a general loss of confidence and demand, aside from that engendered by the necessity of procuring enough butter for current needs, has practically ceased.

Receipts of foreign butter during January were in excess of 3½ million pounds, so far in February they have been approximately one million pounds. Two shipments of Danish butter are known to be en voyage at present, the aggregate quantity of which is 10,000 casks, or about one million pounds. It is highly probable that large shipments of Danish butter will be forthcoming for a considerable time. England may take greater quantities of that butter after her restrictions are removed in March, but there is some doubt regarding that as she has contracted for the greater part of the butter produced in her dominions, Australia and New Zealand. As those countries are producing more than their normal quantity of butter, it is quite possible that their output may supply England's demand, in view of the fact that the English people have been educated to use substitutes in place of butter during late years.

A comparison of butter prices for the last several years on this date, February 8, is very interesting. The prices were as follows: 1913, 37½@38c; 1914, 25@26½c; 1915, 34½@35c; 1916, 33½@34c; 1917, 45@45½c; 1918, 51½c; 1919, 49@49½c; 1920, 67c; and, 1921, 42½@43c. It can be seen that prices are as yet considerably higher than those of pre-war times. It is of interest to note that during the winter months of the year, 1914, butter prices were extremely low. That was brought about by the influx of foreign butter which came immediately after the tariff on butter was reduced from 6c to 2½c per pound. Similar conditions to those of that year exist today. However, much greater quantities of foreign butter were received in 1914 as Finland and Siberia were at that time great producers and exporters of butter.

On Tuesday of last week, the market was weak and prices fell ½c. That was followed by a decline of 1½c on Wednesday and 2c on Thursday. On Friday and Saturday, it seemed that the bottom had been reached as trade picked up and values strengthened. Yesterday, however, there was a 2c decline and it was followed by a decline of 1@1½c today. Established quotations at the close today are as follows: Extras (92-score), 42½@43c; higher scoring than extras (93 score or higher), 43½@44c; firsts (90—91 score), 40½@42c; firsts (88—89 score), 39@40c; and seconds, (83—87 score), 33@38c. Selling prices of fresh Danish butter are 41@43c.

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Your profits, or loses, are the difference between the cost of operating your farm and the price you get for your products—nothing more or less.

Whatever the year's market value of your crops may be, you can make your profit larger by lowering the cost of production.

Wouldn't you like to save a large share of labor, horse maintenance and time that represent a large part of your present cost?

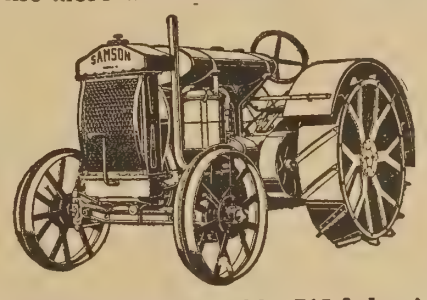
Wouldn't you like to be raising profit-paying products on the acres which you must use in raising feed for your horses?

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Wouldn't you like to have convenient, at all times, portable belt power for the numerous power jobs around your farm?

You can do all of these things and add to your profit and pleasure by using Samson Power Farming.

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We have been in close touch with thousands of Samson farmers—we know how and why they made money last year—and will gladly give you this information. Drop us a postal card today—there is no obligation.

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STOP SCOUR is not an experiment. It is not a theoretical formula prepared in an office for commercial purposes, but is the result of my many years actual practice of veterinary medicine.

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STOP SCOUR is an absolute cure. If your pigs, or calves or colts are actually scouring, DR. STATTLER'S STOP SCOUR will cure the worst case. I have never lost a single case from Scours in my private practice.

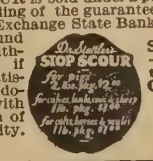
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DR. STATTLER'S STOP SCOUR is carried by your druggist or feed dealer. If he shouldn't have it, write us his name and address, and we'll see that you get it either through him or direct from us.

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"Takes the cake" out of caked bag, quickly relieves inflammation. skin troubles, sores, cuts, chapped teats, etc. Money back guarantee. Price $1.25 prepaid for large box.

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HOARDS DAIRYMAN JUNIORS

A DEPARTMENT FOR THE DAIRY FARM BOY

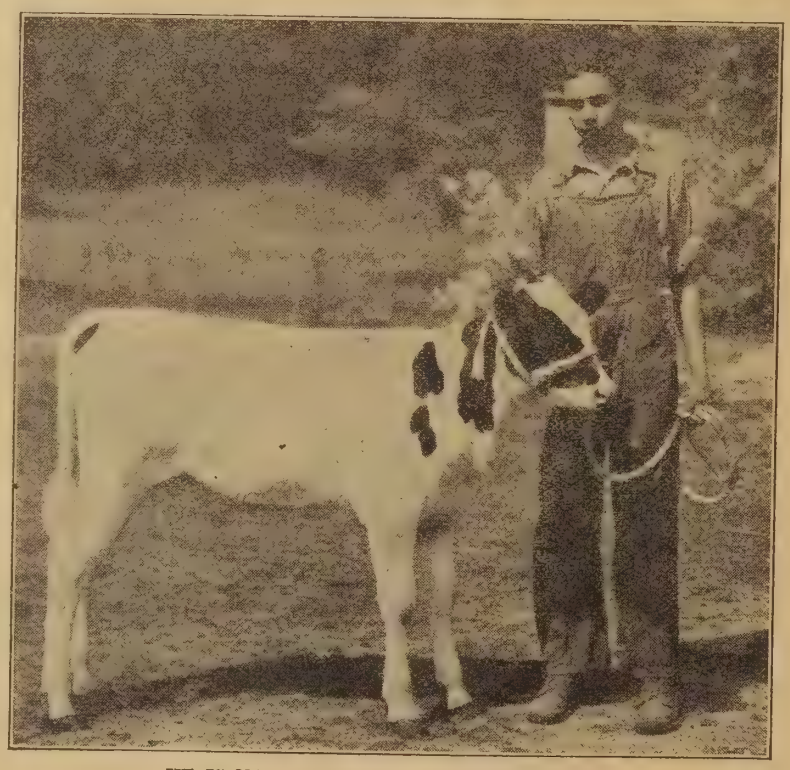
An Essential on Every Dairy Farm

[Continued]

The juniors will remember that in our last story we were talking about the supplements that can be used for whole milk. At that time we decided that it would be poor policy to continue to feed whole milk after three or four weeks. Of course, we are willing to agree with any one who says that he can produce better calves by feeding whole milk for the first three or four months and we will grant that his calves will appear better than others fed upon skimmilk and other substitutes. But this we do know, and it certainly should be recognized if we want to raise our calves economically, that skimmilk calves will make a very satisfactory growth with the right care plus a proper hay and grain ration. And we dare say in addition that at the end of a year and half, it would be difficult to tell among a number of calves, some of which had been fed either way, which had been the whole milk fed ones. Considering the high price of milk fat and the small difference it makes in the development of the calf, we shall certainly advise skimmilk at the end of three or four weeks, where it can be had.

But there are many farmers who are selling their whole milk, either directly to the consumers or to condensed milk plants. They are not very liable to have skimmilk, hence it is quite possible that they will have to continue to feed whole milk entirely, or at best use some of it diluted with water, to which may then be added some oil meal, just enough to make a very thin gruel when well stirred in. Some have even advocated making a gruel consisting of equal parts of oil meal, blood meal, and hominy. It would be a fine thing if all of the calves could be raised upon whole milk for the first six months, but since that cannot be practiced under ordinary circumstances, we believe juniors should learn the next best thing to do. Cost of production should certainly be one of your problems. And still we must not practice an unwise economy. To substitute water at the end of the first month, supplemented with what hay and grain the calf has learned to eat, would indeed be a very bad practice. A calf requires feeds that are easily digested and that is why milk is so good for it. But hay and grain should not be withheld. In fact it is a good thing to encourage calves into eating grain feeds about the third or fourth week, by sifting a little bran or oil meal into the pail after the milk has been drunk. And, furthermore, it is a good plan to have some of it before them at all times. Following this they will learn to eat oats quite readily and even cracked corn is often relished by them as they get older. A mixture made of equal parts by weight of ground corn, wheat bran, and oil meal makes a very satisfactory grain ration and at the end of two months a calf will be eating from two to three pounds. Make it a rule to begin feeding a grain ration just as soon as a calf shows an inclination to want to eat it, and to find this out you will have to watch it rather closely. But the important thing is to see that the calf gets its regular daily grain ration, because it means a great deal as to its growth and proper development.

Calves will nibble at hay when but a week or so old, but they can't be expected to eat any amount of it until they are four weeks old and beyond. When they show any inclination to pick at it, they should be furnished with some of the very choicest of the clover hay you have in the barn. Clover and alfalfa are both far better than timothy or wild grass hays for calves. They are higher in digestible protein and both contain large amounts of calcium or lime, both of which are needed in young growing animals. Besides these two superior qualities, they are also more palatable than other hays. We always think that it is a good plan to look forward at haying time to the period when the calves begin to come, and consequently store some of the very choicest of the clover hay, perhaps some from the second cutting which is finer stemmed, where we can get at it easily. One can do this without very much trouble and from the standpoint of the calves it certainly is a paying proposition. Good hay should not be withheld from a growing calf if you want to make it into the best cow or bull.



HE IS NOT ASHAMED TO SHOW HIS CALF

Of course, no matter how choice the hay is you feed, there is bound to be some waste among the stems which it will refuse to eat. This coarser material should not be allowed to accumulate in the manger or feeding box, but on the other hand it should be frequently removed and fed to the horses or cattle. In this way there need not be any waste. But in any event do not leave it there for the calf to eat instead of furnishing fresh hay. If you do, he will go hungry and a hungry, discontented calf will not make rapid gains.

Every farm boy and girl knows that the cattle and horses of the farm must have salt and it is much better to have it before them all of the time. But many of us seem to think that calves are an exception to the rule and that they do not require salt until they are grown up. This is far from the truth. A little salt should be sprinkled in the feeding box occasionally and in that way he will learn to look for it. I have seen calves lick at salt when they were but two and three weeks old. Salt should never be withheld from the farm stock.

Many boys and girls think that because a calf is getting milk twice a day that he does not need any other kind of drink. This is far from true, too. If possible, water should be provided for them at all times where they can drink when they feel the need of it. And if you are raising a calf in the winter months, then it might be a very good plan to warm the water a little before offering it to him. Now all of these little details of which we have treated may seem to some of us of small importance, but as a matter of fact a good stock man will tell you that it is the regular attention to what seems to be the small matters that makes a calf hustle along toward maturity. Weights that show on an average of a pound for daily gain indicate at least that the calf is being very well cared for as far as feed goes.

And regularity should go with everything we have to do for the calf. Regular feeding hours are of prime importance and we should all cultivate the habit. Shortly ago, while reading a letter from one of our juniors, I noted that he brought his letter to a close because as he said it was time to feed his calf. I thought at the time that he had a very good reason, although I should liked to have received a longer letter from him.

But the right kind of feed alone cannot make a calf do its best. The kind of barn care it receives has a great deal to do with its development. We would like to suggest that the calves occupy the brightest and best ventilated part of the stable if there is any choice and there usually is. Fresh air and sunlight are both conducive to health and happiness of these little animals. Dark, damp, and ill smelling corners should be avoided, and, anyway, boys and girls, who wants to take care of a calf in places so dark that he cannot see how his pet is getting along from day to day? And then we would also like to suggest that the calves be given their freedom to move about as they please, which not only furnishes them exercise but helps to keep them contented.

Now, of course, in order to do all of this for bossy, there must be a special place provided for him. We like the box stall idea as well as any. A comfortable, roomy, well lighted box stall, kept clean and well bedded with fresh straw, is almost the ideal place for the calves for the first few months of their lives. In the winter we are almost compelled to provide good quarters for them and we believe that they are better off in the summer months as well in just such a place where they will not suffer the tortures of the flies.

This should not mean a steady confinement either. They should be allowed to run about for exercise and how they do enjoy it! Dumb animals usually respond to kind treatment. And do you suppose for one minute that if a calf was given the choice of close confinement or its freedom, it would choose the farmer? No, indeed, not if you know calves! Then why confine them in close quarters? Nature never intended that to be the case, so why practice it? The only time that I know of when calves should be confined is during feeding time and for half an hour or so following. And this, only as a matter of convenience in feeding each one and also to prevent the bad habit of sucking each other. Just apply close confinement to yourselves, boys and girls, while you are enjoying good health and then you will appreciate the case of the calf that is thus abused. And we have no patience with the fellow who says, "but I haven't room enough". Usually if that kind of a fellow was as good at getting busy as he is at making excuses, he would have the right kind of a place in which to bring up the calves. If you want to properly care for your calf, you must learn first of all what good care is and after that apply what you know.

Like all young animals, calves are subject to certain diseases. Perhaps the commonest one of all is scours or ordinary diarrhea. There may be several causes for this condition. Indigestion caused by a change of feed, too much feed, or the milk fed in dirty pails are among the chief causes. A little castor oil will often do the business in effecting a cure. An ounce or two should be sufficient. But if the case persists, it is best to call in a veterinarian. No calf should be allowed to be off its feed for any length of time. And if you have anything to do with a calf from the time of its birth, be on the lookout for what is known as white scours. This is almost a deadly form of diarrhea and if you want to avoid all danger, or at least eliminate most of the risk, see that the calf is born in a very clean place. And if this disease is known to have existed in the stable before, a good disinfectant should be applied to the quarters where the calf is to be born. White scours is frequently caused by certain bacteria entering the system of the new born calf through its navel before it is healed up. Several applications of iodine to

the navel will usually eliminate this danger. Prevention of this disease is about the only successful remedy. Calves that are affected will usually die within a few days, and if they do recover, they remain in a weakened condition for some time. Here, then, is a case where an ounce of prevention is worth a pound of cure.

Cost of Raising a Calf

Julius Luscher, who lives in Oregon, has kept some very instructive figures on the cost of growing a calf. His data are from the actual cost of raising his calf last year. Though the prices charged for that period are higher than at present, some good conclusions may be drawn from the costs given. It is possible to raise a calf more cheaply than by Julius' system of feeding but at any rate his ration insured the development of a well nourished calf. The real test of his care and management of his calf came at Salem and the Western International Show, where his calf was exhibited in the open classes and won third and fourth prizes, respectively. He won first in the club and open classes at the county fair. These winnings brought him $58 in prizes.

For the first three weeks he fed whole milk, 1 gallon per day the first week, 1½ gallons the second, and 2 gallons the third. This cost $7.87. For the fourth, fifth, and sixth weeks he fed his calf whole milk and a mixture of ground oats and mill run and as much clover hay as it would eat. The total cost of this was $11.00. By the end of twelve weeks the total cost was $35.00. Julius continued feeding whole milk until the calf was four months old. No skimmilk was available since the milk from the herd was sold at wholesale. At seven months the calf was put on pasture and received only oats and mill run in addition. The cost for this ration was $4.90 per month. From the twelfth to the eighteenth month silage was fed in addition to the other feeds. From the nineteenth month to the tweny-fourth month, clover hay, silage, and beet pulp were fed and also a grain mixture of mill run, oats, and oil meal. The total cost of raising this heifer to twenty-four months was $170.32.

Don't Forget

Suppose you received a letter with this address of the sender, Hill Crest Farm, Michigan. Would you know where your correspondent lives other than that he holds forth some where in Michigan on a farm known as Hill Crest Farm? You see the point is just this. The address is not sufficiently complete to locate him. We do not know where he receives his mail. There may be several Hill Crest Farms in that state.

Well, somewhere in Michigan there is a junior wondering why he does not hear from the Junior Department of the Dairyman. And I know of a few others, too, who have not received a reply because they have not given us the name of the town or city where they get their mail. Of course you did not intend to fail to give us your address completely. You just naturally were a little too careless. To us the address plainly written is one of the most important features of your letter. Try to be more careful about this in the future. It is one of the mistakes that there is little excuse for.

Junior Letters

Hoard's Dairyman Juniors:—I am twelve years old and am in the Freshman class in high school. My father owns on 80-acre farm on which we live. We milk twelve head of cattle. Four of them are registered. I own a calf which is related to Tilly Alcartra. I drive a team four miles to school. I shuck corn on Saturdays. I would like to have some of the juniors write to me. My address is R. R. 1, Burchard, Nebr. Leonard Basley.

Hoard's Dairyman Juniors:—I am 12 years old and in the sixth grade. I live on an 84-acre farm. My brother and I have two rabbits. We have a dog, one old cat, and four little kittens. We have 20 head of cattle, 8 calves, 8 milk cows, 2 heifers, 1 steer, and 1 pure-bred bull. We have 9 head of horses, 4 geese, some chickens, and some pigs. My letter is getting long so I guess I'll close. Wishing all the juniors good luck.
Iowa. Harold Lewis.

Hoard's Dairyman Juniors:—I am interested in the juniors and read the junior page every week. I am 10 years old and in the 5th grade. I live on a 60-acre farm. This year we had 8 acres of oats, 4 acres of barley, and 6 acres of potatoes. It rained so much out here that some of the oats and barley rotted in the field. We had a fine yield of potatoes; we got over 1,500 sacks, but there is no market for them.

We have 25 cows, 4 horses, and some chicken, ducks, and rabbits. My brother has 14 pigs. I am also raising Duroc-Jersey pigs. We are feeding ensilage this winter.

Back of our farm are the foothills of the Cascade Mts. There is a little village one-half mile away from our farm and a larger town where my brother goes to high school. We live near the Pacific Highway. It has been recently paved, but will not be open for traffic until about Christmas.

Well, I will close, wishing the juniors good luck. My address is Box 63, Route 6, Mt. Vernon, Wash. Earl Anderson.

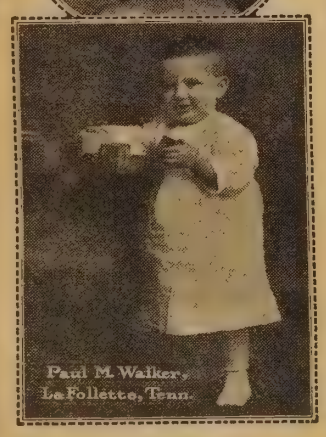
Hoard's Dairyman Juniors:—I live on an 80-acre farm. We grow corn, cotton, alfalfa, and wheat. My father has 6 head of horses, 6 head of registered Holstein cows, and a 3-year-old registered Holstein bull. My brother, older than I, has a registered Holstein heifer. I am going to buy a registered Holstein calf. I have $40 saved up.

I go to school at Verden. They have a good school there. My teacher's name is Miss Vineyard. I ride 3 miles in a Ford car to school. I have a white cat but I haven't any dog.
Oklahoma. Clifford Lane.

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Send today for our instructive book,

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Consult us on any matter pertaining to crops and soil fertility. When writing ask for booklet on *"How to Get the Most out of Fertilizers."* It's free.

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Holstein heifer and bull calves. Pure-bred, registered and high grade. Splendid individuals and breedings. Delivered to you, $25 and up. Your inquiry will be given our best attention. BROWNCROFT FARMS, McGraw, N. Y. 5*

I have usually 100 head of registered and high grade Holsteins on hand for sale. Also registered and imported Percheron and Belgian horses. RALPH HUDSON, Milton Junction, Wis. 12*

For Sale—At Elmwood Stock Farm, high grade Holstein cows, fresh and springers, by the carload. JOHN MURPHY, Mukwonago, Wis. 3*

"The Willows" offers fifty high grade Holstein cows for sale. S. D. SHAMBEAU, Waupaca, Wis. 12*

High Grade Holstein heifer calves, two to four weeks old, from tuberculin tested herds, $30 each, crated. Will ship C. O. D. WAUKESHA CO. HOLSTEIN-FRIESIAN BREEDERS' ASSOCIATION, Waukesha, Wis. 9*

High Grade Holstein and Guernsey calves. $25 crated. Safe delivery guaranteed. BROWN & COLLINS, Lima Center, Wis. 16*

Serviceable grandsons of Lola Segis Pontiac Homestead for sale, he a 34-lb., 1,000 lb. son of Piebe Laura Ollie Homestead King. Their dams are daughters of Joe Oak De Kol Fobes. Well grown, good individuals. Your choice, $150. R. W. MEAD, Stillwater, Minnesota. 10*

High Grade Holstein calves 6 to 8 weeks old, $30.00 each. We pay express and ship C. O. D. SPREADING OAK FARM, Whitewater, Wis. 11-tf.

For Sale—30 high grade Holstein milkers and springers. Will sell one or all. FRED JOHNSON, Waupaca, Wisconsin. 23*

Closing out herd of grade Holsteins, $100.00 each. H. A. KUHTZ, Waukesha, Wisconsin. 24*

You take no chances when you order your Holstein heifer calves from me as I ship C. O. D. and pay express. Also a few real producing cows cheap. E. F. THOMAS, Oconomowoc, Wisconsin. 26-8

For Sale—My entire herd of choice high grade Holsteins, mostly bred to and sired by thirty-pound bull. There is one full load of the best large heifers in southern Wisconsin, uniformly marked, about three-fourths white. C. L. SIMMONS, Belmont, Wis. 1*

Three Holstein bulls, fit for service, sired by sons of King Segis Pontiac. W. R. GATES, Fort Atkinson, Wisconsin. 2*

Baby Bulls—Registered Holstein-Friesian by high class sires and heavy producing dams. Price is right. C. S. MULKS & SON, Whitewater, Wisconsin. 3-*

If you want the best pure-bred and grade Holsteins write BABLER CO., Monroe, Wisconsin. 3-4

Holstein Bull Calves from daughters of King Segis Pontiac, (the sire of Pabst and Hackney herd sires). Sire of calves a 32-lb. son of a twice 30-lb. cow whose dam has record 29½ lbs. butter and 731½ lbs. milk. Dam of calves has records up to 30 lbs. Prices $100.00 and up. Write for list. A. G. WADE, 1770 Old Colony Bldg., Chicago, Ill. 3-4

100 High-grade Holsteins, 35 cows, yearlings, two-year-olds, three-year-olds, and calves. Federally tested. In testing association. A. J. FAEBER, Davenport, Iowa. 3-4

For Sale—Three-month-old Holstein bull calf out of 30-lb. bull. For quick sale, $100. Perfect in every way. Herd under Federal supervision. PITCHOME FARMS, Aurora, Illinois. 4-3

Registered Holstein bulls all ages. Beautifully marked, excellent breeding at farmers' prices. Will ship C. O. D. CITY LIMITS FARM, Watertown, Wisconsin. 3-3

Don't buy calves without seeing them. I offer beautifully marked, high grade Holstein heifer calves at almost veal prices. Registered bull calves $35. Will ship C. O. D. and if calves don't suit don't take them. I guarantee safe delivery and satisfaction. J. M. McFARLAND, Watertown, Wisconsin. 3-3

Holsteins—37-lb. herd sire, young bulls, cows, heifer calves. PHILIP LEHNER, Princeton, Wis. 1-5

High grade Holstein calves, either sex, $20.00. Registered bulls, $35.00. Registered heifers priced to sell. Shipped C. O. D. safe delivery guaranteed. PAUL McFARLAND, Route 7, Watertown, Wisconsin. 2-4

Holstein bull, ready for service, 2 dams averaged 106 lbs. milk 1 day, 40.67 lbs. butter 7 days, $200. Terms. ROY HARRIMAN, Appleton, Wisconsin. 5-6

Yearling bull for sale. From 19-lb. 3-year-old dam. Homestead Junior De Kol breeding. First check $150 takes him. ALBERT C. WOLLIN, Johnson Creek, Wisconsin. 5*

For Sale—Holstein bull calf. Choice blood on both sides. First check for $25.00 takes him, register and transfer papers furnished. LITTLE'S DAIRY FARM, Kewanee, Illinois.

Good serviceable bulls, some good heifers at prices that are right. We are breeders, not dealers. We always satisfy. DATE HOLSTEIN FARMS, Baroda, Michigan. 5-4

Bargain in a bull calf. Dam 25 lbs. Homestead breeding. Priced for immediate sale. STATE NORMAL FARM, River Falls, Wisconsin.

Proven Holstein sire, Blacres Victor De Kol No. 175398. Six years old, weighs 1,885 lbs. Gets nice heifer calves about ¾ white. Daughters doing well. Price $250. DELOS G. OWLETT, Galeton, Pa.

Guernseys for Sale—Members of the Ohio Guernsey Breeders' Association own more than 2,000 registered females. Also some of the finest bulls of the breed. Think of the progeny that results each year. Write for sale list of males and females. OHIO GUERNSEY BREEDERS' ASSOCIATION, Box 602, Sylvania, Ohio. 4*

Serviceable and younger grandsons of Beauty Eagle, 846 lbs. fat, and of Bonny Boy of Riverdale. Out of heavy producing cows. Farmers' prices. LA BELLE KNOLL FARM, Oconomowoc, Wisconsin. 14*

My entire herd of grade Guernseys for sale. Also a few choice heifer calves at $30.00 delivered. SHADY HILL FARM, Whitewater, Wis. 23*

Guernsey heifer calves. Can ship you 10 at once about 4 weeks old. Calves out of my own herd, so know what I am shipping. $30 each crated. F. O. B. Waukesha. WERN FARMS, Waukesha, Wis. 18*

George-Washington Farms' Guernseys. Choice young bulls of serviceable age. GEORGE-WASHINGTON FARMS, Mankato, Minnesota. 19*

Guernsey bulls of May Rose breeding with records up to 700 lbs. fat in B. B. Beautiful heifers (grades) in calf, also few Holstein springers. H. A. KUHTZ, Waukesha, Wisconsin. 19*

Guernseys—All ages, both registered and grade. H. A. MAIN Sec'y, Jefferson Co. Guernsey Breeders' Association, Fort Atkinson, Wisconsin. 20*

STOCK FOR SALE

Guernseys—High grade Guernsey calves, either sex, four to six weeks old, bred for production of milk and butter. Thirty dollars apiece delivered to any station, express charges paid here. Send orders or write. LAKE VIEW GUERNSEY PLACE, Whitewater, Wisconsin. 26-tf

For bargains on May Rose bulls with type and production, write KUHTZ BROS., Waukesha, Wis. 21*

For Sale—Registered Guernsey bull calves, good producing dams at farmers' price. OTTO KRUEGER, 427 East Broadway, Toledo, Ohio. 24*

Guernseys for Sale—From Federally Accredited herd. Bull calves, two bulls ready for service, sired by Clara's Sequel and out of high testing dams. Also ten pure-bred females. LLOYD RUNDELL, Roberts, St. Croix County, Wisconsin. 26*

Guernsey calves six weeks old, $20. F. O. B. Knapp. THOMAS HAGERTY, Knapp, Wisconsin. 2*

Fine, registered Guernsey bull, from 58-lb. dam per month. Born November 21. Price $60. Seed corn catalog. C. L. HAMMOND & SONS, Rockport, Indiana. 4-2

Bargains—Four highly bred registered Guernsey bulls. Ages about 3½ and 2½ years and 2 to 9 months. Herd tuberculin tested by Government. A. W. BROWN, Rhinelander, Wisconsin. 3*

Two registered Guernsey heifers for sale. Two years old. Bred to Langwater Frenchman, due in April. Also serviceable Guernsey bull whose dam and grandam average 653 lbs. fat. Federal Accredited herd. HOMER RUNDELL, Livingston, Wis. 4*

Accredited Guernsey Bulls—Best breeding and records. Ask for sale list. GUERNFALFA FARMS, Peebles, Wisconsin. 4-5

For Sale—Two May Rose Guernsey bulls, age 4 months. Sired by Langwater Frenchman, a half brother Ne Plus Ultra. Dams' Advanced Registry records 710 and 660 lbs. fat. HOMER RUNDELL, Livingston, Wisconsin. 4*

Registered Guernsey bulls and heifers. FAIRVIEW FARMS, Brodhead, Green County, Wisconsin. 2-9

For Sale—Yearling Guernsey bulls, May Rose breeding from A. R. dams, good indivduals. ROY BURTON, Eagle, Wisconsin. 5-spl

Eight registered Guernsey bulls from one to eighteen months old. One with A. R. dam record 576 pounds butterfat, now 14 months old. Herd State and Federal Accredited tuberculosis free. Dams have cow testing association records. C. F. and R. BLACK, Mount Vernon, Indiana. 5-2

For Sale—Three very choice registered Guernsey bulls 9, 12 and 15 months. Sire, McKerrow's Topsey's Pride 55947, 2nd prize junior bull Waukesha Dairy Show 1919. His dam was first prize A. R. cow same show, 1920. JOHN B. ELLIS, Endeavor, Wisconsin.

Brown Swiss bulls of serviceable age. A. C. BOODY, Hudson, Wisconsin. 4*

For Sale—Pure-bred and high grade Jersey cows and heifers, great bargain. FARM DEPARTMENT, Bank of Colfax, Colfax, Wis. 3-3

Two pure-bred Jersey bull calves and a few heifer calves. MRS. PHILIP SMITH, Route 1, Manitowoc, Wisconsin.

Butcher's price brings you grandly bred Jersey bull calf. "JERSEY", 1405 Florida Avenue, Washington, D. C.

Ayrshire bulls from one to twelve months old. Also heifer calves. A. R. O. breeding. HERMAN IHDE, Neenah, Wisconsin. 5-spl

Ayrshire bulls. Willowmoor Robin Hood 8th breeding, ready for immediate service. Imported and Jean Armour bulls ready for summer use. Priced to sell. Good individuals, good breeding, exceptional opportunity. Federally tested herd. G. H. CONVERSE, Woodville, New York.

STOCK WANTED

Wanted—Carload registered bred Holstein heifers. State price and breeding. ROBT H. LEDBETTER, Redmond, Oregon. 5-2

Wanted—Ten young, fresh Guernsey cows. Might consider Ayrshires or Holsteins. Must be certified, healthy and guaranteed sound. Must be giving now thirty-five to fifty-five pounds daily. Price bust be right. G. M. ASHER, Pineville, Kentucky.

Wanted—12 high grade springing Holstein cows. Must be good producers. LOUIS BENSON, Randolph, Missouri.

STOCK BUYER

Registered dairy cattle bought and sold. EDWARD A. WALTER, 111 Monroe St., Chicago. 18*

AUCTIONEER

Charles W. O'Neill, Auctioneer—6 years' registered stock and farm sales' experience. Now graduate from Fred Reppert School. Write early for dates. Address BRIDGEPORT, Wisconsin. 3-4

DOGS

German Shepherd, airedales, collies, and old English Shepherd dogs. Brood matrons, puppies, farm helpers. 10 cents for instructive list. W. R. WATSON, Box 520, Oakland, Iowa. 20*

Hound and Horn. Prices. Photos. Write KASKASKE KENNELS, Herrick, Illinois. 3-4

Shepherd Pups—Heel working parents. FAIR OAK FARM, Norwood, Minnesota. 5-6

SWINE

Duroc-bred gilts and boar. Prize winners. PHILLIP LEHNER, Princeton, Wisconsin. 5*

FEEDS

Molasses—Richest feed, lowest cost. Write for special price. CHICAGO MOLASSES COMPANY, 1131 East 77th St., Chicago, Illinois. 25-spl

Skim Milk Powder—Excellent food for calves. 5c per pound 200-lb. bbls. f. o. b. Wilkes-Barre, Pa. SMITH & CLARK COMPANY, Wilkes-Barre, Pa.

FEED BAGS

Ship your bags to LARIMER BAG CO., Washington, D. C. 11-spl

Bags—We buy second-hand bags; pay one-half freight on 200 or more. LINCOLN BAG CO., Springfield, Illinois. 5-spl

CREAMERIES

Creamery wanted. Wish a good location to start or build a creamery or will buy a good plant. WALTER R. MEIER, Kilbourn, Wisconsin. 5-2

POULTRY

Baby chicks, quality first. Pure-bred, bred-to-lay from free range flocks. White Leghorns, Buff Leghorns, Barred Rocks, White Wyandottes. Send for catalog. WANDSCHNEIDER'S HATCHERIES, Box 1, Fort Atkinson, Wisconsin. 5-4

Baby Chicks—White, brown and buff Leghorns, Barred Rocks, Reds, Wyandottes. Pure-bred, unusual utility stock. Write for circular 108. CHICKDALE HATCHERY, Fort Atkinson, Wisconsin.

Highest prices paid for live and dressed poultry, wild rabbits, pigeons, veal, hides, etc. Quick returns, fair treatment. C. E. McNEILL & CO., 325 W. So. Water St., Chicago. 24*

Single Comb White Leghorn eggs for hatching. FRED SCHROETER, Grafton, Wisconsin. 2-4

Superior baby chicks. Strong, healthy, pure-bred. White and Brown Leghorns, Anconas. Catalog free. SUPERIOR HATCHERY, Zeeland, Michigan. 4-2

Single Comb Black Minorca Cockerels, $2.50 each. Five, yearling hens $1.50 each. Hatching eggs, $1.50 per setting. LOUIS A. RIETZOW, Lone Rock, Wisconsin. 4-2

Single Comb Red cockerels from heavy winter egg-laying strain, $3 and $5 each. CHARLES BRACE, Lone Rock, Wisconsin. 4-2

Eggs $1 setting. Parcel post paid. Thoroughbreds. Barred Rocks, White Rocks, Buff Rocks, Anconas, White Wyandottes, Brown Leghorns, White Leghorns, Rhode Island Reds, Buff Orpingtons. PHILIP CONDON, West Chester, Ohio. 5-15

Bronze turkeys. MAC CRADIE BROTHERS, Hendrum, Minnesota. 5-4

S. C. White Leghorn cockerels, $2.00 each. Satisfaction guaranteed. Order from this advertisement. WALSHLAND FARM, LaValle, Wisconsin. 5-2

For Sale—Van Liere's Partridge Wyandotte cockerels, $5.00. 15 eggs, $3.00; 30, $5.00. Satisfaction guaranteed. J. W. VAN LIERE, Salem, Wis. 5-4

Minorca Eggs—S. C. White and Buff. CHRIS LONKE, Sunman, Indiana. 5-3

MACHINERY

Want the cheapest, handiest belt power? Then ask me about my Little Twister Power Transmitter for Ford and Dodge cars. FRANK R. WEISGERBER, Salina, Kansas. 16*

For Sale Cheap—A small lot of standard make Swedish Cream Separators, 400 pounds capacity, $29.00, 500 pounds capacity, $34.00, 700 pounds capacity, $39.00. These are all new machines, wonderful bargains. THOMAS TAFFEE, Box 355, Lansing, Mich. 18*

Wanted—Single hand capper. State make. Address BOX 632, care Hoard's Dairyman. 5-2

For Sale—Two-unit Sharples Milker, $95. Also 12-25 Avery tractor and Jenney silo filler husker at a bargain. FRANK HOLZER, Lancaster, Wisconsin.

For Sale—Avery 12-25 tractor used three seasons, John Deere three bottom plow, has plowed 10 acres; Janesville 10-ft. double engine disc harrow. All in excellent condition. A bargain price for first comer. L. G. JOHNSON, Whitewater, Wisconsin. 5-2

For Sale—Cypress incubator, 240-egg size. One Standard brooder stove and hover, capacity from 300 to 800. Lice killing machine. One new Planet Junior seeder, No. 25, complete. G. P. SAUER, 1053 So. Howland Ave., Kenosha, Wisconsin.

For Sale—A three-unit Hinman Milker practically new. Most of herd sold. HOWBERT FARM, Eau Claire, Michigan.

For Sale—3 H. P.-I. H. C. gasoline or kerosene engine and 18-inch feed cutter used one season. F. S. HALLADAY, Green Bay, Wisconsin. 5*

AGENTS WANTED

Yes Sir, we have a special opportunity for you during spare time, an opportunity to do some good work in your neighborhood, for the betterment of dairy farming, that will pay you in cash for the effort you put forth. Write for our "Special Opportunity Getting Together" folder. Address HOARD'S DAIRYMAN, Fort Atkinson, Wis. 2-tf

Agents—Mason sold 18 Sprayers and Autowashers one Saturday. Profit $54.00. Square deal. Steady work. RUSLER COMPANY, Johnstown, Ohio. 3-spl

FARMS FOR RENT

For Rent—Model dairy ranch to responsible parties. Good market. Fine alfalfa land. Iron stanchions for forty cows. W. J. RHOADS, 15 N. California St., Stockton, California. 4-4

For Rent—Excellent dairy farm at Thorp, Wisconsin. Tenant to furnish horses and machinery and ½ of cows, and share proceeds equally with owner. Furnace heated, electric lighted house. Good out buildings. In village limits. DR. JAMES ALDERSON, Dubuque, Iowa. 5-2

For Rent or Sale—240-acre dairy farm ideally equipped and located. Milk selling wholesale at fifty cents a gallon. Will sell ½ interest to right party who has three thousand dollars to put into the business and run on equal partnership. Reasons for selling or renting is age. A. A. GEITGEY, Glen Saint Mary, Florida.

For rent, on crop sharing basis, a running farm, well equipped with buildings, implements and power on James River, twenty-five miles south of Richmond, Virginia, having 400 acres under cultivation. Only practical farmer able to run a farm of this size wanted, with references. An opportunity for anyone wanting to locate permanently in South, to study conditions before buying. JOHN JAMIESON, Rockaway Beach, New York.

Wanted—To rent on shares Niagara Maid Farms, East Aurora, N. Y., to a reliable, energetic, competent man, Hollander preferred. Farm consists of 400 acres, splendid soil; 350 acres tillable; two complete sets of farm buildings equipped with latest improvements; electrically lighted. Possession given April 1st or will sell on easy terms. J. T. SHANAHAN, 50 Hudson St., Buffalo, N. Y. 5-2

EXCHANGE

Wanted—To exchange 50 acres river bottom alfalfa land in ideal fruit and dairy section of California at $10,600—3,000.00 down—for small farm in central states as second payment. R. W. SHARP, 601 N. Fourth St., Fresno, California. 2*

Wanted to trade 400 acres of Wisconsin land for dairy stock, machinery and equipment with privilege of renting farm and buildings for term of years. GEO. C. JULIAN, Chesaning, Michigan.

PARTNER WANTED

Partner wanted to operate 200-acre farm on share plan. Must have own help and be capable. Holsteins or Guernseys. Fine location in city limits. Good buildings. Close to school, church and cheese factory. Address BOX 398, care Hoard's Dairyman. 13-*

Partner Wanted—An up-to-date dairyman to assume full responsibility in developing a pure-bred herd on a 125-acre farm, five miles from Akron. Must be experienced with farm implements, tractor, crop production, feeding, breeding, pedigrees and selling and be able to invest some money and furnish references. In answering state age, together with full particulars regarding self and family. F. M. STRECKER, 332 E. Buchtel Avenue, Akron, Ohio.

BUSINESS OPPORTUNITY

Business for sale suitable for retired farmer, or one whose time is not fully employed. Address FRANK J. GRADY, 2119 Corry Street, Madison, Wisconsin. 5-4

FARMS FOR SALE

For Sale—Choice Ohio farms. All sizes and prices, some great bargains. Write for list. I. J. MILLER, JR., Conneaut, Ashtabula Co., Ohio. 22*

Farms, ask French if he has what you want. Write him and state your wants. Reference any bank here. J. R. FRENCH, Cortland, N. Y. 24-13

Landology special number just out, containing 1921 facts of clover land in Marinette County, Wisconsin. If for a home or as an investment you are thinking of buying good farm lands where farmers grow rich, send at once for this special number of Landology. It is free on request. Address SKIDMORE-RIEHLE LAND CO., 47 Skidmore-Riehl Bldg., Marinette, Wisconsin. 25-12

Rose Valley Farm—137 acres; 17 miles macadam roads to City Hall, Philadelphia; owner's residence, electric lights, hot water heat, open fireplaces; beautiful lawn and shade; extended view; large stable and carriage house; modern cow barn, 48 head; tenant houses; purest water in abundance; all necessary buildings; macadam roads each side and through farm; $50,000 less than cost of buildings. FARM 2024 N. 10TH ST., Philadelphia, Pa. 26*

Free Wisconsin Bulletins, soil, climate, crops. IMMIGRATION BUREAU, Wisconsin Dept. of Agriculture, Capitol Drawer 125, Madison, Wisconsin. 26-13

Hardwood cut-over land, silt loam, clay sub-soil. Neither sandy nor gravelly; close to town; good roads; good schools; in the heart of the dairy country. You deal directly with the owners. No agents and no commissions. Easy terms. Also improved farms. Write for map and Booklet No. 4. NORTH WESTERN LUMBER CO., Land Department, Stanley, Wisconsin. 1*

Co-operative Land Sale Ass'n. Buy farms direct from owners. Send for free circular and descriptive matter. No commission to anyone, no real estate agents. A. E. WADE, Sec., Weldona, Colorado. 2-4

80-acre farm, $3,000. Splendid level land, clay loam soil, no stone, 8 acres cleared. New house, barn, and well. A bargain. CLOVERLAND COLONIZATION CO., Dept. 23, Merrill, Wisconsin. 4-2

170 acres creek bottom, no overflow causing loss of crops, etc. All alfalfa land with 30 acres now growing, balance in wheat, part to go into oats and corn this year. Capable of caring for 50 dairy cows year round. New barn 54x74, modernly equipped with 28 Star stanchions with individual drinking cups and city water. City electric current available. Loft room for 150 tons loose hay. Two hollow tile silos, capacity 140 tons each, milk house, city water, also natural gas for heating, etc. Good well for stock, windmill, good 4-room house. Two miles from center of city of Coffeyville, 17,000 population, ¾ mile to city street car line and ½ mile to city pavement. Well established dairy business selling 65 to 70 gallons milk per day, milk selling at 50 to 65 cents per gallon. Option of buying herd of pure-bred Holstein-Friesian cattle of 35 head and complete farming outfit. Price $250 per acre for quick sale. D. M. CAHILL, 512 W. 6th Street, Coffeyville, Kansas. 4-2

For Sale—160-acre farm in Dodge County, Wisconsin, 4 miles from Beaver Dam. Address S. C. KELLER, Route 2, Beaver Dam, Wisconsin. 4-2

For Sale—An alfalfa farm in the beautiful Shawangunk Valley, Orange County, N. Y., the heart of Eastern Holstein-Friesian dairy country. Crops, fifty tons alfalfa, 100 barrels apples; planted to five acres young apples and peaches due this season; New York City available by truck; contains 127 acres, on state road; well watered. Buildings good, numerous, and large. Price $16,000. Write R. D. HOWELL, 255 Suydam St., New Brunswick, N. J. 4-2

Happyland in Upper Wisconsin offers greatest year 'round profits. Here is America's Cloverland—wonderful dairy country. Crops always big. Plenty of rainfall. Good water, lakes and rivers everywhere. Fine, seasonable hunting and fishing. Splendid roads. Congenial neighbors. Schools, co-operative societies and churches. Healthful climate. Large cities nearby. Terms easy—small cash payment—balance in ten years. We help you locate and prosper—show you how to build a home and clear land. You can make good money and enjoy ideal living conditions while paying. Be independent for life. Write for free booklet "A Farm and Home in Happyland." Gives complete information and U. S. Government certified figures on crops, soil, rainfall, and climate. EDWARD HINES FARM LAND CO., 1313 Otis Bldg., Chicago. 1-spl

Modern dairy farm for sale—"Park Farms" at Linnsburg, Montgomery County, Indiana, on traction line and Big 4 Railroad; Indianapolis 39 miles; Crawfordsville 6 miles; grade and high school half mile; Wabash College 6 miles. 325 acres; 3 dairy barns; 120 stanchions; 4 silos, 550 tons; horse barn; large log house; excellent quality of soil; location most attractive. Run as dairy 7 years. Possession at once. Favorable terms. Non-resident owner. For full particulars address WM. L. ELDER, 201 Saks Building, Indianapolis, Indiana. 3-spl

Free map and list land bargains near Twin Cities. BAKER S-76, St. Croix Falls, Wisconsin. 6-spl

For Sale—New York State farm, 160 acres, 3 miles from largest town in Delaware County, on state road. Two good houses, running water to both, basement barn, tie up for 30 cows, good horse barn, 70 acres meadow, can be worked with machinery. Sugar bush, 600 trees, 20 good milk cows, one bull, 2 horses, gas engine, buzz saw, sulky plow, grain drill and all machinery and tools. 40 acres wood land. Price $9,700.00. Cash payment $4,700.00. H. M. ROBINSON, Walton, New York.

Bargain—Farm of 165 acres, $40.00 an acre. Will sell stock and tools if desired. 10-room house, large three-story barn and silo, several other buildings. Will keep thirty head and team. Great for potatoes. One-half cash or Liberty bonds, balance on mortgage. No agents. P. M. HANFORD, Walton, N. Y.

For Sale—Choice dairy farm in center of Wisconsin. For particulars write owner. FRANK EBERT, Red Granite, Wisconsin.

120-acre farm, 40 acres plowed, on main road. Write J. H. MICHAELSON, Kettle River, Minnesota.

$1,500 secures 165 acres with 3 horses, 11 cows and calves, poultry, hogs, hay, corn, oats, beans, potatoes, wagons, harnesses, machinery, etc.; 800 sugar maples, 2,000 cords wood; 8-room house, barn; aged owner's low price $4,500 includes all, easy payments. Details page 12 free illustrated Catalogs 1200 Bargains 33 States. STROUT AGENCY, 150 DL Nassau St., New York City.

South Dakota—Never again will there be such opportunities for purchasing cheap lands as are now offered in South Dakota. Every acre that is now selling for $25 to $50 per acre will soon sell for $100 to $200. Write for free bulletins. IMMIGRATION DEPARTMENT, Irwin D. Aldrich, Commisssioner, Capitol F-15, Pierre, South Dakota.

Just out. Our new list of Wisconsin dairy farm bargains. Send today for this free list. GRAHAM'S LAND OFFICE, Marshfield, Wisconsin.

Big farm bargain in New York. 396 acres. Fine land. Big crops. Good buildings. Forty cows, four horses, machinery, hay, grain, everything goes for $17,000.00, $7,000 gets possession. U. G. DAVIDSON, Route 1, Oneonta, New York. 5-spl

One good move will make your fortune in wealthy western New York. Fine farms cheap. NEW YORK FARM AGENCY, Westfield. 2-spl

New York offers wonderful opportunities to farm buyers. Good farms, good markets, low taxes. Send for catalogue. THE HAZARD-RHODES CO., Salamanca, New York. 5-4

For Sale—165-acre farm, 30 cows, fine buildings; on macadam road, near city; $16,000, $2,000 cash, balance 5%. CHAS. PETERS, Castle Creek, N. Y. 5*

FARMS WANTED

My plan of selling farms succeeds where all others fail. For immediate results describe soil, acreage under plow, meadow, timber, number and size of buildings, stock, price and mortgage if any. WALTER MILLER, 320 Brumder Building, Milwaukee, Wisconsin.

SEEDS

Farmers, ranchmen and dairymen. Order your Grimm and Cossack alfalfa seed direct from the grower. All seed recleaned and guaranteed. Ask for samples. WM. H. K. WILLIAMS, Triangle Ranch, Cottonwood, South Dakota. 26*

Jacques' Seed Corn—Early maturity, high yield, perfect germination. Grown in Clark County, North Wisconsin twelve years. My Golden Glow ripens in 100 days, yields 60 bushels shelled corn per acre. My North Wisconsin Yellow Dent ripens in 90 days, yields 50 bushels shelled corn per acre. Picked before frost, thoroughly fire dried. Careful tests show 98% to 100% germination. Money refunded if corn is unsatisfactory. Write for folder and prices to WM. H. JACQUES, Neillsville, Wisconsin. 1-13

Wisconsin grown alsike clover seed. FRED SCHROETER, Grafton, Wisconsin. 2-4

Grimm alfalfa, soy beans, clovers, grasses, Iowar and Iowa 103 oats, field seeds all kinds. Ask for price list. DAVIS SEED CO., Dept. H, St. Peter, Minnesota. 2-7

Send for attractive price list of our select home-grown seed corn. Finest quality, several varieties. Fully guaranteed. Largest trade in Northwest. JOHNSON & ARNESON, Dassel, Meeker County, Minnesota. 3*

Seed Peas—Buy Northern grown Canada field peas direct from the grower, cleaned ready for seeding. 1,000 bu. for sale, 1 bu. $3.00; 2½ bus. $7.00; 5 bus. $12.50; 10 bus. or more at $2.25 per bu. Sacks included. Send for sample or order direct from this ad. L. P. MARTINY, Chippewa Falls, Wis. 4*

New Advance Wisconsin Pedigree barley, Iowa and other leading oats. Pure seed. Write for circular. KRUEGER'S SEED FARM, Beaver Dam, Wis. 4-6

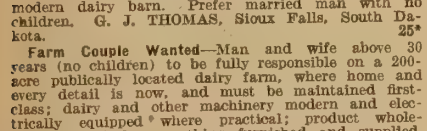
New Golden Glow seed corn, bred for silage and high grain yield. $4.00 bushel in five-bushel lots. Wisconsin No. 7 oats, dairyman's favorite variety, ripen with barley, yield over 100 bushels per acre. $1.00 bushel, 25 bushel lots. NOYES RAESSLER, Beloit, Wisconsin. 4-4

For Sale—Albemarle Prolific Ensilage Seed corn. Wonderfully high producing ensilage, stalks 12 to 18 feet tall, well bladed, 2 to 7 ears of corn to the stalk; 12 to 20 tons of ensilage to the acre. High germination test. Price on request. E. L. GOSS, Somerset, Virginia. 5-spl

Clovers, alfalfa, free from weeds. Soy beans, kiln dried corn. Everything guaranteed. HENRY MICHELS, Fond du Lac, Wisconsin. 5-5

Sudan Seed—Re-cleaned, double sacked, $3 per hundred, f. o. b. Lubbock. JOHN F. TURNER, Lubbock, Texas. 5-4

Seed Corn—Eureka Ensilage, Silvermine, Reids, Johnson, Rileys 52-day. C. L. HAMMOND & SONS, Rockport, Indiana. 5*



Advertising in this department is 7c per word. Remit in advance.

HELP WANTED

Wanted—Middle aged herdsman to take charge of modern dairy barn. Prefer married man with no children. G. J. THOMAS, Sioux Falls, South Dakota. 25*

Farm Couple Wanted—Man and wife above 30 years (no children) to be fully responsible on a 200-acre publically located dairy farm, where home and every detail is now, and must be maintained first-class; dairy and other machinery modern and electrically equipped where practical; product wholesaled exclusively—everything furnished and supplied. This is a plain, practical gentleman's place, requring a conscientious, competent, dependable couple who want a permanent position, who can care for and handle the necessary help, and know how a first-class place should be conducted. Give experience, qualifications, ages and present employment. JOHN S. SELL, Greensburg, Westmoreland County, Pennsylvania. 2*

Men—Boys Wanted—Railway mail clerks. $135 month. Particulars free. FRANKLIN INSTITUTE, Dept. H 117, Rochester, New York. 4-3

Wanted by March first, a married herdsman for a Guernsey herd. Give references, experience, and wages expected in first letter. CHAS. A. WILKINS, Platteville, Wisconsin. 4-2

Wanted—Single man experienced on general farm. Must be good milker. State wages wanted. OLIN HOVRUD, Mt. Horeb, Wisconsin. 4-2

Wanted—Single herdsman to start April 1st or sooner. We have a herd of about 60 well bred but practically undeveloped Holsteins and most modern plant in our county and want a man who is able to assume responsibility and get results in long distance work, raising calves, producing certified milk, caring for equipment such as milking machines and electric plant and must have an innate sense of neatness and orderliness. Will pay $90 per month to start including board, etc., and will allow in addition a certain percentage of the herd profits. State your age, experience, etc., in your first letter. Do not answer unless qualified by some actual experience or training as you will be wasting your time and mine. Also want assistant to herdsman who wants to learn the trade. $70 to start with extra for 3- or 4-time milking. Address all replies to FRED M. MACK, Supt., Brownwood Farms, N. Bloomfield, Ohio. 4-2

Wanted—Married man for small dairy farm and orchard at Bayfield, Wisconsin. Write J. DAVID SMITH, Albia, Iowa. 4*

Poultry and egg man. Butter marketing assistant. Write at once WISCONSIN CIVIL SERVICE COMMISSION, Madison, for information and application.

Wanted at once—Competent man to take care Holstein herd. Modern equipment, twenty-five cows. ST. ROSE FARM, Springfield, Kentucky.

Herdsman wanted—Single or married. Experienced in A. R. O. and certified milk; good calf raiser; willing to take part in developing herd of pure-bred Ayrshires. Eastern Pennsylvania. Give full particulars and wages expected first letter. Address BOX 634, care Hoard's Dairyman.

Young man, single, who does not use tobacco, wanted for general farm work. State qualifications and wage expected. H. E. WIMER, Blencoe, Iowa.

Wanted—Woman for house work on farm. No milking. Good wages. Write particulars in first letter. MRS. LEA GORDON, Route 2, Mineral Point, Wisconsin.

Wanted—Two good four-time milkers, man for general farm work. All steady and reliable. Or would hire family capable handling all or part 160-acre farm and twenty semi-official Holsteins under owner's supervision. L. G. GLEIM, Arlington, Iowa. 5-2

Wanted—Healthy, single, 30-year-old man, good milker and A. R. O. feeder and ability to keep registers for pure-bred Holstein herd. Good references required. Salary $80 month and board. Stay one year, one way transportation paid. Opportunity to see sunny Arizona. H. RENAUD, Route 3, Phoenix, Arizona.

Wanted—Man on alfalfa and small dairy ranch. $50 per month and board. Easy place to get land in good country. S. S. HILL, Barstow, Calif. 5-2

Wanted—A boy to work on farm, age between 15 and 17. JOSEPH H. THOMAS, Route 1, Belmont, Wisconsin. 5-2

Wanted—Capable man to care for small herd registered Guernseys and be generally useful on country place. Excellent permanent place for healthy, clean, willing, honorable man. State wages expected and all particulars in first letter, including references. MRS. G. H. McKENZIE, Litchfield, Connecticut.

HAY

Alfalfa and prairie hay for sale. Prompt shipments. Personally inspected loading. Wire or write GUNN HAY CO., Lexington, Nebr. Reference Lexington State Bank. 11*

Number one and choice alfalfa hay and seed ready for shipment. Address A. L. DAMON & COMPANY, Inc., Rapid City, South Dakota. 8*

Alfalfa Hay for Sale—Write or wire for delivered prices. ALBERT MILLER & COMPANY, 192 North Clark St., Chicago. 17*

Alfalfa. We handle nothing but the very best quality. Write or wire JAMES BROTHERS, Rapid City, S. D., for delivered prices. 5-4

No. 1 dairy alfalfa $16.00 per ton f. o. b. Buffalo Gap, South Dakota. Arrival draft, inspection allowed, prompt shipment. BROOKSIDE FARM. 5-3

SILOS

12x24 Washington Fir Kalamazoo stave and tile silo. Kalamazoo ensilage cutter. ALBERT C. WOLLIN, Johnson Creek, Wisconsin. 5-spl

PRINTING

Hoard's Dairyman Art Department designs your letter head free. Just tell us your breeds of stock. Book of 5,000 Farm, Ranch and Cottage names 25 cents. Ask for samples of letter heads, envelopes, shipping tags, cards, milk tickets, etc. Poor stationery is more of a damage than a help. Be sure and give correct post office address, including state. Address HOARD'S DAIRYMAN, Art Dept., Fort Atkinson, Wisconsin. 8-tf

TANNING

Let us tan your hide: Cow, horse, or calf skins for coat or robe. Catalog on request. THE CROSBY FRISIAN FUR CO., Rochester, N. Y. 1-52

STANCHIONS

Crumb's Stanchions are guaranteed to please the purchaser. They are shipped subject to trial in the buyer's stable. They are right. Send for booklet. WALLACE B. CRUMB, Box H, Forestville, Conn. 2-10

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

HELP WANTED

Wanted—By March 15th, reliable single man for general farm work, milker used. Will hire for summer or by year. State wages, age, experience, nationality. ALBERT GRANDMAN, Lomira, Wisconsin.

Wanted—Experienced general farm hand. Must furnish references. Good place for right man. State age and wages. WALTER J. BRAY, Elkhorn, Wis.

Wanted—Herdsman, single, with some knowledge of A. R. work. Forty head Guernseys, half pure-bred. Universal Milker. State wages expected, experience and references in first letter. DOUGLAS COUNTY WORK FARM, South Range, Wisconsin.

Wanted—Married man with boy to work on dairy farm 1½ miles from town. Good buildings and electric lights. Give full particulars, number in family and salary expected. Address DRAWER M, Plymouth, Wisconsin. 5-3

Wanted—Assistant herdsman for pure-bred Ayrshire herd. Must be good milker. Furnish experience and reference. Address BOX 633, care Hoard's Dairyman.

Wanted—Man and wife. BRANCH EXPERIMENT STATION, Ashland, Wisconsin. 5-2

Wanted—Single man with experience to take care of pure-bred Guernsey herd and know how to run separator and make butter. A. P. MONTGOMERY, care Walden W. Shaw, Lake Geneva, Wisconsin.

Wanted—Married man by April 1st for general farm work and to help milk and care for herd of Guernseys. In replying give age, number of children and church. E. HUSER & SON, Comstock, Barron County, Wisconsin. 5-3

Wanted—Steady, reliable single man, general work on dairy farm. Must understand farm machinery and be able to handle young horses. Give nationality, age, experience, references, wages, etc. TRIANGLE FARMS, Watertown, Wisconsin.

Wanted—Experienced farm hand, good milker. State age, wages and full particulars first letter. 80-acre farm, 20 milk cows for 2 milkers. OTTO BARTON, Route 7, Madison, Wisconsin.

Wanted—Jersey herdsman, married, no children preferred. Excellent farm and good buildings. Very pleasant surroundings, good furnishings and permanent position. Must be a man well experienced in feeding, fitting, calf raising, machinery and generally efficient, with push and energy. Please state full particulars, experience and salary and reference for prompt reply. OLD HOMESTEAD FARMS, Warsaw, Kentucky. 5-2

Wanted—Single young man of good character and habits to work in Guernsey herd where Advanced Registry work is in progress. Must be good milker and have a genuine interest in his work. Good wages and accommodations to party well recommended. Communicate with BERNARD SLOM, Route 3, Redford, Michigan.

Wanted—Young man for farm and dairy work. No booze or tobacco. Write giving age, experience, nationality, wages wanted. H. PRESTON, Elgin, Minn.

Wanted—Single man for bottling room. Steady, dependable, experienced. $50; good board, all conveniences. Bonus at the end of year. Farm bordering large city in Illinois. Address BOX 640, care Hoard's Dairyman.

Wanted—Man and wife to work on modern dairy farm. Good house furnished, excellent living conditions. Protestant preferred. Wife must board two men. State ages, wages and recommendations first letter. C. H. OLSON, Cedar Grove, Wisconsin.

Wanted—Reliable single man for farm and dairy work. Address BEYNARD WAY, Freeport, Pa.

Two Men Wanted—Married man for general farm work, no milking. Single man to help in small pure-bred Holstein herd and do general farm work. Prefer man with tractor experience. Excellent proposition to right parties. Address "MANAGER JEROLD JEAN FARMS", 132 W. Federal St., Youngstown, Ohio.

POSITIONS WANTED

I have rented my farm and desire a position as manager on large grain and stock farm. I can give satisfaction and good results. Married, no children, could take charge March 1. Wire or write FOSTER WEIGEL, Barrington, Illinois. 4-2

Farm Superintendent—Scientific, practical, energetic, desires position on large modern farm or estate and will put same on paying basis. Experienced in Advanced Registry, pure-bred stock, modern farming, tractors, orcharding, road and building construction. Married, no family. Excellent references. Address BOX 544, care Hoard's Dairyman. 4*

Position Wanted—Single man many years in charge of dairy herds as milker, feeder and calf raiser. State your best proposition for attention, salary, board and room. M. L. RILEY, Barrington, Illinois.

Young single man wants position with modern, progressive dairy doing A. R. O. work. Clean habits and reliable. Wisconsin preferred. Address BOX 631, care Hoard's Dairyman.

Manager—Share, commission or salary. Life experience, made world records, understand all stock, crops, machinery. Manager past 14 years on large up-to-date place. Cornell graduate. Address BOX 641, care Hoard's Dairyman.

POSITIONS WANTED

Married man wants position on hog and dairy farm, Iowa, Minnesota, Wisconsin. Prefer shares. Address BOX 635, care Hoard's Dairyman.

Experienced man wants position March 1st, fitting for sale. Address BOX 637, care Hoard's Dairyman. 5-2

Young man wants position as assistant herdsman in dairy barn. Age 17. Clean habits. State particulars. Can start March 10. CLARENCE MEILS, care A. Wollner, Route 1, West Bend, Wisconsin.

Position is wanted by single man of 36 years of age as herdsman on modern dairy. Large proposition preferred. Good in modern treatment of sterility, abortion, feeding for A. R. O., certified milk production. Address HERDSMAN, care Lew Dale, Route 3, Lawton, Michigan.

Position wanted by young man as milk tester or manager. Experienced graduate. References. Address BOX 636, care Hoard's Dairyman.

Married couple, without children, desire steady position at once on farm with bachelor or widower. Can furnish references. State wages. F. W. T., 1314 Douglas St., Sioux City, Iowa.

Dependable, experienced, married man wants to operate dairy farming business selling clean milk, no boarding. Describe farm, cows, equipment, location, condition of business, dwelling and surroundings. CLARENCE DORSEY, Mora, Illinois.

Position Wanted—Married couple to work in and take charge of boarding house on farm, experienced. Address BOX 639, care Hoard's Dairyman. 5-2

Wanted—Position as farm manager on pure-bred stock farm by practical scientific man capable of managing men, producing certified milk, operating and caring for modern machinery. Best of references. Address BOX 638, care Hoard's Dairyman.

Michigan Creamery Meeting

The annual meeting of the stockholders of the co-operative creamery at Litchfield, Mich., was held Saturday, February 5, 1921. There was a very good attendance, about fifty being present. All agreed it was one of the most interesting meetings in several years. President L. R. Lindsey gave a short review of the important things accomplished during the past year. J. D. Hawkes, treasurer, gave a detailed report of receipts and expenditures and also a report showing the company to be in a safe and sound financial condition.

Manager Bater showed the business of 1920 as compared with the year previous as follows:

	1919	1920
Pounds butter made	623,637	667,538
Amount received for butter sold	$369,691.62	$397,001.59
Expenses	20,677.55	25,902.53
Average price paid for butterfat, cents	69	69
Cost of making a pound of butter, cents	3.3	3.88

The cost of making a pound of butter in 1914 was 2.66 cents. The 1920 cost of 3.88 cents is an increase of only 46 per cent.

Interesting talks were given by Claire Stoddard of the Food and Drug Department and Claude Grove of John W. Ladd Company. At the election of directors for the coming year the following were chosen: L. R. Lindsey, H. W. Denham, A. F. Anderson, J. D. Hawkes, M. Wade, F. N. Sherk, and Fremont King. The board of directors re-elected L. R. Lindsey, president; H. W. Denham, vice-president; A. F. Anderson, secretary; and J. D. Hawkes, treasurer. C. S. Bater was hired again as manager and F. C. Mergenthaler as buttermaker for the coming year. With the above efficient and experienced officers and employees the company looks forward to another successful year.

Michigan. C. S. BATER.

MARKETS

CHICAGO, Feb. 10—Butter—Creamery, extras, 43c; standards, 42c; dairy, firsts, 34@41c; seconds 25@33c.

Eggs—Ordinary, 30@31c; firsts, 33½@34c.

Cheese—Twins, 23½c; Young Americas, 25c.

MILWAUKEE, Wis., Feb. 10—Butter—Creamery, tubs, 44c; prints, 48c; extra firsts, 42@43c; firsts 41c.

Eggs—Current receipts, country candled, cases returned, 29@30c; seconds, 26@27c; checks, 25@26c.

Cheese—Twins, 24½@25c; Daisies, 25c; Young Americas, 26@26½c; Longhorns, 26½@27c; fancy, Brick, 22½@23c; Limburger, 1 lb., 22c; 2 lbs., 23c; Swiss loaf, 44@45c.

NEW YORK, Feb. 10—Cheese—Dull; state milk; common to specials, 12@29c; skims, common to specials, 10@20c.

Butter—Steady; receipts, 6,332 pkgs.; creamery, extras, 43c; state dairy tubs, 38@42c.

Eggs—Weaker; receipts, 21,475 cases; nearby white fancy, 41@42c; nearby mixed fancy, 33@39c; fresh firsts, 34@37c.

"GOOD MORNING"
Have You tried Our
Choice Leafy Dairy Alfalfa
It's the best for tests.
W. A. FERSON HAY COMPANY
226 Board of Trade Annex, Kansas City, Mo.

High Grade
Holstein Cows For Sale
Will sell ten of the best high grade cows in Illinois. They are young and sound; have cow testing records up to 16,000 lbs. of milk in a year, one with over 100 lbs. fat in 30 days. This is the highest record herd in cow test work in Macoupin County. Some months they have been the best ten cows in the state. All fresh or close springers. Here is your chance to get some real cows at a reasonable price. Write for prices and descriptions.
J. M. Kahl, - - Shipman, Illinois

Holstein Service Bulls
sired by
King Bess Burke Ormsby
whose 5 nearest dams average 36.56 lbs. butter in 7 days, 1005 lbs. in 1 year.
PRICED TO SELL
TUBERCULIN TESTED
Milford Meadows Stock Farm
Lake Mills, Wisconsin

SONS
of Sir Echo Sylvia Johanna —
⅞ Brother to the $106,000 Bull
From high bred fine individual A. R. O. cows up to 30 lbs. Several on test now. All good, straight individuals, backed by lots of milk and butter. Some are ready for service. Priced very low. Write for catalog.
(*Herd Under Federal Supervision*)
CHESTNUT HILL FARMS,
G. A. Burdick, Mgr., Gibsonia, Pa.

GREENBUSH FARM
REGISTERED HOLSTEINS
Offering a service son, by a 1225.67-lb. sire, from a 657.1-lb. senior 4-year-old dam. Good individual. Price $400. Several others at $150 and up. Herd under federal supervision. For complete information address
GREENBUSH FARM,
R. Turano, Herdsman, Glenbeulah, Wis.

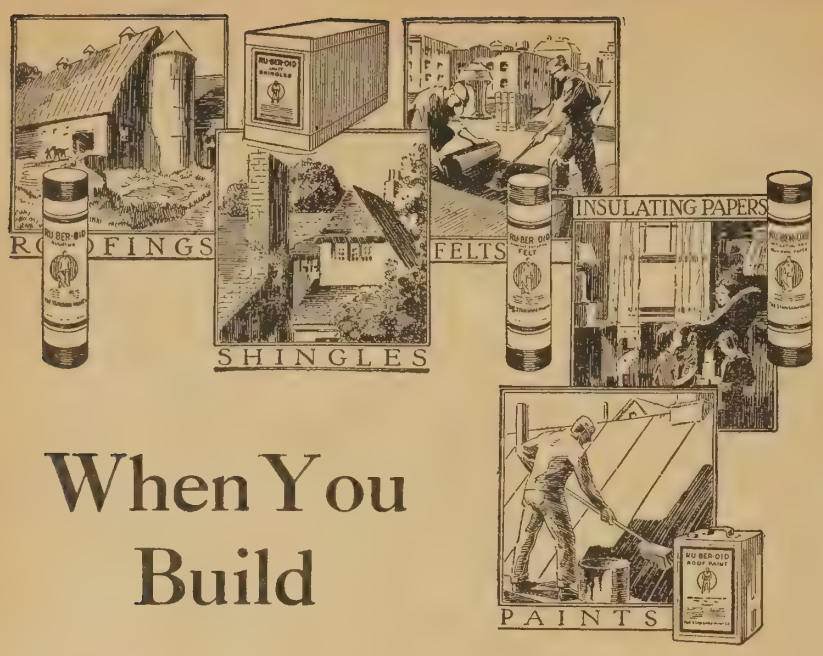
Three Sisters For Sale
Granddaughters of a 35-lb. bull. Two fresh, one to freshen soon. Bred to a 37-lb. bull. Three- and four-year-olds. $900 takes the three.
ORINE W. BEHNCKE, R. 7, Box 83, Marshfield, Wis.

Grade Heifer Calves—$20
Good grade heifer calves by pure-bred sires $20 f. o. b. cars. Pure-bred bull calves $40 and up. Good, registered heifer calves at reasonable prices.
J. C. BOLGER, Waterloo, Wis.

A KING OF PONTIACS BULL, Born May 5, 1920
His sire's three nearest dams average over 30 lbs. butter in 7 days. His dam, A. R. O. over 20 lbs. butter in 7 days, her dam a good daughter of De Kol 2d Paul De Kol No. 2. Good individual, straight, well marked.
HOWBERT FARM, Eau Claire, Michigan

Mound City Farm Guernseys For Sale
May King's Reputation of Mound City (63800) born Dec. 3, 1919.
Sire—May King's Vrangue of Ingleside (15430). Dam—Alma Ethel, three records namely 495 class G. 621 lbs. class AA and 704 lbs. class A. Alma's King of Mound City (63801) born Dec. 23, 1919. Sire—Cinderella's King of Mound City (40476). Dam—Alma Lehigh (43704). 340 lbs. fat class G. 648 lbs. fat class A. Rose's May King of Mound City (63802). Born March 19, 1920. Sire—May King's Vrangue of Ingleside (15430). Dam—Rose of Little Platt (55717) record of 667 lbs. fat in class AA now fourth in her class. Some younger bulls of equal breeding.
Chas. A. Wilkins, Platteville, Wisconsin

Dispersion Sale Feb. 23d of 26 Belgian and Percheron Stallions, Mares and Colts Mostly Imported Stock.
Next Day—Feb. 24 40 Bred Berkshire Sows—all bred to farrow March and April—A-1 blood lines.
C. BROUWERS & SON, Route 2, - - - St. Cloud, Minnesota
N. P. Clarke Farm, Route 2. Farm is 4 miles north of Sartell on N. P. Railroad.



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Grouped under the name Ruberoid you will find a line of asphaltic weatherproofing products of the highest quality. These products should be used in every building which is expected to give complete and permanent protection from the elements.

Ruberoid Products reflect a manufacturing experience and laboratory control of nearly forty years. There are many roofs on which Ruberoid Roll Roofing has served for over a quarter of a century with the limit of its endurance yet to be established. This is one example of the high quality which is the birthright of every product bearing the name Ruberoid.

The majority of dealers who sell Ruberoid Products have handled them for many years. They are unusually well informed regarding the quality of the products, the purposes which they serve and the manner in which they should be used. This knowledge, combined with the highly developed merchandizing policy of the Standard Paint Company, enables every Ruberoid distributor to give his customers service which is not excelled in the building industry.

When you build or repair be sure to use Ruberoid Weatherproofing Products.

Ruberoid Weatherproofing Products

Smooth Surfaced Roll Roofing	*Deck Cloth*
Mineralized Roll Roofing	*Waterproof Felt*
Unit Shingles	*Asphalt Saturated Felt*
Strip Shingles	*Cement-Waterproofing*
Roof Paint	*Plastic*
Insulating and Sheathing Papers	*Paints*
Floor Covering	*Varnish*

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THE SIMPLEST MILKER MADE

Furnished in units for herds of five cows or more. Pump-pulsator type. Gives complete vacuum release on teat; safe, smooth natural action.

"SEE-THRU" Teat Cup

Patented exclusive feature. See all teats milking. One piece—clear as crystal—as easy to clean as a dish. Most lasting, greatest milker improvement invented.





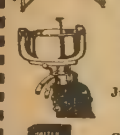
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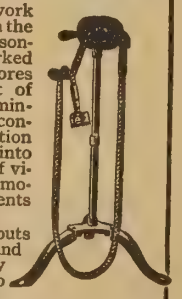
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Keep Horses Well



The reason so many work horses are unfit for work in the spring is a clear case of poisoning. When they are worked on warm spring days, the pores have an unusual amount of broken down tissue to eliminate. Unless the skin is in condition for the pores to function freely, waste matter gets into the system, causing loss of vitality, to which colds, pneumonia and other horse ailments are directly traceable.

Clipping in the spring puts the skin in fine condition and is cheaper than veterinary bills or renting horses to take the place of sick ones.

$14 buys a Stewart No. 1 Ball Bearing Clipping Machine from your dealer, or from us by sending $2 with order and paying balance on arrival.



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Articles of Incorporation of Oregon Dairymen's By-Products Corporation

(Continued from page 181)

and of the proceedings of its meetings and to present a full statement at the regular annual meetings of the stockholders, showing in detail the condition of the affairs of the corporation;

2. To supervise all officers, agents, and employees and see that their duties are properly performed;

3. To cause to be issued appropriate certificates of stock in accordance with paragraphs sixth and seventh of the Articles of Incorporation;

4. To install such a system of bookkeeping and auditing that each stockholder may know and be advised from time to time fully concerning the receipts and disbursements of the corporation.

ARTICLE VI

Officers

The officers of the corporation shall be a president, first vice-president, second vice-president, secretary (treasurer), together with any other administrative officers whom the Board of Directors may see fit in its discretion to provide for by resolution entered upon its minutes.

The Board may appoint assistant secretaries, in its discretion, and may delegate to them any or all of the duties of the secretary hereunder or any other duties.

The compensation and tenure of all officers shall be fixed by the Board of Directors.

The secretary (treasurer) need not be a member of the Board of Directors.

ARTICLE VII

The President

If at any time the president shall be unable to act, the first vice-president shall take his place and perform his duties and if the first vice-president shall be unable to act, the second vice-president shall act and if the second vice-president shall be unable to act, the Board shall appoint a director to do so. The president or such vice-president or director shall

1. Preside over all meetings of the stockholders and directors.

2. Subject to the advice of the directors, direct the affairs of the corporation.

3. Call the directors together whenever he deems it necessary.

4. Sign, as president, or vice-president, all certificates of stock, and all contracts, notes, checks, and other instruments when so directed by the Board of Directors.

5. Discharge such other duties as may be required of him by these by-laws or by the Board of Directors.

ARTICLE VIII

Secretary (Treasurer)

It shall be the duty of the Secretary (Treasurer):

1. To keep a record of the proceedings of the meeting of the Board of Directors and of the stockholders.

2. To keep the corporate seal and the books of blank stock certificates; fill up and countersign all certificates issued and affix said corporate seal to all papers requiring a seal.

3. To keep a proper stock transfer account and stock ledger showing the name of each stockholder of the corporation, the number of his certificate and date of issuance, surrender, cancellation, forfeiture or transfer.

4. To receive and deposit all funds of the corporation to be paid out only on checks as hereinbefore provided and account for all the receipts, disbursements, and balances on hand.

5. To furnish a bond in such form and in such amount as the Board of Directors may from time to time require.

6. To execute and sign all contracts, notes, papers, and documents as Secretary only and to control only financial accounts as Treasurer.

7. To serve all notices required either by law or by the by-laws of the corporation and in case of his absence, inability, refusal, or neglect so to do, then such notices may be served by any one person thereunto directed by the president or a vice-president of the corporation.

8. To act as secretary of the executive committee.

9. To discharge such other duties as pertain to his office or may be prescribed by the Board of Directors.

ARTICLE IX

Executive Committee

The Board of Directors shall appoint an executive committee of five members from among its members, determine its tenure of office and its powers and duties. The president shall be ex-officio one member of the said executive committee.

The executive committee shall have such duties and powers as may from time to time be prescribed by the Board of Directors and these duties and powers may be all of the duties and powers of the said Board of Directors, subject to the general approval and control of the Board of Directors.

Said committee shall hold office at the pleasure of the Board and shall receive such additional compensation as the Board may direct; and they shall keep accurate records of their proceedings and shall report monthly to the Board of Directors.

Said committee may meet and vote upon any subject within their powers at their dis-

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If you had thousands of dollars invested in your own equipment for testing the seed you use you could not get better seed than you get of Salzer without a cent of extra cost.

We are American Headquarters for Field Seeds: Wheat, Oats, Barley, Corn, Potatoes, Alfalfa, Clover, Timothy, Sudan, Billion Dollar Grass, White Sweet Clover—vegetable and flower seeds for the home and market garden, too—and the quality of all Salzer Seeds has been proved by laboratory field tests.

Our experimental farm at Cliffwood is always in the service of buyers of Salzer Seeds and enables us to guarantee all Salzer Vegetable and Flower Seeds to be satisfactory to you in every respect or we will refund full purchase price. Send for catalog today and grow this year's crop from Salzer Seeds.

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Great pasture crop for horses, cattle, sheep or hogs. More nutritious even than Alfalfa or Red Clover. Positively will not bloat. Fine for milk cows.

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Standard clincher joint 5-walled glazed blocks Cheap as lumber to use proof against fire, frost, moisture and vermin Practically indestructible Order NOW. Purchase during winter insures prompt delivery. Send us plans and specifications for your buildings and let us estimate Permanent improvements add greatly to farm values. save repairs give best protection for least money WRITE US TODAY

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cretion and in any manner, by telegraph, telephone, or otherwise, provided, however, that all matters, other than ordinary commercial details, be finally set down in writing, and that all votes shall be recorded, when all members are not present in person, in the minutes of the said committee; and be signed by the members thereof. In any event, three affirmative votes shall be necessary in order to adopt any motion or approve any proceedings of the executive committee.

ARTICLE X

Auditing Committee

The Board of Directors may appoint an auditing committee, from among its members, determine the number of its members and its tenure of office. The Board may prescribe rules and regulations with reference to the manner and form in which claims shall be presented against the corporation and the manner of auditing the same and in lieu of such action by the Board, the auditing committee may prescribe rules and regulations with reference to its meetings and procedure. A semi-annual audit shall be made by a certified public accountant and an annual report shall be filed by him with the Board of Directors prior to the annual meeting.

ARTICLE XI

Zoning Committees

The Board of Directors of the corporation may create zoning committees of members in the various districts of Oregon. The directors shall designate the districts and the number of members for each such zoning committee and the method of selecting the members thereof or the Board of Directors may itself select and appoint the members thereof. The Board of Directors shall determine the term, duties, functions, and privileges of such zoning committees.

ARTICLE XII

Books and Papers

The books of the corporation and such papers as may be placed on file by vote of the members or directors shall at all times during business hours be subject to the inspection of the Board and of any stockholder or his representative, duly authorized in writing.

ARTICLE XIII

Location of Office

The principal office and place of business of the corporation shall be at Portland, Oregon, and the corporation may, at the discretion of the Board of Directors, also maintain offices at such other places as may be expedient.

ARTICLE XIV

Proxies

Any stockholder shall be permitted to vote at any meeting by proxy, which proxy shall be in writing, executed by the stockholder in the manner and form required or permitted by law.

ARTICLE XV

Manager

The Board of Directors may in its discretion appoint a manager, who shall hold office at the pleasure of and on terms and conditions set by the Board of Directors. Any director, officer, or other person may be elected to serve as manager. The manager shall perform such duties as may be directed by the Board of Directors.

ARTICLE XVI

Borrowing Money

The corporation shall have the power, by affirmative vote of at least thirteen directors, to borrow money or to authorize the executive committee or the manager to borrow money for any corporate purposes on open accounts or upon any assets of the corporation in such amounts and upon such terms and conditions as may from time to time seem to them advisable or necessary.

ARTICLE XVII

Offices Held by Directors

One director may be elected to fill only one office on the Board of Directors of this corporation. Any director may hold the position of manager, in addition to any elective office hereunder, or may be employed by the corporation in any capacity, under any terms; but no such employment shall become effective unless so determined by the vote of at least fifteen (15) members of the Board of Directors.

ARTICLE XVIII

Officers May Resign

Any director or other officer may resign his office at any time, such resignation to be made in writing and to the effect from the time of its acceptance by the Board of Directors.

In case of the absence of any officer of the corporation, or for any other reason that the Board may deem sufficient, the Board may delegate any or all of the specific powers or duties of such officer to any other officer or to any director for a stated time, provided that a majority of the entire Board concur therein.

ARTICLE XIX

Certificates of Stock

(1) Certificates of stock shall be of such form and device as the Board of Directors may direct; shall be signed by the president or a vice-president and countersigned by the secretary or an assistant secretary and the certificates of each class of stock shall express on their face the number, date of issuance, the number of shares for which and the person to whom they are issued, and the substance of such other appropriate provisions as appear in paragraphs sixth and seventh of the articles of incorporation of the corporation.

(2) The certificate books shall contain a margin on which shall be entered the number, date, number of shares, and name of the person expressed in the corresponding certificate.

ARTICLE XX

Transfer of Stock

(1) Shares of the corporation may be transferred at any time subject to the provisions of paragraphs sixth and seventh, of the articles of incorporation, by the holder, or by his legal representative by endorsement on the certificate of stock. But no transfer shall be valid until the endorsed certificate has been surrendered.

(2) A surrendered certificate shall be cancelled by the secretary before a new one is issued in lieu thereof, and the secretary shall preserve the certificate so cancelled, as a voucher. If, however, a certificate is lost or destroyed, the Board of Directors may order a new certificate issued as may be by law permitted.

ARTICLE XXI

Sec. 1. Annual Meetings. A regular annual meeting of the stockholders shall be held at the office of said corporation at 2 o'clock P. M. on the last Wednesday in December of each year after 1920, for the purposes of electing a Board of Directors and transacting such other business as may come before the meeting.

Sec. 2. Special Meetings. Except where otherwise prescribed by law or elsewhere in these by-laws, a special meeting of the stockholders may be called at any time by the president or by a majority of the Board of Directors. Each such call shall be in writing and shall state the time, place, and the purposes of such meeting. No business shall be transacted at a special meeting other than as is stated in the purposes for the call.

Sec. 3 Notice of Regular Meetings. Notice of each regular meeting of the stockholders shall be given. Such notice must state the time and the place of meeting, and that the purposes thereof are the election of a Board of Directors and the transaction of such other business as may come before the meeting. A copy thereof shall be mailed to each member of the corporation, as his address shall appear upon the books of the corporation, at least ten days prior to the time for holding such meeting.

Sec. 4. Notice of Special Meetings. Notice of each special meeting shall be given by mailing to each stockholder a copy of the call for such meeting, as his address shall appear upon the books of the corporation, at least ten days prior to the time fixed for such meeting.

Sec. 5. Quorum. At any meeting a majority of the issued and outstanding capital stock present in person or represented by proxy shall constitute a quorum for all purposes, including the election of directors, except when otherwise provided by law.

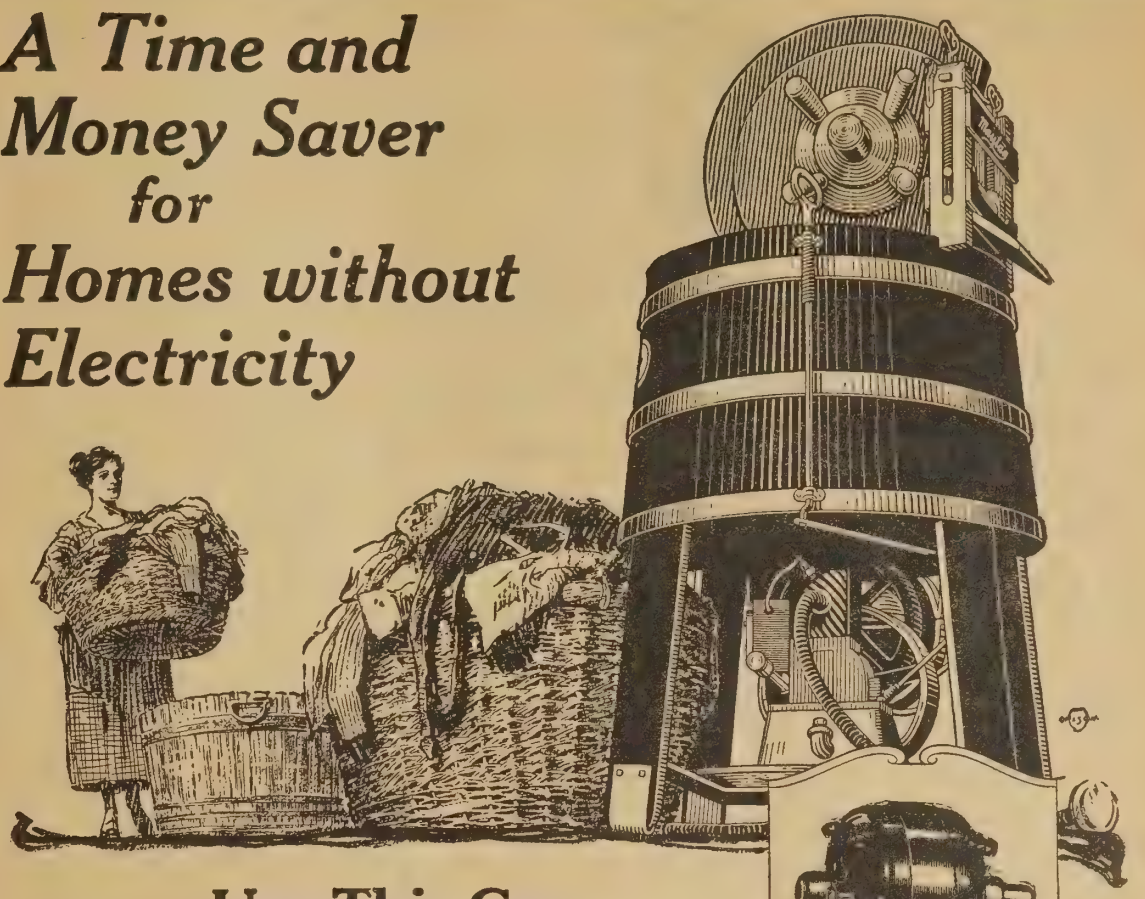
ARTICLE XXII

Amendments

These by-laws may be altered or amended at any annual meeting of the stockholders or at any other meeting of the stockholders called for that purpose by the directors, by a vote representing a majority of all of the issued and outstanding capital stock.

The Duroc-Jersey breeders of Waupun County, Wisconsin, have organized a county association for their breed of hogs. At a recent meeting F. R. Constance was elected president; Wm. Wied, vice-president; and Floyd Dunn, secretary-treasurer.

A Time and Money Saver for Homes without Electricity



Use This Gas Power Washer Indoors

Today it is important that economy be preached in many homes. Do not overlook the saving a Maytag Washing Machine will make possible. Clothes, table linen, bed linen, etc., washed in the Maytag, last much longer. This gas power washer does anything our finest electric will do and it has the advantage that it is absolutely portable. The little air-cooled gas engine that runs it is part of the machine.

You can wash in the house—on the porch—under a tree—in the shed—anywhere. Handles all kinds of clothes quickly and economically. Has a three-way swinging reversible power wringer. Merely feed the clothes through it. Costs little to buy and little to run.

Any one can operate it. A demonstration is all you need. If you do not recall the local dealer, write us at once. Thousands now in use.



For homes with Electricity

For many years the Maytag Wood Tub Electric has been a tremendous favorite. It is the same in every respect as the Maytag Multi-Motor save that it is operated by a modern electric motor. Has a three-way, swinging reversible power wringer. You merely feed the clothes through it.

The Maytag Company, Dept. 105, Newton, Iowa

Branches at Philadelphia, Pa.; Indianapolis, Ind.; Minneapolis, Minn.; Kansas City, Mo.; Portland, Ore.; Winnipeg, Man., Can., and The Maytag Company of England, 323 Caledonian Road, King's Cross, London.

Makers of Maytag Multi-Motor, Electric, Belt and Hand Power Washer

Maytag Multi-Motor Washer

With Built-In Gasoline Engine

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"NOT A KICK IN A MILLION FEET"
ROOFING AND SHINGLES
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MULE-HIDE Roofing

Pays Dividends in Service

LONG years of use have tested MULE-HIDE roof coverings and proved their worth — establishing them as assets. They are longer lived and less costly. They pay dividends in years of service.

"Not a Kick in a Million Feet"

is our guarantee of protection and permanence. It is backed by experience, ability, and an army of satisfied users.

Ask your lumber dealer about MULE-HIDE. Your time will be well spent investigating. And after you investigate you'll buy.

MULE-HIDE Smooth Finish Roofing.
MULE-HIDE Slate-Kote Roofing.
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MULE-HIDE Individual Asphalt Shingles in Standard and Double-Thick Weights.
MULE-HIDE Four-Unit Asphalt Shingles.
SEAL-SKIN and BLACK-BEAR Waterproof Building Papers.

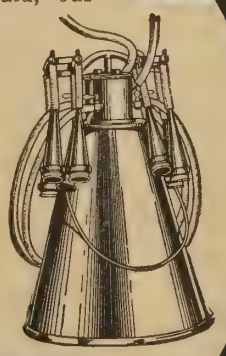
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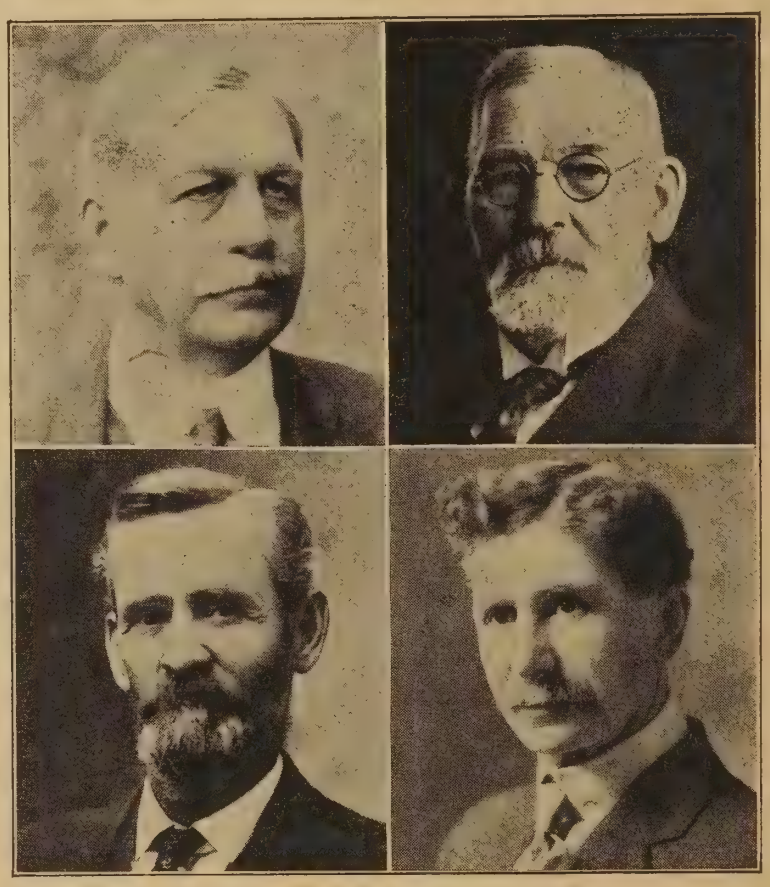
Wisconsin Honors Four Farmers

A LIFETIME of unselfishness brought honorary recognition by the State of Wisconsin February 4 to three Wisconsin farmers and one Illinois agriculturist.

David Imrie of St. Croix County, Robert Hall of Oconto County, and R. J. Coe of Jefferson County, Wisconsin, and Eugene D. Funk of McLean County, Illinois, were awarded testimonials of appreciation by the regents of the University of Wisconsin upon the recommendations of the faculty of the College of Agriculture.

In introducing David Imrie to the assembly of farmers Dean Russell referred to his record as a pioneer exponent of co-operation among farmers. About a quarter of a century ago, Mr. Imrie organized the first co-operative creamery in his section of the state, and aided in the organization of three similar creameries within the next few years. At about the same time the only concrete silo in Buffalo County was being erected on Mr. Imrie's farm, while today the county boasts of hundreds of these structures. After his venture with organized creameries he bought his 320-acre farm in St. Croix County where he now lives. As a member of the Farmers' Institute force, as a breeder of pure-bred live stock, as a factor in the development of the Wisconsin Live Stock Breeders' Association and kindred organizations, Mr. Imrie has been a splendid force among Wisconsin farmers and their interests.

"In his community he stands for model farming, better home life, and more entertainment for the settler," were the words with which Dean Russell presented Mr. Hall. Mr. Hall has been a farmer for only about fifteen years, and yet his character and ability as a pioneer farmer in Oconto County has earned him a high place among Wisconsin community leaders. "Boys and girls of his community regard him as their leader not merely because he is so ready with his violin at their school functions, but because he has just proven to be their good friend in all things," said Dean Russell. Pure-bred seed corn and alfalfa are Mr. Hall's specialties. He is a settler who has made a splendid success under typical Northern Wisconsin conditions not only on his farm, but through his influence as a community leader.



E. D. FUNK
DAVID IMRIE
R. J. COE
ROBERT HALL

Conspicuous among horticulturists of the state is R. J. Coe, and, in commenting upon his contribution to the state's farming interests, Dean Russell pointed to his fine leadership among fruit growers and nursery men of the state. For eighteen years farmers have heard him lecture from the farmers' institute platform and for several years he led the State Horticultural Society as its president.

Occasionally Wisconsin honors at its recognition exercises a man who has done conspicuous work in other states. This year Eugene D. Funk, whose development of good strains of corn and other grains has brought recognition from all parts of the nation, was included in the honorary list. He occupies the farm which has been in the family for three generations.

Preliminary approval of a loan of $10,000,000 to a group of American banks to finance the exportation of condensed milk and similar products to Great Britain and Europe was announced February 9th by the war finance corporation. This was the first application for loan approved by the corporation since its revival last month.

Are the hotbeds and coldframes ready for the advance on next spring's gardening?

A New Commissioner of Agriculture in New York

HOARD'S DAIRYMAN:—After the resignation of former Commissioner Wilson of the Department of Agriculture there was but little doubt who would follow in that office and that man was George E. Hogue. Those who have attended the meetings of the dairymen's association for some years will remember him as a man who always had an interest in all the proceedings. It is true that he took a more active part when the subject of cheese making came up and always showed the most familiarity with it of any man present. Several times have I heard him say that he got his first real inspiration in farming from an address of the late Governor Hoard.

Mr. Hogue was born on a farm in Cattaraugus County. He obtained a good education for the farm boy of those days. He taught rural school in winter and worked on the farm in summer as have many other farm young men. Later he became interested in the cheese business and after a time he had several factories, making at one time a million and a half pounds of cheese annually.

It was while in the cheese business that Mr. Hogue undertook farming for himself. He bought a farm that was in a run-down condition, the cost being not far from twenty dollars an acre. The farm is a hill farm, and the buildings were somewhat old and run down. It was the plan from the first to make the farm pay for itself, pay repairs and improve in respect to fertility. There was the debt for the purchase price and for the cows, but to carry out the program mentioned above the cows must be had. Nothing else could win on that program. There was about 200 acres of cleared land. The place could hardly carry twenty cows but they were placed there. Their average production did not exceed 4,000 pounds of milk. After twenty years the buildings have been remodeled, water is in abundance wherever needed; there are forty cows and the average production has been advanced to 7,000 pounds. Mr. Hogue has demonstrated that a man may, with the application of good judgment, making use of scientific methods, he says, make farming a paying proposition. This has been his aim. The farm is worth double the original purchase price.

To supervise a large farm and make it pay while conducting a cheese factory business requires exceptional executive ability. Nor is that all in most cases, not even in the experience of Mr. Hogue. It requires a vast amount of hard work. Mr. Hogue claims that it requires study as well. The midnight oil was burned for study as well as for work. He attended institutes, read books and papers, and above all he got an inspiration from an address by the late Governor Hoard at one of the state dairymen's conventions.

Other farms were bought and now there are five of them, fifteen hundred acres in all. One farm has purebred Holsteins and calves are raised here for supplying all the other farms. There will be periods of depression, remarks Mr. Hogue, but dairy farming for a term of years is a safe investment. Young men should be encouraged to take it up. Not only does he believe in dairying for the young man, but he deplores the older ones leaving entirely and cutting themselves off from the farm. They may live in town but it is fortunate when they keep control of the business of the farm and manage it to their own advantage and good health and the interests of good farming.

Mr. Hogue has had other experience than that of farmer and cheese manufacturer. As village president, member of the school board, bank director, etc., there was training for larger positions. He helped to reorganize a defunct railroad and put it on a paying basis and has since remained secretary and treasurer of it. Not so long ago he became the president of the State Dairymen's Association and shortly after was appointed chief of the bureau of dairy industry in the department of which he is now the head. As commissioner, he becomes vice-president of the state fair commission and a trustee of the Geneva Experiment Station and of state college at Cornell. His business and executive ability are unquestioned and it would seem that he may have an opportunity to make the agricultural department of the state something of which the farmers of the state may feel proud.

New York. H. H. LYON.

Downward Tendency in Cheese Markets Still Evident

[Report by U. S. Bureau of Markets.]

The present tendency in cheese markets as indicated by trading during the week ending February 5 is downward. Business in general is reported very dull. A number of lots of cheap cheese in certain eastern distributing markets were sold and some styles which were temporarily in particular demand were cleared at primary markets. However, these sales, especially the latter group, were made at very close margins. Taken as a whole, trading was irregular for all markets did not share alike in the dullness.

Lower Markets Not Unlikely

Information received at primary markets in Wisconsin seems to indicate that buyers are now fairly well stocked and the feeling persists that another dull period may come during which time buying will be limited to securing goods for immediate needs. This attitude is supported by rumors that offerings at country points have been made at lower figures than a continuation of present prices would warrant. Comparatively little fresh cheese, part of which is on consignment, is reaching eastern markets. New York State country markets remain so high that they do not attract much buying interests from distributing markets under existing conditions.

Some of the New York factories which have been closed during the winter are reported as having opened again, but it is also reported that condenseries in some sections are resuming operations, and are condensing instead of making either butter or cheese. Accordingly, there is no definite basis at this time upon which to anticipate production in that section during the immediate future. Some complaints have been made regarding the poor quality of a part of the new cheese now reaching the markets.

The average wholesale prices on American cheese (style Twins) for the week ending Feb. 5, 1921, and for the corresponding week last year, were as follows:

	Week ending Feb. 5 1921	1920
	Cents	Cents
New York	27.7	31.2
Chicago	24.5	29.9
Boston	25.0	32.2
San Francisco	22.7	27.2
Wisconsin	24.4	29.2

The total receipts of American cheese at these markets were 3,305,039 lbs. as compared with 1,916,511 lbs. for the corresponding week last year and 2,605,828 lbs. for last week.

The Milking Machine for 1921!



Sensational Improvement!

Costs Half; Does Double Work

The *new* PAGE Milker — operated by hand—one man milks 2 cows at once. Little work—quickly done—easiest of all machines to handle—easiest by far, to clean; the most wonderful advance in milking machine manufacture.

Costs Nothing To Install—

Not a cent of installation expense—no engine, no motor, *nothing! Just* the machine for herds of 12 to 16 or 20 cows. For large herds get our electric or engine power outfits at $225 and up.

You milk right into your own ordinary milk can; no extra pails; no pipes; no pulsators; no tanks. Amazingly easy to clean.

Guaranteed to do the work.

Guaranteed to save time.

Guaranteed—the last word in sanitary milking (one creamery wrote us that the most sanitary milk came from farmers using the PAGE Milker).

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is made especially for farm use and has a reputation of six years of successful operation on thousands of farms all over the U.S. No complicated machinery to get out of order—easy to operate—easy to move—mixes 3 cubic feet at a batch—a 1½ H. P. engine will run it. No other mixer excels its quality of work nor approaches its low price.

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Try Out This Handy Mixer for 10 Days

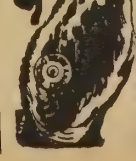


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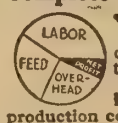
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¶ If you will check the above subjects in which you are particulary interested, giving us brief information with regard to your barn, number of head of stock housed, etc., we'll cheerfully give you the information at our command or have the Porter field man call upon you if you so desire. Absolutely no obligation—this is a part of the free Porter Service.



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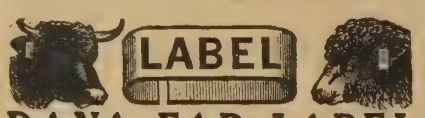
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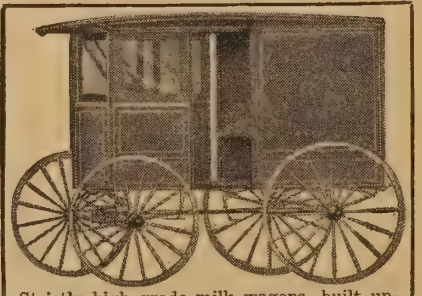
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The Human Side of Cow Testing

(Continued From page 171)

operations, his stove poker poised in the air. "Now," he said earnestly, "I understand what you mean by one of those main-tain-ance rations." This I recognized as the opening wedge to better rations for the Dean dairy herd, and I tried to make the most of the opportunity. After dinner, the fire spreading its cheery zone of comfort, we sat about the stove discussing dairy feeding as I had thought never would be possible. I held to my resolve to speak as plainly and simply as I could, finding substitutes for or at least explaining when I had to use them, most of the scientific terms usually found in dairy feeding literature. Before we were through I helped Charley arrange a nicely balanced ration for his herd and, though at times it taxed my ingenuity, I believe I did not once use the words concentrates or carbohydrates.

Our discussion lasted until Dean scarcely had time to take me to the next place on my route before milking time, but when I left him he was as interested as possible in feeding his cows better. In time he, too, will learn the meanings of all those words in the books and bulletins and in college professors' lectures, but it was much more important that he become interested in better feeding first.

The result of that Sunday's work has made me especially happy; for not only did I succeed in starting another man on the road to better methods, but I also learned something that I hope to make useful to me as long as I live. I believe I shall never forget my "parable of the stove". After this I am going to talk to the ninety and nine. The one is usually in a pretty good position to take care of himself anyway. As ever,

HORACE EVANS.

March 18.

DEAR MIKE:—The cow tester must never get the idea that he is dealing solely with the farmer. His success depends quite as much upon how he conducts himself with the rest of the family, even to the baby. Let him get off on the wrong foot in the house at his first visit to a place and he may spend a year catching step at the barn. Moreover, the women folks are frequently the real motive power behind the adoption of improved methods; the man, of course, being perfectly willing to take the credit when complimented for his progressiveness. From my observations as a cow tester, and he gets to see the farm family the most intimately of any extension worker, I should say that there is usually a good, strong mainspring in every successful farmer's home. Sometimes this mainspring is the man. More often than she gets the credit for, it is his wife.

In Phil Overton's case the situation is a little different. Here the family and farm life revolves about Albert, a fine sixteen-year-old boy, the only son of Mr. and Mrs. Overton. Of this boy the parents are unusually, almost insanely, proud. It seems, too, that as a baby Albert had a narrow escape from death in their burning home, being rescued in a heartrending scene which neither parent ever has been able to forget. As a result they have always been exceedingly thankful to have their boy with them, and very solicitous of his wishes and welfare. Just how he has remained as fine a lad as he is under these circumstances is a marvel, yet he is anything but spoiled. He is greatly interested in dairying and he and I, finding so much in common to talk about, are good pals. Through him, also, is the most

effective way that I can reach his father. Anything that the boy wants is all right with Mr. Overton, so I have a double reason for keeping on close terms with Albert.

Albert, in fact, was responsible for his father entering our cow testing association. He had read in farm papers many times of the advantages of these associations, and when he heard of the movement to organize one at Plainfield induced his father to attend the organization meeting, where he signed up for the year. Even then Phil was not inwardly any too enthusiastic over the proposition; he was acting largely for his boy's sake.

When on my first visit to his farm, I felt that Mr. Overton was not especially interested. The boy, however, seemed eager to know as much as possible about my work, so I made the most of that. The testing operations interested him very much, and I took pains to explain the various steps of the Babcock test to him, letting him assist in some of the minor things like whirling and washing the bottles.

It was a day of real sport for Albert, and of lessened labor for me, though I did not know how well I was building until noon, when the boy enthusiastically told his father of my work and the results of the morning's testing. He had the facts all straight, and as I saw that Mr. Overton was becoming really interested I kept still and let Albert go the limit. Under the circumstances he was doing far better than I could hope to do, and before he was through his father began to think that perhaps the cow tester was worth his salt after all.

There is scarcely a herd in the association where my suggestions have since resulted in greater improvement in care and general management than in that of Phil Overton; and this has been accomplished by being careful all along to get Albert interested and converted to my way of thinking before saying anything to the proprietor. By a few simple changes in the rations last fall the milk production of the herd was increased twenty per cent in one month, while a first class registered sire has just replaced the varicolored bull formerly in service. It begins to look, too, as if the Overton farm skyline might be improved by a silo before another corn harvest. Albert is a constant reader of the dairy bulletins and farm papers, and for a boy has a pretty good idea as to what constitutes good dairy methods. All that he lacks is a little confidence to urge their adoption upon his father, but we two working together are making a good showing in the Overton herd.

Among other things I interested Albert in attending the two weeks' short course at the University this winter. He had just returned from this trip when I tested at Overton's last week, and a more enthusiastic boy and father I never saw. At the short course Albert had absorbed all the dairy information that he could pry loose in so short a time, learning among other things to test milk. He had already gotten his father thoroughly waked up to the big possibilities in enlightened dairy management, and it did my heart good to hear the two talk over their plans for the future. Were I a betting person I'd risk some money that they will win out, too. Now that Albert has learned how to test milk and keep his own records, perhaps I shall soon be losing one of my most interesting stopping places. But in this case I shall not mind. It is enough for me to know that I had a hand in heading Phil and Albert the right way. As ever,

HORACE EVANS.

(Editor's Notes:—These are the third and fourth of a series of six letters prepared by Frank M. Chase. The next will appear in an early issue.)

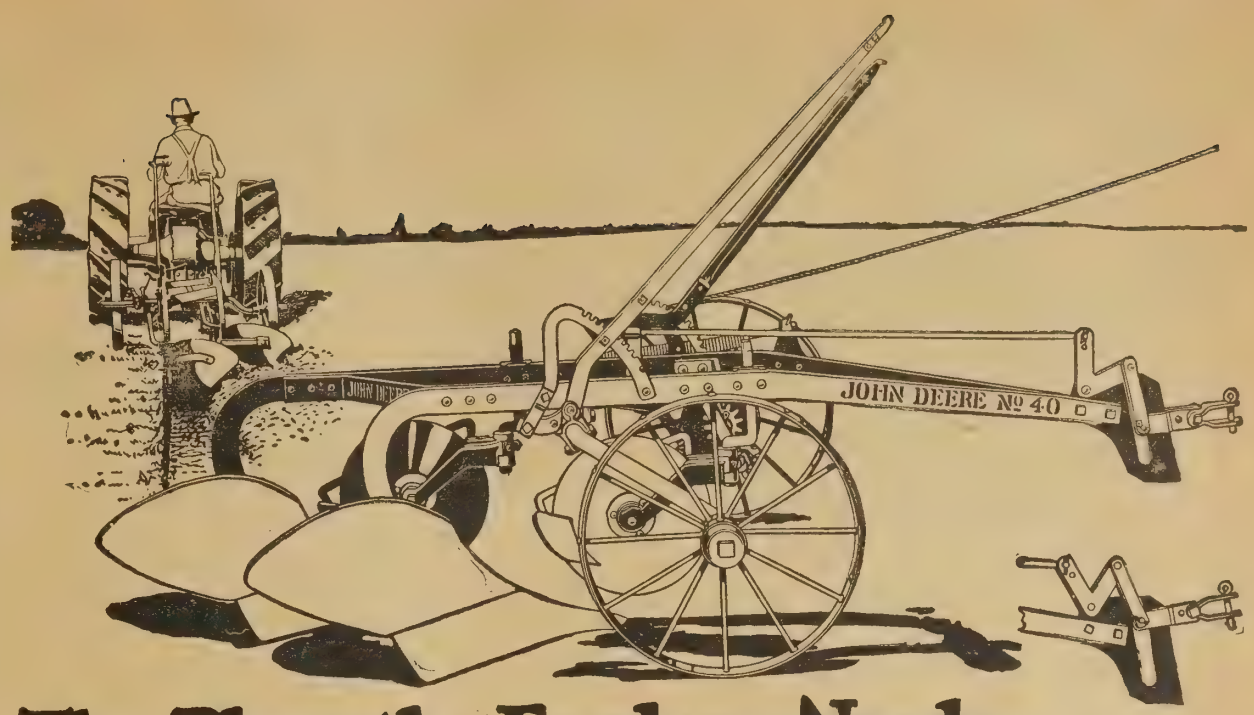
15 Cows the Equal of 60

In the Holstein herd at the University Farm of Minnesota, 15 cows returned as much last year as 60 of the average cows of the state. The 15 averaged 18,799.5 lbs. milk containing 623.8 lbs. butterfat. The superior productions of the cows on the University Farm are credited to their being pure-breds and to the fact that they have been given excellent care. Three of these Holsteins averaged very close to 800 lbs. of butterfat. The milk of four of them if retailed at 13 cents a quart would have returned a total of $4,900 for the year.

In the University Farm herd two Jersey cows each produced this last year enough butterfat to be equivalent to more pounds of butter than either of them weighed, the milk production of 11 ranging from 5,663 lbs. to 12,187 lbs. A junior two-year-old set a new butterfat record for her breed in the state.

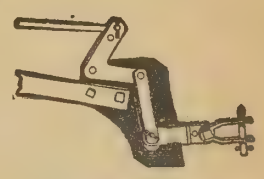
Five Guernseys in the herd produced from 10,124 to 13,878 pounds of milk containing from 461 to 611 lbs. of fat.

Two cow testing associations have been organized in Fairfax County, Virginia, and nearly 1,000 cows are being tested. One of the things which added interest to this work was a demonstration of the value of complete milking. One of the testers demonstrated that the first milk drawn may contain as low as .8 per cent fat and that there may be as high as 10 per cent of fat in the strippings.



The Plow the Fordson Needs

UNUSUAL light weight and light draft plus great strength; genuine John Deere bottoms that insure good scouring, long wear and good work; unusual ease of operation, and a self-adjusting hitch that automatically maintains proper line of draft are important features that make the John Deere No. 40 the plow the Fordson tractor needs.



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The PLOW with the SELF-ADJUSTING HITCH

The frame parts of the No. 40 are made of John Deere new-process steel—an extremely hard, tough steel, combining unusual light weight and great strength.

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Its beams are guaranteed not to bend or break. This guarantee is stamped on the beams.

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Pulls extremely light because of the good scouring qualities and high grade construction of its John Deere bottoms; and its light weight, self-adjusting hitch and rigidity of frame. Only when you see this plow at work can you fully understand how light draft it is. It's a real fuel saver.

Simple, positive, power lift—it works perfectly and is long-lived.

The self-adjusting hitch on the John Deere No. 40 is an important and exclusive feature.

Because of this hitch the proper line of draft is maintained automatically as depth is varied with the depth lever — bottoms have the proper suction at all times—no "nosing in" or "hopping out"—no bumpy furrows.

Be sure to see the John Deere No. 40, if you have planned to buy a Fordson. Remember, no tractor plowing outfit is better than its plow, just as no knife is better than its blade. The plow is the "business end" of the outfit. It makes the seed beds—the source of your profits. Start right with your Fordson by getting an especially good plow—the John Deere No. 40.



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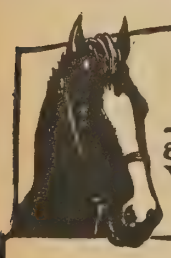
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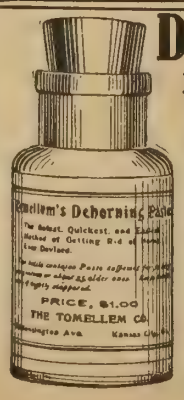
Scours are caused by germs of infection. B-K kills these germs and heals the irritated and inflamed tissue, restoring healthy action. B-K may be given freely in the milk or water—it is harmless, yet it is very effective.

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VETERINARY

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Bloody Milk

Every conscientious, up-to-date dairyman tries his best to safeguard the milk of his cows against contamination, that it may be pure and acceptable to the consumer, and safe for calf feeding. When blood is seen in milk at the time of extraction, or forms in clots in bottles, cans, setting pans, or the separator bowl, the dairyman naturally is much concerned and at once tries to trace the trouble to its source.

The most common cause, as he doubtless is aware, is rupture of minute blood vessels in the udder from extreme pressure or congestion of blood just after calving. In a previous article it was stated that bloody serum or blood often is found in the tremendously congested udder just before birth of a calf, so it is not strange that this condition sometimes persists for days or weeks after calving.

When first milk is bloody, protein-rich rations should be withheld, light laxative feed allowed, and milking done three times daily. In addition it is well too give the heifer or cow a dose or two of Epsom salts in warm water to loosen her bowels. For this purpose 8 to 16 ounces of salts is usually sufficient and many follow the laxative with half ounce doses of saltpeter (nitrate of potash) dissolved in the drinking water once or twice daily. Local treatment consists in bathing the udder frequently with hot water containing an ounce of Epsom salt to the quart.

Profuse bleeding into the milk cisterns of the udder often follows a severe blow, kick, or other injury and requires different treatment from that given in cases of congestion at calving time. Cold applications may give the better results. A mixture of equal parts of cold water and vinegar may be applied three times daily and if that does not suffice cold water containing a tablespoonful of powdered alum to the pint may be tried. At the same time the cow, if not advanced in pregnancy, should be given one teaspoonful of dried sulphate of iron and three of table salt once daily in her feed. This dose may later be given night and morning, if that is found necessary. If the cow is pregnant it is safer to slightly acidulate her drinking water with dilute sulphuric acid.

In many instances the cause of clots of blood in set milk, or of pure blood coming from a teat at the end of the milking process, is the presence of growths within the opening of the teat or higher up inside the teat duct. In some cases bloody milk is noticeable at milking time so that the quarter to blame may be determined, but where small clots of blood are deposited from milk in the setting pans, or are found in the separator bowl, it may be necessary to set a sample of milk from each teat of the suspected cow to determine which quarter is affected.

Growths in the opening of the teat may be removed by operation, but that cannot so perfectly or safely be done as regards those higher up in the duct. These possibly may be removed by cutting through the wall of the teat when the cow is dry, but when the cow is in full milk and much blood comes from growths irritated by the act of milking, it may be best to allow a calf to nurse or "dry off" the milk secretion in the affected quarter.

It occasionally happens that red discoloration of set milk, thought to be due to bleeding, really is caused by the growth of a germ known as *bacillus prodigiosus*, present in the milk vessels. This micro-organism must be done away with by more careful sterilization of all milk utensils, using pure washing and cooling water, and maintaining sanitary conditions in stables and all milk handling places.

Ringworm

I bought a bunch of steers in the fall and, when I got them home, found one of them had some kind of a scab. I hadn't had him long until some young stock I have got it, too. As near as I can describe it, it is a gray scab that starts mostly around the eyes, nose, and ears and spreads all over the body, resembling somewhat the ringworm except that it goes in a solid mass all over the body instead of like the ringworm.

Brandywine Summitt, Pa. E. W. Z.

Ringworm is most common among stabled cattle at this time of the year, but it is possible that the bought steer introduced true parasitic mange (scab). However, we should advise treating for ringworm as follows: Isolate affected cattle, cleanse, disinfect, and whitewash the stable. Saturate

Barren Cows

Must Be Made to Breed or Your Dairy Business Will Be a Failure. They

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Cuts, Chaps, Scratches, any congestion or inflammation can be quickly cleared up by using Bag Balm, the great healing ointment for cows. Caked Bag is promptly reduced by this softening remedy. A great aid in treating Bunches and Cow Pox.

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spots on skin daily with sweet oil or cottonseed oil until it proves possible to remove scabs and crusts by scrubbing with soap and hot water. When this has been done apply tincture of iodine twice daily to spots on face and rub iodoform powder into spots on upper eyelids. Saturate spots on body once a week with a solution of 4 ounces of sulphate of copper (bluestone) in a pint of hot water.

When Heifers Should Freshen

What is the proper age for heifers of the different breeds to freshen and if they freshen too young will they ever make as good cows later?

Is it liable to be difficult to get cows with calf when not bred for three months after calving? What is the general practice among dairymen in this respect?

Wilder, Ida. W. I. T.

It is usual to have well developed heifers calve when two years old or a trifle over that age. If heifers are so fed and cared for, however, that they are immature for their age, breeding should be delayed until they are in fit condition. Heifers that are not stabled and fed may also be bred later than 16 to 18 months. If breeding is delayed when heifers are well fed they may become "shy breeders" or periods of heat may cease occurring. This is most liable to occur in the case of animals of the beef breeds. Cows do not as a rule come in heat until about four weeks after calving. They may be bred then but most dairymen breed to have calves arrive at that time of the year which they prefer. In some instances cows come in heat a week to ten days after calving, but it is not considered wise to breed them at that time. Where trouble has been experienced in getting cows in calf, they should be bred as soon after calving as possible. Delayed service may lessen chances of conception.

Butter Prices for January

January saw butter decline from five to nine cents a pound, the latter figure being registered in Chicago and Philadelphia.

From the daily quotations of the U. S. Bureau of Markets, we have compiled the following table giving the monthly averages of the daily wholesale prices for January, 1920 and 1921, on 92-score butter (extras) in the four principal markets, together with the receipts of butter at these markets:

	Average price		Receipts	
	Jan. 1921	Jan. 1920	Jan. 1921	Jan. 1920
	Cents	Cents	Tubs	Tubs
Chicago	48.45	62.58	134,059	134,204
New York	52.63	64.75	161,342	157,259
Boston	52.50	64.88	49,633	42,879
Philadelphia	52.98	64.88	43,330	43,517
Total receipts			388,364	377,850

Ninety-score butter averaged 44.94 cents for January on the Chicago market, with centralized butter at this market selling for 46.76 cents. During this month the spread between extras and 90-score is only three and a half cents, which is considerably less than has been the case in the recent past and is somewhat contrary to the general discussion of the present market conditions. It is asserted by condenseries that much of their butter is selling for six to ten cents under the market because they have no regular outlet. The figures do not seem to indicate that this generally obtains.

Jobbers' prices on extras sold to retailers during January averaged 50 cents in Chicago and 56 cents in New York.

Dairy Exports and Imports

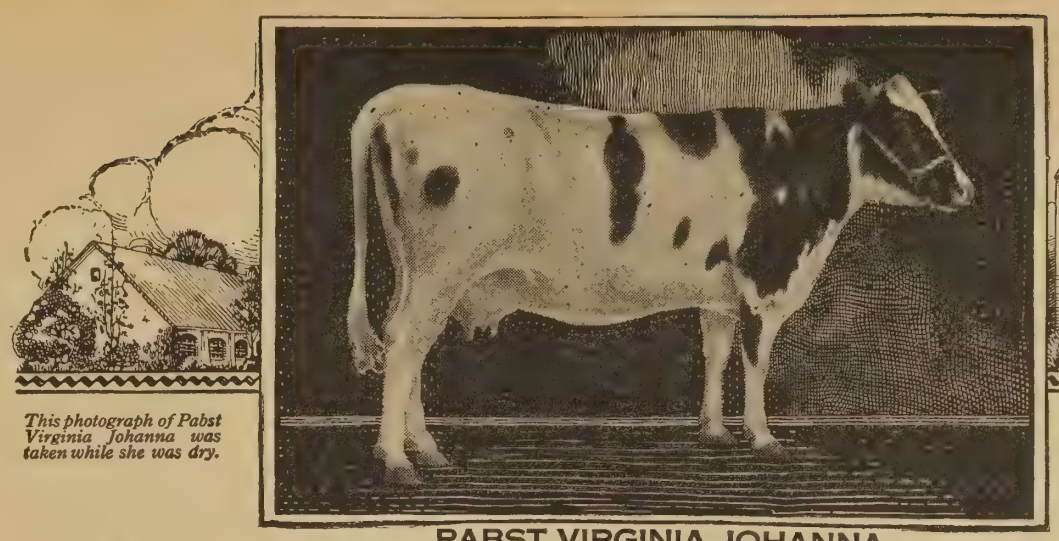
During the calendar year ending December 31, 1920, there were 15,993,725 lbs. cheese imported into the United States; with the exports totaling 16,291,319 lbs. Of the imports Argentina supplied nearly ten million pounds, France a million and a half pounds, with Italy, Holland, Switzerland, and Canada each supplying over 800,000 lbs. Of our exports the United Kingdom took over five million pounds, Sweden a million and a half, Cuba nearly three million, and Mexico something over a million.

During 1920 we imported 37,454,172 lbs. butter and exported only 17,487,738. Denmark supplied nearly twenty million pounds of our imported butter, Canada over nine million, Argentina over four million, and Holland over three million pounds. Of our exported butter Belgium received over five million pounds, and the United Kingdom near four million pounds.

England's import of butter from all sources totaled nearly two hundred million pounds for 1920, and this is reduction of sixty per cent from her importations in 1913. The Market Reporter says:

"Although the discrimination against butter during the past several years has kept down butter prices in that country, many of England's convenient sources of supply have been shipping their butter to other markets. Perhaps the most important result of the Food Ministry's policy, however, has been the substitution of oleomargarine for butter. As a result of this substitution the people of England at present are actually consuming more edible fats than under pre-war conditions."

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.



This photograph of Pabst Virginia Johanna was taken while she was dry.

PABST VIRGINIA JOHANNA

Pabst Virginia Johanna, Junior two year old daughter of King Pontiac Champion has just completed a 305 days' record of 15229.5 lbs. of milk and 752.7 lbs. of butter, a *world's record* in this class.

This promising heifer is one of over 110 daughters of the noted Century Sire in the splendid herd at Pabst Stock Farm. Mr. Fred Pabst's 1350 acre farm at Oconomowoc, Wisconsin is a model of dairy farms, both in buildings and equipment—and in the magnificent herd of high producing cows, developed under the personal management of owner, Mr. Fred Pabst.

A WORLD'S RECORD *this time*

A Junior 2 Year Old World's Record Made on Pabst Stock Farm With a Pine Tree Milker

ONE after another come reports of new records made by cows milked by the Pine Tree.

State records, county records, now a WORLD'S record, and a 10-month record at that. A long trying test which called for every ounce of skill in feeding and milking—the acid test of a milking machine!

Great breeders, who formerly entrusted their test milking only to the most skilled herdsman, now put implicit faith in Pine Tree.

Nearly 50 high producing Holsteins are milked 4 times daily by the Pine Tree in the great test barns at Pabst Stock Farm. For over two years, in 4-time-a-day service, Pine Tree has never failed. Read Mr. Pabst's letter at the right.

Think it over, Mr. Dairyman! What does the Pine Tree's success in test milking mean to you? Maybe you're not after records. But you *are* after more milk. Breeders like Mr. Pabst are taking no chances in milking for production records. Their is no guessing in their work. When they use Pine Tree in their test milking you can bet they are getting more milk or they wouldn't be doing so.

The fact that the cost of machine milking is only one-half of that of hand milking is recognized by every dairyman. These records are the final proof that Pine Tree also increases production.

Send today for our booklet on Pabst Stock Farm and their recent records. Learn how great breeders save money in test work and make greater records with Pine Tree. Your copy is Free—write for it TODAY!

Read Mr. Pabst's Letter

Oconomowoc, Wis., Jan. 21, 1921.

Pine Tree Milking Machine Co.
2843 W. 19th St., Chicago, Ill.

Gentlemen:—

I take great pleasure in stating that the Pine Tree has been in use here for about two years. It has given us absolutely no trouble, and has helped to do work which we could not have done at the time labor was scarce.

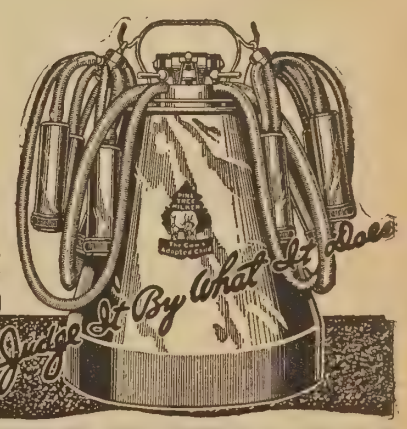
We are using your machine on many of our test cows. Pabst Virginia Johanna, as a Junior 2-year old, made 15229.5 lbs. of milk and 752.7 lbs. of butter in 305 days, which so far is the world's record. Pabst Pontiac Aaggie made 25972.3 lbs. of milk and 1175 lbs. of butter in 365 days, being milked on your machine. Yours very truly,

PABST STOCK FARM
Fred Pabst

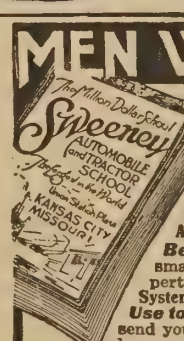
Pine Tree Milking Machine Company
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It tells how in a few weeks you can earn from $150 to $400 a month in the Auto and Tractor business.

Be Your Own Boss. At small cost learn to be an expert mechanic by the Sweeney System of working on real cars.

Use tools not books. Simply send your name and address today, a post card will do, for our Free book and 27 photographic reproductions of machine shop work, etc. Let's Go---Write Now!

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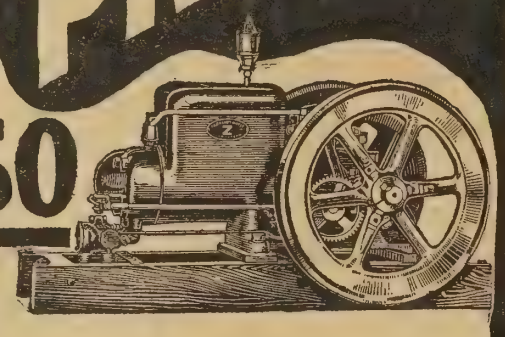


64 BREEDS Most Profitable pure-bred Northern raised Chickens, Ducks, Geese, Turkeys, Fowls, Eggs, Incubators all at low prices. 28th year. Largest plant. Send 5c for large valuable book and catalog.
R. F. NEUBERT Co., Box 836 Mankato, Minn.

FARM ENGINE PRICES

FAIRBANKS-MORSE QUALITY F M 100%

1½ H.P.
$62.50



3 H.P... $107.50
6 H.P... 175.00
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Fairbanks-Morse "Z" Farm Engines

We feel that it is up to us as farm engine manufacturers, to go the limit in attempting to bring prices and conditions back to normal.

The farmers of America today need every possible help so that farm equipment costs will more closely meet the lowered return from products sold.

That the "Z" Engine is an essential factor for bettering farm conditions has been proven. Over 300,000 engines have been bought by farmers from over 6000 reputable dealers.

After full consideration—without regard to costs of engines now completed in warehouses of our 26 branches, we have decided upon this big price reduction. Even present costs of labor and raw materials have been ignored.

There is a "Z" dealer near you who will be glad to prove that the "Z" Engine is supreme as to materials—design—workmanship.

So if you can use one or more engines on your farm to lighten your labor, to help you get more work done, this is the time to buy.

FAIRBANKS, MORSE & CO.
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REDUCED

"In Every Respect"
says the Good Judge



You get more genuine chewing satisfaction from the Real Tobacco Chew than you ever got from the ordinary kind.

The good tobacco taste lasts so long—a small chew of this class of tobacco lasts much longer than a big chew of the old kind. That's why it costs less to use.

Any man who has used both kinds will tell you that.

Put up in two styles

W-B CUT is a long fine-cut tobacco
RIGHT CUT is a short-cut tobacco

Weyman-Bruton Company, 1107 Broadway, New York City

A Movie in the Making

(Continued from page 170)

nently successful financially, yet fail miserably if he neglects even one essential point. It teaches that the health of the family is vastly more important than a well filled pocketbook. It ends happily with Mary restored to perfect health and beauty and back among her loved ones where there is health, peace, plenty, and great happiness. It is believed that all dairymen who see these vivid scenes enacted on the screen will not only consent, but will insist that their dairy herds be tested for tuberculosis. The film will be ready for distribution about January 1st and will be loaned free of charge to all agricultural associations that can make good use of it.



THE GOVERNMENT MOVIE MEN AT WORK

The Cow Testing Association

(A Poem in Free Verse)

Membership should be free.
Somebody, i. e., somebody else should pay the tester
And board him
And feed his horse
And buy his do jiggers.
Each member should have the highest record cow each month.
Also the high herd average.
These facts should be published.
The tester must be very gentlemanly
Give us valuable advice.
He must not smoke
Or chew
Or shock the children
Or pour acid in the kitchen sink.
But when his testing is done,
He will clean our stables,
Wipe our dishes,
And his own feet.
Regale us with humorous anecdotes.
Tell us how superior we are to other dairymen,
Also our cows.
Then shall the people arise
And revile him
And can him
"For why," say they,
"Should this youth presume,
To know more about our cows even than we ourselves?"
The gall of him!
Selah.

A Former Secretary.

Padded cell 13, Idaho Mental Hospital.

A number of notable records have been completed recently by Ayrshire cows on the Gossard Breeding Estates in Indiana. Five aged cows have made records averaging 16,757 lbs. milk containing 635.47 lbs. fat. The ten high cows averaged 15,282 lbs. milk containing 591.38 lbs fat. The average of the 33 cows which have completed records is 12,664 lbs. milk containing 484.03 lbs. fat. Twenty-three of these cows have made records at less than mature age.

Uncle Ab says he'd rather be a healthy hobo than a millionaire with a misery.

A Postal Card Brings it FREE



If you want to know what the interest is on $984 for a year and seven months—or the value of 769 bus. of grain at $1.72 a bushel—or how many rods of fence it will take to fence in any of your fields—then this handy Calculator will tell you the answer in a jiffy.

We will send every farm owner free and postpaid a copy of this valuable book that answers these and hundreds of other farm problems. We will also send free our new catalog on

SQUARE DEAL FENCE

—tells how it is built on honor and sold on merit—how the Square Deal Lock double-grips the strand wires and cannot slip—how the wavy strand wires keep Square Deal Fence from bagging or sagging—and all about its many other exclusive features that make it outlast all others.

Write Today for your copies of these two valuable books. They're both free to landowners, everywhere. A postcard brings them by return mail.

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7083 Industrial St. Peoria, Ill. 83



Do Your Own SHREDDING with a ROSENTHAL Corn Husker and Shredder



Most economical and satisfactory way of handling your corn crop. No delay, no extra help. Do it in your own spare time. Two sizes for individual use, 6 to 15 h. p. Also make two larger sizes for custom work. Over 20 years in the field. Write for catalog and prices. State h. p. of your engine.

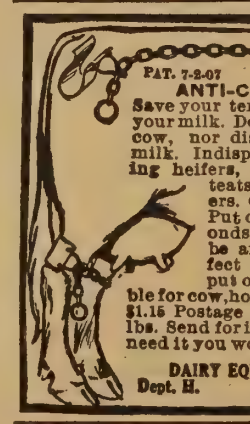
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ROSENTHAL CORN HUSKER CO., Box 20. Milwaukee, Wis.
Also Makers of Feed Cutters and Silo Fillers

WITTE
$49.45 F.O.B. K.C.



2 H-P. PULLS 2
Direct from Factory to You
ALL SIZES AND STYLES
2, 3, 4, 6, 8, 12, 16, 22 and 30 H-P.
at proportionately Low Prices. Above price for 2 H-P. is for engine complete on skids ready to use. From Pittsburgh add $6. Quick shipment. Write or wire for Big New Engine Catalog FREE.

WITTE ENGINE WORKS
1849 Oakland Ave. KANSAS CITY, MO.
1849 Empire Bldg. PITTSBURGH, PA.



PAT. 7-2-07
ANTI-COW-KICKER
Save your temper, your cows, your milk. Does not excite the cow, nor disturb the flow of milk. Indispensible for breaking heifers, cows with sore teats, or vicious kickers. Cannot wear out. Put on or off in 15 seconds. Guaranteed to be an absolutely perfect anti-kicker, or put on loosely as hobble for cow, horse or mule. Price $1.15 Postage extra. Weight 2 lbs. Send for it today, when you need it you won't have time.

DAIRY EQUIPMENT CO.,
Dept. H. Topeka, Kansas.



Farm Accounts Simplified
Special labor-saving devices. Write for particulars
Otis Account Book Company
1822 Chadbourne Ave.
Madison, Wisconsin

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

The Fats Fight

(Continued from page 169)

"Spread thick, it still represents a saving". No doubt about it! Many dairymen are proving it every morning.

As surely as water runs down hill, the public will continue to buy in the cheapest market, unless we dairymen can put it over by a red hot advertising campaign that our fat is superior, so very superior, so supremely superior, for growth and health, that it is worth many times the difference. Put it up to the mothers of America and the world. Will you rear your families on a man-made food or a mother-made food, for that is what milk is?"

Dairymen to Fight for Markets

At a mass meeting held recently in Rock County, Wisconsin, more than fifty dairymen publicly pledged themselves to use no butter substitutes. Bravo! That begins our campaign in the best possible place, right in the home of the dairyman himself. There are 6,500,000 farm families in the United States. If all of them had the real butter habit, or, what is better yet, had the horse sense, I mean the cow sense, of the Rock County farmers, we would see butterfat soaring. When our very bread and "substitute" is endangered maybe we will develop enough commercial sense to stand together, lest we fall together. Let us capture the markets in our own kitchens.

Not the politician but the advertising expert is the Moses to lead us out of our economic Egypt into a land flowing with milk and honey. We must agitate and educate, and advertise everlastingly. The National Dairy Council, working through the various State Councils, is the right vehicle. Every shoulder to the wheel! Pocket books wide open! We'll win the fight of the fats.

A New Dairy District in Oregon

HOARD'S DAIRYMAN:—A new dairy district is developing in Lake County, Oregon, where the states of Oregon, Nevada, and California join in the midst of a great range live stock country which has been known as the last frontier. Irrigation development in the past few years in the Goose Lake Valley has brought in hundreds of new settlers to cultivate the small irrigated ranches which produce alfalfa abundantly. These settlers have come from other irrigated districts where they have sold their more valuable land in order to start again in a new district. Settlement has been rapid the past year, many ranches having produced forty to fifty bushels of wheat per acre which were still in sagebrush last March. Experience has proven that, in the early stages at least, these new settlers should milk dairy cows to provide a steady source of income from the forage grown while developing their farms. The usual experience is that in the succeeding years one of the most profitable means of marketing alfalfa is through the dairy cow.

Many of the settlers coming during the past two years brought cows with them and others are interested in securing dairy stock. There is already an efficiently managed creamery at Lakeview, the county seat, and one of the Lakeview banks has indicated its interest in dairy herd improvement by purchasing a pure-bred Holstein bull of high producing stock for the use of farmers in one neighborhood.

One of the most beneficial influences being brought about by those interested in dairying is an appreciation of the silo. Although it had been recognized for four or five years that the silo was as economical for the range man as for the dairyman, there was not until this year a single silo in the entire borders of Lake County, a county as large as the entire state of New Jersey. This winter there are eight, four of which are owned by dairymen and the other four owned by range men who received their stimulus from the assurance with which the dairymen set about to provide themselves with a pasture under cover. All the silos are filled with sunflowers, which are feeding out satisfactorily.

Developments in Lake County are of interest in that they are significant of the progress being made along the lines of a more stabilized agricultural practice in many western districts.

Oregon. F. L. BALLARD.

SALE ANNOUNCEMENTS

Feb. 23—Holsteins. Kohl—Peck Bros., Waterloo, Iowa. Iowa Holstein-Friesian Ass'n., Sale Mgrs.
Feb. 24—Dispersion Holsteins owned by C. O. Ruste, Blue Mounds, Wis. F. H. Everson, Sale Manager.
Feb. 25—Duroc Jerseys. Waupaca County Duroc Breeders' Sale. Floyd Dunn, Secretary, Waupaca, Wis.
Feb. 26—Holsteins. John Wuethrich's Holstein Sale at Greenwood, Wis.
Mar. 15-16—Holsteins. Fletcher Bros. Dispersion at Fond du Lac, Wis.
Mar. 15-16—Holsteins. Wisconsin Breeders' Sale at Fond du Lac, Wis. S. H. Bird, Mgr.
Mar. 17—Guernseys. Elkhart County Guernsey Breeders' Association Consignment. C. M. Enders, Secretary, Wakarusa, Ind.
Mar. 22—Holsteins. Blue Earth County Holstein Breeders' Consignment Sale, Mankato, Minn.
Mar. 28—Holsteins. Isaac DeMunck & Sons, Plymouth, Wis. I. DeMunck, Sale Mgr.
Mar. 29—Holsteins. Fred Gessert, Plymouth, Wis. Fred Gessert, Sale Mgr.
Mar. 29-30—Holsteins. Watertown Holstein Sales Co., Watertown, Wis. F. Darcey, Secy.
Mar. 29-30-31—Holsteins. Philadelphia, Pa. Second Brentwood National Sale.
Mar. 30—Guernseys. La Crosse Co. Guernsey Breeders, West Salem, Wis. H. W. Griswold, Mgr.
March 30—Holsteins. R. L. Goelzer Sale at Plymouth, Wis. R. L. Goelzer, Mgr.
Mar. 31-April 1—Holsteins. H. J. Goelzer's Sixth Sale at Plymouth, Wis. E. E. Goelzer, Mgr.
Mar. 31—Guernseys. First Consignment Sale of Calumet Co. Guernsey Breeders' Association at Chilton, Wis. F. E. Fox, Waukesha, Wis., Sales Manager.
April 1—Guernseys. First Consignment Sale of Registered males and grade females. Calumet Co. Guernsey Breeders' Association at Chilton, Wis. F. E. Fox, Waukesha, Wis., Sales Manager.
April 2—Holsteins. Pabst Stock Farm Second Semi-annual Sale at Oconomowoc, Wis.
April 7, 1921—Holsteins. Central Wisconsin Holstein Breeders' Ass'n. 13th Semi-annual Consignment Sale at Marshfield Sales Pavilion, Marshfield, Wis. R. A. Peterson, Wisconsin Rapids, Wis., Sale Mgr.
April 15—Holsteins. Virginia Holstein-Friesian Breeders' Club Sale, Richmond. W. L. Kirby, Manager.
April 19-20—Holsteins. Ohio Holstein Breeders' Association Second Annual Sale at Columbus, Ohio. H. C. Barker, Sec.
April 21—Holsteins. Eaton Co. Holstein Breeders' Second Consignment Sale at Charlotte, Mich.
April 21—Brown Swiss. Illinois Brown Swiss Breeders' Association Annual Spring Sale, Morton, Illinois. Chester G. Starr, Pekin.
April 25-26—Holsteins. Waukesha County Holstein-Friesian Association Sale at Waukesha, Wis. W. L. Baird, Sec'y.
May 2—Holsteins. Walworth County Holstein Breeders' Association Eighth Semi-annual Sale at Elkhorn, Wis. Ben Bachhuber, Mgr.
May 3—Holsteins. Clark County Quality Sale at Owen, Wis. J. Wuethrich, Sale Mgr.
May 4—Holsteins. Minnesota Holstein Breeders' Association Third Annual Sale at Faribault, Minn. B. D. Scott, Sec.
May 9—Holsteins. Brown County Holstein Breeders' Sale at De Pere, Wisconsin.
May 12—Holsteins. Jefferson County Holstein-Friesian Breeders' Ass'n. second consignment sale. A. F. Gafke, Sec'y.
May 12—Holsteins. Marathon Co. Holstein Breeders' Association Sale at Wausau, Wis. Francis Darcey, Watertown, Wis., Mgr.
May 13—Holsteins. Chippewa Falls, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 17—Holsteins. State Fair Grounds, Milwaukee, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 18—Jerseys. Monroe County Jersey Breeders' Consignment Sale at Tomah, Wis.
May 18-19—Holsteins. Manitowoc County Holstein-Friesian Breeders' Association, Manitowoc, Wis. Chas. Hampke, Manager.
May 25—Guernseys. Portage Co. Guernsey Breeders' Association Annual Consignment Sale of Registered Guernseys at Amherst, Wis. R. K. McDonald, Sec'y. F. E. Fox, Waukesha, Wis., Sale Manager.
May 26—Guernseys. Portage Co. Guernsey Breeders' Association Annual Consignment Sale of Registered Guernsey males and grade females at Amherst, Wis. R. K. McDonald, Sec'y. F. E. Fox, Waukesha, Wis., Sales Manager.
May 26—Holsteins. Marshfield, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
June 9—Holsteins. First Annual Bred Heifer Sale, Thorp, Wisconsin. W. H. Krause.
June 9—Holsteins. First Annual Sale, Holstein-Friesian Co-operative Association of New Jersey, Trenton, New Jersey. J. W. Bartlett, Secretary, New Brunswick.

SWINE



MASTERPIECE
A Son of Pathfinder from a Daughter of Proud Colonel

Sows & Gilts

of popular blood lines, bred to Masterpiece, Model Sensation, Bertley Orion Cherry King and Panama Special 15th. If you want a high class Duroc Sow at a reasonable price, let us tell you about one on our guarantee to satisfy.

BERTLEY FARMS - P. O. Box B
GLENWOOD, ILLINOIS
JUST OUT OF CHICAGO

Cedar Crest Farms
have never possessed a finer lot of
BERKSHIRES
than at present. Let us name you prices on fall and spring boars and young gilts.
J. K. Dering, Owner, Lake Villa, Ill.

JERSEYS

Pine Lawn Dairy Farm
is offering 2 young bulls out of high producing cows. One, a grandson of Golden Maid's Viscount, 18 months old. One, a son of Beauvoir's Chief; he a son of Western King's Chief. Also a few cows and heifers. Write for pedigrees. Will sell cheap to make room.
H. S. Hager, Prairie du Sac, Wis.

MAJESTY BULL—Dropped Oct. 15, 1919
Sire—A son of Golden Maid's Viscount. Dam—Gypsy of Larch Farm, a R. of M. Cow. This bull is solid color and is a fine, typy individual. For full pedigree and price write
E. E. Hill & Sons, Tomah, Wis.

REGISTER OF MERIT JERSEYS
For Sale—Several choice young bulls ready for service, dams in R. of M. Sire has daughters in R. of M. Also a few choice heifers, bred to freshen in March.
O. R. WIEGAND, Cleveland, Wisconsin.

Valley Farm is Offering
Several bulls, 6 to 12 months old, from R. M. cows. Sired by Golden Maid's Viscount and Kilda's Royal Majesty, two of the best Island bred bulls living. At prices to sell. Write
FRED STUBLEY, Black Earth, Wis.

JERSEYS—DUROCS
Just one bull old enough for service and a few young calves. Hood Farm breeding.
F. R. Constance & Sons, Waupaca, Wis.

Hillcrest Jerseys
Bull calf born March, 1920. Sired by Imp. grandson of Golden Fern's Noble. Priced right for quick sale. Write
ROLLIE VANDERVORT, TOMAH, WIS.

Register Merit Jersey Herd
At Head, Mona's Jacoba Premier grandson: Pogis 93th of Hood Farm. Dam, Mona's Jacoba, record 806 lbs. butter: Granddaughter Jacoba Irene, young stock; St. Lambert breeding for sale. R. C. Green & Son, Albion, Wis.

GOLDEN MAID'S PRINCE BLOOD
Choice bull calves from dams in R. of M. or on test. Line bred to Golden Maid's Prince with outcrosses to Pedro, Hood Farm Torono, Loretta D, King Sappho King. Tuberculin tested herd free from contagious abortion.
Address: J. Q. Emery & Son, Edgerton, Wis.

If You Buy a Jersey Bull
From Hood Farm
You buy size, constitution, type and inherited dairy production of the very highest quality. Our Sophie Tormentor Jerseys are large and are the kind that pay $ $ $ $ at the pail.
Bulls and bull calves for sale, pedigree and description on request.
HOOD FARMS, Inc.
Lowell - - Mass.
N. B. We are trying to supply bulls with the size and breeding to produce $ $ $ for the dairymen. It will save time and correspondence if intending purchasers will tell us about their herd and about the price they want to pay.
JIMMY DODGE, Mgr.

For Better Jerseys
We do not retain in our herd any cow which under favorable conditions will not produce 500 lbs. of butterfat (600 lbs. butter) in 1 yr. on official test.
We have a few young bulls for sale.
THORNBURY FARM
LIBERTYVILLE, ILLINOIS
W. A. BREWERTON, Owner L. A. BENT, Mgr.

MILK 10509 Lbs. FAT 586 Lbs.
Average of 175 R. of M. records made by Ayredale cows. Forty R. of M. records made in 1920 by 16 two-year-olds, 4 three-year-olds, 1 four-year-old and 19 mature cows average 10,596 lbs. milk, 586 lbs. fat. With 16 two-year-olds bred at Ayredale in the 1920 lot, they equal previous records made largely by mature cows.
This 1920 performance is pleasing, because it proves our herd sires are breeding on and up.
Bulls and bull calves from above cows for sale. They insure big cows that are big profitable producers. To save correspondence, I would appreciate an inquiry from you giving age, color and priced bull you wish to purchase.
AYREDALE STOCK FARM
F. W. Ayer, Bangor, Maine

BELSWOOD FARM
Financial Bred Jerseys
We are offering for sale a splendid lot of bulls and bull calves out of R. of M. dams with records of 500 lbs. butter. Also several heifer calves. Send for illustrated catalog, containing pedigrees and delivered prices.
A. F. Block, Mgr., Norwood Park, Illinois.

Montpelier Jerseys
Three young bulls ready for service. Trace three times to Oxford Lad. Fine typy individuals. Right in every way.
Montpelier Manor Farms, Laurel, Md.

POLLED JERSEYS
Breeders' names and Spillman's "Inheritance of the Poll Character in Cattle" mailed free.
CHAS. S. HATFIELD, Secy, R4, Box 5, Springfield, Ohio.

CLOVERDALE
Jersey Bulls For Sale
$125—Age 13 mo.—$125
No. 1. 829.6 lbs. butter average R. O. M. record for 2 grandams. Two grandsires of 2 nearest sires premium winners National Dairy Shows.
No. 2. Sire out of cow with 865 lbs. butter R. O. M. record. Grandson Noble of Oaklands. Dam's 2-year-old R. O. M. record 446 lbs. butter. Her sire's dam R. O. M. record 886 lbs. butter. Others $75.00 up.
E. O. ANDERSON, Shelby, Michigan

Bulls—JERSEY—Bulls
A splendid lot of Majesty bulls out of Register of Merit dams for sale at very low prices. We must sell to make room for our winter and spring calves. These bulls are from three months to two years old and sell with full guarantee to be breeders. We have a Federal Accredited Herd. For pedigrees, descriptions and prices, write Thos. T. Bachelder, Jr., Mgr.
ELMS JERSEY FARM
M. D. Munn Forest Lake, Minnesota

Jersey Cows For Sale
FROM FEDERAL ACCREDITED HERD
I have six cows for sale with Register of Merit records from 400 to 500 lbs. butterfat, age from 3 to 8 years. Prices from $250.00 up. One of these is a daughter of Noble's Fawn Prince, record 493 lbs. Five will freshen between January 5th and April 15th. These are all good individuals of right type.
P. G. WARMINGTON, Honey Creek, Wis.

Cottonseed Meal—Cheapest Protein Source

"Cottonseed meal at the present time is the cheapest and most economical source of protein on the market." With this statement, Dr. G. S. Fraps of the Texas Agricultural Experiment Station draws attention to the value of this cotton by-product feed in the ration of the dairy cow.

It must be recognized that cottonseed meal may not be cheaper than some other feeds when other ingredients than protein are considered. For example, corn is selling at a lower price per ton and is even higher in its content of digestible nutrients. For the purchaser of feeds who needs to add to the carbohydrate value in his ration corn is, therefore, even cheaper than cottonseed meal. However, on the great majority of dairy farms protein must be purchased and carbohydrates are in good supply. This fact gives special value to Dr. Frap's recommendations relative to purchasing cottonseed meal. He brings out very strongly the advisability of choosing a high protein content meal. He says: "In purchasing a feed to supply protein, the feeder should consider the cost of the protein instead of the cost of the feed by the ton. The freight on a low protein feed is the same per ton as the freight on a high protein feed, which results in the cost of the freight being more per pound of protein in the low protein feed than in the high. This is one reason it is cheaper to buy a high protein feed than a low protein feed. The difference increases with the distance the feed is shipped. For this reason the cost of one pound of protein in 43 per cent cottonseed meal should be less in a northern state than the cost of one pound of protein in 36 per cent cottonseed meal."

The fertility value of cottonseed meal is strongly brought out in the following statement: "When one considers that the fertilizer value of cottonseed meal is equal to its feeding value at the present time, one concludes that a farmer who can save 70 per cent of the fertilizing value will get the feeding value at only 30 per cent of the cost. Cottonseed meal is used extensively as a fertilizer in the South by direct application to the soil, but it is worth a great deal more to the farmer who first feeds it and then saves the manure and saves 70 per cent or more of its fertilizing value. The farmer who secures two values for the feed has an economic advantage over the one who puts it to only one use and secures only one value."

Hired Man's Board Bill

Even the board bill of the hired hand has not escaped the attention of the U. S. Department of Agriculture statisticians. The Bureau of Crop Estimates has collected figures indicating that in the South Atlantic states and in the South Central states board by the month is valued at about 50 cents per day. This conclusion is reached by subtracting the average wage paid to men who are given their board from the wage when men "find themselves". In the North Central states and east and west of the Mississippi, the hired man's monthly board bill is nearly $5.00 higher, being $18.60 east of the Mississippi and $20.16 west. In the North Atlantic states it is yet higher, averaging $23.62, and in the far western states highest of all, being $26.22, or 77 per cent higher than the charges in the south. It is stated by departmental officials that such allowances as those for firewood, milk, etc., somewhat modify these figures.

"The world stands aside for the man who knows whither he is going" and how can anyone know where he's going unless he has a record. Make a budget and keep accounts.

DON'T PUT OFF

Seeing your friends and having them join in for a club of subscribers.

BROWN SWISS



BETTY OF LAKE VIEW

Breed Brown Swiss Cattle

As producers they are worth every cent you pay for them. Cows are easily sold at reasonable prices. Their earning power has not been capitalized. Brown Swiss meet the ideals of working farmers.

BROWN SWISS CATTLE BREEDERS' ASS'N
IRA INMAN, Secretary, Beloit, Wis.
William B. Hale, Pres., Aqueduct Bldg., Rochester, N. Y.

JUBILEE FARM
Brown Swiss Cattle
Young stock for sale. Individuals of Quality. The best producing blood lines of the breed.
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Fairview Dairy Farm
Brown Swiss Cattle
FOR SALE
Both Male and Female
F. P. MINNETTE & SON, Sauk Center, Minnesota

Brown Swiss Cattle
Stock For Sale
Correspondence Solicited
HULL BROS., Painesville, Onio

AYRSHIRES

Lippitt Farm Ayrshires
For the first time we offer females for sale. They are producers with type.
Write for prices to Hope, R. I.

South Farm
250 Registered Ayrshires
Stock of all ages for sale.
Write for prices.
George A. Cross, Mgr., Willoughby, Ohio.

Ayrshire Stock
of all ages for sale. Satisfaction guaranteed
L. W. McCONNELL, Wellington, Ohio

Pure-bred Ayrshire Cattle For Sale
Best of breeding. Calves sired by a Grandson of Brown Kate, record 1,080 lbs. butter in year.
Wm. Nisbet & Sons, Richland Center, Wis.

Delchester Farms Ayrshires
Tell us your wants and we can supply them at prices you can afford to pay.
Aged cows, bred to Glenury, an A. R. son of Finlayston.
Aged cows, bred to Rena's Baron of Highland, an outstanding son of Baron's Best of Bargenoch.
Heifers, bred to these two great sires.
Young heifers.
Bull calves.
All the above stock carries some of the best producing blood of the breed with A. R. ancestry on both sides.
Herd free from tuberculosis
DELCHESTER FARMS
Edgemont, Del. Co., Penn. - Thomas W. Clark, Supt.

Linndale Farm Ayrshires
"Are bred for Production"
Bull calves out of A. R. cows and sired by sons of World Record cows, for sale.
Our { Breeding / Conformation / and Prices } are right.
See what we offer before you buy.
JOHN LINN & SONS,
Manhattan, Kansas.

Orchard Lodge AYRSHIRES
Stock for sale, all ages.
Both sexes, prices reasonable.
G. W. STOLLER, Johnstown, New York

Metropolitan Farm
For Sale—Bull calves from our best A. R. cows. These calves are from one month to one year old. Priced for quick sale.
Write for pedigrees and prices.
METROPOLITAN LIFE INS. CO.,
Neil J. Parker, Farm Supt.,
Wilton, New York.

Bensalem Ayrshires
For Sale:—Bull Calves from our best A. R. Dams, and sired by "Queen's Favorite", whose Dam, "Bloomer's Queen", holds the World's Record as an Ayrshire Four-year-old with 21,820 lbs. milk, 1,009 lbs. butter. Grandam of Sire, Auchenbrain Brown Kate, Ex-world's Champion, 23,022 lbs. milk, 1,080 lbs. butter.
FRIENDS HOSPITAL, Frankford, Phila., Penn.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

ALTA CREST AYRSHIRES
Special Offering of
Ayrshire Bull Calves
Imported — Home Bred
which we believe to be the greatest lot of Ayrshire Youngsters ever offered by any breeding establishment in America.
Write for Sale List
Animals of all ages for sale. Over 200 head in the Herd. New Importation direct from Scotland to arrive August 1, 1920.
ALTA CREST FARMS,
Arthur H. Sagendorph William Hunter
SPENCER, MASSACHUSETTS

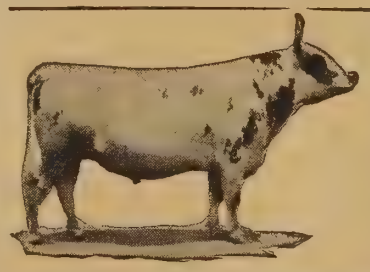
Weymouth Farms
"Ayrshires of Quality"
All cows on Advanced Registry Test. Herd Tuberculin Tested.
We can supply you a herd sire of choicest breeding.
MARTIN A. TOWLE, Mgr.
NORTH WEYMOUTH, MASS.

World's Champion Ayrshires
Fully Accredited Tuberculosis Free — 200 Head in Herd



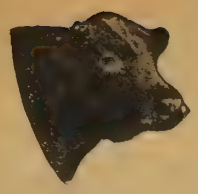
AUCHENBRAIN WHITE BEAUTY 2D
A. R. 14,721 lbs. milk, 4.33%
In 13 years, 112,486 lbs. milk and 13 calves 110 animals in herd are descended from this cow
The 1st, 2nd, 6th and 7th highest records were made here. Four cows average 22,823 lbs. milk, 1,046 lbs. butter. 100 A. R. records made here average 13,246 lbs. milk. Choice stock of all ages for sale at prewar prices. Special — Young bulls line bred to Auchenbrain White Beauty 2d.
PENSHURST FARM, Narberth, Pa.
(7 miles from Philadelphia)

BLACKBURN FARM
HOME OF
Addington's Champion
Grandfathers—Nox'emall and Finlayston
Father—Rena's Champion, 17 A. R. Daughters
Mother—Addington Queen 3d, two Mature Records each over 19,000 lbs.
For Sale —
4-year-old cow—Fresh Dec. 12, 1920
2-year-old heifer—Fresh Jan. 16, 1921
Also Young Stock
Tuberculin Free Herd
Sewickley, Pennsylvania



We Have For Sale
the well bred Ayrshire bull, Bargenoch "Drexel" (18474) Imported. Bred by John Logan, Bargenoch, Scotland. Born Feb. 2nd, 1919. Color white and red. Sire, Bargenoch Magnificent (9579). Sire of Bargenoch "Royal Champion" sold at Bargenoch sale, 1919, for $7,267.00.
Dam, Bargenoch Victoria (37003). Scotch record: 9,221 lbs. milk, 4.23% fat in 43 weeks; 11,070 lbs. milk, 4.50% fat in 47 weeks.
BARCLAY FARMS, John Cochrane, Manager, ROSEMONT, PENNSYLVANIA

2 Serviceable Bulls—Show Prospects
Your Choice For $400
Both are sons of Cavalier's Netherhall Chancellor, sire of the winning calf at 1920 National. Both are from excellent dams with records above 12,000 lbs. milk and 450 lbs. fat. (One has 505 lbs. fat). They are guaranteed to be right in every way.
First Check For $400 Takes Either One
MIDDLESEX MEADOWS, - - South Lincoln, Mass.



Economy in Production ← GUERNSEYS → Quality of Products



One 13-year-old Guernsey cow in Pennsylvania has dropped 12 calves and has completed four Advanced Registry records. The cow was purchased for a moderate price, but her offspring have been sold for tens of thousands of dollars. This is one illustration showing how a Guernsey cow can bring wealth to her owner. Send for our free literature.

THE AMERICAN GUERNSEY CATTLE CLUB BOX H 25, PETERBORO, N. H.



"Get" of Pencoyd's Secret Marose

This bull won first prize, senior and grand championships at the New England Fair, Connecticut and New York State Fairs. His "get" (4-mo.-old calves) was first at The Eastern States Exposition and fourth at the National Dairy Show with thirteen "gets" shown. His heifer calf, Appletree Point's Dolly Dimple, was Junior Champion at New England Fair, first prize at Eastern States Exposition, and was Junior and Grand Champion female at Connecticut State Fair. His bull calf was unbeaten in all eastern shows and won at Waterloo and National Dairy Show. Write for prices on May Rose calves that combine type and production.

U. A. Woodbury, II **Burlington, Vermont**



CONTENT'S MERRY BOY OF PROSPECT 64022
Dropped December 23, 1919
Sire—Anton's King Confidence 43517
Dam—Content of Prospect A. R. 5960

This young calf is priced low enough to be within the reach of everyone. Write us if you want to know more about him. The above picture was taken in August, 1920.

Hoard's Dairyman Farm
Fort Atkinson - - Wisconsin

HONESTY PRIDE OF BIRCHFIELD 44580



Sire — Langwater Warrior 26509
Dam — Langwater Honesty 49479
10,536.9 lbs. milk, 517 lbs. fat, at 2 yrs. and 5 months

We are now offering a few splendid sons of Honesty Pride of Birchfield. From cows with A. R. records or now on test. Everyone is a straight backed, growthy, vigorous youngster. These young bulls will put type and production in your herd. Prices range from $150 to $300.

Quality Guernseys **HIGHLANDS** *Tuberculin Tested*
NYE H. FREEMAN, Herdsman, Linwood, New York

Waukesha — The Guernsey County

Nearly two hundred members in our Association. Many of the best sires of the breed are being used. We can supply your wants. Pure-breds or grades, male or female, all ages. Prices will interest you.

Come to the County or Write

Waukesha County Guernsey Breeders' Association
F. E. Fox, Secretary Waukesha, Wisconsin

Guernsey Herd For Sale
14 Females—4 Bulls

Daughters and sons of Imp. Spotswood Sequel A. R., Langwater King of France A. R., May King of Linda Vista A. R. and Galaxy's Sequel A. R. The cows have A. R. records up to 672 lbs. fat at 3 years old and most all are from A. R. dams. A choicely bred herd of heavy producers, absolutely clean, Federal Accredited. Will be sold singly or as a herd.

PAUL LOVE, St. Austell Farms **Jackson, Mich.**

LONE TREE FARM
GREEN LAKE, WIS.
Has in its Herd 15 A. R. Guernseys and 11 R. of M. Jerseys
And Carries About 16 Cows on Test.
To inquiries for BULL CALVES we give full, honest particulars and stand behind every animal sold.
Jersey Sire—A Son of Pogis 99th. Guernsey Sire, Langwater Islander.

642 Pounds Fat

is the average on the A. R. daughters of Bellfounder, the sire of Countess Prue, the World's Champion Guernsey and My Fancy, eighth in Class A.

We offer bull calves carrying 15%—50% of this consistently high producing blood.

Prices $225.00 to $600.00.

The demand is keen; write today.

FALCON'S FLIGHT FARMS,
Litchfield, Connecticut.

Koshkonong Place Guernseys

Herd Bull: ANTON'S KING CECIL
(6 May Rose crosses).

BULL CALVES 6 mos. to 1 yr. old from A. R. daughters of
Jury and Gilt-Edge of K. P.
Herd on Federal Accredited list.

A. R. HOARD, - Fort Atkinson, Wis.

MR. GUERNSEY BREEDER

we are offering bulls of May Rose, Glenwood and Yeksa breeding out of A. R. cows. Our records range from 450 lbs. to 864 lbs. of fat; ages from 2 months up to serviceable age for $100 and up.

Can spare a few fine females.

CORIUM FARM, F. J. Rueping, Owner, Fond du Lac, Wisconsin

SAUGERTIES FARM GUERNSEYS

For Sale Bull Calves sired by Ultra May King, 27600. A. R. breeding. May Rose strain. Send for Sales List. Federal Accredited Herd No. 1511.

SAUGERTIES FARMS,
Saugerties, New York.

MAPLE HILL FARMS

May Rose bulls for sale from 2 to 16 months old with A. R. backing.

Fruit Bros., - Waukesha, Wis.

CityViewFarm
GUERNSEYS

FOR SALE: Typy May Rose bulls out of A. R. cows or cows on test with records up to 615 lbs. fat AA Sired by Bell Buoy of Linda Vista. 17 A. R. daughters, and Langwater Good News. Some of these bulls trace 18 times to May Rose II and are priced to sell.

O. R. SCHWALEN, Roberts, Wis.

Tratt Guernsey Herd

Herd headed by Bob Rilma's Monogram whose dam and grandam have A. R. records averaging 887.5 lbs. fat.

Bull calves for sale by him out of cows with good A. R. records.

Write for pedigrees and prices.

RALPH TRATT, WHITEWATER, WIS.

Wern Farm Guernseys

I am offering for sale 20 head of choice Grade Guernsey springers coming with first and second calf. Also have two bulls highly bred along May Rose lines just ready for service, that I will sell. For full particulars, write, wire, or come and see the stock.

Wern Farm, Waukesha, Wis.

Young Bulls For Sale
From A. R. Dams

I am offering several young sons of Golden Noble of Craigmoor A. R. He is a son of Langwater Raritan A. R. and from Imp. Daisy Moon 4th (639 lbs. fat).

These bulls are from A. R. dams with records up to 648 lbs. fat.

They are from 3 months to a year old. For prices and pedigrees call or write

Maple Heights Guernsey Farm
Frank E. Swan, Wauwatosa, Wis.
Federal Accredited Herd.

Tilden Farms Guernseys

FOR SALE: Several typy, May Rose bulls out of A. R. cows and sired by Hope's May Rose of Maple Hill (35903), whose dam is a class leader with 776 pounds of butterfat at 3 years. Also several choice pure-bred females and a few excellent grade cows. Herd on Federal Accredited list.

TILDEN FARMS
James H. Murphy, Mgr. Delavan, Wisconsin

GORDONDALE

Guernsey bulls of serviceable age offered for sale, also younger ones. They carry May Rose breeding, are from A. R. dams and have splendid A. R. backing Ask us about them.

Herd under Federal Supervision.

L. E. GORDON, JR.,
Nelsonville, Portage Co., Wisconsin.

Homestead Farm

Offers for sale bulls from 11 to 13 months of age from A. R. dams. Also a few young bull calves of excellent breeding, and three A. R. cows. Write for sale list or come and see them.

JAMISON BROS., Appleton, Wis.

Here's Your Opportunity!

Good Grade Cows in car lots. Pure-bred Males, Females with type and good producing ability. Investigate.

Fox River Valley Guernsey Breeders' Association
Harry Leppla, Sec'y, Appleton, Wis.

Fond du Lac County Guernseys

100 choice bull calves, by best sires of the breed out of dams with records up to 850 fat.
20 choice heifers, 6 months to 1 year old.
Grade cows and heifers. Send for sale list.

B. F. SHERIDAN, Secy.,
Fond du Lac, Wisconsin.

Baton Rouge Farmers Form Organization

Dairy farmers in Baton Rouge, Louisiana, met January 18th and organized the Baton Rouge Milk Producers' Association. They propose to improve dairying in that section by co-operating in the selling of their milk and in the further adoption of improved dairy methods. Every member is pledged to keep records of the individual production of his cows, feeding them according to their production, and to grow more and better dairy crops. All but a few of the members have pure-bred bulls at this time and those who now have grades will purchase pure-breds at an early date. The members are interested in the production of a high quality milk. Their herds have already been tested for tuberculosis and the barns are mostly modern and kept in sanitary condition. George L. Gayden was elected president of the association; W. H. Ballis, vice-president; and E. C. Jefferson, secretary-treasurer.

GUERNSEYS

Harbor Hill Guernseys

Masher's Galore 8572 A. R.

Increased the Average Production Credit of 12 A. R. daughters out of A. R. dams by 181 lbs. We offer his double grandson out of another daughter also making a better record than her dam.

C. H. Hechler, Superintendent
Box 30, Roslyn New York

Forestdale Farm

3 Bully Baby Bulls 8 Handsome Healthy Heifers
— 2 to 18 months

from Superior Standard Sires, also a few A. R. matrons. May Rose Breeding. Tuberculin tested. $250 lowest price.

R. D. DeForest, Amsterdam, N. Y.

Green Meadow Farms

NOW THE HOME OF
Langwater Steadfast

We are now offering *a fine Yearling Bull* sired by *Langwater Renown* and out of a fine Imported Dam with a record of 16,510.90 milk, 717.79 fat. We offer with him *ten fine Imported heifers* old enough to be bred. Anyone wanting to start a small herd, this is a rare chance.

We also have *a few two-year-olds* of May Rose and Golden Secret breeding that will be fresh this coming spring. Also *four yearling bulls*, old enough for light service of the above breeding. Our herd is now in the third year Federal Accredited List. For price and particulars address

GREEN MEADOW FARMS
Walter Jauncey, Mgr., Williamstown, Mass.

Sons of

Langwater Fisherman

Serviceable Age and Younger

They are from A. R. daughters of Yeoman's King of the May and of Langwater Demonstrator, with records from 500 to 700 lbs. fat. Strongly bred May Rose calves carrying 15% to 20% of the blood of May Rose 2nd.

Priced from $150 to $500. Guaranteed to be as represented.

We will answer your inquiry promptly.

MIXTER FARMS,
J. S. Clark, Supt., Hardwick, Mass.
300 Guernsey Females

Hillswold Farm

Shrewbury, Mass.

Registered Guernsey bull calves for sale. Dams in Advanced Registry and tuberculin tested. Prices right, and animals guaranteed to suit. W. A. Cloues, Mgr.

Guernsey Females

bred to an outstanding son of Ne Plus Ultra, one of the greatest sires of the breed. Fifty head from which to select.

MEADOWLAND FARM, Litchfield, Conn.

Guernsey Bulls

All ages, sired by a son of Beda's May King, out of dams who are daughters of Governor of the Chene (1297) P. S., Langwater Raritan, Prince Charming and others. Write for prices.

Peter Simon, Elba, Minn.

Guernseys

Best May Rose breeding. Both sexes and all ages from an Accredited Herd. Write your wants and send for lists.

E. S. Person, Minot, N. D.

Iowanola Guernseys

We are offering

A Very Fine Son

born July 25, 1920, out of Imp. Kitchener's Express 43925, his dam has 592 lbs. of fat, and out of Franseca of Homa Della who has 12,855.2 lbs. of milk and 640.09 lbs. of fat in Class D. This is a very typy calf and should appeal to any one in need of a bull. Correspondence solicited.

MOUNTAIN BROS.,
Carrier 403, Des Moines, Iowa.

Guernsey Bulls For Sale

Polly's Anchor No. 42845, born August 24, 1916, and Imp. Bluebird of Lakeside No. 45329, born June 15, 1917. Good, straight bulls, very gentle and sure breeders.

For Sale by
RADISSON FARM, ANOKA, MINN.

Do You Want A Guernsey Bull

Closely related to Pergue's Crescent A. R. with a record of 13,316.9 lbs. milk and over 582 lbs. fat in Class EE and dropping two calves within the year, entitling her to second place in her class? Some excellent young bulls closely related to Pergue's Crescent ready to head your herd. Write for descriptive circular, or come and see them.

Ernest W. Sass, Box H, Streator, La Salle County, Illinois.

Guernsey Bulls

Our last 9 official records average over 510 lbs. fat, including all ages. Our herd sire has 8 A. R. daughters, including one with 572 lbs. fat in Class GG. His three nearest dams average 822 lbs. fat. Send for pedigrees and prices on young bulls with this backing.

Folly Farm, Box 587, Libertyville, Ill.

Thorn Hill Farm Guernseys



Have several well bred young Guernsey bulls for sale at reasonable prices. All my own breeding. May Rose and Glenwoods, out of A. R. cows with records from 500 to 750 lbs. of fat. Write for sales list to

AUGUST ZIESING, Deerfield, Ill.

GRASSLAND FARMS GUERNSEYS

Choicely bred males and females for sale. (The natural increase of the herd.)

Herd federal tested for tuberculosis. Send for sales list. Satisfaction guaranteed.

Taconic, Conn., Litchfield Co., (C. N. E. R. R.)

Major Oliver S. Johnson



The Dairy Auctioneer

Tipton, Ia.

HOLSTEINS

A Model Heifer--$150

Born Sept. 4, 1920. Federally Tested.

Evenly marked and a show heifer in every respect. Sire: A bull whose first four dams are all 30-lb. cows. Dam: An 18-lb. heifer—her dam a daughter of the famous Artis De Kol Walker and from a 22-lb. cow.

Price $150, F. O. B. my station, with all papers and guaranteed to please.

Miles B. Marshall, Morrisville, N. Y.

Holstein Bull

Tuberculin tested and ready for service. Sired by King of the Changelings, a 33-lb. son of King of the Pontiacs. Dam, a daughter of a 33-lb. sire and has an A. R. O. record of 15.57 lbs. butter in 7 days at two years of age, averaging almost 4%. He is well grown and a splendid individual. First check of $175 takes him.

HARRY W. PETZOLD, Owego, Tioga Co., N. Y.

HOLSTEIN CATTLE

Mr. Datus Clark, Member Farm & Market Council, Albany, N. Y., writes:

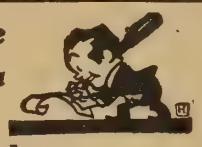
"Twelve years ago, my Holstein start cost me $1,100. The thinking farmer can decide as to the financial end. I now have eighty head and have sold as many dollars worth of cattle as I have bought and have made much more in milk than I would have with scrub or grade cattle."

Send for Free Booklets

The Holstein-Friesian Association of America

101 American Building Brattleboro, Vermont

Write at Once If You Want a Car-Load of



Grade Holstein Cows

River Meadow Farms are in a position to offer several carloads of grade cows, springers, milkers, of a quality to please anyone. Tuberculin tested if desired, and at the price they will pay for themselves this summer. Also pure-bred cows, heifer calves and bulls. We can still fill a few orders for grade heifer calves from extreme producers.

"The Best Cattle in New York State to Buyers who Appreciate such Animals."

RIVER MEADOW FARMS, Portlandville, N. Y.
Otsego County leads in Tuberculosis Eradication

M. & P. Healthy Holsteins

A year ago we sold a bull calf to a Virginia breeder. The dam of that calf has just finished a year's record of 17,600 lbs. of milk, 800 lbs. of butter. Was he pleased? His letter states "The bull is growing nicely, and I am glad his dam made so good a year's record."

We supply this kind at moderate prices. Write

Markham & Puffer
Avon - New York

Two Grandsons of King Lyons

For Sale. No. 1—born Feb. 6, '20, nicely marked, straight on the back and a very good individual. Dam has a record of 24.91 lbs. butter at 4½ years. Price $150.

No. 2—born Feb. 14, '20, another good individual, about half white. Dam's record 20.26 lbs. butter at 4½ years. Price $125.

LORENDALE STOCK FARM, F. B. Loren
Central Square, Oswego Co., N. Y.

Yearling Bull Ready For Service

Whose 5 tested dams average 28 lbs. His sire is by a son of "IT" out of a 29-lb. cow. His dam is a 21-lb. daughter of a 27-lb. cow. He is priced at a bargain.

G. G. Burlingame, Cazenovia, N. Y.

A Splendid Young Bull For $150.00

Sired by my De Kol Hengerveld Burke bull, and out of an A. R. O. daughter of King Pieter Segis Lyons 170506, an extra well bred and very promising young sire, whose 3 nearest dams have A. R. O. records as follows: 30.12, 31.06, and 33.31 lbs. of butter in 7 days. He now has 10 A. R. O. daughters, 3 of them as junior 2-year-olds made from 19.21 to 21.65 lbs. in 7 days. This calf is a splendid individual and about ⅞ white.

Write for further information and pedigree.

I. M. SHORMAN, Fowlerville, Mich.

THE TRAVERSE HERD

We have what you want in
BULL CALVES

the large, fine growthy type, guaranteed right in every way. They are from high producing A. R. O. ancestors. Dams' records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.

Traverse City State Hospital, - Traverse City, Michigan

The Pontiac Herd

"Where the Champions come from"

Offer Bull Calves sired by sons of *Pontiac Korndyke, Hengerveld De Kol, Pontiac Dutchland, or Admiral Walker Pietertje.*

Do you want a Pontiac in your herd?

PONTIAC STATE HOSPITAL, Pontiac, Mich

Sons of a 36-lb.—1315-lb. Sire

They are sons of Dutchland Creamelle Denver Prince. His sire is a 30-lb. 1,028-lb. grandson of Colantha Johanna Lad and his dam, the highest record daughter of the same sire, with 36 lbs. in 7 days, 1,315 lbs. in a year.

They are from tested (records up to 20 lbs.) and untested dams — Good producers rich in the blood of Mooie Mutual De Kol and King Segis Pontiac.

The calves are from 2 to 8 months old. Priced right.

Jefferson County Asylum, Jefferson, Wis.
W. E. Voigt, Supt.

Bull Ready For Service

Nicely marked and a good individual. Dam 20 lbs. butter at just 3 years. Next dam a 23-lb. 4-year-old. Two nearest dams of his sire average over 32 lbs. and ten nearest dams over 29 lbs. in 7 days Not a break in a three-generation pedigree. Priced to sell. Call or write

Halsey J. Sedgwick, Limeridge, Wis.

Mr. Holstein Breeder—

You are Invited to

Pinehurst Farms

at any and all times. Come if you want a herd sire or foundation females. Come if you don't want to buy. We believe you will be interested in Sir Ormsby Beauty Pontiac Segis and his get and in our herd of producing females, many of them now doing very well on 7-day and year test.

You will be welcome and remember if you should buy from us, we stand back of every animal sold.

Pinehurst Farms Co., Sheboygan Falls, Wis.

Cows and Heifers

A Few Good Bulls

Because I am overstocked, I am offering some very good registered females for sale. They either have A. R. O. records or are from A. R. O. dams.

Can also offer some excellent young bulls by a 33-lb. sire and from A. R. O. dams with records up to 28 lbs.

Every animal sold is guaranteed to be as represented.

Write or come and see for yourself.

J. D. McDonald **West Salem, Wis.**

SERVICEABLE SONS

OF

Sir Bess Ormsby Fobes

Young bulls out of tested dams and by "the best individual son of the best son of S. P. O. M." Let one put production and type in your herd.

Linden Lawn Stock Farm

B. W. RABENHORST, - Jefferson, Wis.

BULL CALVES

For Sale

Out of A. R. O. dams up to 27 lbs.

Herd Federally Tested

WM. MEISEGEIER, R. 4, Barron, Wis.

Serviceable Bulls For Sale

Sired by Pabst Pontiac Hengerveld, a son of King Pontiac Champion from Pabst Hengerveld Colanthus (31.5 lbs. butter in 7 days, 1,057 lbs. in a year.

These are nicely marked, well grown youngsters out of good producing dams. Several are ready for service, others are younger. Write today.

John Alexander, **Baraboo, Wis.**

$100 to $200 Buys A Bull From A Good Record Dam

Am offering several for those prices sired by a 26-lb. bull and from A. R. O. dams with records up to 25.46 lbs.

Write at once. They'll go fast.

H. W. Crawford, R. 5, Campbellsport, Wis.

Wayside Lawn Farms

offer

Young Bulls Ready for Service

sired by 31-lb. bull, Hengerveld Banostine Gudultje, whose two nearest dams average 30.65 lbs. butter in 7 days and 848 lbs. butter in one year. The bulls are from tested and untested dams. They are well grown and right in every way. Price $100.00 to $200.00. Herd Federally Accredited.

WALTER SORGE, **Reedsburg, Wis.**

A Fedral and State Accredited Herd Offers—

two serviceable sons of M. M. Rag Apple Oak Denver, a grandson of the 36-lb. cow, Dutchland Colantha Denver (1,315 lbs. butter, 25,431 lbs. milk in a year).

No. 1—Born Oct. 7, '19. Dam's record 16.04 lbs. as a heifer; second dam 24.79 lbs.; third dam 28.88 lbs. Bull mostly white, very good individual. Price $250.

No. 2—Born Nov. 5, '19. Dam's record 19.75 lbs.; second dam 18.75 lbs.; third dam 21.45 lbs. Half white. A show bull. Price $200.

For complete information and pedigree write

A. M. Anderson, **Whitewater, Wis**

1000---HERD---1000

Quality Holsteins

GRADES AND PURE-BREDS

Just now we have a splendid lot of grade heifers. Write for our pure-bred bull list.

Jefferson County Holstein-Friesian Breeders' Association.

A. F. Gafke, Secretary, **Jefferson, Wis.**

A BULLY CHANCE

to get a serviceable sire—born March 15, 1919. A fine individual—well bred—well marked—well grown. Sire a son of King Segis Pontiac out of a 26-lb. daughter of Juliana King of Rock. Dam, A 26-lb. daughter of King Korndyke Veeman Wayne, he out of a 31-lb. daughter of Sir Veeman Hengerveld. Will trade for pure-bred Holstein females, liberty bonds or cash. If you want a herd sire—what have you got that you don't want? Write or call for price, pedigree, photo. Also have some younger bulls. Herd tuberculin tested.

RIDGEHURST STOCK FARM.

Glen C. Ramsey, **Ft. Atkinson, Wis.**

5-10 WELL BRED HEIFERS

SEVERAL GOOD YOUNG BULLS

are what we are offering just now. The heifers are registered two-year-olds, bred to freshen this fall. The bulls, old enough for service, are from A. R. O. dams and by Sir Ormsby Homestead Butter Boy, a 35-lb. bull. One is by a 42-lb. grandson of S. P. O. M. Come and see them.

ANDREW FRANK, **FOX LAKE, WIS.**

Bull For Sale — Born January 2, 1920

Dam:—A 22.62-lb. granddaughter of Johanna McKinley Segis. She has several good daughters in the herd with records up to 33.48 lbs. butter in 7 days and 112 lbs. milk in one day.

Sire:—A son of Molly Johanna Korndyke, former world's record 2-year-old with 30.62 lbs. butter in 7 days. Write for pedigree and price.

W. J. McROBERT, **Waupun, Wis.**

ORMSBY BULL - Born Feb. 28, 1919

Sire, King Ormsby Pontiac De Nijlander, whose two nearest dams average over 30 lbs.

Dam, Aaltje Hengerveld Tritomia Segis. A. R. O. 17 lbs. at 3 yrs., next dam 29.68 in 7 days. Color light, fine individual. Ready for service. Price $300.

Fairview Stock Farm **Whitewater, Wis.,** **W. G. Marshall, Prop.**

Ready For Service

For sale a grandson of Sir Pietertje Ormsby Mercedes out of 18-lb. Junior 3-year-old. Come and see him.

BEND VIEW FARM

Peter J. Bowe, **Bloomer, Wis.**

Absolute Dispersal of a Real Breeder's Herd

Rippling Rill Holsteins, Owned by C.O. Ruste,

Blue Mounds, Wis., Thursday, Feb. 24, 1921

Owner retiring. Will sell at Public Auction Registered Herd of Holsteins—55 head.

Every animal except herd sire bred on farm. 3 years in cow testing association. Absolutely no boarders. Tested for tuberculosis. Not a re-actor.

Sold on the usual 60-day guarantee.

Thirty milkers—Eight 2-year-olds. Will be fresh or springing at sale time. Twelve yearling heifers. Four yearling bulls. One herd sire—Very choice breeding—Iowana Canary Fayne from Sir Johanna Fayne and Olive De Kol Canary. Nearly all the cows and heifers in sale bred to him. Eighteen daughters and many granddaughters of Harriette De Kol Butter King—a son of The King of Butter Kings.

Seven daughters and a number of granddaughters of Sir Mayo Paul Prilly—a son of Sir Prilly Walker.

Four sons and twelve daughters of Admiral Walker Prilly 20th. His dam, now in the Gustave Pabst's herd, has just completed a wonderful yearly record of 25,100 lbs. milk and 1,118.03 lbs. butter.

General Farm Sale in Forenoon. Full Line of Machinery.

Afternoon—Pure-bred Percheron Horses and Herd of Holsteins.

Lunch at noon. Conveyance to and from trains. Sale at farm 4 miles South of Blue Mounds, 4 stations West of Madison, on the C. & N. W.

Sale Terms—Cash or 1 year's time on approved bankable notes at 7%.

Catalogs ready now. Apply to

A. G. Ruste, Fennimore, Wis., or F. H. Everson, Lake Mills, Wis.

Auctioneers: H. S. Schween, F. J. Bell. Clerk: A. S. Arneson. Sale Mgr.: F. H. Everson.

We Have For Sale

Sons of Sir Pietertje Ormsby Mercedes 41st

from

Dams With Good 7-Day and Yearly Records

S. P. O. M. 41st is proving himself one of the very best sons of Sir Pietertje Ormsby Mercedes. His daughters are developing remarkably well individually and as producers.

We have several of his sons for sale up to 10 and 12 months old. They are from dams with both 7-day and yearly records that will be kept in our herd and tested again. These bulls will increase in value. They are priced reasonably and guaranteed right. Write us today.

Gustave Pabst's Hollyhock Farms

Fred J. Southcott, Manager **Dousman, Wisconsin**

BUY DIRECT

Reasons for Buying Holstein Cattle in Waukesha County

1. You can buy direct from the breeder through the breeders' association, organized by the breeders to promote the breeding of more and better Holstein cattle and to assist in a fair marketing of the same.
2. There are over 50 pure-bred Holstein sires in service in Waukesha County whose dams have records of over 30 lbs. butter in 7 days or 1,000 lbs. butter in a year.
3. There were 1,307 long-distance tests made on Holsteins in Waukesha County during the past year, which is more than the total in the next four leading counties in the state.
4. There are more tuberculin tested cattle in Waukesha than in any other county in the world.
5. The breeders' organization is in a position to put you in touch with "bred-for-production-stock" at reasonable prices.
6. When buying through the Association, you obtain the services of men who devote their entire time to the Holstein industry. It saves you time. You get more for your money.

Write or Wire for information

Waukesha County Holstein-Friesian Breeders' Association

254 Broadway, Waukesha, Wisconsin



Yearly Records

Choice Young Bulls

from one to fourteen months old for sale. Sired by Cloverlawn Johanna Piebe whose five nearest dams average 1,070 lbs. of butter, 23,809 lbs. of milk a year. Herd numbers 140 head, forty cows with yearly records. State exactly what you want.

JOHN PULS, - **HARTFORD, WISCONSIN**

A. R. O. BULLS—2 Weeks to a Year Old

At Bargain Prices

They are sons of Rag Apple Pontiac, a 30-lb. grandson of King of the Pontiacs, from well bred dams with records up to 27 lbs. in 7 days. Write today for prices and pedigrees. I'll answer your inquiry promptly.

W. W. Quackenbush, - West Salem, Wis.

LAKESIDE STOCK FARM

of SYRACUSE, N. Y

offers serviceable young bulls of the highest individuality, several of them by 30- to 40-lb. sires, and from 30- to 34-lb. dams, part of them State Fair prize winners. In individuality they can not be easily excelled. Lakeside also offers a very choice lot of yearling and two-year heifers and young cows.

E. A. POWELL, Prop.

Holsteins For Sale

PURE-BREDS	78 Cows 88 Heifers 18 Heifer Calves 250 Young Bulls	**GRADES**	67 Heifer Calves 112 Heifers 245 Cows

Other Live Stock: Breeders are listing with us other dairy cattle, beef cattle, horses, sheep, and swine. Write us if you want stock. We will answer promptly.

BANKER FARMER EXCHANGE

D. H. Otis, Director, **1822 Chadbourne, Ave., Madison, Wis.**

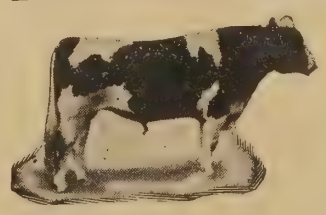
2 Serviceable Bulls

ALL SONS OF THE 1235-LB. YEARLY SIRE

Sir Korndyke Bess

The Dams' yearly records all over 800 lbs.

R. E. Benson - - Dousman, Wisconsin



Colantha Changeling Lad



30-lb. dam and daughters followed by a 30-lb. son of Sir Pietertje Ormsby Mercedes 37th, and now a 30lb. son of 41st, should interest you in buying your next herd sire. Buy them now.

Badger Stock Farms, Hartford, Wis. Lawrence F. Murphy

HOLSTEIN BULLS

To make room in our barn we offer a 3 years of age. They are backed by Also a few bulls sired by King Korndyke age over 37 lbs. butter in 7 days. Come

WISCONSIN STAR STOCK FARM.

AND HEIFERS!!

dozen or more heifers from 1 month to some of the best families of the breed. Veeman, whose two nearest dams aver- and see them or write to

ED. M. SHULTZ HARTFORD, WIS.

KOHL-PECK BROS.
DISPERSAL SALE

75 Head REGISTERED HOLSTEINS 75

SALE—Dairy Cattle Congress Pavilion

Waterloo, Ia., February 23rd

Sale Commences 10:00 *Sharp.*

Mack, Baxter & Scott—Auctioneers

10 Daughters of King Segis Pontiac Combination. A bull who stood at the head of the old Wm. Galloway herd, and was a consistent prize winner with his show herd. A bull who has proven himself by his daughters who have been tested. He combines the type that we are looking for today with production.

There will also be 15 cows in calf to him. He has had little chance to distinguish himself in the herd where he is now, because of the fact that Peck Brothers never did any testing.

Here's the opportunity to buy type at your own price and increase the price of the animal by the record that you put on it. King Segis Pontiac Combination has 22 A. R. O. daughters.

Also, 8 Granddaughters of Sir Winana Beets Segis, a son of King Segis. 4 daughters of Hengerveld King. This is an exceptional opportunity to buy these untested daughters of King Segis Pontiac Combination at your own price. Also, a few daughters of Prince Rilma Pietertje De Kol.

These cattle have all been Tuberculin tested and will carry 60—90-day guarantee.

Come early and pick out your cattle. Sale commences at 10:00 *sharp.*

Sale under the auspices of the Iowa Holstein-Friesian Ass'n.

Chesley F. Jenness, Sec'y, Waterloo, Iowa

This Advertisement Appears But Once.

King Pietertje Ormsby Piebe 25th
Is For Sale

He's a show calf like the rest of the sons and daughters of K. P. O. P. You saw them win last fall at the big shows.

His sire is King Pietertje Ormsby Piebe, the best long distance bred bull in the country as well as a sire of show winners.

His dam, Lady Mutual Sadie, is now making a splendid yearly record as a first calf heifer. Shes' a daughter of King Mutual Korndyke, a son of the world record 2-year-old Finderne Mutual Fayne.

This is a chance to buy a son of K. P. O. P. that is sure to increase in value as his dam develops in our herd.

He is priced right and we offer easy terms of payment.

Hargrove & Arnold Norwalk, Iowa

Herd Under Federal Supervision

SIR JOHANNA FAYNE



42147

now has 9 daughters 20,000 pounds or over. All of his yearly tested daughters, 3½ years old or over average 21,465.1 pounds milk and 831.45 pounds butter. 17 daughters average 20,000 pounds. A few young sons left at reasonable prices. Herd under Federal Supervision.

IOWANA FARMS
DAVENPORT, IOWA

Woodcrest Sir Clyde

Sire of a 30-lb. 3-year-old, a 23-lb. yearling and 15 two-year-olds over 20 lbs. A son of the great 33-lb. cow, Alma Clyde, with almost 1,000 lbs. butter in a year.

His sons from yearly record dams for sale. Send for photos and pedigrees.

W. B. BARNEY & SONS, - - Chapin, Iowa

Richly Bred Ormsby Bulls
From Yearly Record Dams—Age 1 to 14 Mos.

Six three-year-old heifers in my herd (under ordinary farm conditions) have just finished yearly records averaging 722 lbs. butter from 16,639 lbs. milk. To make room for calves now coming on, am offering at bargain prices three grand individual sons of above cows ready for service. Act quick. Herd under Federal Supervision.

F. A. STILLINGS, Frazee, Minn.

BULL CALF

Sire's dam, butter, 1 yr., 848 lbs.; her daughter, 1,055 lbs. Grandsire's dam, 987 lbs. at 11 yrs.; her full sister, 1,344 lbs.; another, same dam, 1,322 lbs. Dam, Miss Pietertje Alexina 3d, sister to Miss Pietertje Alexina 2d, 1,290.91 lbs. A dandy calf, priced right. Write quick to

McKAY BROS., - - CADDOA, COL.

Registered Holstein Bulls
4 Yearlings, 7-4 to 6 months old
$100.00 and up if taken soon

All sired by 30-pound bulls. Out of A. R. O. dams with records made on the farm running from a 17-lb. two-year-old to 21-lb. two-year-old, and aged cows from 22 to 30 pounds. We have 13 granddaughters of King of the Pontiacs in our herd and one of his sons out of a 30-lb. dam. Also a grandson of Pontiac Korndyke out of 1,105-lb. dam, 30 pounds, 7 days.

C. A. PARKS, Mgr. Assumption, Ill.

BULL CALF FOR SALE

Sire is a 27-lb. son of Johanna McKinley Segis, the 40-lb. bull that sold for $25,000. Dam is a granddaughter of Pearl of the Dairy's Joe De Kol with 78 A. R. O. daughters. Marking ⅞ white.

Long Distance Phone 389.

DUETT ROBINSON, R. 3, Capron Ill.

Buffalo Creek Farm Holsteins

This yearly record bull calf for sale, born Nov. 28, 1919.

Name, King Lavera Ormsby No. 297926. Sire: King Pietertje Homestead Ormsby No. 221488. Dam: Lavera Hortensia Bawn 2d, No. 124734, with a record of 26,010.2 lbs. of milk and 1,050.55 lbs. of butter in a year. Write for price and pedigree. This calf won 5th premium at the Dairy Show.

Herd under Federal Supervision.

H. L. BINGHAM, Supt., Arlington Heights, Ill.

Whitehurst Farms

BULLS FOR SALE FROM SEMI-OFFICIAL DAMS. Priced Right.

A. F. Randolph, Prop., Canton, Ill.

YOUNG BULLS
Backed By Real Production

We are offering for sale sons of our Sir Pietertje Geneseo Alcartra whose dam, Miss Pietertje Alexina 2d, has a 42.42-lb. 7-day record and a yearly record of 1,290.94 lbs. butter from 24,219.1 lbs. milk. These youngsters are good individuals from heavy producing dams. They are priced to sell.

Hubert Stuckart, - Raymond, Iowa

Get "All the Year 'Round Production"
by using a
Grandson of S. P. O. M.
out of a
Granddaughter of Colantha Johanna Lad

A July calf well grown, vigorous, and unfaulted in individuality.

Priced to sell.

Cerro Gordo Farms, Mason City, Iowa.

870 Lbs. Butter—17444 Lbs. Milk

is the average of 3 of his two-year-old sisters. Several about to finish as 3-year-olds. Ready for heavy service. Holstein.

BLUEBELL FARM, Riceville, Iowa

Fairhurst Herd
On the Accredited List

We offer young bulls, fine individuals and well grown. Sired by 33-lb. bull and from dams with records up to 30 lbs. Write for pedigree and price.

KITTLE BROS., Holland, Ohio.

THE MARK OF QUALITY



A *Real* Herd Sire

This nine-month-old Bull, KING HENGERVELD KORNDYKE EUREKA, will fit someone's herd. He is the product of the most careful breeding.

The Sire, Sir Ormsby Hengerveld Korndyke, a 35-pound bull, grandson of the sensational Hengerveld De Kol with 116 A. R. O. daughters, has been carefully line bred in the Ormsby, Hengerveld, Pietertje lines with a sprinkling of De Kol.

The Dam, Eureka Melissa Segis, is by a full brother to King Segis Pontiac Count, sire of eight daughters with records over 1,000 lbs. Eureka Melissa Segis herself has a 7-day record of over 21 pounds as a two-year-old and is finishing up her year's record with over 750 lbs.

To some progressive breeder with the proper kind of herd we will sell this bull at a reasonable figure. Correspondence is welcome, but come to the farm at Blooming Prairie if you can and see him.

OAK DALE FARMS
INCORPORATED
BREEDERS of HOLSTEIN FRIESIANS
Austin Minnesota

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

ZEHRINGHURST HOLSTEIN FRIESIANS

A Few Splendid Young Bulls

for sale that have show ring type, that are backed by 7-day and yearly records and by the best productive breeding in Ohio. They are from an accredited herd, are guaranteed right and are priced to sell.

Zehringhurst Farm, Germantown, O. Oscar O. Zehring, Prop.

$550 Buys This Bull—

Born March 8th, 1920.

He is sired by a 30-lb. bull and has 22 sisters with yearly records.

His dam made 22 lbs. in 7 days at first freshening and has a yearly record of 662 lbs. butter and 16,055 lbs. milk, she by Judge Segis and from a 26-lb. cow.

Winterthur Farms, Winterthur, Del.

Federal Accredited Herd



S. I. P. S. BERANIA

Minnesota Holstein Breeders' Association

Be sure that you buy Minnesota Holsteins from state association members. They are responsible. For list of members and other information address

THE SECRETARY, 406 MARKET BANK BUILDING, MINNEAPOLIS, MINN.

This Splendid Son of Sir P. O. M. 41st

For Sale—Ready For Service



Born January 22, 1920

He is an outstanding individual, straight as a line and of unusual quality

HIS SIRE

Sir Pietertje Ormsby Mercedes 41st is destined to become one of the world's greatest sires. His sire is known as "The World's Greatest Sire of Show Ring Winners and Yearly Producers." His dam is the only 1,000-lb. cow in the world having three daughters above 1,000 lbs. or six averaging 995 lbs. No sire in the world equals him in point of proven transmitting ability in both sire and dam—and "41st" is proving it by handing it down to his offspring. The greatest show cow out this past year was one of his daughters. His first daughter to complete a yearly record is finishing with over 1,100 lbs. as a junior four-year-old.

HIS DAM

Edenvale Bessie Homestead, a grand individual with a record of 28.75 lbs. butter and 622.3 lbs. milk. Her dam is a three-fourths sister to Jessie Fobes Bessie Homestead, former world's champion 4-year-old with 34.96 lbs. in 7 days. Her sire is by the noted show bull, Sir Beets Cornucopia Netherland and from a 29-lb. cow. Mooie Mutual De Kol, Homestead Junior De Kol and De Kol 2d's Paul De Kol No. 2—all close up in the pedigree.

Send for pedigree and further information

E. C. Schroeder Farms, Moorhead, Minn.

(Herd under Federal Supervision)

Minnesota Holsteins



Miss Korndyke Akkrummer Ormsby 30-lb. 4-year-old. 39.67 lbs. butter at full age. Owned and developed by J. B. Irwin.

For Your Next Herd Sire

get a son of Sir Ormsby Banostine Champion, son of Duchess Skylark Ormsby, world record cow. We have some good ones for sale from dams with good 7-day and year records.

Woodlake & Clover Farms,
John B. Irwin, Station F,
Minneapolis, Minnesota.
"The Home of the Ormsbys."



Lola Segis Pontiac Homestead

the highest record bull in southern Minnesota, heads our herd. His sire, Piebe Laura Ollie Homestead King, has more daughters that as 2-yr.-olds have produced 20,000 lbs. milk in a year than any other. His dam, a 34-lb. 4-year-old daughter of King Segis Pontiac Count, has 3 records averaging 33 lbs. and has made over 1,000 lbs. in 1 year. We have a few serviceable bulls and younger from A. R. O. dams for sale.

Clover Lea Farm, W. W. Walker, Owner. Austin, Minnesota



THE LASHBROOK HERD

Offers A High Class Bull

ten months old, sired by SIR WALKER SEGIS HOMESTEAD, a son of "Piebe" and "Beauty Beets Walker Segis," world's greatest heifer, with two yearly records over 25,000 lbs. milk and 1,000 lbs. butter.

Dam, an 18-lb. junior two-year-old heifer, of rich A. R. O. breeding. Soon to freshen as Senior two-year-old and go on yearly test. Will double value of bull in short time. He is evenly marked, a good typy bull and a bargain for $500.

Federal Accredited Herd. Send for pedigree and photo.

A. J. LASHBROOK, - - Northfield, Minn.

COME TO BISCAY

or your next purchase of pure-bred or grade Holstein cattle, mature or young stock. Large selection, also a few select male calves to offer. Located near station

BISCAY SALES CO., BISCAY, MINN.

Lake Shore Farm

Offers May 22nd, 1920, bull calf. 795 lbs. butter over 20,000 lbs. milk is his dam's yearly record. King Segis breeding, light color. Price for January $250.

E. J. OPPLIGER, Box 20, Forest Lake, Minn.

Sons of "COUNT"—

—"The Marvel of All Sires"

Whose daughters have broken more World's Records than the daughters of any other sire of the breed in both long and short time work. He has eight 1,000-lb. daughters.

Sons of "PIEBE" — "The Present Day Sensation"

The only bull in the world with five 20,000-lb. two-year-old daughters.

Sons of "COUNT" from daughters of "PIEBE"
Sons of "PIEBE" from daughters of "COUNT"

We have the finest line of young bulls we have ever raised at ARDEN FARMS, priced in accordance with present financial conditions. **LIBERAL TERMS GIVEN IF DESIRED.** Write me for particulars.

J. M. HACKNEY

602 Merchants Bank Building, - - - St. Paul, Minnesota

Bull Calves of Ormsby Breeding

from A. R. O. dams for sale, 2 to 8 months old. Prices $200 to $1,000. We can also offer several good, typy cows bred to a good Ormsby bull. Write or come and see us.

MINERAL SPRINGS STOCK FARM, - - SAVAGE, MINNESOTA

Stuart—McIntyre—Hansen, Owners.

Address correspondence to Axel Hansen, formerly with John B. Irwin.

Serviceable Sons of Dutchland Aaggie Tidy Prince

I have three of these youngsters for sale, all ready for service and from A. R. O. granddaughters of S. P. O. M. Their sire is from a sister to Tidy Abbekerk Prince and already has a good list of tested daughters, including one above 36 lbs.

Write today for complete information.

E. J. BROSIOUS, - - Stillwater, Minn.

Grandsons of Sir Pietertje Ormsby Mercedes

The sire is Sir Pietertje Ormsby Mercedes 22d, a son of Minnesota's first 1000-lb. cow. These bulls are all nicely marked, straight top lines. Very good individuals from good A. R. O. dams.

For pedigrees and prices, write

O. J. GROVER, - GLYNDON, MINN.

Grandsons of

Duchess Skylark Ormsby and of S. P. O. M. 38th.

for sale. These youngsters are from A. R. O. dams that are now making good yearly records. Write today for further information.

POPLAR HOLLOW STOCK FARM,
Bertram D. Scott, Prop., Richfield Station
Minneapolis, Minn.

Bull Calf

advertised last week is sold. Here is another good one ready for light service. Sired by a 30-lb. bull. Dam a 14-lb. 2-year-old who will be tested again next spring. Priced so reasonable that you can't afford to be without him. $150.00 for immediate sale.

V. R. Holmes, Anoka, Minn.

Our Bulls Are Marked

Down to where we will move them inside of thirty days. If you are in the market for a bull of Count or Ormsby breeding we have it. Send for the circular.

Flecks Farm, Faribault, Minn.

Get A Calf

We have a grand bunch of youngsters on hand. Come and pick out a calf while you have a big choice. Grow him to suit you. Saves you money and we are selling them as cheaply as we can. Show calves that are backed by generations of official testing and careful breeding. Sons of DUTCHLAND CREAMELLE COLANTHA LAD No. 165049. His yearly daughters all average over 834 lbs. of butter at 26 months of age.

GRAHAMHOLM FARMS,
H. R. Searles, Mgr., Rochester, Minn.

Sir Korndyke Ormsby De Kol 15th—21 Months Old

His sire is a son of Sir Korndyke Hengerveld De Kol; 51 A. R. O. daughters, one of whom has a 7-day record of 39.56 lbs. and several above 1000 lbs.

His dam has a record of 23.778 lbs. and now on yearly test.

Geo. H. Elwell, - Minneapolis, Minn.

4 Holstein Bulls for Sale

All by King Segis Pontiac Cor-Will, 190512, whose sire is King Segis Pontiac, 44444, and whose dam is an A. R. O. daughter of Pontiac Korndyke. Also two fine young registered cows, one a granddaughter of Pontiac Korndyke.

Wm. N. Osborn, Wanatah, Ind.

Mankato Holstein Farms

Offer a Son of

King Colantha Ormsby Bess

A Sir Pietertje—Bess Burke combination. Nine dams average over 1,000 lbs. Dam is by a brother to Pietertje Maid Ormsby, 894 lbs. butter and 21,833 lbs. milk last year. Running at a world's record gait for the year. Over 400 lbs. butter and 10,000 lbs. milk first four months. Several bulls at prices warranting their use in grade herds.

Write or better still come and see them

(Herd under State and Federal Supervision)

Marlow & Randall, Mankato, Minn.

RICHLY BRED

HOLSTEIN BULL CALVES

out of A. R. dams and sired by our two richly bred herd sires — **King Piebe Ormsby Mercedes**, a 35-lb. son of Sir Korndyke Bess and every dam in pedigree over 22 lbs. and **King Pietertje Mercedes Ormsby**, a son of Sir Pietertje Ormsby Mercedes and out of a 19-lb. senior two-year-old dam.

Herd tuberculin tested. Write for information or visit herd.

P. FROST SPAULDING FARM CO.
C. L. Spaulding, Mgr., Warren, Minn.

Two Grandsons of Pontiac Korndyke Ready for Service

No. 1. Born February 17, 1920, a very good individual. His dam is a show cow and an all year producer. She made 24.88 lbs. butter in 7 days as a 3-year-old. Is a granddaughter of Pontiac Aaggie Korndyke. His sire is Sir Korndyke Matador, one of the best sons of Pontiac Korndyke.

No. 2. Also a son of Sir Korndyke Matador, was born Dec. 29, '19. He is a well grown, very straight individual. His dam, a maternal sister to the 24-lb. 3-year-old dam of No. 1, has a 21-lb. 4-year-old record.

Both bulls priced to sell. Tuberculin tested and sold subject to a 60-day retest.

TIM H. BLOSSER, care Bell Farm, Coraopolis, Pa.

Edinboro Lake Farm

Show Type HOLSTEINS Production

Six state yearly record champions 1918-19.

We offer bull calves by Sir Paul Veeman Hengerveld and Sir Ormsby Skylark Fredericka, out of yearly record dams with type.

Edinboro, Pa.

ORIGIN FARM

HORNLESS HOLSTEINS, Registered and A. R. O. Animals, all ages, for sale. Federally Tested.

GEO. E. STEVENSON, Scranton, Penna.



Chart of Recommendations *for* TRACTORS

(Abbreviated Edition)

How to Read the Chart

THE correct grades of Gargoyle Mobiloils for tractor engine lubrication are specified in the Chart below.

A means Gargoyle Mobiloil "A"
B means Gargoyle Mobiloil "B"
BB means Gargoyle Mobiloil "BB"
Arc means Gargoyle Mobiloil Arctic

These recommendations cover all models of tractors unless otherwise specified.

Where different grades of Gargoyle Mobiloils are recommended for summer and winter use, the winter recommendations should be followed during the entire period when freezing temperatures may be experienced.

This Chart is compiled by the Vacuum Oil Company's Board of Automotive Engineers, and constitutes a scientific guide to Correct Tractor Lubrication.

If your tractor is not listed in this partial chart, consult the Chart of Recommendations at your dealer's, or send for booklet, "Correct Lubrication for Tractors," which lists the Correct Grades for *all* Tractors.

NAMES OF TRACTORS	1920 Summer	1920 Winter	1919 Summer	1919 Winter	1918 Summer	1918 Winter	1917 Summer	1917 Winter	1916 Summer	1916 Winter
Allis-Chalmers (General Purpose)	A	A	A	A	A	A				
" " All Other Models	BB	A	BB	A	BB	A	BB	A	A	A
All Work	B	A	B	A	B	A	B	A	B	A
Appleton	BB	A	BB	A	BB	A	BB	A	A	A
Aultman-Taylor (18-36)					BB	A	BB	A	A	A
" " (22-45)	BB	A	BB	A						
" " (15-30) (Waukesha Eng.)	BB	A	BB	A						
" " All Other Models	B	A	B	A	B	A	B	A	A	A
Avery (5-10)	A	A	A	A			A	A	A	Arc.
" Motor Cultivator & Planter	A	Arc.								
" All Other Models	B	A							B	A
Bates Steel Mule	B	A	B	A	B	A	B	A		
Bean-Track-Pull	B	A	B	A	A	A	A	A		
Big Bull			B	A	B	A	B	A	B	A
Buckeye (Findlay, Ohio)	B	A	B	A	B	A	B	A	B	A
Case (9-18)					A	A	A	A		
" (10-18)			BB	A						
" (10-20)					A	A	A	A	A	A
" (12-25 & 20-40)					BB	A	BB	A	B	A
" (15-27)	BB	A	BB	A						
" All Other Models	B	A	B	A			B	A	B	A
Cletrac	BB	A								
Cleveland			BB	A	BB	A	BB	A		
Coleman	B	A	B	A	B	A	B	A		
Common Sense	BB	A	BB	A	BB	A	BB	A	A	A
C O D			BB	A	BB	A	BB	A	A	Arc.
Craig	BB	A	BB	A						
Creeping Grip			BB	A	BB	A	BB	A	B	A
E. B. (9-16)			B	A	B	A				
" (Reeves)	B	A	B	A	B	A	B	A	A	A
" All Other Models	A	A	A	A	A	A	A	A	A	Arc.
Flour City (20-35)	B	A	B	A	B	A	B	A	B	Arc.
" " All Other Models	B	A	B	A	B	A	B	A	B	A
Fordson	BB	A	BB	A	BB	A				
Gas Pull					B	A	B	A	B	A
Grain Belt	BB	A	BB	A	BB	A	BB	A		
Happy Farmer					B	A	B	A	B	A
Hart Parr	B	A	B	A	B	A	B	A	B	A
Hender	BB	A	BB	A	BB	A	BB	A	B	A
Hession			B	A						
Hollis			BB	A						
Holt Caterpillar (Model 18)							BB	A		
" " (Model 45)	BB	A	BB	A	BB	A	BB	A	BB	A
" " All Other Models	B	A	B	A	B	A	B	A	B	A
Huber	BB	A	BB	A	BB	A	BB	A	B	A
Illinois	B	A	B	A	B	A	A	A		
Indiana	A	A	A	A						
K C Prairie Dog	BB	A	BB	A	BB	A	BB	A	B	A
La Crosse	B	A	B	A						
Liberty	B	A	B	A	B	A				
Lightfoot			BB	A	BB	A				
Minneapolis	B	A	B	A	B	A	B	A	B	A
Mogul (8-16)					A	A	A	A	A	A
" All Other Models			BB	A	BB	A	BB	A	BB	A
Moline Universal	BB	A	BB	A	BB	A	BB	A	BB	A
Monarch	BB	A								
National			BB	A	BB	A				
Neverslip (20-12)			B	A	B	A	BB	A		
" (30-18, 10-6)			BB	A	BB	A				
" All Other Models					B	A				
New Age			BB	A	BB	A	BB	A		
Nilson	BB	A	BB	A	BB	A	BB	A	B	A
Oil Pull (14-28, 10-20)					BB	A				
" " (12-20, 16-30)	B	A	BB	A						
" " (20-40)	B	A	BB	A	BB	A				
" " All Other Models	B	A	B	A	B	A	B	A	B	A
Parrett	B	A	BB	A	BB	A	BB	A	A	A
Pioneer	B	A	B	A	B	A	B	A	B	A
Royer	B	A	B	A	B	A				
Rumely (8-16)					BB	A	BB	A	BB	A
" (12-24)					B	A	B	A	A	A
Russell (Giant)	B	A	B	A	B	A	B	A	A	Arc.
" All Other Models	BB	A	BB	A	BB	A	BB	A	A	Arc
Sandusky	BB	A	BB	A	BB	A	BB	A	A	A
Square Turn (15-30)					BB	A				
" (18-35)	B	A	B	A	B	A				
Titan	BB	A	BB	A	BB	A	BB	A	BB	A
To-Ro	A	A	A	A						
Townsend	B	A	B	A						
Trundaar	BB	A	BB	A	BB	A				
Turner Simplicity	BB	A	BB	A	BB	A	BB	A		
Twin City (Model 15)									A	A
" " (Model 16)			BB	A	BB	A				
" " (Model 12-20)	BB	A	BB	A						
" " (Model 20-35)	BB	A								
" " All Other Models	B	A	B	A	A	A	B	A	B	A
Velie			B	A	A	A				
Wallis	BB	A								
" Cub					B	BB	B	BB	A	Arc.
" (Junior)			BB	A	BB	A	A	A		
Waterloo Boy	A	A	A	A	A	A	A	A	B	A
Wheat			B	A						
Whitney	BB	A	BB	A	BB	A	A	A		
Wisconsin	B	A	B	A	B	A	BB	A		

Farming Costs and Farm Profits

Some enlightening figures on both subjects

RESULTS of an investigation made by the Department of Agriculture show that in the last seven years the average return on farm investment increased from 4% to 7%. The Department found, however, that in spite of the comparatively higher prices paid for farm products, few farmers made more than $500 cash a year, over and above the things the farm furnished toward the family living.

These figures are eloquent.

The modern farmer who is fully alive to the possibilities of his investment will see a close connection between these figures and the reduction of operating expense. On farm machinery alone it is often possible to effect a saving of astonishing size in the course of a single year.

Prominent engineers state that over 50% of all engine repairs on automobiles, trucks and tractors are due to incorrect lubrication.

In hundreds of tests Gargoyle Mobiloils, when used as specified in our Chart of Recommendations, have shown savings in oil ranging from 50% to 70%, and fuel economies of 17% to 25%.

Lubrication, which seems a small item, is the most important factor in farm machinery operating costs—particularly tractors, trucks and automobiles. Scientific lubrication means longer life, fewer repairs, and slower depreciation.

The Vacuum Oil Company is known the world over as the leader in the science of lubrication. Gargoyle Mobiloils when used as specified in our Chart of Recommendations (shown in part on this page) enable you to get utmost efficiency from your tractor, truck and automobile



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In buying Gargoyle Mobiloils from your dealer, it is safest to purchase in original packages. Look for the red Gargoyle on the container.

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HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING



Fort Atkinson, Wisconsin Volume LXI, No. 6 February 25, 1921

"Standard" PLUMBING FIXTURES



A BATHROOM is not merely a space in which plumbing fixtures are grouped in the most compact and economical manner.

It is the one room which must give service day and night and year after year. It is the center of home health and comfort, and if in addition to its service value it is attractive and beautiful, its use is a pleasure rather than a necessity.

Better bathrooms make healthier homes.

Write for copy of catalogue "Standard" Plumbing Fixtures for the Farm." It is illustrated in colors, shows complete bathrooms and fixtures, as well as model kitchen and laundry.

Standard Sanitary Mfg. Co., Pittsburgh

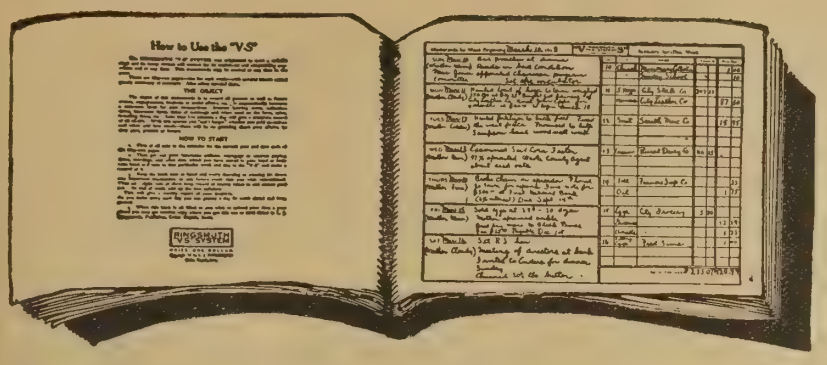
In addition to the displays of "Standard" Plumbing Fixtures shown by Wholesale Dealers and Contracting Plumbers, there are permanent "Standard" exhibits in the following cities:

NEW YORK.....35 W. 31ST	*EAST ST. LOUIS.....16 N. MAIN	*ALTOONA.....918 ELEVENTH	KANSAS CITY.....201 RIDGE ARCADE
NEW YORK (EXPORT DEPARTMENT).....50 BROAD	*CLEVELAND.....4409 EUCLID	MILWAUKEE.....426 BROADWAY	SAN FRANCISCO.....149-55 BLUXOME
BOSTON.....186 DEVONSHIRE	CINCINNATI.....633 WALNUT	*MILWAUKEE.....311 FIFTH	*LOS ANGELES.....216-224 S. CENTRAL
PHILADELPHIA.....1215 WALNUT	*TOLEDO.....311 ERIE	*LOUISVILLE.....323 W. MAIN	SYRACUSE OFFICE.....303 HERALD BLDG.
WASHINGTON.....SOUTHERN BLDG.	*COLUMBUS.....166 N. THIRD	*NASHVILLE.....315 TENTH AVE., S.	ATLANTA OFFICE.1217 CITIZENS & SOUTHERN BANK BLDG.
*PITTSBURGH.....445 WATER	*CANTON.....1106 SECOND, N. E.	*NEW ORLEANS.....846 BARONNE	DETROIT OFFICE.....414 HAMMOND BLDG.
PITTSBURGH.....106 SIXTH	*YOUNGSTOWN.....458 W. FEDERAL	*HOUSTON.....COR. PRESTON AVE AND SMITH	CHICAGO OFFICE.....1010 STANDARD OIL BLDG.
*CHICAGO.....14 N. PEORIA	*WHEELING.....46 EIGHTEENTH	*DALLAS.....1200 JACKSON	SEATTLE OFFICE.....1714 L. C. SMITH BLDG.
*ST. LOUIS.....4140 FOREST PARK BLVD.	*HUNTINGTON.....SECOND AVE. AND TENTH	*SAN ANTONIO.....212 LOSOYA	*TORONTO, CAN.....59 E. RICHMOND
	*ERIE.....130 W. TWELFTH	*FORT WORTH.....828 MONROE	*HAMILTON, CAN.....20 W. JACKSON

FACTORIES: Pittsburgh, Pa.; Louisville, Ky.; New Brighton, Pa.; Toronto, Can. POTTERIES: Kokomo, Ind.; Tiffin, O.

Service at "Standard" Branches In the cities marked (*) are carried complete lines of Plumbing and Heating Supplies, also Farm Water Supply Systems. Write or call on nearest branch.

Your choice—*without charge*



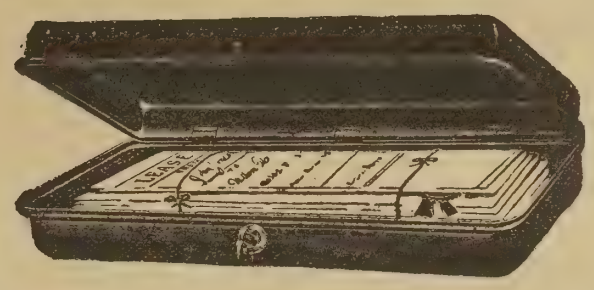
The Ringsmith "V-S" Farm Account Book

IT pays—and pays well—to know where you "are at". Uncle Sam's income tax law applies to practically every dairy farmer. Heavy penalties (fines of from $20.00 to $1,000.00) can be imposed for failure to make returns or for fraudulent statements.

And "ignorance of the law is no excuse".
Don't **guess** how much you received for your milk or your hogs or wheat or other crops! Don't **guess** how much you paid out for interest, rental, hired help, repairs, etc! Don't guess — it pays to know!

How can you **know** your returns are correct unless you keep track from day to day of cash received and cash paid out?

It isn't necessary to start a complicated system of bookkeeping to know where you are at—not when you use the Ringsmuth "V—S"! Any twelve year old boy could use it—yet it is complete enough for all practical purposes. It contains places for keeping track of all your farm cash operations from day to day with monthly and yearly summary, has a place for inventory at beginning and end of year—and also contains a digest of what is expected of you under the income tax law. It is just exactly the simple, yet thorough, account book you have been looking for.



A Safe Place to Keep Your Valuable Papers

WHAT happens—usually—when you take out an insurance policy or a lease? What have you done with your Liberty Bonds and your War Saving Stamps—and your other valuable papers—papers that cannot be replaced?

If you are anything like the man I am pretty well acquainted with, you handed them to Mother and said: "Here, Mother, take care of these papers," and Mother proceeded to tuck them away in a corner of the desk or somewhere, where only she could ever find them! Which is all right! Bless Mother's heart! She is a mighty good person to watch such things! But why not get one of these steel boxes for her? She'll probably hide the box, but your papers will all be in the same place any way!

These boxes are made of good heavy steel plate, with strong lock and two keys. They are an ideal place for keeping Liberty Bonds, War Saving Stamps, Insurance Policies and any other papers you wish to safely keep.

Neither of these articles is for sale. There is no price set on them! But we will gladly send either one to any reader who will go to the trouble of getting just two subscriptions for Hoard's Dairyman, and send them to us. These subscriptions may be either one year for $1.00 or three years for $2.00—new or renewal. Your own renewal may be included, but does not count unless accompanied by at least one other.

Both articles will be sent for a list of just three subscriptions.

Use the coupon below or write the same thing on a sheet of paper.

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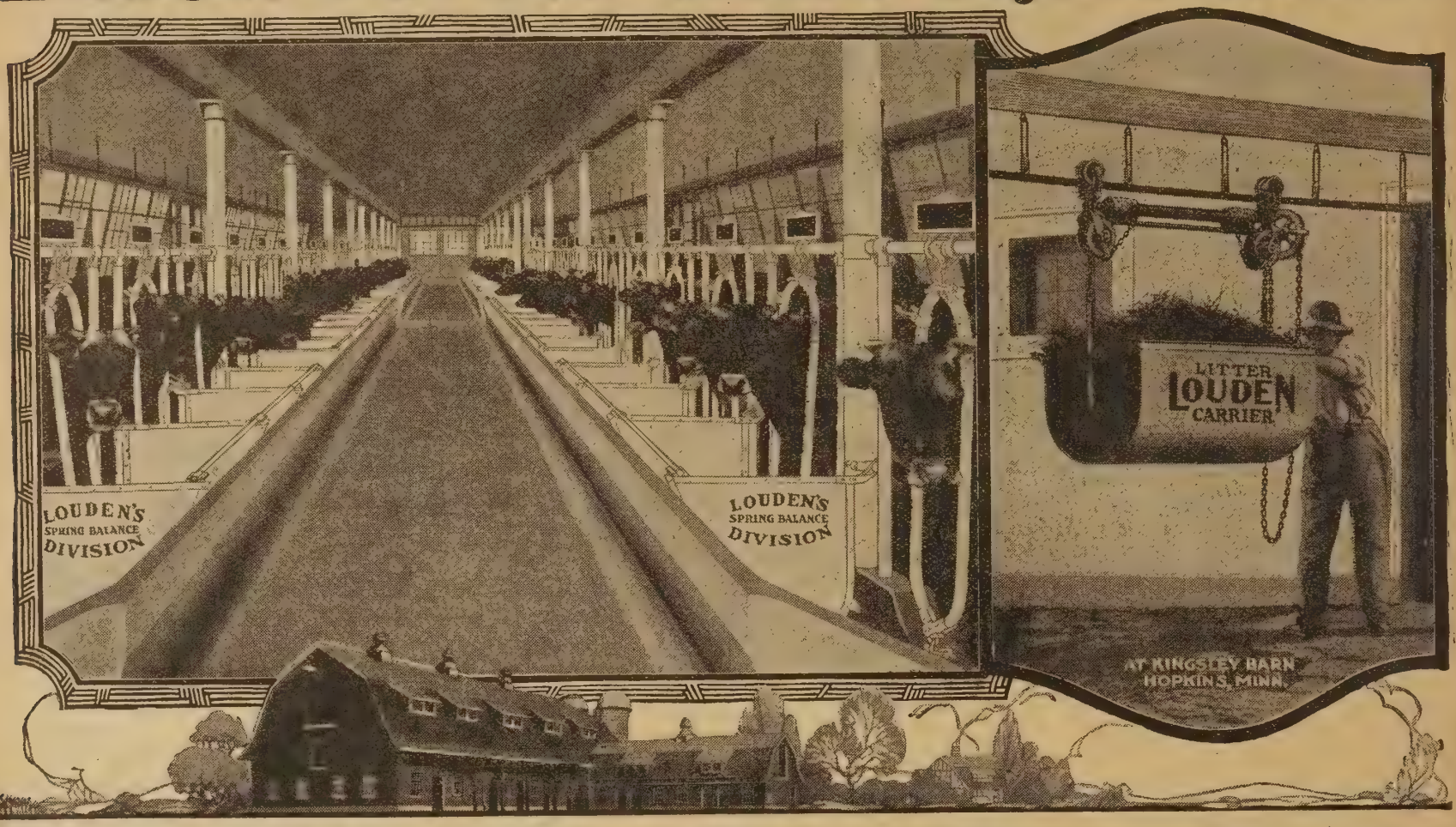
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LOUDEN

LABOR SAVING BARN EQUIPMENTS



Make Your Cows Pay a Bigger Profit

If you have only a few cows you may feel it is not going to make much difference one way or the other if each cow gives a quart more or less of milk per day—although the gain or loss of that much milk would actually count up big in the course of a year.

But when you add to the milk gain, the daily saving of labor in feeding, watering the herd and barn cleaning, preventing waste of feed and loss of manure value, the better health and more contented state of your cows, the greater pleasure and ease of doing the chores, and the cleanliness of your barn—if you could figure all of these things out in dollars and cents you would find

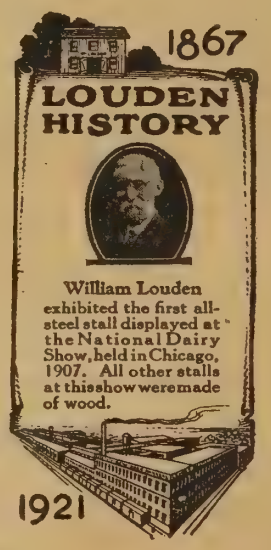
Louden Barn Equipment Saves Money Every Day in the Year

Louden Stalls and Stanchions represent over fifty years of study in building equipment that is simple, plain and smooth in construction—equipment that will outlast the barn itself. Freedom from a lot of complicated parts that are apt to get out of order, makes it easy to handle the herd morning and evening. The Louden Tubular Steel Swinging Stanchion gives cows genuine pasture comfort—cows are free to turn around and card themselves—can sleep with their heads nestled against body as though they were loose in the pasture—a comfort that shows up big in a fuller milk pail. It is the only stanchion that can be used with the Louden High Built-Up Feed-Saving Manger Curb.

Louden Stalls make it easy to keep the herd clean, saving much disagreeable work—insuring a better quality of milk and making more sanitary conditions.

The Louden Litter Carrier shows such a big profit every day that if you had it in your own barn you would never think of doing without it. That's the way thousands of users feel about it. It takes out the equal of five wheelbarrow loads of manure each trip—takes it clean without dripping or scattering—takes it away from the entrance and dumps it. You can't overload the Louden Carrier. It operates so smoothly that a 12-year-old boy finds the job a pleasure instead of the usual drudgery.

40% increase in milk yield during the winter months is not an unusual report from farmers using the *Louden Quick Detachable Water Bowls.* They also do away with that disagreeable chore of having to turn the cows out to water once or twice a day regardless of the weather.



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HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING

Volume LXI FORT ATKINSON, WIS., FEBRUARY 25, 1921 Number 6

Six Old Friends Whose Advice Has Helped Me

I HAVE a half dozen old friends who help me a great deal with my dairy farming. Many a time do I turn to them for assistance and never yet have they failed me. They teach me new things and freshen my mind on important facts I might otherwise forget. I spend a good bit of time with them, evenings, and wish I might find more spare minutes to give to their counsels. Yet; when I do not crave advice, they do not force it upon me; on those nights when I am altogether too tired to enjoy their company, they do not disturb me.

⚜

My old friends are books—six texts on agriculture, tried and proved. Perhaps they would be less satisfying to another in his care of a dairy herd, but their every-day, workable information makes them invaluable to me. I have selected them from a great number. Others have within their covers information that is sometimes needed to supplement these six. Such books I keep on the shelves of my modest bookcase. But these six find a place on my desk—that I may turn to them frequently. If I had to choose between them and all the agricultural texts I have seen, I would readily stick by these six which have served me so well. I would not give up my weekly dairy paper, nor would I think of confining my reading entirely to agricultural subjects, but my few book friends are my daily standbys.

"Feeds and Feeding" holds first place among my book assistants. It is inexhaustible. Also, it yields its facts most readily, for its index is the most complete of those I have seen. When I do not seek special help, I like to turn its pages and ponder on the wealth of experience which is mine, if I will but read. On its pages are recorded the results of experimental feeding since feeding tests began. The facts secured in foreign experimental stations, our own agricultural colleges, and on practical farms are brought together so that I may apply in my own barn the truths made known through many years of careful experimenting. It is the most complete treatise on agriculture I know—being much more than a discussion of farm rations. For example, its explanation of the secretion of milk is the best I have read. But its most practical aid to me is in giving me all the information I need in putting the right amounts of the proper feeds before my farm animals. If I desire to balance a ration for a cow on test, "Feeds and Feeding" tells me just how much of nutrients I must furnish and the quantities of each feed which must be included. If I need to purchase supplementary concentrates its tables of analyses show which ones are highest in nutrient values and, therefore, cheapest, and its discussions indicate just what results I may expect from feeding them. When my dairy paper discusses feeding questions, my handy text gives me additional information if I seek it. I like to know the "why" and "wherefore" of my rations. "Feeds and Feeding" tells me.

⚜

"Dairy Cattle and Milk Production" comes next. I never turn to it without gaining a new slant on some phase of caring for and managing my herd. Professor C. H. Eckles, who wrote this book, knows cows. If anyone can turn the light on the "darkest place in the world", the inside of a cow, I believe he can. His pointers in starting a dairy herd are full of value. I have passed them on to a number of beginners to their profit. So far as I can, I adapt my practices to his advice on caring for my dairy animals from the time they are calves until they are profitable producers in the milking herd.

This book gives me the best explanation of the reason for liberal feeding of my cows. In studying it I have come to understand that I must first furnish the nutrients required to maintain the cow's body and then give her an additional supply for use in making milk. It has shown me that my profits come from the feed my cows consume in excess of the requirements for their body maintenance. The chapter on "feeding for milk production" has yielded me facts which have paid me well for the time I have spent with this book, even on those evenings when my tired body demanded that I put my book aside and "call it a day".

⚜

I don't go in much for amateur treatment of sick animals. If a qualified veterinarian can be reached when a valuable cow needs attention, I put it up to him. I pay out good money for that help, but believe it is profitable in the long run.

But there are many times when a veterinarian's help cannot be had quickly—also there are many minor ailments that I can take care of myself if I am well directed. I have Mayo's book, "Diseases of Animals", and believe it has saved me a number of losses. The first case of milk fever in my herd would have been fatal had I not followed the simple directions for treating that disease. My boy's bicycle pump and a milking tube did the business. When the veterinarian finally came, the cow was on her feet. He said she would have been dead had her udder not been pumped full of air. A number of other cases of less importance have been successfully handled when I might have failed without the guidance of this book. I like to read from it occasionally that I may be able to prevent as well as cure the minor animal diseases.

⚜

Like a lot of other farmers I was never cut out to be a mechanic. I do most of my repairing with an oil can. If I can keep machinery "greased up", I feel pretty safe. So it is with my fields. I'm a better cow man than a tiller of the soil. Knowing that, I am careful not to let my fields get "out o' kilter". I keep them oiled up by the liberal application of farm manures. Charles E. Thorne's book of that title, "Farm Manures", has helped me a great deal. It gives me an understanding of the needs of my land as has "Dairy Cattle and Milk Production" of the needs of my cows. It has taught me the value of farm manure and has shown me the loss I used to suffer through wasting it. Some years I have needed to count in the worth of the manure hauled back to the fields in order to figure a profit from my work.

I am not yet satisfied with the attention my land receives but I am certain this book will help me if I continue studying its pages.

⚜

The fifth of my book friends is of a different sort. It doesn't help me so much in my daily work as it does in renewing my faith in the cause of dairy farming. I take a good bit of pride in this industry which supports me, and which, I hope, in return, to help support. When Hoard's Dairyman published the first of Dr. E. V. McCollum's articles, I read each one many times. "Here at last," I said, "is proof for my feeling that dairying is something more than routine work on the farm—that it is an industry necessary to mankind." I don't know very much about what a vitamine looks like. If I should see one in the stable I probably wouldn't recognize it, unless perhaps it might appear in the foam of a freshly drawn pail of milk. But those articles are a great satisfaction to me. They put a sentiment into my work when it might sometimes seem drudgery if I had no other reward than my monthly cream check. I preserved them carefully and used them to good effect several times when called upon to speak for the dairy cow. When Dr. McCollum's book, "The Newer Knowledge of Nutrition", was published I made it one of my six stand-bys and put the articles from Hoard's Dairyman with it.

⚜

"Outlines of Dairy Bacteriology" is the last of the six. It is like Dr. McCollum's discussion of vitamines

(Continued on page 242)



FARMSTEAD OF HULL BROS., OHIO, KNOWN NATIONALLY AS BREEDERS AND SHOWMEN OF BROWN SWISS CATTLE

The Home Grown Ration

Address Delivered before the 48th Annual Meeting of Wisconsin Dairymen's Association

GEO. C. HUMPHREY, Wisconsin College of Agriculture

HOME grown rations in many respects are like our tariff laws. As such laws tend to increase revenues, so home grown rations, generally speaking, tend to increase the revenues of dairying. Like our government's tariff laws, such rations suggest the encouragement of home industry and the discouragement of a too free indulgence in some outside or foreign class of articles, articles of feed in this consideration. In reality, the home grown ration makes dairying on the average and small sized farm a possibility when otherwise there would not be the general and extensive practice of dairying that now obtains. In other words, the good price received for the home grown ration as it is converted and sold in the form of milk, is the thing that keeps the majority of farmers satisfied to remain in the dairy business. If dairymen were obliged to depend upon purchased rations altogether for the maintenance and support of their herds, they would in the majority of cases go out of the business until a more adequate system of producing, manufacturing, and distributing dairy products were understood and adopted.

Home grown rations, like tariff laws, have a sense of protection. They are a protection against feed monopolies that would very soon spring up if dairy farmers were compelled to procure rations largely from other sources than the farms upon which cows are maintained. The possibility of utilizing farm grown feeds is a large factor in taking care of the supply and demand relative to dairy feeds and unquestionably tends to keep market prices for feeds within reasonable limitations. The farm should be the source of the greater proportion of all feed rations and a careful study of its organization with a view to providing the best kinds and amounts of feed will be a great protection against buying feeds to the extent of reducing profits and possibly incurring losses.

Home Grown Rations Subject to Ills

Once more, like the tariff laws, home grown rations are subject to ills and quite frequently are too generally accepted without being thoroughly understood. Men become adherents to the policy of adopting them regardless of economic conditions, varying seasons, years that differ from other years, localities that are different and the variability of cows due to peculiarities of individuality and changes in their periods of lactation. The home grown ration, in spite of all its many virtues and possibilities, may defeat one in realizing his greatest opportunity in dairying. Only a careful understanding of the facts underlying milk production will enable one to utilize the home grown ration to the best advantage. Such facts will teach us when the simplest rations will suffice and when it will be profitable to supplement home grown rations with purchased feeds.

Important Feeding Facts

The following fundamental facts relating to milk products are important to bear in mind:

Feed and water are the true sources of milk and body maintenance, and naturally two very important factors influencing the nutrition of cows. Fresh air, proper temperature of stable, regularity of feeding and milking, sanitation, and all that implies proper care are other essentials equally as important, but bred for production cows, all conditions being favorable, will produce milk throughout the greater part of their lactation periods in proportion to the kinds and amounts of feed provided for and consumed by them.

The variability of cows with respect to their nutrition requirements and of conditions relating to the nature and availability of feeds, require dairymen to be observing and careful at all times in the matter of supplying rations to individual cows. A deeper study of rations than merely supplying a variety of feeds in abundance, must be made if maximum and most profitable results are to be secured in the conduct of dairy herds. Cows require and should have rations that contain the necessary nutrients for body maintenance and for producing the milk flow normal to their capacities and stages of lactation. Unemployment is regarded one of the chief sources of crime today in the social aspect of our country. Unemployment on the part of cows in not being worked up to their normal capacities by their owners is the source of a great loss to our dairy industry.

What June Pasture Teaches

An abundance of June pasture teaches the most casual observer the importance of supplying cows with adequate feed rations. It is common knowledge that cows very generally will improve in physical condition and greatly increase their milk flow when turned from their winter environments and source of feed supply on to prime June pasture. Such instances in the light of present day knowledge of dairying and feeding cannot be regarded as complimentary to the owner's ability as a cattle feeder. One who is fortunate in having an abundance of June pasture is in a position to appreciate it as the one most complete and satisfactory home grown ration. If the season, however, when it is in its prime could be lengthened to cover a greater part of each year, profits in dairying could be greatly increased.

Many people are deceived as to the length of period that June pasture is prime and adequate as a ration. It is gratifying to come in contact with many dairymen who have been taught modern methods of dairying and who find it possible to feed cows during the winter and summer in a manner to get June pasture results. The change in such instances from winter to June pasture and from such pasture to late summer feeding, does not suggest inadequate feed rations for maintenance and milk flow. Dairymen who succeed in wintering and summering their cows in a manner to get such normal returns have learned the secrets of June pasture and the fundamental facts that teach us how to best utilize home grown feeds in supplying cows with proper rations.

Feed Requirements of Cows

From what June pastures and our experiment stations have taught us, a very good working knowledge of the feed requirements of cows is understood at the present time. A cow weighing 1,000 lbs., for example, capable of producing fifty pounds of 4 per cent milk, will require an abundance of June pasture or the equivalent of approximately forty pounds of corn silage, fifteen pounds of grain, concentrate mixture, and eleven pounds of clover hay. In addition, free access

(Continued on page 246)



HOLSTEINS ON BROAD ACRE FARM, VIRGINIA

For many years Southwest Virginia specialized in beef cattle for export, shipping them direct from the blue grass fields. In the past few years in the central part of the state more attention is paid to the dairy business, and many Holsteins are finding a place there. The grazing period is about ten months of the year which reduces feed costs.

The Broad Acre Farm owns one hundred registered Holsteins and is well equipped for dairying. It has about fifty acres in alfalfa, which grows well in that section, and one hundred acres of corn, and half that acreage of peas and soja beans for hay are usually planted.

The herd is regularly federally tested for tuberculosis.

About five hundred tons of ensilage are usually put up in the four silos, and sufficient quantity of corn, hay, and other rough feed is raised for the herd.

The dairy buildings were laid out by the state health officer. The milk house stands on the crest of a hill, with drainage in all directions. The stable accommodates fifty-six cows. It is equipped with a milking machine and steel stalls, stanchions, and a litter carrier. It has fifty-six windows which allow sunshine to reach every stall every day, one side in the morning and the other in the afternoon, has well planned ventilation, the cows face outwardly.

The concrete floors are easily washed with rubber hose from a four-thousand-gallon pneumatic tank, which tank also supplies water in the hay and feeding barns, which are eighty by one hundred twenty feet and located one hundred feet distant.

The milk house with concrete floor and ice vats is also well ventilated, and contains a hot water boiler for sterilizing the milking utensils.

A large quantity of the milk is fed directly to the calves, as special attention is given to raising them, and to seeing that they get a good thrifty start. The balance of the milk is shipped to Norfolk, where it is delivered in bottles to the Broad Acre Farm special customers, by their own established retail milk delivery system.

SHOULD WE CONSIDER SOY BEANS

The Crop Is Profitable Where Alfalfa and Clover Cannot Be Grown

G. M. BRIGGS, Wisconsin College of Agriculture

WITH more than 5,000 acres planted for seed production in 1920, hundreds of bushels being planted with corn for silage in all parts of the state, and many farmers trying small pieces for hay, there seems to be no question but that the soy bean is in Wisconsin to stay. Despite the many difficulties encountered, there are so many points in the soy bean's favor that it takes more than one partial failure to turn a farmer against it. So many factors enter into successful soy bean culture, whether it be for hay, seed, silage, or green manure, that there is no end to the open field for experimentation.

Variety plots were planted last year in many different parts of Wisconsin on various types of soils. The results might lead one to make some rash statements. When we consider variety of seed, germination, depth of planting, time of planting, method of cultivation, type of soil, amount of rainfall, etc., one can see how results one year may be contradicted in another. I have endeavored to base my statements on good fair trials and on observational data taken from all parts of Wisconsin under varying conditions.

Who Can Raise Soy Beans for Seed?

The soy bean makes the greatest hit with the farmer who has been failing with other legumes. Soy bean seed advanced greatly in price last year and some farmers raised it as a cash crop. From what I learn, the average man who will continue in this business is likely the one who lives on medium light soil where the soy bean is his surest legume. The soy bean market is not stabilized as is the dairy market, and no farmer in the dairy business can afford to change his system of farming for a crop which came into the limelight in a twinkle and may go out the same way. Our experience on the Station Farm at Madison on good fertile soil is that we get a yield of eight to twelve bushels, while on the lighter soil in Northwestern Wisconsin the average five-year yield will be about double that figure.

If we were to conclude from the experiences we have had we would advise farmers on heavier soils to continue raising other dairy feeds, though if soy bean seed were high priced for a series of two or three years there is no question but heavy soil farmers would be learning to grow the crop. With uncertain seed prices, I am not in a position to advise as to just who can profitably raise seed soy beans. This depends upon the season and the man that plants soys for the cash crop takes a chance and lets the season do the rest. Were Wisconsin the only selected place in the United States where soys can be raised, it would be an easy matter to get every light acre planted to this crop, but with Northern Ohio, Indiana, Illinois, and Southern Michigan producing beans which are looking very promising in our variety tests as a hay or silage crop, a different proposition presents itself. The growers in these other states do not produce many more soy beans to the acre, but are a little more certain of getting a crop. Climatic conditions are different, making it possible in some cases to use harvesting machinery which will materially lessen expense and insure a better crop.

Where Do Soy Beans Fit in a Rotation?

The planters of soy beans in Wisconsin are farmers who have had poor success with other legumes. Soy beans are being planted not only as a seed crop but as a soil enricher. We find soy beans growing on the poorest of soils where other legumes have proven a failure about three out of four years. The soy bean may be planted in the same field for two years, then put in some winter grain crop, followed by seeding in with clover in the spring—then hay if catch is obtained which can be followed by corn and soy beans again. Few farmers having sure enough catch clover or alfalfa soil are in the soy bean business in Wisconsin. If they were they could follow a rotation of corn, soy beans, small grain, and clover, or, where the soil was especially heavy, have corn follow corn. At the Indiana Station this rotation yielded seven bushels more of wheat to the acre than where the soy beans were left out of the system. I don't think, however, that any man who has established a dairy herd and has full equipment should change his good Wisconsin system to jump into an uncertainty and try to raise soy beans as a cash crop, unless some use can be made of them further than what we now know. Some farmers report best yields where soys are being planted for the third consecutive year, while others report very small growth after the second year and that in every way the crop was a failure as to seed or foliage.

We cannot advance a reason why soy beans should not do well on the same piece more than two successive years but, even on very poor type of soils, it would be an extremely poor policy to try to grow it continuously. Growers will adopt some system whereby cultivated crops will alternate. I expect soy beans are being planted for the two purposes of soil improvement and seed more than for other reasons. In every grower's mind is pictured great fields of clover growing where soy beans are paving the way—leaving an available form of nitrogen close to the surface. It would be a wise plan to follow clover after soy beans for this very reason. On S. Bassett's farm in Burnett County, the only clover is where soy beans were two years ago, which was followed by rye and then seeded in the spring. The field adjoining with no beans, but top-dressed and seeded just the same, is perfectly bare of clover.

Could Be Used as Green Manure

The soy bean does not add a great amount of fertility to the soil. It takes away just about as much as is added, but what is added is of course left near the surface, easily obtained by the following crop. What farmers could well afford to do, when soy bean seed gets down to normal prices again, is to plow under a crop, thereby increasing not only the fertility of the soil but the humus as well. This organic matter would increase the water-holding capacity of the soil, which in turn would help furnish food for plants over a much longer period than otherwise. M. H. Reese in Burnett County in 1919 planted about forty acres of soys, five of which had been planted broadcast to a poor germinating lot of beans. I visited him in August and this five-acre piece looked pretty good to plow under. He was determined to plow it under and plant winter wheat on the piece. We sometimes think people unwise to plant any kind of wheat on sandy soils, but Mr. Reese planted it anyway and secured a splendid field of winter wheat. Instead of little spindling plants with no extra stools as were found on the check plot where no soys were plowed under, he had tall, bushy plants with from three to six stools on each one. This part of the field was so much thicker that, were the check plot to yield five bushels, this piece where soys were turned under would yield twenty. He got a return from each acre that otherwise would take 3½ or four acres.

A Splendid Supplement for Clover Hay

If I were in the active farm business in Wisconsin feeding cows and general farm animals, I certainly would raise all the alfalfa hay that I needed, provided my soil was suited for it. If not, I would certainly raise a barn full of clover, providing I could get a stand. Yes, I would lime my soil, inoculate my seed, drain my soil, and do everything within my power to get a stand of clover. But if an open winter came along and froze my clover and frosted my hopes, I wouldn't give up. Suppose I would depend on the left-over timothy in the clover or alfalfa field, or on the adjoining wild swamp, or the large straw pile at the rear of the barn, or on corn stover to furnish this roughage for my cows? I wouldn't unless I was suddenly stricken, because I know what soy beans will do in providing hay. Yes, it's coarse, hard to cut, hard to cure, has all the earmarks of a serpent, but once in the mow just leave it to demonstrate its value. George Hooper in Jefferson County had a field of second year clover and timothy in 1919. About two-thirds of it was left last year while one-third was plowed and put into soy beans for hay. The final result showed that there was a greater tonnage by six tons from the six acres of soy bean hay than from the thirteen acres of clover and timothy. The clover and timothy yielded one ton to the acre while the soy beans yielded three tons. Mr. Hooper's experience shows that there is a place for soy bean hay, even though the clover hasn't killed out but is only running to timothy a little strong. This same Mr. Hooper plowed up a marsh late this spring on part of which he planted soys for hay and on the other part corn for silage. In some places the soys were fully as tall as the corn and, from appearance on August 17, there was a greater tonnage of dry matter in the beans than in the corn. As for the value of soy bean hay, the limited experiments that have been carried on all have demonstrated its value to be about the same as alfalfa hay. There are no arguments against its use when cut at right stage and cured properly. It is true that soy bean stalks sometimes grow rank and seem to be all out of proportion in their present form for farm animals to use, but if portions of the coarsest stalks are left in the cows' mangers they can be easily cleaned out and fed to horses which always whinny for more. S. C. Clapp, assistant director of the Mountain Station at Swannanoa,



Soy Beans, Corn & Co. grown on the branch experiment farm at Marshfield, Wis. A heavy, dense growth of corn and soy beans will make a cheap dairy ration. (Courtesy of F. L. Musbach)

(Continued on page 230)

New York Agricultural Society

H. H. LYON, NEW YORK

At the annual meeting of the state agricultural society at Albany marketing questions were very prominent. The start was made on the milk marketing questions. Dr. Jordan of the Geneva Experiment Station, president of the association, asserted that the milk marketing conditions of the state are the most important of any that we have and they are also the most difficult. The program was well planned. The best speakers that the League has were invited and also some reasonable men from the dealers' side.

Mr. Milliman, head of the League organization department, went over the history of the League from 1907. The history was brought up to last September when the manufacturers refused to buy any milk from the League. The League, said Mr. Milliman, was able from October 1916, through all the war period, to sell milk quite readily. It was a sales agency. In September it became evident that something more must be done. Real marketing with an equitable distribution of proceeds must come soon. The post-war period brought its serious problems. It was seen that something would have to be done as long ago as April, 1919. The pooling plan was then passed upon to be launched whenever it became necessary. The dairyman is not planning to interfere with the law of supply and demand, but to prevent the other fellow from doing so. The major portion of the milk in this territory is used as fluid milk. This, asserted Mr. Milliman, should bring cost of production. We are not considering now any profit. This can only be done by the whole business being handled by the organization. To make the city supply sure, producers should get what it costs to produce the milk.

The speaker called attention that no coercion has been used to secure signatures to the contract. If the plan does not appeal to dairymen when completely understood they should keep out of it. Thursday night, January 13, there were 33,544 contracts in the League office.

Before any discussion of milk marketing questions in a general way was indulged, a paper was read by D. Fox, president of the Borden Farm Products Company. Mr. Fox in an introductory way mentioned the marketing commission of 1917-18 of which Dr. Jordan was president, and called up the visit paid to the railroad terminal where milk is received in th latter part of the night and early morning hours. He mentioned the other difficulties that the distributors have and urged the great service rendered by them. They are not middlemen, said Mr. Fox, and no attempt should be made to eliminate them. The attacks of business reformers who regard it possible to remodel service over night are harmful. These attacks destroy confidence and lessen the use of the commodity. There is room for improvement, but a great service is rendered. Mr. Fox admits that there is over-lapping service. In theory every distributor would be willing to eliminate all but his own. He does not, however, believe in a monopoly in milk distribution. Something should be done to secure closer co-operation between producer and distributor. They should not oppose, but get together and better understand each other.

Professor Babcock of the college spoke of the co-operative movement in the state. It was necessity that prompted the organization of the League and it was adulterated feeds and seeds that caused the organization of the G. L. F. Exchange. Farm bureaus assisted materially in the formation of these organizations. All our various co-operative organizations are based on commodities. Milk was the first. The association prospers when it sells all and it breaks down when it fails to sell all. Pooling is the only way out now.

The president of the organization, W. H. Jordan, gave the annual address for this, the 89th annual meeting. The society has an opportunity for great future usefulness. It should be a forum for the discussion of important questions relating to farming. There has been a marked decrease in the proportion of farm population in recent years, but there has been an equally marked improvement in efficiency. He urged that we do not go back to the old political methods which resulted in such frequent changes in the personnel of the department. Uncertainty of tenure is harmful as are short periods of service. The speaker did not go into the much discussed question of a double head, nor the size of the commission, but he evidently favors a council to appoint.

Governor Miller spoke for a few minutes at the evening session. His attitude appears to be favorable to agricultural interests, and he has a better viewpoint than that of some who have occupied his position. He advised that farmers will have to work out their own problems of co-operation as well as of production. In the case of transportation the state may render some assistance.

George A. Cullen, was with the D. L. W. railroad when it urged the formation of the first farm bureau ever started in the country at Binghampton ten years ago. Then the whole idea was production; now it is quite largely marketing. Production must mean more dollars to the man. It has been found that our present system of distribution is wrong and co-operation is the remedy. To get all this to work well we must adopt a system of advertising. To advertise successfully there must be a proper system of grading.

Commissioner Hogue quoted twenty billion dollars as the crop production of the country. From five to eight billion is the loss to the farmers of the country due to the fall in prices. The purposely started deflation and banking attitude of the Federal Reserve Board at just the time when commodities went on the market in the fall might have been modified had commodities been ready to act quickly at the proper moment.

We have 1,640 agricultural associations in the state of which the Dairymen's League furnishes over a thousand. The farm bureaus and the Grange furnish the larger numbers of members the latter having 140,000.

C. R. White, head of the bureau of co-operation, gave many interesting items. He appears to be our leading authority on co-operative questions from a practical point of view. He thinks we are forming co-operative societies fully fast enough. He adds that strong contracts are necessary in the formation of societies, including penalties for breaking such contracts. New York is taking a leading part in matters of co-operation One of the best illustrations is that of the G. L. F. Exchange. This bids fair to do a business of ten million dollars in its first year of service. Agriculture, said Mr. White, stands a slim chance to meet organized business unless by well-supported co-operative associations.

The resolution committee came forward with a good grist, indicating that there is a real live interest in agricultural affairs and that there is confidence in the state society. Some tinkering with the automobile laws has been proposed such as bonding owners of all cars and licensing all who drive cars. These are not in the interests of farmers nor of economy, and the resolutions oppose them. Additional constabulary in country districts was favored. The changing of trespass laws to require the permission of owners if one desires to hunt was favored. The question of health centers at public expense in isolated rural districts was given discussion and the resolution favoring it passed. Economy measures suggested by Governor Miller were approved and consolidation of departments was favored. Elimination of unnecessary bureaus or departments and the readjustment of the budget system met sanction. I was particularly pleased that the association, like some of the others, this winter, came out squarely in favor of milk producers and the pooling plans of the Dairymen's League.

Officers for the coming year are: R. T. Wainwright of Rye, president; A. L. Brockaway of Syracuse, secretary; and Harry R. Winters, Albany, treasurer. In addition nine vice-presidents for the nine districts of the state were chosen.

Washington, D. C., Weekly News

[SPECIAL TO HOARD'S DAIRYMAN]

Washington, Feb. 14—The controversy over the adulterated butter ruling of the Commissioner of Internal Revenue is not as acute as during the few days immediately subsequent to the issuance of the ruling and its accompanying tax decision as there is a lull which normally precedes the storm sure to break in the hearing which the Commissioner has agreed to give on Feb. 25. This hearing bids fair to bring together a big representation of every branch of the dairy industry from the representatives of the breed associations and the milk producers up to the representatives of the machinery interests which manufacture the tools used in the butter making business.

The American Farm Bureau Federation, on the motion of the Illinois Agricultural Association in the first place, later on joined by the state federations in several of the dairying states, have asked to be heard and have filed a protest against the ruling.

John D. Miller, chief counsel of the Dairymen's League and vice-president of the National Association of Milk Producers, and also Milo D. Campbell, president of the latter organization, have already taken steps to investigate the situation, in both its legal and technical aspects, and will ask to be heard at the general hearing. These are in addition to the regular representatives of the various creamery organizations at whose instance the hearing is to be held.

Discussion of the Attorney General's opinion, given in answer to the questions asked him by the Secretary of the Treasury, and of the consequent ruling of the Commissioner of Internal Revenue revolves around the wording of question No. 2, in which he is asked as to the effect when the neutralizer is used with cream "high in acid and of a bad odor". The words in quotation marks are the ones in question, for the words quoted do not appear anywhere in the butter law. It is contended that joining the idea of high acidity with the idea of bad odor led the Attorney General to connect the two ideas as cause and effect, and to rule that the use of a neutralizer to overcome a high acid condition is equally to be penalized with the use of a neutralizer to overcome bad odors, specifically mentioned by the statute as adulteration, and in line with and equally obnoxious under the statute on the use of a neutralizer or other chemical to "remove rancidity". In other words, these analysts contend that by the form of this question the Attorney General was induced into making a ruling which while in the main it adheres to the reasonable interpretation of the statute as to the adulterating effect of chemicals if used to remove rancidity or to deodorize, proceeds far beyond the clear intent of the statute, and holds also that the counteracting of a high acid condition is also adulteration, within the meaning given by the Attorney General to the statute, while as a matter of fact, and as a matter of clear meaning of English as used in the statute, this is not the case.

On this hypothesis, the commissioner will be asked not to withdraw his ruling, and thereby give the public the impression that the dairy industry wishes the bars against bad butter let down, but to amend or modify his ruling so that the tax penalty shall lie against only that grade or grades of butter made by the use of some acid or alkali or other chemical in cream to "deodorize or remove therefrom rancidity", which is the exact wording of the law. This, it can be said in advance, is about the position in which the representatives of the larger dairy interests, the Dairymen's League, the National Producers' Federation, and the breed associations will probably be found to take when the hearing is held.



The decision of the Maryland-Virginia Milk Producers' Association, which supplies the national capitol with milk, to own and operate its own surplus milk plant, carried with it a broader program of work than was indicated. The plan, adopted without opposition and by a practically unanimous vote, calls for the organization of a stock company with $100,000 capital stock to equip the plant and provide working capital stock subscriptions to be asked from all association members on a basis of his annual sales through the association. Dr. Harvey W. Wiley, former president of the association, took the first $500 sold. The use of the proposed milk plant as an association laboratory and testing station, in the minds of many of the association members, outweighs even its utility as a place to handle the surplus. This

(Continued on page 244)

Ohio Farmers' Round-Up

CLARENCE M. BAKER, OHIO

OHIO has passed the 9th Annual Farmers' Week, which is frequently called the "round-up", for it brings together practically all the farm activities of the state for one entire week of educational work. The first few events of this kind held by the Ohio College of Agriculture were of the plain educational-give-out type, in which it was believed it was necessary to pass out a certain amount of information to satisfy the people registering for the event. The ninth one, however, was a combination, in which the scientific man presented his data and drew his conclusions, while the practical farmer followed him in discussion and application of the same problem on the average Ohio farm.

Ohio's Farmers' Week is always operated on a full schedule; the farm woman, the poultryman, the soilsman, the annual husbandryman, and the cropsman all having features that make it possible for any one to secure a well-rounded system of facts from any of the series.

Dairymen are Confident

Among all Ohio farmers, the dairymen seem to be the most contented with their lot and in the best shape to meet the future. The price of milk has not been reduced to any large extent; while the price of feed has resumed almost a pre-war basis, thus making the dairy income quite satisfactory. The grain farmer of western Ohio has immense quantities of corn which cannot be moved easily and sells at a very low price. Organization has been responsible for placing the dairymen on a sound basis.

Peter Small, the veteran breeder of high-producing cows in Ohio, in addressing the dairymen, called attention to the fact that high producing cows must be fed individually, care being taken to determine the demands of each animal. Keeping the feed palatable is one of the points Mr. Small emphasizes—by using molasses mixed with dried beet pulp—to increase the palatability of feeds. He believes, too, that a different management in the housing of cows will aid in getting larger production and feels that an open shed where cows can exercise and have plenty of good water is superior to keeping them housed entirely in a box stall during high producing tests. He feels that getting cows into extremely high condition before going on the test is not always best as more average conditions are generally desired. Mr. Small's work in breeding high producing cows has resulted in an average production of 684 lbs. of butterfat for five generations of animals.

Poultry Activities

Ohio is taking an unusual interest in the development of her poultry industry, if the sidelights of the poultry program at Farmers' Week can be taken as an indication. Through a system of record keeping, the poultry department at Ohio State University is keeping tab on hundreds of flocks in the state and from this work presents many features of successful management.

Probably no other point has contributed so much to the production of winter eggs as the use of electric lights in the laying house. From experiences given at the poultry sessions it was found that many farmers were securing from 40 to 50 per cent production from their hens during the winter and have received from 80 cents to $1.00 a dozen for eggs in Cleveland, Buffalo, and New York markets. The system of lighting generally consists in an automatic alarm clock arrangement which turns the lights on in the hen house at 3:00 a. m. in the morning. In some cases farmers are using the evening lunch system; lights are turned on the hay-



"WORKING AHEAD OF THE PEAK SPRING LOAD" ON PABST STOCK FARMS, WISCONSIN, BY SPREADING LIME DURING THE WINTER MONTHS. EIGHTY ACRES HAVE BEEN COVERED WITH FIVE TO SIX TONS OF LIMESTONE PER ACRE

ing hens at 8:00 o'clock in the evening. At this time the hens jump from the roosts and they are given a heavy grain ration and plenty of water to drink.

Experimental results in poultry production are kept before the poultrymen of the state in such a way that the use of some animal protein is regarded necessary by nearly every successful poultryman. Most of the mash rations used in feeding poultry contain 15 per cent meat scrap or tankage, or their equivalent in sour milk, skimmilk, or buttermilk.

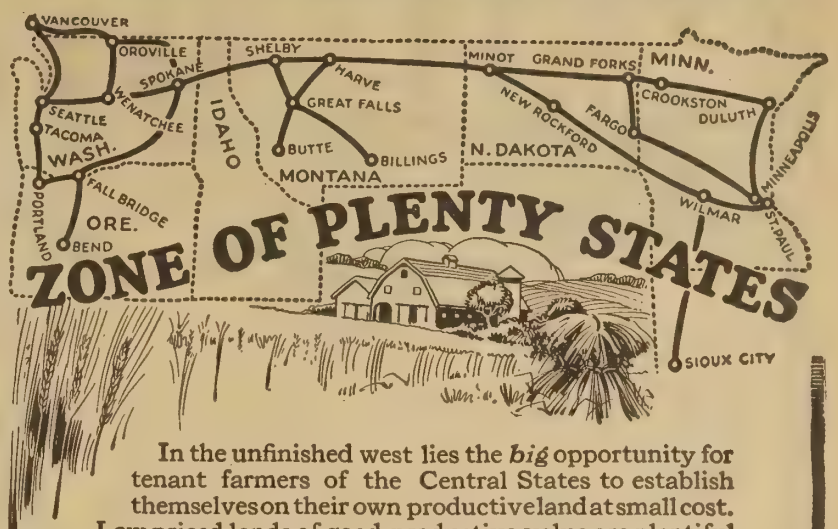
With the Swine Men

The swine people of Ohio believe, too, that there is strength in organization, for almost half of Ohio's counties have complete Duroc-Jersey county swine organizations. Other breeds of swine are also well represented and many of the problems of the swine grower are being looked after through these organizations.

John A. Evvard, of the Iowa Experiment Station, probably drew the largest swine audience ever at any Ohio Farmers' Week for his talk on experimental hog feeding. It developed from his work that there are several new points of interest to the swine feeder. First, that milk acts as one of the protective feeds, supplying needed protein and in most times the

(Continued on page 245)

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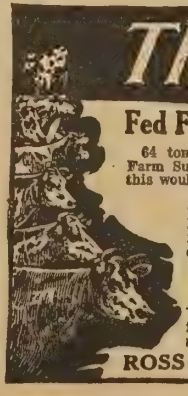
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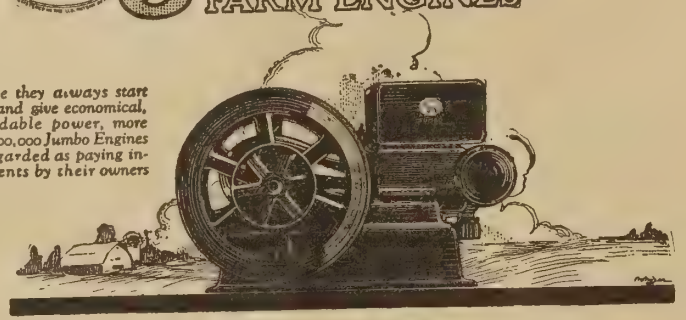
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JENNIE M. TURNER, WISCONSIN

MILK is like water. Everybody uses it daily. It is essential to the health and welfare of the race. Its limited use, like the limited use of water, is a sign of a low stage of civilization. Its pollution, like the pollution of water, is the cause of many of our most dangerous epidemics.

Women of Wisconsin, as elsewhere, have in general neglected what would seem to be peculiarly the problem of a clean and economical housewife, namely, the insurance of a steady supply of pure milk at reasonable prices. They have spent much time upon the more superficial phases of the marketing problem, such as the public market. They have given little attention to the more fundamental subjects of cost of production, the broader aspects of marketing, and standardization of either milk or other products.

The efforts of the women of Madison, Wis., to secure a pure milk supply at a reasonable price are probably typical of the activities of women throughout the state. Club women of Madison have given some study to the milk problem. Their study has had three main results. First, those who are able to afford it buy exceptional milk above the regular market price for their own children. Second, those who feel some responsibility for the welfare of the children of others obtain ease of conscience through contribution to the fund for the free feeding of under-nourished school children. Third, there is a very significant report by the Milk Committee of the Madison Woman's Club.

The first two accomplishments dodge the real issue. They present no fundamental solution of the problem of good milk at reasonable prices for all. The report offers a real solution. It suggests various alternatives, including the establishment of a farmers' co-operative concern, the establishment of a municipal plant, and the establishment of a combination producer-consumer co-operative plant. The report concludes with this statement:

"The two features which stand out as absolutely essential in any scheme which will effect a real economy and benefit to both producer and consumer, are monopoly and standardization. The greatest wastes in the business are due undoubtedly to its competitive nature. The existence of a monopoly would eliminate these wastes, and would make much easier a thorough standardization of milk. The system of trying to raise the quality of milk by inspection is futile unless we have an army of inspectors. The only businesslike method of raising the quality of milk is to grade it carefully according to bacteria count and butterfat, and *pay more* for the clean milk and the rich milk than for the milk of poor quality."

The report points out the difficulties of co-operation and the impossibility of municipalization without legislation.

Legislation was attempted in 1919. The following bill was passed and vetoed by the governor:

"Every city, however organized, is hereby authorized and empowered, by a vote of a majority of the members of the common council, to establish and operate depots and plants for the purchase, preparation, or manufacture and distribution of milk and all other dairy products, including buttermilk, skimmilk, cheese, butter, and ice cream."

It is questionable whether this bill, if it had become a law, would have accomplished the purposes which municipal control of the milk supply should accomplish if it is to be any better than private control. Among these purposes are the following:

First. It should compel standardization of milk. The consumer should know what he is buying, how much butterfat, other solids, and bacteria; and the farmer should know what he is selling. *The consumer should pay for what he gets, and the farmer should be remunerated in proportion to what he gives.* The farmer who brings in milk with a high fat content and a low bacteria count should be rewarded in proportion to the food in the liquid, and not simply paid a flat rate for any kind of a liquid that looks white and is called milk.

Second. The city should assure itself a safe, good, continuous milk supply by steadily fair treatment of the milk producers.

Third. There should be continuous pressure upon producers to improve the quality and reduce the costs of production of milk, and upon the city plant to do its work as efficiently and to reduce its costs as much as possible.

Fourth. Duplication in delivery systems and routes should be absolutely abolished.

Fifth. Producers and consumers should be brought into frequent or continuous contact for the purpose of educating each upon the problems and needs of the others.

To accomplish these purposes a state law which would embody the following or similar principles might be suggested:

First. The state marketing department, with the aid of the state dairy and food commission and of an advisory group made up of experts of milk producers, milk distributors, and milk consumers, including women, should fix standards by which milk shall be bought and sold in the state; allowing local milk dealers, whether private or public, to use for the purchase and sale of milk some or all of the various classes created by these standards.

Second. Cities shall be given the right to take over the entire distributing system; to buy out at a reasonable value, all plants and equipment engaged in the preparation and distribution of milk, say at the time of the passage of this law and continuously thereafter until the taking over of the business.

There is utter chaos in our present method of marketing milk. Every dairyman who wants to can start up a little route of his own in the city. By cutting in upon some other dairyman's route, and creating duplication and scattered routes he runs up the costs of the other. The more distributors the greater the costs of distribution. The consumer is helpless to control these extra costs due to duplication. The distributors, on the other hand, are helpless to cut down the costs for which the consumer is responsible, such as destruction of bottles and bad credit. These costs of carelessness and dishonesty cannot be cut down until competition is abolished in the distribution of milk, so that the milk supply can be shut off just as the water, gas, electricity, and the telephone can now be shut off from the offending customer.

Third. Cities should be given the option of running the business as municipally owned utilities are now run, or of trying a new method, by which the board of directors of the plant would not be the city council or merely city residents appointed by the council, *but would be representatives of consumers, producers, and employees.*

May we not find in this provision

the secret of securing efficiency without autocracy in the management of some of our marketing facilities under a system of public ownership?

The marketing of farm products is a more complicated thing than the marketing of water or gas. In the marketing of water and gas, the plant management has to deal with two groups of humanity—its own employees and the consumers. In the marketing of farm products, there is a third group of human beings—the farmer—to be considered. Mr. Hoover says that the farmer is like a squirrel—you put your finger on him and he is gone. City consumers are likely to forget, that is, they put their fingers too hard on the dairy farmer; if they push the price too low, or arbitrarily put up the standards without increased pay, the farmer and his milk are no longer there. They have gone to the condensery or the creamery or to some other city. Or, if the condensery or creamery or other city are not prepared to take the milk, then the farmer sells the cattle and milk becomes scarce, and the consumer is forced to pay more—until, stimulated by higher prices, the farmer is again encouraged to raise more cattle. He may pay for his thoughtlessness for many years. The average consumer thinks no more about the farmers' costs of production and his alternative markets and the effect of these on his milk supply than the farmer himself thinks about the consumer. The farmer produces milk of any quality and sells it where he can get the most for it; the consumer expects his milk to descend upon him daily through the medium of a kind Providence which understands his need.

The thing we most need is education of consumer and producer upon the problems of each which affect both. We need a system which will force producer and consumer to sit together regularly and discuss these matters which vitally affect both. We need, for our municipally owned milk distributing system, a board of directors made up of representatives of the consumers, including men with business and financial experience, women, and representatives of labor; representatives of the labor and management of the milk plant itself; and representatives of the farmers from whom the city buys its milk.

Such a board of directors would be a real center of constructive criticism and of education. Here the farmer would have an opportunity to meet the consumer face to face, as he cannot do now, to inform him concerning his alternative market and his costs of production, and to warn him of the possible bad effects of any hasty action against the farmer. Here the consumer would have an opportunity to educate the farmer on the standards of milk desired and to encourage him to raise his standards by offering him inducements in the form of higher prices for the better milk. The consumer and the farmer would both have an opportunity to watch labor and management and to make suggestions for greater efficiency in the plant. Labor and management, on the other hand, would be given an opportunity to air their difficulties with both consumer and producer.

Fourth. The local municipal plant should be placed under the supervision of the State Division of Markets. The Division of Markets should give aid and advice in the purchase and equipment of the plant, the establishment of a proper accounting system, the regular inspection of the accounting and business practices of the plant, and the promotion of efficiency in its management.

The whole matter is an experiment. So at one time was every successful undertaking. Every thinking person knows there is something wrong with our milk marketing system. Not every person nor every city is ready or willing to try the experiment of righting it. No city or village should be forced to try it until its people are ready and willing. On the other hand, no city or village should be prevented from doing so. A law giving such permission will not hurt any city which does not want to take advantage of it. Its existence may greatly help those cities in which there are forward looking men and women who are not afraid to work for a cause so important to children and to future generations as a good milk supply and an efficient milk distributing system.

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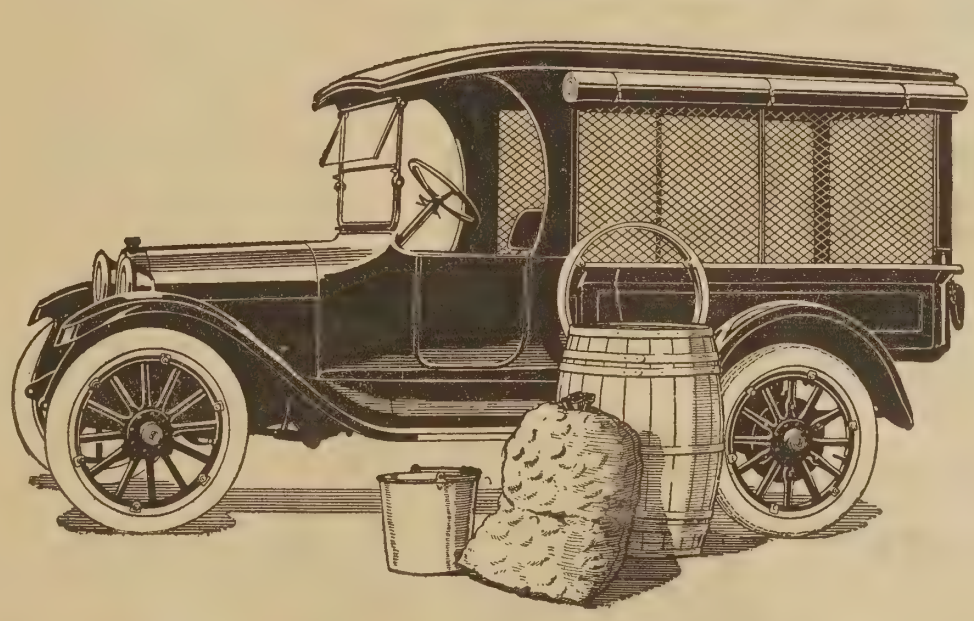
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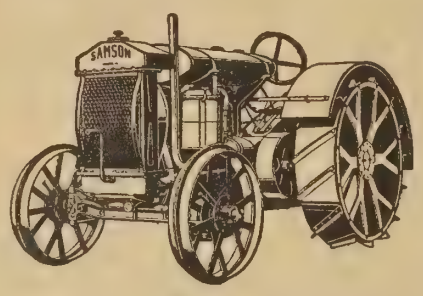
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Cow Testing Associations

RECORDS, PRICES OF FEEDS, FAT, AND MILK

Following is the summary of reports received during the week and up to the time of going to press of this issue:

State	Association	Tester	Month	No. of cows tested	No. of cows producing over 40 lbs. fat	Fat production of high cow	Owner
Ohio	Sullivan	Rene O. Tardiff	Dec.	76	10	50.4	A. C. Snoddy
Va.	Loudoun Valley	W. D. Wermuth	"	406	33	65.4	J. B. Thomas
Ill.	Jo Daviess Co. No. 2	J. E. Wiley	Jan.	141	5	44.1	C. A. Heller
Wis.	Racine & Kenosha	T. N. Boyer	"	525	78	82.9	Holloway Bros.
"	Wood Co. No. 2	H. M. Kuckuk	Dec.	490	17	67.7	E. C. Coombs
"	Rock Prairie	W. J. McKee	Jan.	550	85	90.6	J. Wehinger & Son
"	Byron	A. Miller	"	392	101	98.4	H. L. Weber
"	Wausau—Marathon	N. M. Nelson	"	410	26	63.4	Marathon Co. Asylum
"	Allenton—Kohnsville	L. M. Henderson	"	211	74	74.0	L. Pamperin
"	Rosendale—Eldorado	R. G. Thurman	Dec.		90	75.5	T. A. Marchant & Son
"	Roberts—Hammond	H. R. Kops	Jan.	299	40	71.3	Sidney Batten
"	Amherst—Nelsonville	Geo. W. Baumel	"	375	100	70.4	Otis Olson
Ia.	McGregor	E. A. Stacy	"	256	22	73.1	Kinsley Bros.
"	Davenport	W. A. Durning	"	316	22	61.8	John A. Carlin
Kan.	Dickenson Co.	D. F. Tellis	"	143	16	67.8	E. Engle & Son
"	Bourbon Co. Co.-op.	T.A. Trull	"	365	15	71.3	Cleland & Williams
N. Y.	E. Aurora Dairy Impr.	C. C. Spaulding	"	326	41	56.7	Albert Link
Tenn.	Rutherford Co.	W. H. Oliver	"	97	19	62.2	J. M. Haynes
Ill.	Macoupin Co.	H. R. Fletcher	"	292	54	98.2	Frank Slivka
Wis.	East Troy	E. D. Burr	"	525	145	81.1	F. W. O'Connor
Pa.	Calkins	L. H. Shadduck	"	298	28	59.7	A. E. Sheard

Association Notes

Tilleda, Wisconsin:—Frank Stefl's herd of Brown Swiss won first place in the association for 1920. The herd led the association by an average production of 20 pounds fat per cow, being 100 pounds of fat above the average. The high cow led all others by 80 pounds. There are 37 herds in the association.

Sullivan, Ohio:—Market milk testing 3.5% sold for $3.50 per cwt. and 5c per point above, in December. Feed prices were: Union grains, $3 per cwt.; chop, $1.67; bran, $2; oil meal, $47 per ton; cottonseed meal, $47; silage, $6; clover hay, $18.

Joe Daviess County No. 2, Illinois:—Two pure-bred bulls and two grade females were purchased and nine unprofitable cows sold during January. Market milk sold for $3.50 per cwt.; 3.6% test being required and 3c per point above paid. Feeds were bought at the following prices: Silage, 40c per cwt.; bran, $1.75; oil meal, $2.70; cottonseed meal, $2.50; corn, $1.50; oats, $1.65; barley, $1.65; molasses feed, $1.70; Cow Chow, $2.80; mixed hay, $1.25; wild hay, $1.20.

Racine and Kenosha, Wisconsin:—Four more herds were tested for tuberculosis during January. Four cows were sold for dairying and nine were sold to the butcher. Most of the members are feeding balanced rations. Two members have bought 14 pure-bred Holstein heifers whose dams have good A. R. O. records. Three per cent market milk sold for $2.85 per cwt. and 4c per point above. Feed prices are: Oil meal, $52 per ton; cottonseed meal, $48; gluten feed, $50; bran, $34; ground corn and cob, $34; ground barley, $39; ground oats, $37; Vitex, $54; Unicorn, $52; silage, $7; alfalfa, $28; clover, $24; corn fodder, $10; corn stover, $12.

Wood County No. 2, Wisconsin:—Due to the high feed prices in the fall, herds were thinned out. A carload of bran was purchased co-operatively and improvement of feeding has shown very creditable results. Cottonseed is very largely replacing oil meal for high protein concentrate and molasses is being fed with success. Two more pure-bred bulls, a Guernsey and a Holstein, have recently been purchased. In December the condensery paid 45c per lb. for fat, the creamery paid 48c per lb., and the cheese factory paid 54—61c. Milk retails for 10c per quart and butter for 50c per lb. Feed prices are: Shelled corn, $28 per ton; pure bran, $32.50; cottonseed meal, $50; oil meal, $50; oats, $32.

Rock Prairie, Wisconsin:—One car of bran was purchased during January. Five herds are doing official testing, and three herds have been tuberculin tested. Eight cows were sold to the butcher. January market milk sold for $2.50, and 4c per point above 3.5%. Milk retails for 14c per quart, butter for 50c per lb., and cheese for 35c per lb. Feed prices are: Bran, $35 per ton; oil meal, $50—$60; corn, $20; barley, $1.60 per cwt.; oats, $60c per bushel.

Wausau—Marathon, Wisconsin:—One registered Guernsey bull was purchased during January. Five cows were disposed of as unprofitable. The average profit for herds properly fed was $50.12, as compared with a loss of $0.03 for each herd improperly fed. A profit of $28.62 per herd was shown for those having watering cups, as compared with a profit of $24.20 per herd without drinking cups. Four per cent market milk sold for $2.20 per cwt. and 5½c per point above this test. The creamery paid 55c per lb. for fat and the cheese factory 50c per lb. Milk retails for 12—14c per quart, butter for 45c per lb., and cheese for 31c per lb. Feed prices are: Hay, $20 per ton; silage, $6; bran, $34; middlings, $34; hominy, $35; corn, $35; Wisconsin Balanced Ration, $50; International Dairy feed, $38; beet pulp, $36.90; oats, 48c per bushel.

Allenton—Kohnsville, Wisconsin:—Since the large drop in the milk prices, members are not feeding as much concentrates as before, but they are still feeding on a profitable basis as the records of this association are very creditable.

Roberts—Hammond, Wisconsin:—Practically all members are now feeding balanced rations. The end of the association year is near and many cows will be culled. One registered Holstein bull was purchased during January. Feed prices are: Ground oats, $27 per ton; bran, $32; barley, $31; International Dairy Feed, $31.

Amherst — Nelsonville, Wisconsin:—Ten cows and one bull were sold for beef and two cows for dairy purposes. Four cows were purchased by members. Good results are being secured by feeding balanced rations. The creamery paid 62c per lb. for fat during January. Bran sold for $34

per ton; oil meal, $50; Unicorn, $64; Tip Top dairy feed, $36.

McGregor, Iowa:—Several of the beef breeders are discouraged and are now breeding for milk production. One pure-bred Holstein bull took the place of a beef bull during January, and some former breeders of beef cattle are starting in with the milking strains. The dairy farmers are beginning to realize the benefit they can secure by feeding. In December the creamery paid 61c per lb. for fat. Milk retails for 12c per quart and butter for 54c per lb. Feed prices are: Oats, 37c per bushel; barley, 48c; corn, 60c; cottonseed meal, $35 per ton; mixed hay, $20; alfalfa, $25; timothy, $20.

Davenport, Iowa:—During January six cows were bought and six were sold, four of which were for dairy purposes and two for beef. There is at this time a surplus of milk, which is beginning to affect the price to some extent. Milk sells for 30c per gallon; butterfat, 45c per lb.; alfalfa hay, $25 per ton; cottonseed, $38; bran, $42; oats, 41c per bushel; corn, 50c.

Bourbon County Co-operative, Kansas:—Nearly all the members are using pure-bred bulls. Three cars of cottonseed meal have been purchased through the Farm Bureau and a fourth will be here soon. Owing to the low price of feed and the great amount being ground, dairymen are feeding heavily and the majority of cows are increasing in milk flow. Four per cent market milk in January sold for $2.90 per cwt. The condensery paid 57½c per lb. for fat; the creamery paid 43c. Milk retails for 12½c per quart; butter for 46c per lb., and cheese for 40c per lb. Feed prices are: Corn and cob meal, $17 per ton; ground oats, $30; bran, $32; cottonseed meal, $32; oil meal, $45; alfalfa, $15; silage, $7.

East Aurora Dairy Improvement, New York:—Work in this association was resumed January 1st after one month without a tester. The high cow this month, Roxy Jane Burke 2d, is a daughter of Roxy Jane Burke, a cow who recently entered her nineteenth year and who has produced six heifer calves in three years, eight and a half months, and is due to freshen in June.

Rutherford County, Tennessee:—One farm is selling a large number of grades to make room for more registered Jerseys.

Macoupin County, Illinois:—Twenty unprofitable cows have been sold during January and one pure-bred sire purchased. Many of the members are feeding balanced rations and are getting excellent results. January market milk testing 3.5% sold for $2.78 per cwt. and 5c per point above. Milk retails for 14c per quart and butter for 55c per lb. Feed prices are: Alfalfa, $30 per ton; clover hay, $25; oat hay, $18.60; silage, $7; corn, 80c per bushel; oats, 55c; bran, $1.75 per cwt.; hominy chop, $1.80; barley feed, $2.30; oil meal, $3—$3.50; Schumacher Feed, $2.10; molasses feed, $2.30; cottonseed meal, $2.10.

East Troy, Wisconsin:—Several Advanced Registry records were made in the association this month. Four cows were sold for dairy purposes and 12 unprofitable cows were disposed of. The average return for $1 expended for feed in January was $1.58; the average feed cost of one pound of butterfat was 44 cents, and the average feed cost of 100 pounds of milk was $1.64. The condensery paid 50c per lb. for fat in January, and in addition 10 cents per 100 lbs. milk. Milk retails for 12c per quart and butter for 58c per lb. Feed prices are: Bran, $34 per ton; brewers grains, $55; gluten, $47; Unicorn, $52; ground oats, $36; ground corn, $30; oil meal, $43; cottonseed meal, $48; mixed clover and alfalfa, $20; corn silage, $6; pea silage, $2.

Calkins, Pennsylvania:—Seven boarder cows were disposed of during January. Nearly all the members joined the farm bureau in the recent membership drive. Three per cent market milk in January sold for $3.25 per cwt. and 4c per point above. Feed prices are: Corn and clover silage, $6 per ton; hay, $20; gluten, $56; cottonseed meal, $45; wheat bran, $40; corn meal, $38; ground oats, $56; oil meal, $56; wheat middlings, $50.

Western Associations

Dawson H. Burwell of the Arkansas Valley Testing Association in Colorado reports that all but three members of the association are feeding grain this season. He states that the increase in production in the association has been 2,656 lbs. milk and 88.32 lbs. fat in three years. The 1917 average was 6,109 lbs. milk containing 216.48 lbs. fat. That in 1920 was 8,765 lbs. of milk containing 304.8 lbs. fat. At 50 cents per pound of fat, this increase equals $44.16 per cow per year.

In the Douglas County, Colorado, Testing Association twelve members are feeding grain, according to R. E. Sherman, tester. The total production in these herds because of this grain has been increased 1,086 lbs. of fat over the previous month. Thirty-six of the 40 leading cows of the association were among those fed grain.

In reporting the Wahkiakum, Washington, Association W. J. Carter, test-

(Continued on page 245)

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EDITORIAL COMMENT



EXPERIMENTAL work is being carried on at the Wisconsin Station to determine what causes milk to coagulate in the process of condensing. It was thought that the milk produced toward the end of the cow's lactation period would coagulate more readily than that given by fresh cows. Extensive studies prove, however, that the period of lactation has no influence upon the readiness with which milk coagulates. The station has also secured data which show that the so-called alcohol test used by condenseries to test milk for acidity and to determine whether it shall be accepted is unreliable. It was proved that alcohol may or may not coagulate that milk which is readily affected by heating.

IN commenting on his gratitude to the Farm Bureau Federation for its services in securing a gift of a million bushels of corn for European relief, Herbert Hoover makes this statement which will be of particular interest to dairy farmers: "You will realize that in the special feeding of undernourished waifs and sick children we have to provide a very large proportion of condensed milk and other specially prepared foodstuffs. Our expenditures comprise approximately 50 per cent for dairy and meat products, 20 per cent for rice, beans, cocoa, sugar, about 20 per cent for corn, wheat, and other cereals, and about 10 per cent for clothing."

IT has been quite generally stated that one of the reasons for the rapid decline in the price of farm products may be attributed to the federal reserve banks which have not extended the credit to agriculture that they have in former years. This, we believe, is an inaccurate conception and not based upon the facts. There is need of a better system of financing the marketing of farm products, permitting the farmers to market their products in an orderly manner throughout the year and not forcing them to sell all their products at the time of harvest. But to say that the federal reserve banks were the cause of the rapid decline in the prices of farm products, we believe, is inaccurate.

According to the report of Governor Harding on the federal reserve banks, there was $720,266,000 worth of farm paper rediscounted in the year 1919, and in 1920, $1,980,000,000. In other words, there was twice as much farm paper discounted in 1920 as in 1919.

It is our opinion we can accomplish more for the building of our industry, for correcting its ills, if we know the truth. To use false basis for reasoning leads to false conclusions and this in the end leads to disaster.

RATIONS AFFECT VITAMINES IN MILK

At the Minnesota Experiment Station a study has been made to determine the influence which the cow's ration has upon the quality of her milk which makes it valuable in preventing such diseases as scurvy. In laboratory experiments it was observed that the milk from the University dairy herd during the late winter months was much less effective in preventing scurvy symptoms with laboratory animals than during the summer and early fall months. In order to obtain conclusive evidence concerning the influence of the cow's ration upon the vitamine content of the milk, dairy cows were fed vitamine-poor and vitamine-rich rations and the milk obtained was subjected to tests in the feeding of laboratory animals. At the University of Wisconsin where a herd of eighteen dairy cows were fed year after year on air dried roughage and grains, it had been previously found that the milk was inferior in its vitamine content to summer milk produced by other cows in the herd. In the Minnesota experiment the milk was secured from the same cows throughout the experiment eliminating, therefore, any question as to the differences of the milk from individual cows and making the test a very definite one of the value of various rations in their influence on the nutritive and vitamine properties of the milk.

Two cows, a Jersey and a Holstein, were given a vitamine-poor ration from the middle of January. Beginning June 1st they were fed a vitamine-rich ration. From the data obtained in the feeding of the several groups of guinea pigs with the milk from these two cows it was concluded that the vitamine content of milk is directly affected by the vitamines in the ration consumed. It was found that milk produced in the summer was three times as powerful in preventing scurvy as that produced under winter conditions. The tendency is for milk to decline very slowly in its vitamine values as the quality of the ration is cut down, while milk becomes higher in its vitamine value immediately upon the feeding of vitamine-rich rations.

NEUTRALIZER AND ADULTERATED BUTTER

The Attorney General of the United States has ruled that butter made from neutralized cream is adulterated butter and subject to a tax, as such, at the rate of ten cents per pound. This ruling of the Attorney General is far reaching in its effect and, if enforced, means the loss of millions of dollars to those dairy farmers who keep but few cows.

We have never approved of the marketing of decomposed or rancid cream, but we have favored the use of neutralizer so that sour cream could be pasteurized without heavy losses in the buttermilk and that a better quality of butter could be produced. Not only is the butter better in quality when sour cream is neutralized and pasteurized but it is a safer human food. To deny the creameries the privilege of neutralizing sour cream, or else require labeling the butter as adulterated and the payment of a tax of ten cents per pound and license fees, means that sour cream will not be pasteurized and that a poorer quality of butter—and less wholesome—will be placed upon the market.

Attorney General Palmer in rendering his opinion regarding butter made from neutralized cream said: "It cannot be considered butter as it is not made exclusively from milk or cream, or both, with or without common salt, with or without the additional coloring matter. . . . I conclude, therefore, that Congress intended to include such butter within the definition of 'adulterated butter' since it appears to be a purified or improved butter which is the result of processes during which substances have been introduced and used for the purpose of and with the effect of deodorizing and removing rancidity."

Congress had no such intention in mind. In 1902 when this law was passed, the practice of neutralizing cream was so little practiced, if at all, that it was not brought to the attention of Congress. It did not enter into the discussion when the law was framed defining adulterated butter. Further, the primary purpose of using neutralizer is not for deodorizing or removing rancidity—it is to neutralize the acidity. The adulterated butter law has to do with the finished product. It was enacted to prevent the addition of foreign substances to butter, like vegetable fat, glucose, earth, excessive quantity of water, etc. There was a time when cheap, foreign matter was mixed with butter to increase its weight or to cause it to hold more water. The adulterated butter law was passed to prevent such practices. That was the intention of Congress.

It should also be observed that the Act of May 9, 1902, reads: "'Adulterated butter' is hereby defined to mean a grade of butter produced by mixing, reworking, rechurning in milk or cream, refining, or in any way producing a uniform, purified, or improved product from different lots or parcels of melted butter or butterfat, in which any acid, alkali, chemical, or any substance whatever is introduced or used for the purpose or with the effect of deodorizing or removing therefrom rancidity." The law applies to *butter* rechurned in milk or cream, or reworked or mixed with chemicals or other substances and does not apply to the handling of cream. If Attorney General Palmer's reasoning is correct, then the addition of starter to cream might be considered an act of adulteration, for a negligible quantity of starter gets into the butter. It is our opinion that the Attorney General neglected to observe that the law applies to butter and butterfat melted, mixed with chemicals, and rechurned, and not to cream. Neutralizers are used to get the butterfat out of the cream in good condition and not to add weight to butter. Through its use butterfat undergoes no change. Elements and conditions with which it was associated, including the neutralizer used, are eliminated in the buttermilk and the butterfat goes on to fill the mission for which it was produced. Does Mr. Palmer object to this? Or does he want to crowd the dairy farmers to heavy loss through strained interpretation of the law, giving it a force which he ought to know is by no means its intent and purpose. The purpose of the law which Mr. Palmer is interpreting is to defeat fraud. Is there any fraud in treating a cream by a wholesome, sanitary process to bring forth a better product? A law is not interpreted correctly when it is given a meaning contrary to its own purpose.

We should have a law in each state which would provide a system of grading cream and forcing creameries to pay for cream according to its grade and a sufficient inspection force to prevent the sale of decomposed or rancid cream, as it is unfit for human food, no matter how the butter may be classified. Since sour cream is not necessarily decomposed or rancid, but can be a wholesome, healthful product, we do not comprehend how a law can prevent the manufacture of such cream into butter and the use of methods which will improve its quality and make it a safer food.

Butter made from neutralized cream is not adulterated, though it might be advisable, in deference to the right of the public, to know that it is made from neutralized cream.

A GOOD PLEDGE

Many creamery patrons in Wisconsin at their annual meetings this winter have passed resolutions pledging themselves not to use any so-called dairy substitutes and to use dairy products on their table. It seems strange that this required concerted action on the part of leaders—men who foresee the bad results if dairy farmers continue to use so-called dairy substitutes.

In surveys, made in several counties, it has been found that less milk is consumed in the country than in the cities. One county reported that only one child in six attending the rural schools consumed milk, and in this county dairying is the chief industry. Dairy farmers who buy substitutes are not only undermining their own industry but are denying their children a food which is vital to their growth, health, and development.

We believe it would be worth while for creamery and cheese factory patrons and farmers producing market milk to pledge that they will not consume so-called dairy substitutes and that they will provide an adequate supply of milk for their children to drink, all the butter they need, and a liberal amount of cheese. The dairy farmer should ever bear in mind that those manufacturing so-called dairy substitutes are ever at work to encourage a larger consumption of them, and it is only good business on the part of the producers of dairy products to not only contribute something for advertising dairy products but to show by their own acts that they believe in their products. The patron who uses so-called dairy substitutes cannot expect the consumer of the city to buy his dairy products.

Milking Machine and Inflamed Udders

I note that during the past year you have had a number of articles on the milking machine concerning its care, etc. We are milking our herd with a machine and find it one of the greatest labor saving devices on the farm. The cows like it and hold up in milk flow as well, if not better, than by hand. However, we have some trouble with inflamed quarters. By massaging the quarter, we can in a few days get it back to normal as far as we can tell but it takes lots of "elbow grease". Perhaps you could tell us how we can reduce this to a minimum or keep it out of the herd entirely.

Liberty, Idaho. F. M. B.

The experience of the above correspondent with milking machines is not at all unusual. There have been some who have blamed the milking machines directly for causing gargety and inflamed udders. This is a mistake. Milking machines themselves operate gently and do not directly cause inflammation in the udders.

Generally speaking, however, inflammation of a cow's udder is brought about by some injury in the first place. Maybe some cow standing near her in the stall has kicked her when lying down; maybe the cow has slipped on the cement floor; or maybe the cow has been forced to lie down on the cold frozen ground. There are many direct causes of garget or inflammation in the udder.

There will be inflamed udder trouble in almost any herd at times, whether a milking machine is used or not. I do not want to have it understood that inflamed udders are always caused by injury but in most cases injury is the primary cause. The regular gargety condition is a germ disease. It is, therefore, easily transferred from one cow to the other.

This is when the milking machine indirectly may be blamed. If no extra care is taken the milking machine will transfer this disease from one cow to the other easier than will hand milking. The teat cups are moist and the germs will be carried very readily from one cow to the other in the teat cups.

The remedy is to milk the exposed cows last. If the cow has an inflamed udder do not milk her first. Milk all of the healthy cows first and then the cow having the inflamed udder can be milked last and there is no danger of transmitting the disease from one animal to another.

If the cows having the inflamed udders have been milked first then be sure that the teat cups of the milking machine are entirely cleaned and sterilized before the remainder of the cows in the herd are milked by that same machine. Evidently the correspondent has had a case of garget in the herd and no attention was paid in respect to keeping it from spreading to the remainder of the cows.

If the swelling or the gargety condition is bad, I have found that pumping air with a milk fever outfit into the affected quarters is a good thing to do, and bathing externally with hot water to take down the swelling.

I would suggest milking the affected cows by hand. This to be sure that there is no abnormal milk being drawn by the milking machine. As soon as the cows become entirely normal then the milking machine can be used again safely. Then in the future avoid spreading of the disease as mentioned above.

Illinois. C. LARSEN.

Salt and Water for Cows

Please give me a ration for Holsteins that I can feed with the following feeds: corn and cob meal, ground oats, bran, cottonseed meal (36%), oil meal, beet pulp, gluten, corn silage, and alfalfa hay. How should cows be salted that are not turned out of the barn? When should they be watered? What would be the best feed for dry cows that we expect to test when fresh?

Dayton, Ohio. J. E. A.

These roughages furnish a splendid basis for a dairy ration. Our inquirer should feed as much alfalfa as will be cleaned up and supply silage at the rate of 35 or 40 pounds per day. In addition a concentrate mixture of 400 pounds of corn and cob meal, 200 pounds of bran or ground oats, 100 pounds of cottonseed meal or oil meal, and 100 pounds of gluten will give good results if supplied at the rate of one pound for each four pounds of milk produced.

Beet pulp is best when soaked several hours in three or four times its weight of water and fed so that cows receive the equivalent of three or four pounds of the dried pulp daily.

In calculating the economy of a ration it is necessary to compare the prices of these different feeds. If beet pulp is much more costly than corn silage, do not feed it, since silage furnishes a valuable succulence. Choose between bran and ground oats on the basis of their cost.

We favor placing salt where cows can have as much or as little as they please, rather than including it in the grain mixture. If it is impossible to allow free access to salt, see that they receive about an ounce or ounce and one-quarter per day. There is some advantage also in having water before cows at all time. The watering cups sold on the market have been proved to be profitable investments. If cows receive water which is warmed enough that it will be taken in liberal amounts, they will do very well if given a chance to drink twice a day, in the morning after feeding and late in the afternoon.

Many farmers follow the practice of feeding dry cows roughage only. It is our observation that it pays to be rather liberal with grain in order that cows may freshen in good condition and be vigorous and healthy. A mixture of 200 pounds of oats, 200 pounds of bran, and 100 pounds of oil meal may be fed rather liberally to cows close to freshening.

Cows which are several weeks away from parturition may have corn included in their ration fairly liberally, but better results are secured when corn is not fed in too large amounts to dry cows.

Corn Experiments

HOARD'S DAIRYMAN:—In the winter and spring most of us farmers get to thinking about our seed corn. We wonder how it can be improved in any ordinary way and whether we are working along the right track in choosing the ears for the spring seed. Our Ohio Experiment Station has made several comparisons that seem to me most interesting and profitable for every one of us farmers.

I have often wondered about the real facts as to a better ear of corn being rough or smooth kerneled. Many older farmers have told me that if one chose ears that were all smooth the yields would run down in a few years. I like to husk and handle the smooth kernels, as would any farmer, but I have been keeping to the rougher types because I thought these men were experienced and knew what they talked about. Yet after twelve years of careful comparison the yield has been found to be nearly 2 bushels greater from the smooth ears than from the rough ones. I would have saved a good many rough fingers and disagreeable husking days had I known this sooner and also would have a slight increase in yield for the time.

A study of the relative yields of ears of a tapering shape with those of cylindrical shape shows a difference of nearly two bushels an acre in favor of the tapering shapes.

Tips that are filled out completely with kernels is another thing we have been taught much about. I have discarded hundreds of ears of seed corn that suited me pretty well but were not well filled at the tip. I thought I was doing the best thing. In thirteen years the difference in yield is very slight.

Adaptability of seed corn is another point raised and considered. The station fears that seed corn shows and advertising by the seed growers tempt us farmers to go too far away from our local climate for seed. Seven different samples or lots of almost the same variety show that seed from Kansas, Illinois, southern Ohio, and from the O. A. E. Station tassel out from July 24 to Aug. 8. The percentage of moisture varies from 17.8% to 33.7%; the last of course from the Kansas seed. Seed from almost any reasonable distance can be selected and acclimated so that it is a safe seed to plant but to invest wholly in a new kind brought from a long distance and especially from a warmer climate is risky. As a general thing it is unsafe to move a variety of corn into a region of average shorter growing season.

Comparisons of yields of plantings in the hill of from 1 to 5 kernels show that 4 kernels make the best showing on an average for 15 years. One kernel averaged 32.36 bushels of shelled corn to acre, 2 kernels produced 51.37, 3 kernels produced 62.24 bushels, 4 kernels made 65.63 bushels, and 5 kernels made 64.03 bushels. The difference between 4 and 5 kernels is not great. Not so great as I imagined. And here I have learned something as I always have kept to the 3-kernel a hill planting. I didn't lose much but better than 3 bushels to an acre is something too.

Our experiment stations are doing a helpful work and the bulletins that they issue are not studied enough. We farmers can try out a certain type of corn for a year and think we know something about it. Yet it is those 4- and 5-year records that average up and show the real value of certain characteristics of an ear. These are the results that are valuable to us.

I keep a rack of bulletins near my desk and I supposed that I had carefully read all of them. Yet during the last 3 weeks while confined to the house with sickness I have studied many of them over again and have discovered points that I overlooked at first reading. It may easily be that at the end of this season this forced vacation from farm work will show that I am farther ahead than as if I hadn't taken this time to study my farm and its condition a little closer.

Ohio. EARL ROGERS.

Inbreeding

In case you had a few 15-month-old heifers to breed and a 3-year-old bull who is their sire and a yearling bull of the same sire, the former a pure-bred and the later a grade, which one would be your preference to use?

Lykens, Pa. J. M. B.

If the 15-month-old heifers are strong and robust and especially if they are grades we would have no hesitancy in recommending that they be bred to their own sire, particularly if he is a good individual and has a pedigree which it is expected will improve the production of the herd.

When a grade sire is used little progress can be made in the development of the dairy herd. Of course it depends upon the blood of the grade and it is possible to find grades that are superior to pure-breds. A grade animal is likely to carry much inferior blood and is quite as likely to transmit this to his offspring as he is to transmit the good blood.

It is not uncommon for breeders of pure-bred cattle to inbreed, especially if they desire to establish certain characteristics and types and to concentrate the blood of an animal which is an exceptionally good individual and capable of producing animals of unusual dairy merit. The inbreeding, however, of pure-breds requires considerable skill or failure is likely to follow. The breeder must have a good understanding of the weaknesses of his animals and what he is striving for if he is to make a success of this method of breeding.

There is comparatively little danger of producing poor results in breeding a sire to his own daughters if they are grades. In fact, it has been recommended that this is the best course to pursue for the improvement of the dairy herd.

Rotted Manure

HOARD'S DAIRYMAN:—Rotted manure is apt to be a substance of rather uncertain composition so far as fertility elements are concerned. Theoretically, rotted manure should be more valuable pound for pound for plant uses than fresh manure for the reason that the plant food which it contains is more available for assimilation. In other words, it holds a larger percentage of fertility elements than waste which is newly produced. Both of these statements, however, are apt to be misleading in that neither of them takes any account of the losses involved in the rotting of the manure in question. The gain, so far as fertility elements is concerned, is apt to be more apparent than real.

The conditions prevailing during the rotting process have much to do with the real value of the resulting product. If the decomposition has gone on in the open where the waste has been freely exposed both to sun and rain no man can say—short of actual analysis—how much plant food remains after leaching and bacterial fermentation have demanded their toll. It may be little enough! If, on the other hand, the manure has been stored in a pit of tight construction and has remained there long enough for disintegration to take place, the loss will be limited in all probability to the escape of a portion of the nitrogen in the form of ammonia due to bacterial action of heating. However, manure rarely stays in a pit long enough to undergo decomposition to the same extent that it does in a neglected pile.

The physical results which accrue from rotting are likely to be more uniform than are those that are purely chemical. The manure becomes of similar character throughout. The coarse litter is disintegrated and a more intimate mixing with the soil is possible when the waste is applied. Furthermore, there is less actual material handled because in the process of rotting, manure naturally loses weight. However, the best place for manure to rot is under ground. In this case nothing can be lost.

Illinois. ORIN CROOKER.

Hoard's Dairyman

Fort Atkinson, Wisconsin

Founded 1885 by W. D. HOARD

W. D. HOARD & SONS CO., Publishers
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Subscription Rates

Subscription in United States and Mexico $1.00 per year; 3 years, $2.00; Canada, $1.50 per year.

FOREIGN SUBSCRIPTIONS may be sent through news dealers and book sellers in all foreign countries.

All foreign countries in the Postal Union $2.50 a year; not in the Postal Union $3.00, including postage.

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Entered at Fort Atkinson, Wis., as second class matter.

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Canadian Holstein Makes Creditable Record

The two-year-old Holstein heifer, Dora Mutual Posch, owned by B. Sommerfield & Son of Canada, has recently completed a very creditable seven-day production of 382 lbs. of milk which contained 14.78 lbs. of fat. At this time, this heifer is on yearly test and promises to complete an equally good long-time record. She holds the fourth highest official short-time record in her class in the provinces of Manitoba, Saskatchewan, and Alberta.

Dairy Day at Logan, Utah

HOARD'S DAIRYMAN:—Dairy history was made in Cache County, and, in fact, in the whole state of Utah, when about 200 farmers gathered at the Utah Agricultural College for a day of instruction and the first auction sale of dairy cattle held in the state. A banquet in the evening was largely attended.

President E. G. Peterson of the college welcomed the visitors. J. E. Dorman, head of the Western Dairy Division, talked on co-operative bull associations and the improvement a pure-bred bull makes, even on the first generation of daughters, in milk and butter production. Mr. Dorman used actual illustrations to bring his subject home to the dairymen. He was followed by Mr. Castle, in charge of cow testing in the Western Dairy Division. Mr. Castle brought his subject home to his audience as shown by the fact that some forty farmers stood when they were asked how many would be interested in the forming of a testing association in Cache County.

Ben R. Eldridge, state dairy agent, talked on the feed cost of milk production. Illustrated lantern slides were shown of different families of both pure-bred Holsteins and Jerseys, the prominent breeds of the state. The big event of the day followed when the crowd adjourned to the stock judging pavilion for the auction.

Eight Holstein bull calves and two Jersey calves were sold. Before the sale Robert Wrigley announced the fact that there are in Cache County at the present time 82 scrub sires being used. Cache probably leads the counties of the intermountain country in dairying in spite of this.

The sale was topped by the 12-month-old calf, Bornholm Elko Ormsby, bred by the Bornholm Dairy Farm of Utah. He went to S. Bankhead for $132.50. Four of the other seven sold to Utah dairymen for more than $100 each.

At the banquet A. F. Cardon was toastmaster. O. D. Merrill responded to the toast "Why we Produce Milk". "Financial Outlook" was the toast given by H. E. Hatch. He promised support from the banks for the purchase of pure-bred live stock. Lorenzo Hansen of Borden Condensed Milk Company thought the dairy outlook was good. F. S. Harris said that the good farmer on the economical farm unit has no fear as to the future.

The program was under the direction of Professor Geo. B. Caine of the College and Robt. Wrigley, county agricultural agent.

Utah. LE ROY FUNK.

S. W. J. C. B. A. Elects

The annual business meeting of the Southwest Jersey Breeders' Association held at Springfield, Missouri, January 29th, is reported by Secretary F. W. Atkeson. J. E. Jones of Missouri was re-elected president, O. B. Reitz of Kansas was elected vice-president, and Mr. Atkeson re-elected secretary-treasurer. With the newly elected directors, the directorship is now as follows: E. L. M. Benfer, Professor J. B. Fitch, and R. A. Gilliland, Kansas; H. C. Young, Nebraska; Geo. Ziegelhoeffer, E. G. Knight, S. H. Redman, C. M. Walbridge, F. P. Durnell, B. C. Settle, E. G. Bennett, R. W. Barr, J. W. Head, M. L. Golladay, Rolla Oliver, Professor A. C. Ragsdale, Earl Thomas, C. J. Tucker, F. J. Bannister, and R. E. La Force, all of Missouri.

Mr. Atkeson says: "Never in the history of the association has it had a directorship so well chosen both as to ability and to geographical representation of the territory. With such a body of men back of the organization great results ought to be accomplished during the coming year. In the election of the new president, precedent was discarded as he will be the first man to ever serve a second term as the head of this association. The breeders chose wisely and it is well they picked a man like Jones, as this year's stewardship will require a man with ability. A good man will continue to build on the firm foundation builded by the good director before him."

Denver Butterfat Contest

At the National Western Stock Show at Denver, January 17—21, a butterfat contest was conducted in which thirteen cows were entered, including ten Holsteins, two Guernseys, and one Shorthorn. Prizes totalling $280 were given for the highest production for the several ages. Making allowance for the differences in ages, the Guernsey breed had the peculiar distinction of having one of its two representatives at the top and one at the bottom. The Shorthorn won eleventh place, leaving the other ten winnings for Holsteins. J. W. Purvis of Colorado owns the winning Guernsey, which won with a production of 245 pounds of milk containing 11.243 pounds of fat in the four-day test. N. R. D'Arcy, also of Colorado, won second place with a Holstein which produced 326.6 pounds of milk containing 10.683 pounds of fat.

Dairying Thirty Years Ago

Taken From Our Issue of February 27, 1891

To determine whether "the boy should leave the farm," the farm should have a vote in the matter, as well as the boy.

⚜

New Hampshire has 111,335 cows and 39 creameries which turned out 2,250,000 pounds of butter for the year ending September 30, 1890, and which netted the patrons about $500,000.

⚜

The three Elgin milk condensing factories are working under the following contract for six months commencing October 1st: For October and November they paid 2¾ cents per quart; for December and January 3½ cents; for February and March they pay 3 cents.

⚜

Mr. O. N. Dennison of Wisconsin, says: "The requisites to get good milk for the manufacture of creamery butter are honesty, cleanliness, and confidence. Farmers must deal honestly with the cows and with the creamerymen and the creamerymen must deal honestly with their patrons and customers. There must be cleanliness in the barn, with the milk utensils, and in the factory. Mutual confidence must exist between the producer of the milk, the butter maker, and the proprietor of the factory. If any of those points are lacking in any particular, there is a loss in the best results to be obtained from the dairy."

Some are consciously dishonest and some are dishonest and don't know it. Somebody is cheated in either case. Honesty is always the "best policy" in dairying.

⚜

There are many men who are as unfit to associate with a good dairy cow as they are to own her. They are either too ignorant, or too stupid, or too stingy, or too mean to treat a herd of such cows decently, and according to the life and purpose of such cows. Putting a finely bred grade cow even into their hands will result about the same as putting a diamond ring in a hog's nose.



HENRY C. TAYLOR

Henry C. Taylor, chief of the Office of Farm Management for the United States Department of Agriculture, is well trained for his work. Not only has he taken degrees from the Iowa Agricultural College and the University of Wisconsin, but he had eight years of work in the "college of hard knocks" in running his own farm. He learned the problems of farm management and in a way which has given him a practical view of farming and makes his farm management work turn out workable, practical facts rather than the theoretical. In running his farm, he did not manage it from a shady porch but "with his sleeves rolled up and his back bent and the stuff by which we earn our daily bread streaming down his brow". He ran his farm and taught the theories and practices of farm management in the University of Wisconsin until 1919. At that time the United States Department of Agriculture needed a chief for its Office of Farm Management. Mr. Taylor was selected. His practical farm experience enables him to settle upon worthwhile problems in farm surveys and the investigational work carried on by representatives of his office. Every item of farm business is handled in a systematic way and brought into proper relationship with the other items which go to make up successful management. Mr. Taylor has furnished a simple account system which can be applied on any busy farm. It is made to fit many types of farms, but can be adapted so that it is workable under any practical conditions. The purpose of his work may well be expressed as follows: "I believe the worthiest task under the hands of the Farm Management Office is that of helping the farmer to better living; to save the muscles of that tired back by finding a better way to do the farm work; and to devise means whereby the farm family may enjoy the comforts and the recreations which are the rightful privileges of the profession that forms the sturdy base of our social pyramid."

Montana Guernsey Association Prospers

The Bitter Root Guernsey Breeders' Association held its annual election at its regular monthly business meeting in January. The reports of the officers showed a most successful year, an increase in membership, increase in pure-bred sires used, and an increase in number of pure-bred females in the association. The treasurer reported that the association realized over two thousand dollars net from the co-operative pure-bred sale held last June. It is planned to use this fund for educational purposes to inform the people, especially of Montana, of the benefits of dairying and the fitness of the Guernsey cow for Montana dairying. With a $15,000 shipment of pure-breds last year into the valley, the association will soon be in a position to furnish foundation stock well acclimated for Montana needs.

The following officers were elected for the next year: L. M. Erhart, president; Dennis Sullivan, vice-president; Mark D. Fitzgerald, secretary; and B. B. Liddell, treasurer.

Montana. MARK D. FITZGERALD.

Missouri Starts War on Scrub Bulls

$1,000 Prize Offered to the County Farm Bureau Making Greatest Progress

Forty-four county farm bureaus in Missouri have started a united war on scrub bulls. The Extension Service of the Missouri College of Agriculture is centering its efforts on the better bull campaign as one of the foremost projects for 1921. The various breed associations, both county and state, are co-operating in the drive against the scrub. County agents, the State Board of Agriculture, and the Chamber of Commerce of Kansas City, co-operating with the College of Agriculture, forecast the early doom of many scrub bulls in Missouri.

Two thousand dollars in four cash prizes of $1,000 first prize, $500 second prize, $300 third prize, and $200 fourth prize, is offered by the Chamber of Commerce of Kansas City to the county farm bureaus whose counties replace the greatest number of scrub bulls with registered animals during the year 1921. The Greene County Farm Bureau is offering $100 to the school district that will replace the greatest number of scrubs. Other counties are planning to prorate any prize money they win among the men who have purchased pure-bred bulls. Bankers in Southwest Missouri are working out a plan whereby $300,000 will be furnished by the banks of that section as a revolving fund to be used in purchasing dairy cattle. This will stimulate greatly the use of registered bulls.

Rules of the contest specify that, "A scrub bull has been replaced when he is castrated or sold out of the county and an interest purchased in a registered animal." This ruling should stimulate considerable interest in bull clubs since several scrubs may be replaced by one pure-bred bull. Twenty counties were required to enter the contest before prize money was available and at least 25 scrub bulls must be replaced before a county is eligible to a prize. The execution of the rules of the contest is entirely in the hands of the "better bull committee" composed of men on the faculty of the College of Agriculture.

Missouri. GEO. W. CATTS.

Notes from Kansas

HOARD'S DAIRYMAN:—Butterfat in Kansas City sells for 40c and 36c local. Cows are not high. A cow that sold 18 months ago for $150 would bring $50 or possibly $60 now. Feeds are scaling down. Alfalfa that was held at $22 in November is going on the cars for city sale at a prospect of $17 to $18 and a net to shipper of $14 or $15; corn 50c, oats, 33c; and wheat, $1.65 and hogs 9c. Wages are dropping from $60 and $70 a month to $40 and $50. "General H. C. L." seems defeated, but it seems that always "General Poverty" must march his armies through before the allied commanders "Prosperity" and "Work" can make triumphal entry.

The failure of a couple of million dollar firms brought temporary local stringencies to the banks here. Money already was tight. But it made the banks do some house cleaning on worthless and trash paper. The failures made a tighter though safer business condition for all eastern Kansas. Silver money still is in hiding, and only the safest of banks are allowed to look at a $5 gold piece. Business is still blanketed with its paper overcoat.

Kansas. S. M. SIMMONS.

Feed Markets Experience Less Selling Pressure

[Report by U. S. Bureau of Markets.]

Early in the week ending February 12 the feed market was greatly depressed and unsettled. Occasionally the offerings were heavy and, with buyers exceedingly scarce, prices worked lower. The latter part of the week, however, there was a decided change in the undertone, particularly in the Northwest. Less selling pressure was in evidence and the market steadied. This change in sentiment did not materially affect the country demand, the trade remaining conservative about taking hold and only exhausted stocks appearing to force new purchases.

Large quantities of bran were sold in the Minneapolis market at $19. The wheat feed market at the close was a trifle firmer owing to the better demand for early spring shipment. Middlings were quoted at about the same price as bran in many of the markets. Canadian offerings continued to be made in New England territory at 50c to $1 below western prices.

Cottonseed meal in transit was in fair demand. The southeastern trade is developing very slowly and farmers are delaying purchases for the planting season. Quotations in shipping sections are fairly steady though slightly lower than last week. Hulls are unchanged and in light demand. Jobbers in the Chicago and other important markets are making offerings at lower prices than those quoted by mills.

The demand for linseed meal, both foreign and domestic, improved and prices stiffened slightly particularly in the Northeast. Chicago jobbers reported increased inquiry from eastern sources, the export demand in that section having absorbed surplus offerings, with the result that brokers discontinued, quoting lower prices than mills. Cincinnati quotations indicate a decline of $1.50 from last week because of ample supplies and light demand.

The demand for hominy was good particularly from the Northeast, during the last 3 or 4 days and prices remained only steady in spite of higher cash corn quotations. Yellow and white hominy were quoted on the same basis in many markets.

Hay Prices Slump

Reports from the various markets for the week ending February 12 indicate a widespread depression in the hay market. The price level of both timothy and alfalfa have been lowered about $1 per ton during the week, the average price of No. 1 timothy at the principal markets now being about $26 per ton and that of No. 1 alfalfa being about $25 per ton. Further declines seem likely unless there is a marked improvement in demand or shipments are reduced.

Rate reductions to points in addition to those mentioned in previous reports have been granted by several western railroads as follows:

Northern Pacific rates to Minneapolis—St. Paul—From Livingston and points east thereof, 42½c; from Missoula and points east to Livingston, 46½c; from Montana points west of Missoula, 50c.

Great Northern rates to Minneapolis—St. Paul—From Billings and points east thereof, 42½c; from Helena, Butte to and including Kalispell, 46½c; from points west of Kalispell, 50c.

Burlington rates to Omaha and Council Bluffs—From Billings and points east thereof, 42½c.

Burlington rates to Kansas City and lower Missouri River points—From Billings and points east thereof, 46½c.

From western Colorado points rates have also been reduced from $15.50 per ton to $12 per ton, and from Wyoming points from $11.20 to $9.60 per ton.

Considerable western alfalfa is being handled by Chicago dealers, being shipped to Omaha and rebilled direct to Chicago rate points. This hay is being sold at about $26 per ton which nets the Idaho shipper about $10 per ton.

Some price reductions have occurred during the week on straw in a few of the markets. Wheat straw is quoted as follows: Baltimore $14, Pittsburg $14.50, Cincinnati $10, Chicago $12, Minneapolis $8. Oat straw—Kansas City $9.75, Omaha $8.50, Minneapolis $8.50, Chicago $13, Pittsburgh $14.50. Rye straw—New York $18, Pittsburgh $15, Cincinnati $16, Chicago $14.

Thirty-Fifth 1,000-lb. Holstein

The Holstein cow, Anna Lenox De Kol 2nd, owned by Harry Yates of New York State, has recently completed a year's test in which she produced 29,162.7 lbs. milk containing 1,073.3 lbs. fat. She is the thirty-fifth cow of this breed to produce 1,000 lbs. of fat or more in a year.

Carload Prices of Hay and Feed at Important Markets February 12

(In dollars per ton)

Commodity	Boston*	New York*	Philadelphia*	Richmond	Atlanta	Jacksonville	New Orleans	Memphis*	St. Louis*	Cincinnati	Chicago*	Minneapolis*	Omaha†	Kansas City*	Los Angeles
HAY															
Timothy and clover:															
No. 1 Timothy	28.50	28.50	25.00	26.00	32.50	31.00	31.00	29.00	27.00	24.50	24.50	20.00	.....	‡20.00	.....
No. 1 Clover, mixed	28.50	23.50	.....	25.00	29.50	29.50	.....	.....	24.00	21.00	20.00	17.00	.....	17.00	.....
No. 1 Clover	.....	22.50	.....	26.00	.....	.....	.....	.....	24.00	18 00	20.00	17.00	.....	‡16.50	.....
Alfalfa:															
No. 1 Alfalfa	.....	.....	.....	.....	32.00	34.00	31.00	30.00	29.00	22.00	25.00	22.00	19.00	20.50	22.00
Standard Alfalfa	.....	.....	.....	.....	30.00	33.00	29.50	28.00	25.00	20.00	23.00	20.00	15.00	18.00	.....
No. 2 Alfalfa	.....	.....	.....	.....	27.50	30.50	26.00	23.00	22.00	16.00	19.00	17.00	18.00	14.50	.....
FEED (Bagged)															
Wheat Bran:															
Spring	30.00	295.0	29.00	32.00	33.50	34.00	.....	.....	.....	25.75	23.00	20.00	.....	.....	.....
Soft Winter	33.00	29.50	32.00	34.00	33.50	36.00	.....	24.50	22.00	27.00	.....	.....	.....	.....	.....
Hard Winter	30.00	29.00	29.00	.....	35.00	.....	32.00	.....	21.00	25.75	24.00	.....	19.00	18.50	.....
Wheat Middlings:															
Spring (Standard)	29.50	29.50	28.00	30.00	33.00	33.50	.....	.....	.....	24.75	22.50	19.50	.....	.....	.....
Soft Winter	33.00	32.50	33.00	34.50	36.00	35.00	.....	.....	25.00	28.00	.....	.....	.....	.....	.....
Hard Winter	32.00	.....	29.00	.....	35.00	.....	.....	.....	23.00	24.75	.....	.....	.....	.....	.....
Rye Middlings	28.00	.....	26.00	26.00	.....	.....	.....	.....	.....	23.00	22.50	17.50	16.00	....	.....
High protein meals:															
Linseed	43.00	43.50	43.50	.....	.....	.....	.....	.....	41.00	42.00	40.00	37.00	40.00	40.50	.....
Cottonseed (41 per ct)	41.00	.....	37.25	.....	.....	.....	36.00	29.00	33.00	.....	34.50	36.00	.....	31.25	.....
Cottonseed (36 per ct)	37 50	37.00	35.25	.....	33.00	33.50	34.00	27.00	31.00	30.75	33.50	34.00	.....	.....	34.00
No.1 Alfalfa me'l (med)	38 00	.....	.....	.....	.....	34.00	30.00	26.00	22.00	25.50	24.00	.....	20.00	19.00	34.00
Gluten feed	43.00	.....	42.25	.....	.....	.....	.....	.....	38.00	38.30	35.00	.....	.....	.....	.....
Hominy feed (white)	30.00	30 00	28.00	29.00	31.00	.....	29.00	.....	21.00	28.00	23.00	26.00	16.50	.....	.....
Ground barley	.....	.....	.....	.....	.....	.....	.....	.....	.....	36.00	.....	23.00	.....	28.50	†37.00
Beet pulp	38.00	33 00	35.00	40.00	.....	44.00	.....	.....	.....	38.00	.....	.....	.....	.....	42.00

*Hay quotations represent average of cash sales at these markets. ‡Nominal. †Rolled.

Other quotations: Grain hay sold for $21 in Los Angeles; peanut meal (30%) sold for $37 and velvet bean meal at $27.50 in Jacksonville.

A. F. B. F. in New Headquarters

On March 1st the American Farm Bureau Federation moves into its new headquarters at 58 East Washington Street, Chicago. The new offices are at the corner of Wabash and Washington Streets, one block north of the old quarters. A space of 3,300 square feet on the 11th floor of the Garland Building will be occupied. This compares with a small office room occupied May 1st, last, by President J. R. Howard and Secretary J. W. Coverdale and indicates the very rapid growth which the organization has made.

Two Years' Creamery Figures

The report of the Holmen Creamery Association of Wisconsin at the annual meeting of its stockholders Feb. 14 gives an opportunity for informing comparisons in the business of a co-operative creamery in the two years 1919 and 1920. The average net price paid to patrons for butterfat in 1920 was 67.79 cents, while the price in the previous year was 66.6 cents. The cost for gathering 100 lbs. of butterfat last year was $1.536 and for gathering 100 lbs. of cream, 37.8 cents. The cost in 1919 was $1.40 for gathering 100 lbs. of fat and 34.21 cents for gathering 100 lbs. of cream. The average price received for butter in 1920 was 58.74 cents, which compares with 57.37 cents in 1919. Slightly more cream was furnished in 1919 than during the last year, the two figures being 2,220,943.2 lbs. and 2,120,455.4 lbs. There was a corresponding decrease in the amount of fat received, the total number of pounds in 1920 being 540,403 as compared with 521,590 lbs. The total disbursement for the two years differs very little, being $550 more in 1919, the 1920 total being $384,272.03.

Mr. J. N. Nelson is secretary of the Holmen Creamery and Mr. V. S. Keppel president during the past year.

Dane County Holstein Breeders

The Holstein breeders of Dane County, Wisconsin, met at Madison February 10th and formed a county association for the breed. M. F. Peck was elected temporary president and K. L. Hatch, secretary. J. E. Stolen, L. J. Hall, R. H. Shuster, M. F. Peck, Louis Gray, and Otto Topfer were appointed to the board of directors and form a committee for increasing the association's membership. The permanent organization will be effected at a meeting to be held at Madison March 4th.

Railroad unions have offered to haul farmers' gift-corn free of charge for labor. They have declared their willingness to furnish engine and train crews to handle the gift-grain in solid train lots. A telegram by which the formal offer was made is as follows: "With regard to the press announcements that western farmers are ready and willing to donate free of cost, fifty million bushels of corn to feed the starving millions in Europe and China, we believe that arrangements can be made with the railroad presidents to furnish cars to transport this corn and deliver the necessary amount needed to the coast cities free of charge. The organizations we represent will furnish engine and train crews to handle this grain in solid trainload lots free of charge for service rendered. We will be glad to co-operate with you in any arrangements you may desire to make."

A fireplace is a splendid ventilator and a good social center.

Lowe Brothers



If you bought Paint like you do Overalls you would save money.

If you could only hold a can of paint up to the light and see any thin places in it, like you can a pair of overalls, you could tell at a glance whether it would wear.

Most paints, no matter how carefully you put them on, will always stay in a series of fine ridges. Between every one of those ridges are the *thin places*. It doesn't take the weather long to wear through them. Then away goes the rest of the paint.

That's one of the reasons why some paints don't last.

You can't hold paint up to the light but you can buy a make of paint that has a reputation that will stand looking at that way.

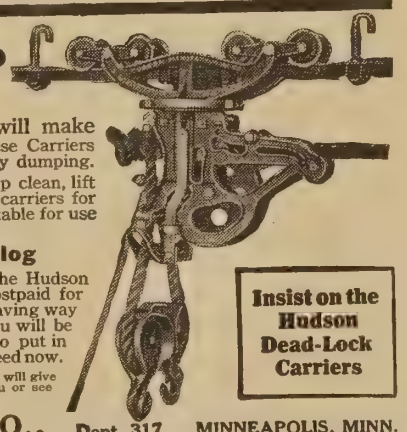
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Water in the Stable a Necessity



THE "BUCKLEY" DEVICE

Is the leader. Why not use the best? Write to the manufacturers for a descriptive circular.

Poughkeepsie Foundry & Machine Co.,
POUGHKEEPSIE, N. Y.

Should We Consider Soy Beans

(Continued from page 219)

North Carolina, where they have been using soy beans for hay for many years, says, "We find that we can cut grain feeds nearly half when we feed soy bean hay, and not use as much hay as we do of any ordinary hay." Mr. Clapp states further: "I do not know the value of the stalks after threshing, but find that cattle will eat nearly all of them."

As a Regular Hay Crop

Farmers living on those soils where clover and alfalfa are extremely uncertain and where trial after trial of these legumes brings only failure, are realizing the great importance of this soy bean as a hay plant. The bean straw is very appetizing and will be cleaned up fairly good, but in no way gives results like the real leafy hay. Very few farmers as yet have sowed beans just for the hay crop, but it is on the light and swampy bed types of soils where soy bean hay could be made to be the deciding element in a successful dairy. I can hear some good farmer chuckle to himself when he reads this, thinking how impractical it is to recommend soys on swampy soils. They grow good, he reasons, but that blamed frost always strikes the low land first. And true it is that on some certain low areas in the state it would be unwise to plant very many of these soys for a hay crop. Some years all low areas escape long enough to make a good soy bean hay crop, but in all cases a farmer has to use his knowledge gained by past experience as to whether or not frost will do any damage to his certain pieces of low lands.

Where the yield is extremely light, not yielding more than one-half a ton per acre, the cost of machinery and labor would be more than the value of the crop. This one-half a ton would be the very minimum in a poor year but is too low to be considered a paying crop. On good soil our soy beans for hay yielded in 1920 from 2,700 pounds to 5,300 pounds per acre, depending upon the variety. Is there really any excuse for a farmer to feed good respectable dairy cows on timothy or wild hay?

As a Silage Crop

At the Rhode Island Experiment Station it was shown that very little is to be gained by planting soy beans in corn. A greater tonnage could be obtained from a given piece by planting corn and soy beans separately. There are many farmers who would never have any soy beans in their silos if they had to plant them separately and mix them at time of filling the silo. Therefore, the easiest method is used, that of planting together. It takes no more planting, the same cultivation will do, and soy beans look a great deal better than weeds, which it seems creep into many of our fields. Then the corn binder will get the beans at the same time as the corn so it's an easy way of harvesting where practical. Just how much the corn crop is hindered in any way from developing normally because of the beans in them is not easy to determine and will vary with the thickness of corn, and the height of stalk. If the mixture could be one part soy beans to four parts corn and the acre would yield ten tons, the increased protein would be about 100 pounds or as much as could be gotten by buying at least 600 pounds of bran. But the mixture seldom is as rich as one to four, although it is planted this way, and probably would be one to six or seven, in which event the protein content might not be more than 3% more than corn silage, instead of the 5% where it is a one to four mixture. Farmers using soy bean and corn silage, however, all report fine results.

In those sections of the country where soils are heavy with poor under drainage and likely to be slow and cold, maybe the best results can be obtained from planting soy beans separately and then mixing at time of filling the silo. A tonnage of from four to ten tons of green forage can be expected on this type of soil in an ordinary year, depending upon the variety and weather conditions. It is more trouble to mix at time of silo filling than to have it mixed with the corn, but by having the beans separate the amount of beans can be more easily regulated in the mixture.



On light soils where clover and alfalfa are very uncertain, a fine stack of soy bean hay will help reduce feed bills and make those cows respond as nothing else would. This stack belongs to D. K. Barrett, Burnett County, Wisconsin. See how fine he has the choice hay protected by swamp hay.

One farmer last year told me that he got eleven good loads off from half an acre of green beans that had been planted for silage, but this is the unusual and not the average.

Soy Beans in Hogging or Lambing Off

In the corn belt thousands of acres are used for hogging off purposes. In some counties in this state considerable hog raising is done and the practice of having soys in with the corn tends to make a balanced ration for hogs. Either sheep or hogs learn to like these soys and, once they get started, it takes more than a poor fence to keep them away. One man last year had soys in with corn for silage purposes. The variety he planted was too early, ripened up before corn was ready for ensiling. When he did cut it he found that only a few beans went in with the corn and that the ground was covered. After plowing a strip in this field, he happened to think of his hogs and that they might like these beans. The hogs were turned loose and not only all the soys on top of the ground disappeared but the pigs rooted all his newly plowed ground over in search of more soys. While in Indiana this past fall I observed many farmers lambing off their soy beans and corn. These sheep could destroy but little of the good corn, only that part that was blown down, but were eating soy bean leaves, soy bean seed, weed seeds, leaves of the corn, and seemed to be thriving beyond reason.

Farmers in the United States are now confronted with heart sickening problems—selling farm produce at fire sale rates and buying equipment on nearly a war basis. Conditions won't be this way long, but more than ever a farmer must be efficient. Make the cost of production less. If soy bean hay will lessen the cost of the

feed bill plant soy beans. If soy beans will help your soil so that you can raise something else that will make your feed bill less, plant soy beans. If soy beans in with your corn is profitable as a hogging off proposition, or a lambing off deal, or a cattle filler after silo filling time, or as a silage proposition, plant soy beans. Never admit defeat until you have tried your best. Just plant soy beans.

Norton Reports Michigan Holstein Activities

In his annual report of the activities of the Michigan Holstein Breeders' Association, Secretary H. W. Norton, Jr., accepts the opportunity to give some very wholesome advice to the members of this association. Among the several activities of the association during the past year he lists the summer meetings of the local associations and the farm tours which have been made in different parts of the state. He suggests that in many cases these tours are too long, which makes the stops too brief. He makes the observation that many of the breeders visited were almost entirely unable to discuss the breeding and the records of their herds. He suggests that the ability of a breeder to demonstrate the merits of his herd is one of his greatest assets and recommends that every breeder give this matter close attention. Tours were conducted in twelve counties and summer meetings attended in fifteen. Two county association herds were exhibited at the state fair last fall. Mr. Norton pointed out that the plan of exhibiting county herds furnishes the best opportunity for bringing together a show herd with which to represent Michigan at the National Dairy Show.

Michigan, Mr. Norton stated, stands fifth among the states in the number of its pure-bred Holsteins, having a total of about 24,602. He emphasized the fact that this number, in the total cow population of Michigan of 900,000, gives the breed a very large opportunity within the state. Emphasizing the part Holstein breeders have had in promoting the accredited herd plan he showed that more than two-thirds of the herds under state and federal supervision in the state are Holsteins, there being 425 herds under supervision at the beginning of 1921. Of these, 137 are fully accredited and as many more had passed one clean test. Of the 18,038 head of cattle under supervision in Michigan, only two and one-half per cent reacted.

Six public sales were handled by the state association, in which 337 animals sold for an average of $403.65. Mr. Norton says that in these sales an effort was made to keep the offerings up to a high standard and to get the best of guarantees and that in consignment sales especially it is of utmost importance that only first class individuals be offered. At dispersion sales, says Mr. Norton, this cannot be so well controlled, but the methods employed and the guarantees given should be the best. It is planned to hold two state sales each year, one in May and one in October. In the sales handled by the association all registry and transfer papers are turned over to the buyers immediately after the sale. The statement is made that not over three per cent of the dairy cows in Michigan are pure-breds, that the number of grade and scrub sires is great, and that a campaign will be conducted to increase the number of pure-bred sires. A "Holstein sire train" will be run through some of the newer sections of the state.



"A girl sixteen years old does my milking. The cows are milking as well as by hand. One fresh cow bellows for it as if it were her calf." —HARRY J. GAMBLE.

Please Your Cows With a Perfection

DID you ever hear of a cow bellowing for a milking machine as if it were her calf? Owners frequently tell us that their cows actually bellow for the Perfection just as they do for their calves.

But is it any wonder? The Perfection's way of milking is so much like the calf's that it is called the perfect copy of the calf. The gentle suction followed by a downward squeeze, followed by a period of rest exactly duplicates the calf's milking.

You can please your cows with a Perfection. They will prefer to be milked by the Perfection rather than by hand. Your boy or girl can milk with the Perfection as well as you can.

At the same time you are pleasing your cows you are pleasing yourself. Perfection returns its cost in less than a year in wages saved. It saves you time and drudgery. Your cows will like it. Contented cows mean more milk. Most owners find their cows give more milk when milked with Perfection. Why wait any longer? Get a Perfection.

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Write for the booklet, "What the Dairyman Wants to Know." It tells in detail why Perfection milking means contented cows. We'll also send the names and addresses of the Perfection owners near you.

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PERFECTION MILKER

Wisconsin's Get-Together Conference

WISCONSIN farmers respect and use their state university and agricultural college. Another demonstration of this took place at the "Get-together Market Conference" at Madison during the first ten days in February. Hundreds, if not thousands, of farmers attended the meetings and took part in them. They were hungry for information and the smaller conferences were quite as enjoyable as the larger public meetings where speakers of national reputation filled the main auditorium.

⚜

President J. R. Howard spoke to an unusually appreciative audience and applause frequently accompanied his sallies of wit and humor. "Business will never flourish," said Mr. Howard, "until the buying power of the farmer is restored. When that power is restored we are not going to hear any more complaints about factories running part time and labor being out of employment. * * Labor is our best customer. When it is well employed at useful things and at good wages, we always have a market. The crest of unemployment is working from East to the West, and it will probably soon pass over.

"The other day I looked at a lady's dress in a store window, and it was marked down to a reduced price,—but they need not have told me that this dress was reduced. It was apparent. I would like to see a steer in a show window, marked '8½ cents, reduced from 16 cents'; or a hog, '9 cents, reduced for 23 cents'; or a bushel of corn, '41 cents, reduced from $1.75'."

The following quotation epitomizes in a way Mr. Howard's simple philosophy and why men have confidence in him: "I am hopeful of the future. I live in the United States, not in Russia. Sanity is going to rule in this country, not chaos. Farm population is diminishing. So much the better for those that are left. The more people we have to feed, the more demand there is going to be for our product, and the better price we are going to get for it. It is a good time to stick to the farm. When the first couple was let out of the Garden of Eden, they did not go to town, did they?"

⚜

In the opening conference, Dean Russell discussed Wisconsin's good fortune in having a diversified farming and the better credit facilities available to the dairy farmer. Wisconsin must produce higher quality products, and then see that they are properly graded and standardized for market. The individual farmer cannot do this, it will take a well organized co-operative sales agency. He advocated proper storage facilities in order that crops might be gradually marketed instead of being dumped on the market for speculators to play with. He endorsed in particular the Wisconsin Cheese Producers' Federation, and advocated the policy of uniting on a commodity basis rather than as a community selling various products.

⚜

In his discussion of the world's wheat market, Dr. Alonzo Taylor pointed out that declining wheat prices have not materially benefited the consumer. The chief supply of wheat for European countries must come from North and South America. In the United States the mills are reducing their "shelf goods", and he looks for a resumption of buying and better prices within, possibly, the next six months. He analyzed the buying power of the world and asserted that short time credits to Europe would be of very little assistance in rebuilding these countries so that they may become self supporting. Her old markets are largely gone, and she cannot get these back. She must find new outlets for her goods. The United States, he said, must arrange to extend long time credit to Europe if our raw materials are again to flow freely to these countries.

⚜

Mr. Lever opened his address on agricultural credit with the statement: "In these critical times, there is no place for the pessimist. This great country of ours is not headed for the demnition bow-wows. The one big immediate need is the restoration of confidence in the future of our country, coupled with a resolution that we are going to think and act in the light of the sun and not in the gloom of darkness."

"The existing credit system," said Mr. Lever, "has been built up to meet the especial needs of commerce. The 60 to 90 day paper is of little use to the farmer, he needs a credit of 12 to 15 months. This can be accomplished by pooling the assets and the issuance against such pooled assets of certificates of indebtedness of varying periods of maturity. The country should be provided, first of all, with adequate warehousing and elevator facilities. The warehousable products of the farm should be warehoused and against them issued warehouse receipts by commodities. These warehouse receipts should be pooled in the hands of a government trustee, regionally, and against these should be issued certificates of indebtedness with varied maturing dates, these certificates to be offered for sale on the money markets of the country. It may be necessary, in order to give these certificates prestige, to have back of them as an initial capital a revolving fund of sufficient money appropriated out of the treasury. From the sale of such certificates the farmer would derive the money with which to make country life worth while. The working of this system of farm credits, as well as the solution of other problems of agriculture, depends upon organization of the farmers themselves under sane, conservative, and fundamentally sound leadership. Without this all these efforts will fail. With it there can be but success."

⚜

Secretary Meredith was well received and his discussion of the activities of the Department of Agriculture gave to many men a better conception of its great value. His discussion was largely in the nature of "selling" the department to the public, and this is the particular task the secretary set himself when he took over the Department a year ago. More than half the funds appropriated to the department are not used for agriculture, but are for the meat and food inspection in the interest of consumers. He specially emphasized the relatively low salaries allowed department employees and investigators.

⚜

At the cheese marketing conference the Wisconsin Cheese Producers' Federation and the federation of the producers of foreign cheese were the main subjects of discussion. It was held essential that there should be established official grades and standards if the producer was to get the largest benefit. In addition there should be proper warehousing facilities in order that cheese might be properly ripened and also that an undue surplus would not be thrown on the market during months of high production. To accomplish this, organization and proper financing are necessary. The two associations mentioned above were recommended for this purpose and farmers generally urged to support and expand them.



PULLING STUMPS BY MACHINERY IN MARINETTE COUNTY, WISCONSIN

⚜

The committee on butter marketing found that the same quality of butter did not secure the same price. This was largely due to the fact that the seller had not studied market quotations so as to take advantage of the best market. Other factors were loss in weight and varying commission charges. In view of the fact that the managers of many creameries do not have the training necessary for marketing butter at the highest prices and for other reasons, the committee recommended:

1. That a general meeting be called of all parties interested in the welfare of a number of creameries in a given territory. At this meeting there should be given a report of the prices received for butter and paid for supplies at each of these creameries. There should be discussion of the consolidation of cream routes, the importance of pasteurization, the savings possible from carlot shipments, and the employment of a field man.

2. That each shipment of butter be graded and stamped by an official inspector, licenses for which will be issued by the state under proper regulations.

⚜

The chairman of the milk market conference committee first presented his own views, in which he emphasized the possibility of a constructive program in which every phase of the industry had a part. He held that the producer was in an illogical position when he sought to market his milk as an individual and that it should be the policy of the state to strengthen the inclination of the producer to work collectively and help overcome the lassitude and inertia brought on by the labor and worry of the average farmer's daily life. It was his opinion that the farmer should have an alternative market for his product and should assume certain responsibilities for these markets. He described his ideal of the marketing unit to be something similar to that so well started in Vermont and also that we might well learn from the Portland plan as recently described in Hoard's Dairyman. He also discussed in a broad way the problems of the distributor, the manufacturer, and the consumer.

The following committee's report was read and adopted by those attending the conference:

"The slogan of this 10-day conference is "Get together" and on that slogan has this committee based its conclusions.

"The production and marketing of milk is a complicated industry which for practical business purposes is subdivided into communities in each of which dairy farmers center about one or more processors or other outlets as a creamery, cheese factory, condensery, or shipping station. This is the starting point for any improvement in production or marketing along constructive lines which require either lower costs, improved quality, or better prices. For the farmers to reduce their costs or to produce higher quality goods in commercial quantities which will command a better price on the market and bring to them through processors or milk distributors a greater income requires mutual understanding and confidence between both parties. Such relations are built up only by organization. Be it therefore recommended:

"1. That milk producers normally furnishing the same local or community markets be organized to obtain facts concerning milk production, improvement of quality, conditions of manufacturing or distributing and such other economic understanding as will impress both parties with their mutual problems and responsibilities.

"2. That each local milk producers' association maintain a relations committee to meet with a similar committee appointed by the agency to whom milk is sold, for the purpose of providing at all times a sympathetic point of contact and a direct means of approaching and considering each other's problems.

"3. That each local producers' association maintain a standing committee to study the relative merits of the various existing or prospective market outlets for milk, and to foster the establishment of co-operative enterprises for the manufacture of dairy products whenever and wherever conditions warrant or demand such action.

"4. That the local producers' association and the agency to whom milk is sold mutually assume the responsibility of organizing an annual conference at which the following subject shall be thoroughly discussed:

A. Lower cost of manufacturing and distributing milk and its products.

B. Lower cost of producing whole milk.

C. Cow test associations.

D. Improvement in the quality of raw milk and its finished products.

E. Fundamental principles of economics as applied to production and to marketing.

(Continued on page 238)



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"At least 20% of our trucks' work is on-the-farm hauling, in the sand-clay loam of the orchards. All of our highway travel is over clay and sand roads that turn thick and slippery in wet weather. So you can see that ours is not a question of pneumatic tires or some other type; for only the cords can master all these conditions. No other kind can haul in and out of the orchards. As for road work under favorable conditions, the Goodyear Cord Tires make three trips to two on any other; they effect a 25% saving of fuel, and an equal economy in depreciation, and with one truck and two men they haul as much as five teams and five men can handle. The utmost of the ability, economy, and long life built into these capable tires is assured by the Goodyear Conservation Service."—S. O. Monk, Superintendent, The Felton Farms, Marshallville and Macon, Ga.

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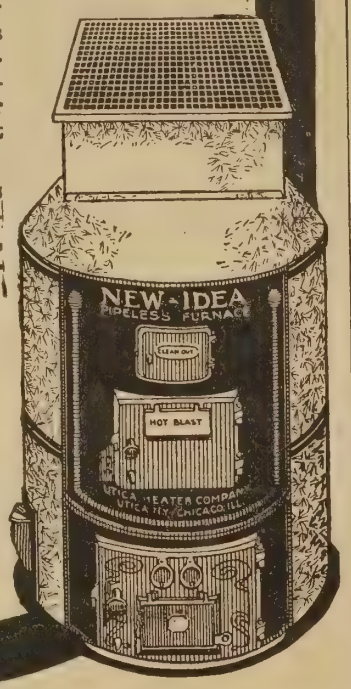
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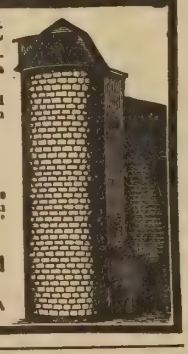
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Clover in Oregon and in Washington

HOARD'S DAIRYMAN:—The keynote crop for rotation systems in Western Oregon and Western Washington is red clover. The western districts of these two states is indicated specifically because the Cascade Mountains divide both states into districts as different as are the states of Vermont and Idaho. East of the mountains, semi-arid climatic conditions prevail and there alfalfa and sweet clover are the most profitable legumes, but in the western part of Oregon and Washington, a cool moist climate prevails and red clover is a fundamental unit in rotation systems and the most valuable soil improver of any leguminous crop. It grows on practically all types of soil there, but does best on well drained loams which have a good supply of organic matter. Different methods of securing a stand are followed in those districts.

Clover is usually grown with a nurse crop which protects the young plants and affords some return while it is getting a start. The methods of securing a stand are as follows:

1. Clover may be sown with winter grain in the fall. It may be sown with wheat, oats, barley, or rye. The latter crop is least desirable, however, because of its rank growth. An advantage of fall sowing is that it allows reseeding in the spring if the fall sowing is a failure for any reason.

2. Clover may be sown along with winter grain early in the spring before the grain has made any spring growth. This seeding should be made from the middle to the latter part of February in most years, and cannot usually be delayed after March first, as the grain is usually growing by that time. Seed should be covered with a harrow or weeder if the ground is dry enough. If not sufficiently dry for harrowing, it is usually the case that freezing and thawing and spring rains will cover the seed properly.

3. Clover may be sown with spring grains. When sown with oats, a light sowing of the grain should be made. With spring grain, clover should be sown in March or April. The best nurse crop for spring sowing is beardless spring barley which matures early and does not make an especially rank growth. Oats and common barley make a very rank growth and mature late in the season using much moisture and plant food and may cause a weak stand of clover.

4. Clover may be sown with rape in the latter part of April or early May. On farms where summer pasture is needed, it may be broadcasted and harrowed in, but the better plan is to drill it. Ten to twelve pounds of clover should be sown with three to five pounds of rape. After six or eight weeks the rape is pastured with sheep or hogs, and unless the field is pastured too closely, the stock will not disturb the clover. Trampling the soil by the animals compacts it and brings moisture to the clover roots. Pasturing should not be done when the land is wet.

5. Clover may be sown alone in May on a well prepared soil.

6. Another method of seeding clover is to sow on grain stubble in the fall covering late. This method is fairly successful on grain uplands, but is an unsatisfactory method on a low moist soil, as the clover may freeze out.

The best methods are sowing with winter cereals with beardless spring barley, with rape, or alone in May. Careful preparation of the seed bed is important for the success of the two latter plans. Under such conditions, plowing should be done early to save moisture. Frequent harrowing is essential and before seeding it will usually pay to run over the land with a float. Clover in Western Oregon and Western Washington is used for hay, soiling, pasture, seed production, and to plow under as a soil improver. When grown for seed it is often pastured until the middle of May. Sometimes it is clipped in May and the clippings fed or put in the silo. The second crop is then used for the seed crop. The second crop makes a more upright growth, ripens more uniformly, and produces more flowers. Harvesting also will come in the dry season and there is less injury to the late crop by injurious insects, among which is the clover midge. Straw from red clover seed production is worth approximately $10 a ton for fertilizer and the seed crop of three to five bushels has returned $60 to $100 per acre during the past year or two.

Oregon. F. L. BALLARD.

In three months Minnesota has added 40,000 members to its Farm Bureau Federation. The total membership the first of this month was 54,000, which is an increase from 14,000 as the result of a ninety-day campaign. President L. E. Potter reports that township units are now being organized at the rate of twenty per day.

The extra growth pruned out of the orchard this winter won't be in the way of effective spraying later.

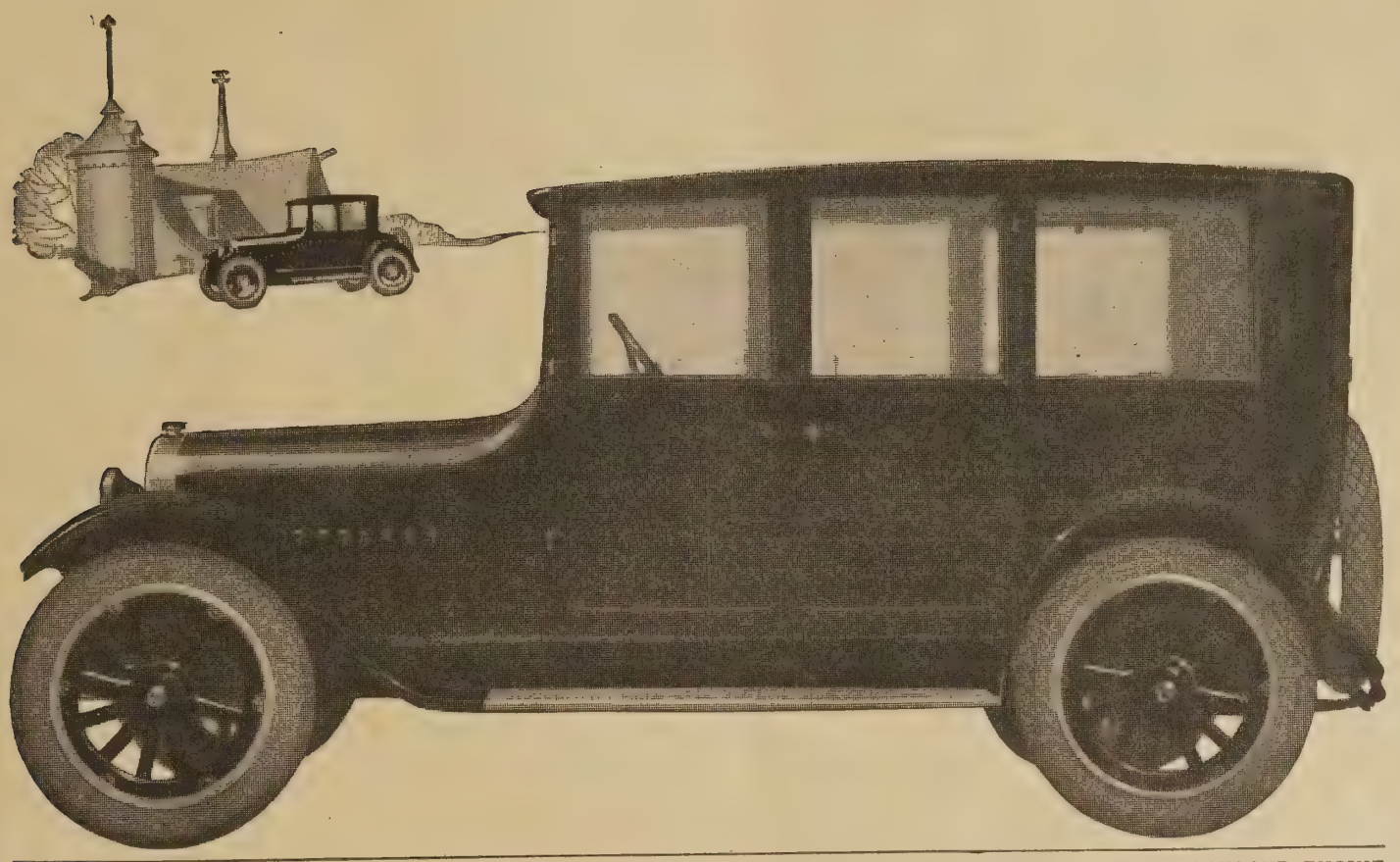


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Town ____ State ____

Wisconsin's Get-Together Conference

(Continued from page 232)

"5. That to further the organization of these local associations and to enable them to be helpful to each other by interchange of information, experience, and by comparison, a Wisconsin federation of local milk producers' associations be established and vigorously promoted.

"6. That the members of all branches of the dairy industry shall support the Wisconsin Dairy Council in its campaign of education and advertising. In the end this will result in a better understanding by consumers in both city and country that milk and other dairy products are absolutely necessary in the daily diet if we are to continue as a nation of strong, healthy, vigorous men, women, and children. Not only this, but also that they may realize that these products are the best foods, are relatively cheap in price, and are delightfully palatable.

"7. That there should be established a state committee on milk marketing that will be properly representative of the producers, consumers, manufacturers, and distributors of the various dairy products, as well as social welfare workers, the agricultural and city press, and such technical investigators and state or city departments as are directly concerned with the products in question. Such committee should meet at least once each year and whenever it is felt that its deliberations will benefit the industry."

The pea growers and canners held a spirited meeting, the committee reporting as follows:

"To promote co-operative relations between canning factory managements and pea growers and to provide arrangements by which unavoidable misunderstanding and difficulties confronting either canners, farmers or both, in each locality, be it recommended that the Wisconsin Canning Crop Growers' Association be perfected to carry out the preceding purposes according to the following resolutions:

"1. That a relations committee of three growers representing the growers, and a similar committee of three persons representing the canner be established in each community where peas are grown and canned.

"2. That the pea growers of each community and the canner mutually assume the responsibility of organizing an annual conference at which the whole problem of growing peas, canning them, and marketing the same, be fully covered so that all parties will understand more fully each other's problems and responsibilities.

"3. That because pea canners differ greatly in operating efficiency and are located in separate sections where customary arrangements are vital to the quality of finished products, and because unsettled market conditions make a prediction of future prices uncertain, for the present let all matters relating to price and method of buying be left for adjustment between the growers and canner of each locality."

Butler Sells to Meridale

What is probably the largest Jersey transaction ever made is that in which Edmund Butler has sold his importing and auction sale business to Ayer & McKinney. Mr. Butler sells every animal he owns in this country and upon the Island of Jersey. These cattle will go to Meridale Farms, owned by Ayer & McKinney, and the annual auction sale business established by Mr. Butler will be conducted there. Mr. Butler plans to purchase a farm on the Island of Jersey and breed animals of the Sybil's Gamboge family.

Mr. Butler started his importing business seven years ago. Until 1917 his importations were sold at private sale. His first public sale, May 2, 1917, brought an average of $550.80 for 92 head. In 1918 he sold 60 head which averaged $1,001.91, establishing a new world record for averages. In 1919 his August 4 sale set an average of $3,367.02. Forty-seven head were sold and set a world record for auction sales for all breeds of dairy cattle. In 1920 he sold 60 head for an average of $3,110.83.

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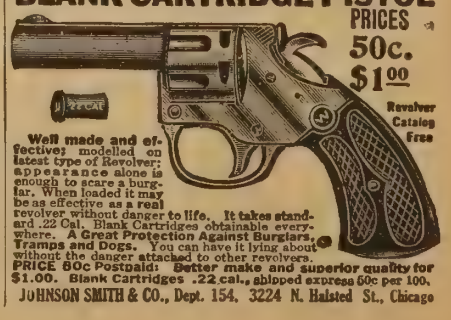
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Cheese Prices Steady With Tone of Trading Improved

(Report by U. S. Bureau of Markets.)

With an increased demand from the distributing trade, cheese markets took on a more confident tone during the week ending Feb. 12, and the general condition of the markets at the close showed considerable improvement over the past few weeks. Trading, however, remains somewhat irregular, as dealers are not unanimous regarding the outlook for the immediate future, and some are still dubious as to what the next few weeks may bring in the nature of price changes. Just at present cheese prices are holding steady.

Receipts of fresh cheese at distributing markets are beginning to show a slight increase, and while there are still some defects, the general quality is good for this season of the year. With an improvement in quality there is better demand for goods of this class and as trade shifts to this or to lower cost fall make, the demand for higher cost fancy held cheese slackens. As a result, prices of fancy are in some markets a trifle weaker in a wholesale way. However, there is very little wholesale business on account of light supplies, and the market on held cheese is generally satisfactory. Some of the stocks remaining in storage consist of cheese which will probably have to be moved into export channels when exchange rates become more favorable. Export business continues to be fairly quiet.

The average wholesale prices on American cheese (style Twins) for the week ending Feb. 12, 1921, and for the corresponding week last year, were as follows:

	Week ending Feb. 12	
	1921	1920
	Cents	Cents
New York	27.7	30.8
Chicago	24.6	28.8
Boston	24.7	32.0
San Francisco	23.6	28.10
Wisconsin	24.4	28.7

The total receipts of American cheese at these markets were 2,523,873 lbs. as compared with 2,612,968 lbs. a year ago and 3,305,039 lbs. for last week.

Sharp Recovery Follows Declines in Butter Market

(Report by U. S. Bureau of Markets.)

The weak, demoralized market conditions which have marked butter trading for some time past carried over into the week ending Feb. 12. There was, however, a general firming up toward the middle of the week which was followed later by a sharp recovery and which makes it appear that the slump has hit bottom. Conditions up until this time were worse, if anything, than they had been the previous week and the market almost reached the panic stage.

Danish Butter Hard to Move

Little, if any, Danish butter arrived during the week. Present holdings could only be sold at a loss so little was cleared. A few fair sized lots were moved at 41c to 42½c. The steamer United States is the only cargo of Danish now reported to be on the way, but an authentic statement as to her cargo is still unavailable. Early estimates were 22,000 casks but later reports are that the load will be between 8,000 to 10,000 casks. Some new offerings were made this week for future delivery at 38c to 40c c. i. f., while other bids of 39c were refused. England is said to be in the market only for finest butter at 37c, undergrades not being wanted.

Fresh butter, it now appears, will continue in fair demand for the present. Storage prints in boxes sold as low as 25c and an entire car of tallowy butter sold for 18c. Both of these sales were on the Chicago market. Storage 90-score centralized sold down to 35½c for February delivery on the Chicago clearing house call but recovered later to 37c.

The average wholesale prices on 92-score butter at five of the principal markets for the week ending Feb. 12, 1921, and corresponding week last year, were as follows:

	Week ending Feb. 12	
	1921	1920
	Cents	Cents
New York	43.4	66.1
Chicago	43.7	58.9
Philadelphia	43.9	67.1
Boston	43.8	65.5
San Francisco	40.3	60.6

The receipts of butter at these markets were 6,901,382 as compared with 7,807,566 lbs. last year and 7,701,510 last week.



With the RED LINE 'round the top

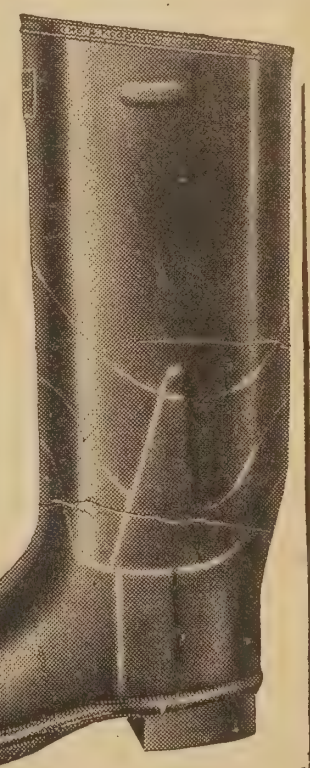
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Dairy Show Goes to Twin Cities

The National Dairy Show of 1921 goes to Minnesota. The dates are October 8th to 15th, inclusive.

A delegation of business men representing St. Paul and Minneapolis interests came to Chicago to convey an invitation to the Executive Committee of the National Dairy Association to hold the 1921 Show on the State Fair grounds of Minnesota. The heartiness of the invitation delivered by the men of the Twin Cities, coming, as they said, with the endorsement of the whole Northwest, and the enthusiastic picture of dairy progress in the Northwest, left no alternative to the committee other than to accept the invitation.

So it is now everybody together for a big dairy inspiration meeting for 1921 in this wonderful dairy country.

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with this wonderful new Libbey Automatic Water Bowl. Animal moves lever, opening water valve, when it starts to drink. Lever swings back, closing valve, when animal stops drinking.

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The Mystery Workers

Milk sours. Apples and potatoes decay after a time. Cider sours and finally turns to vinegar. Corn that is packed into the silo ferments and manure stacked in a pile will rot. These are all very familiar processes which surround our every day life. But as common as they are, they are not understood by many people even though they have been familiar to mankind ever since the beginning of things.

And all these and many similar ones have only been understood since the perfection of the compound microscope, because with it the mystery workers that have always brought about these changes were discovered. Their discovery takes us back to the year 1675 when a Dutch scientist made it known to the world that these changes were being performed by a group of one-celled organisms which he was unable to classify as animals or plants, so simple were they in their structure. Today we speak of these little workers as bacteria and it is through them that many of the baffling problems of science have been understood. Many people have died on account of the ravages that some of these little mischief makers produce when once they gain a foothold upon our bodies. And today science treats successfully the deadly diseases which they produce and from which thousands have lost their lives in the past. But all bacteria are not harmful and when once we understand the place of them in the world, we can easily understand that we could not get along without them. They are just as necessary as are the plants and animals upon which we depend day after day for our living.

To those who have made a study of these little organisms, there are three principal forms or types of them. One kind is shaped like a ball and they usually cling together in clusters. It must be remembered that all are so tiny that they cannot be seen without the use of a microscope that magnifies them many times. The second group is shaped like a pencil or we commonly say they are rod shaped. They cling together in chains, end to end. One kind shaped like these is the cause of the deadly anthrax, a disease common to cattle. The third type is cork screw shape; that is, they are twisted threads. All exist in countless numbers and we now know that the air, the food, and the water we drink are filled with them. Sometimes people speak of them as bugs. This is entirely wrong as a bug is something quite different.

If animal and plant life did not decay upon dying, such elements as carbon, nitrogen, and sulphur would soon become lost to the living things of the earth. All dead matter would simply accumulate and the time would arrive when new plants could not grow for lack of the proper things to live upon. The soil is filled with countless numbers of these tiny workers, and like the bee they are always at it. The life of one bacterium is comparatively short. It simply divides into halves and makes two new ones. This is going on all of the time so it is little wonder that there are so many of them.

All plants that make their own foods must have carbon, and we know that they take it in through their leaves from a gas in the air known as carbon dioxide. This gas is given off every time we breathe, every time that coal and wood are burned, and every time plant and animal tissues decay. It is always the result of burning of some kind. And so we see that the decay of all the plant refuse that is turned back to the soil helps to keep up the supply of this gas from which growing plants get their carbon. If it weren't for this, all of the carbon would soon become tied up so that it could not be used.

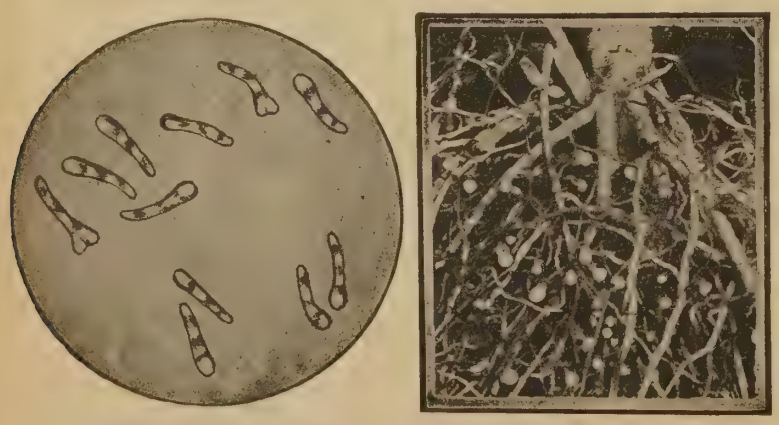


THE ABSENCE OF THE MYSTERY WORKERS MAKES THE DIFFERENCE

The formation of this gas by the work of bacteria is absolutely necessary. The nitrogen which the plants stored away in their tissues is likewise returned to be used again when the plants and animals decay. How important this all is could only be realized if the process which sets free these elements could be stopped for a time.

It is quite a matter of every day knowledge that one of the most important things which a plant must have to make a good growth is nitrogen. But plants cannot use the nitrogen contained in the manure and other organic matter of the soil. It must be worked over into other forms just as much of our food must be prepared in a certain way before we can use it as such. The final product produced by the bacteria that bring about the changes is called nitrate. In this form plants can use the nitrogen because it is soluble in water and it is carried into the plants in this way. What, then, would our crops be like if these tiny fairies were not on the job to combine the nitrogen in this way? As interesting as this all is, there is something still more wonderful which these tiny little busy bodies are capable of doing under the right conditions, providing we have the ones which fit the case.

If the farmers had to depend upon adding stable manure to the soil to keep up a nitrogen supply for the plants, the soils would soon become very deficient in this element, because no matter how carefully the manure is cared for there will always be some loss. It is quite safe to say that not more than 75% of all the nitrogen contained in the food eaten by the animals is ever returned to the soil. If this is true, and it is as has been found out scientifically, how could we successfully provide the nitrogen in the soil which all plants must have? You will agree, I am sure, that the problem would be a very difficult one to solve. But fortunately nature has seen to all this, and all we have to do is to carry on a close co-operation with Nature and the workers she has provided to do the job. Nitrogen, the most expensive of all the elements, can really be had but for the asking. Provide the proper conditions and it will come and the soil will grow rich in a nitrogen content.



THE MYSTERY WORKERS AND THE HOMES THEY MAKE

Now of course you are all anxious to know what the proper conditions are. In a few plain facts we can make that point clear. For ages people have known that plants like clover and alfalfa left the soil in a better condition than it was before they occupied it. But it was not until about 1886 that the world knew why they did this. Nature has provided a large group of plants that seem to produce this beneficial effect upon the soil. These are the common legumes or pod bearing plants like peas, beans, clovers, alfalfa, and the like. But none of these plants can enrich the soil alone. There must be something else present, which unless we know is not liable to be given the credit for the real work. This something else is nothing more than our tiny friends again, modest about making themselves known, but nevertheless always on the job if we want them to be.

So there is a large group of them known commonly as the legume bacteria. They are responsible for the little knots or nodules found on the roots of legumes and it is in these that they do a very important work for us. While living upon the plants, they are ever busy tying up the nitrogen of the air in such a way that the plants can use it and instead of feeding upon the nitrogen in the soil, they use much of the nitrogen that is fixed by these tiny friends. Now, then, if it is the nitrogen of the air that is used to make these plants grow, and if the plants are fed to the stock of the farm, it is easy to see how we may build up a nitrogen supply in the soil at a very little cost. This much is necessary, that the crops be fed to the stock in order to get this benefit. Selling them would be just like transferring money from one pocket to the other. We would still have only so much money. And so selling the extra nitrogen in the crops would leave the soil about the same in its nitrogen content. We can hardly appreciate the work of these invisible friends, so silently do they operate.

And we must not forget this fact. It is only when the legumes have a good supply of nodules or nitrogen factories on their roots that they can benefit the soil, for these plants like all others can live upon the regular supply of soil nitrogen and so we may find clover plants that look perfectly healthy without even a single nodule upon their roots. This means that they are using the soil nitrogen and we cannot expect them to add more nitrogen to the soil. But man has learned to co-operate with nature and now we have ways of providing enough bacteria of the right kind so that the plants will become inoculated; that is, there will be formed on their roots these nitrogen gathering nodules.

The addition of these bacteria to the soil is called soil inoculation and we find that often times, and especially in the case of such crops as alfalfa and soy beans, it is a very essential factor in producing good results. And we find that these myriads of invisible friends are quite choice of where they work. Those that will form nodules on the roots of the soy bean will not do a similar job on the roots of the alfalfa plant. It is necessary that the right kind be added if results are to be expected. We cannot depend upon the numbers and kinds in the soil to do the work. Soils that have not grown certain crops like alfalfa and soy beans should always be inoculated for they are very liable to be very deficient in the kinds and numbers of bacteria that are needed by these crops. But where can we find bacteria to add to the soil? Science has made that easy for us now. There was a time when they could not be found as they are now.

Today all kinds of legume bacteria are grown in laboratories in a special way and all we have to do is to get them and then follow the directions that are supplied. And so today we

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hear farmers talk about inoculating their alfalfa seed before sowing it. It means simply this, that they buy bottles of bacteria that will inoculate the alfalfa plants and sprinkle the organisms on the seed before it is sown. This carries them into the soil where they are ready to build the nodules on the roots of the plants as soon as they appear.

Junior Letters

Hoard's Dairyman Juniors:—I am ten years old and am in the fifth grade. I live on a farm of 80 acres. We have 17 head of cattle; 8 are milch cows and the others are heifers; also one horse. I have a Guernsey heifer of my own; her name is Blossom. She is nine months old. We had 5 pigs. We butchered 4 and have one left. We haven't any dog because once when we had one he bit off a cow's tail and my father doesn't want another.

We have 36 chickens and 2 roosters. They are beginning to lay now. They are Rhode Island Reds.

We have been having fine weather for December. It snowed about twice and the snow melted in a short while. We were picking stones and plowing last week. The night of December 13th the rain just poured and in the morning when we woke up we found the ground covered with snow. It has been very stormy for about two days.

I have a sister, 15 years old, whose name is Marguerite and a brother, Mike, who is 13 years old. I will write more some other time. Wishing you and the juniors good luck.

Wisconsin. Thomas Matsick.

Hoard's Dairyman Juniors:—I am eleven years old and am in the seventh grade. I like to go to school.

I live on a 160-acre farm. We have 15 milking cows. One is already dry and the others will be dry soon. We will have 18 milking cows next summer, as three of the heifers will come in after Christmas. I have a Holstein calf that is about a year and a half old. It is not a pure-bred but a high grade. I won many prizes at the last institute we had in our town. I did not have my calf there but had many other things. I wish some of the juniors would write to me. Box 67, R. R. No. 2, Coleman, Wis. Henry Gabriel.

Hoard's Dairyman Juniors:—I am twelve years old and in the seventh grade at school. I live on a 128-acre farm. We have our corn all husked and fodder in the barn. We opened our silo about two weeks ago. We are milking six cows at present. We have sixteen hogs and two sows. We have about 125 chickens. Wishing good luck to the juniors, I will close.

Ohio. Leslie Lautzenheiser.

Hoard's Dairyman Juniors:—I have a little lamb; her name is Micky and she is 8 months old. We are milking two cows now; my brother milks them. We have about 12 head of cattle and two young calves. One heifer came in fresh three days ago.

We have two ponies; their names are Bill and Kit. One of them is my brother's but she is lame now so he walks three miles to school.

We have 38 sheep and ten lambs. I raised my lamb on the bottle.

As my letter is getting long, I will close.

Good luck to the juniors.

My address is Ariel, Wash.

Frances Simmons.

Hoard's Dairyman Juniors:—I live on a 128-acre farm. I am eleven years old and in the 6th grade.

Papa has 24 cows, a pure-bred bull, and three heifers. I have a Holstein heifer and so has my sister. My heifer looks just like the one on the button I have. We have five horses and a Collie dog. The dog's name is Bowser. Mamma has some Rhode Island Red hens. We have a silo and it is 40 feet high. We filled the silo this year. I wish the juniors would write to me. My address is Box 120, R. 1, Kenosha, Wis. Peter DeGroot.

Hoard's Dairyman Juniors:—I received your very welcome letter and I read it with a great deal of interest. We are milking 19 cows just now and we expect a few more to calve. We are keeping all of the heifer calves as we want to keep weeding out our herd.

In your letter you stated that you were just harvesting your crops. Well, out here we are just putting in our oats, turnips, and maize. On the Pukekohe Hill, the farmers are digging their potatoes and selling them at 3 to 6 pence per pound. We have planted about half an acre of potatoes for our own use. The farmers are having a splendid year. There is any amount of pasture and what is better than that, we are getting a big price for our butterfat. I have read in the Dairyman that there is a large amount of lucerne or alfalfa harvested in your state. Out here alfalfa does not do so well as the roots can only go down so far, then they strike water. This makes it turn yellow and gradually the weeds smother it out.

The agricultural show which is held annually at Pukekohe has just recently been held and it was a great success. From our farm, we entered weeds on which we were able to get a first. I entered through our school in milk testing and was able to get a first also. I had hopes of being able to send a few photos with this letter but will have to send them later on as they are not yet printed.

My eldest brother persuaded my father to give the Shorthorns a run, so we obtained a few well bred cows and had them registered. A week or more ago we took a bull and three heifers in. We obtained for the bull, which was the top price paid, $300. At the yards, big prices are being paid for Jerseys, from $200 to $800, but they have to be very well bred. Guernseys are not very plentiful around here, but we have a half bred and she is one of our very best cows. The Holsteins are quite plentiful, but the farmers can't quite breed them to the average standard of others in your country. I saw some of your milking Holstein averages and they are a long way ahead of ours. My Jersey cow is doing fine and she is giving up to 50 lbs. of milk a day.

Auckland, New Zealand. Leslie Dyke.

Hoard's Dairyman Juniors:—I have written several letters which were not printed and I surely hope that this one will be. My calf is doing well now. She will be ten months old the fourth of this month. At the fairs she won six prizes, four special prizes, and two regular ones. My father has the money coming from the regular prizes and I have the rest. He has taken this to meet expenses. She brought me $31 in all.

I wish that some of the juniors would write to me. My address is Swanton, Vermont.

Murray Dunsmore.

Hoard's Dairyman Juniors:—How are all you juniors this winter? I am fifteen years old, in the eighth grade and I am carrying six studies. How did you come out in club work this year? I think that I did pretty well. My pig took first place at the county fair. The prize was a free trip to the State Fair. I sure did have a fine time down there. I saw stacks of fine exhibit corn and some of the fattest cattle that I have ever seen. My pig went along to the state fair and she took third prize down there. I sure do like club work. There is some good experience in it and some money too. So I am going to belong to the club again next year.

We are milking eight cows at present, three of which are stripperrs. We have a nice Jersey male. His name is Frolic Oxford Lad. We send our cream to Water Valley. We keep Plymouth Rock chickens. We kept a record of how many eggs we got last year. What do you suppose it is—five thousand, five hundred and twenty-one eggs! We started with sixty hens. In 1920, we sold one hundred and fifty-five dollars' worth of eggs and eighty-eight dollars and forty-five cents worth of hens and young chickens. I have a pair of Belgian hares which I intend to sell.

I live on a farm of 155 acres, but grandmother owns 40 acres of it. We have five head of horses and mules, twelve head of cattle, and twelve head of hogs. If any of the juniors want to write to me, my address is Walter Valley, Miss. Earl Barber.

Hoard's Dairyman Juniors:—I haven't written for so long that I just had to take the time today to write. We are milking twenty cows now. I don't milk now as I find plenty of work in the house to do. We have a milking machine but we do not use it. The men say that they can milk faster by hand.

I live on a farm of 200 acres. We have only four horses though and their names are Nellie, Flora, Mollie, and Fannie. We have about twenty calves so that makes about forty head of cattle. We have two hundred or more chickens and I don't know how many pigs, but I do know there are many of them; we shredded 25 acres of corn and in addition ten acres were husked.

There are five in our family. Two brothers, one 17 and one 15, twin brothers, and myself. The twins are seven years old. I always enjoy the stories that are on the junior page. I hope all of the juniors enjoyed Christmas as well as I did.

Minnesota. Hilda Maust.

Hoard's Dairyman Juniors:—In the letter which I recently received from the junior editor, I was asked to tell of my experiences in raising a calf this year. In the first place I will tell you about the feed and care which I gave my calf.

During the first month I fed her 16 lbs. of whole milk daily, gradually decreasing it until she was seven months old. I also gave her plenty of grain, clover hay, and some ensilage. The grain was a mixture of bran, ground oats, and some oil meal. I kept her inside all summer, providing plenty of fresh water at all times and I exercised her daily outside. I kept her stall clean and well bedded.

I brushed her daily and part of the time I kept her blanketed. She was clipped several times during the summer. Now I will tell you how I took care of her while at the state and county fairs. I kept her blanketed all the time while at those places in order to make her coat look nicer. I polished her horns with pumice stone and sweet oil. This was my first attempt at calf club work and the next time I expect to do better. Wishing all the juniors good luck.

Wisconsin. William Strusinske.



Sunday as a Day of Rest

Is it true that "there is no rest for farm women on Sunday," as Elizabeth Sears declares in her article "Who Feeds the Nation" in Harper's Monthly? Or has Miss Sears in mind conditions as they existed up to the last two or three years?

It is quite certain that the men rest on Sunday—and eat—and the women who cook the big Sunday dinners do not get much rest until they learn how to take the "short cuts" that save unnecessary work in hot kitchens. One of the most important of these "short cuts" is the new method of dessert making. In place of the heavy puddings and pies which have always accompanied the big Sunday dinners, fruity

JELL-O

desserts are served—desserts that are sparkling and beautiful and delicious beyond comparison.

These Jell-O desserts which just fit the Sunday appetite are made by dissolving Jell-O in boiling water. It is done in a minute, and adds a good many minutes to woman's share of Sunday rest.

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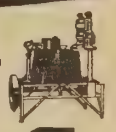


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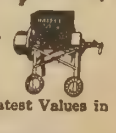


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STOCK FOR SALE

If you are in need of pure-bred Holsteins of any age or grade Holsteins it would pay you to see me as I have from 1 to 3 carloads on hand all the time. If I do not have what you want, I will help you find them as I know where to go. R. D. LEE, Cazenovia, N. Y. 3*

Holstein heifer and bull calves. Pure-bred, registered and high grade. Splendid individuals and breedings. Delivered to you, $25 and up. Your inquiry will be given our best attention. BROWNCROFT FARMS, McGraw, N. Y. 5*

I have usually 100 head of registered and high grade Holsteins on hand for sale. Also registered and imported Percheron and Belgian horses. RALPH HUDSON, Milton Junction, Wis. 12*

For Sale—At Elmwood Stock Farm, high grade Holstein cows, fresh and springers, by the carload. JOHN MURPHY, Mukwonago, Wis. 3*

"The Willows" offers fifty high grade Holstein cows for sale. S. D. SHAMBEAU, Waupaca, Wis. 12*

High Grade Holstein heifer calves, two to four weeks old, from tuberculin tested herds, $30 each, crated. Will ship C. O. D. WAUKESHA CO. HOLSTEIN-FRIESIAN BREEDERS' ASSOCIATION, Waukesha, Wis. 9*

High Grade Holstein and Guernsey calves. $25 crated. Safe delivery guaranteed. BROWN & COLLINS, Lima Center, Wis. 10*

Serviceable grandsons of Lola Segis Pontiac Homestead for sale, he a 34-lb., 1,000 lb. son of Plebe Laura Ollie Homestead King. Dams' dams are daughters of Joe Oak De Kol Fobes. Well grown, good individuals. Your choice, $150. R. W. MEAD, Stillwater, Minnesota. 10*

High Grade Holstein calves 6 to 8 weeks old, $30.00 each. We pay express and ship C. O. D. SPREADING OAK FARM, Whitewater, Wis. 11-tf.

For Sale—30 high grade Holstein milkers and springers. Will sell one or all. FRED JOHNSON, Waupaca, Wisconsin. 23*

Closing out herd of grade Holsteins, $100.00 each. H. A. KUHTZ, Waukesha, Wisconsin. 24*

You take no chances when you order your Holstein heifer calves from me as I ship C. O. D. and pay express. Also a few real producing cows cheap. E. F. THOMAS, Oconomowoc, Wisconsin. 26-8

For Sale—My entire herd of choice high grade Holsteins, mostly bred to and sired by thirty-pound bull. There is one full load of the best large heifers in southern Wisconsin, uniformly marked, about three-fourths white. C. L. SIMMONS, Belmont, Wis. 1*

Baby Bulls—Registered Holstein-Friesian by high class sires and heavy producing dams. Price is right. C. S. MULKS & SON, Whitewater, Wisconsin. 3-*

If you want the best pure-bred and grade Holsteins write BABLER CO., Monroe, Wisconsin. 3-4

Holstein Bull Calves from daughters of King Segis Pontiac, (the sire of Pabst and Hackney herd sires). Sire of calves a 32-lb. son of a twice 30-lb. cow whose dam has record 29½ lbs. butter and 731½ lbs. milk. Dam of calves has records up to 30 lbs. Prices $100.00 and up. Write for list. A. G. WADE, 1770 Old Colony Bldg., Chicago, Ill. 3-4

Carload registered Holstein heifers sired by 34-lb. bull, 14 yearlings due next fall and 7 over 2 years due early spring. Would sell few young cows. My herd of 60 just Federally tested and not one reacted. R. P. CLEMENT, Route 8, Adrian, Michigan. 4-sp1

100 High-grade Holsteins, 35 cows, yearlings, two-year-olds, three-year-olds, and calves. Federally tested. In testing association. A. J. FAEBER, Davenport, Iowa. 3-4

For Sale—Three-month-old Holstein bull calf out of 30-lb. bull. For quick sale, $100. Perfect in every way. Herd under Federal supervision. FITCHOME FARMS, Aurora, Illinois. 4-3

Holstein bull, ready for service, 2 dams averaged 106 lbs. milk 1 day, 40.67 lbs. butter 7 days, $200. Terms. ROY HARRIMAN, Appleton, Wisconsin. 5-6

Yearling bull for sale. From 19-lb. 3-year-old dam. Homestead Junior De Kol breeding. First check $150 takes him. ALBERT C. WOLLIN, Johnson Creek, Wisconsin. 5*

Good serviceable bulls, some good heifers at prices that are right. We are breeders, not dealers. We always satisfy. DATE HOLSTEIN FARMS, Baroda, Michigan. 5-4

Great Public dispersal of registered Holsteins on March 18, 1921. Linside herd, 100 head must be sold as the farms are sold and going out of business. Herd bred from 30-lb. sires and A. R. O. cows; wonderful individuals; great opportunity to get the best of fifteen years' careful breeding, Korndykes, Pontiacs, and Rag Apples. See large advertisement, page 244. Send for catalogue. W. B. WICKERSHAM, Embreeville, Pennsylvania. 6-3

Holstein Springers—From the men who raise them, direct to you—priced reasonably, tuberculin tested. NEW RICHMOND-STAR PRAIRIE AGRICULTURAL ASSOCIATION, Harold M. Stephens, Secretary, New Richmond, Wisconsin.

Holstein bulls, 8 to 12 months from 30-lb. sire, King Korndyke breeding. Tuberculin tested. A. R. O. dams. $125.00 to $200.00. Also Waterloo Boy tractor, good as new, $625.00. G. A. UITDENBOGERD, Rosemount, Minnesota. 6-3

Holsteins—37-lb. herd sire, young bulls, cows, heifer calves. PHILIP LEHNER, Princeton, Wisconsin. 6*

Public Sale—March 26, 1921, at Frederick, Md. 35 registered Holsteins, horses, mules, registered hogs, farming implements. H. H. SWOMLEY. 6-3

Shipped C. O. D.—Anything in Holsteins. Registered bulls, $35.00. High grade heifers, $20.00. Real calves. RAY McFARLAND, Route 7, Watertown, Wisconsin. 6-2

My herd of twenty high grade Holsteins. Reasonable. GEO. HETLAND, Viroqua, Wisconsin.

Grade Holstein cows in carload lots and 4 registered bulls for sale. W. R. GATES, Fort Atkinson, Wisconsin. 6*

For Sale—Holstein bull calf. Choice blood on both sides. First check for $25.00 takes him, register and transfer papers furnished. LITTLE'S DAIRY FARM, Kewanee, Illinois.

Registered and high grade Holsten calves, either sex, at farmers' prices. CITY LIMITS FARM, Watertown, Wisconsin. 6-4

I don't want your money until you see my calves. I offer beautifully marked, high grade Holstein heifer calves at almost veal price. Registered bull calves $35.00. I ship C. O. D. and if calves don't suit don't pay for them. Safe delivery guaranteed. J. M. McFARLAND, Watertown, Wisconsin. 6-4

Two Holstein bulls ready for light service, good individuals from A. R. O. dams. Sire a 28-lb. son of Judge Segis. Price $100.00. Young bulls from $35.00 to $75.00. W. E. RAY, Route 2, Kewanee, Illinois.

STOCK FOR SALE

Fine grandson of Pontiac Korndyke with 65% of his blood, being inbred, $65.00. Dam not officially tested. STANLEY HOLLIDAY, Pleasantville, Ohio.

Guernseys for Sale—Members of the Ohio Guernsey Breeders' Association own more than 2,000 registered females. Also some of the finest bulls of the breed. Think of the progeny that results each year. Write for sale list of males and females. OHIO GUERNSEY BREEDERS' ASSOCIATION, Box 602, Sylvania, Ohio. 4*

Serviceable and younger grandsons of Beauty Eagle, 846 lbs. fat, and of Bonny Boy of Riverdale. Out of heavy producing cows. Farmers' prices. LA BELLE KNOLL FARM, Oconomowoc, Wisconsin. 14*

My entire herd of grade Guernseys for sale. Also a few choice heifer calves at $30.00 delivered. SHADY HILL FARM, Whitewater, Wis. 23*

Guernsey heifer calves. Can ship you 10 at once about 4 weeks old. Calves out of my own herd, so know what I am shipping. $30 each crated, F. O. B. Waukesha. WERN FARMS, Waukesha, Wis. 18*

George-Washington Farms' Guernseys. Choice young bulls of serviceable age. GEORGE-WASHINGTON FARMS, Mankato, Minnesota. 19*

Guernsey bulls of May Rose breeding with records up to 700 lbs. fat in B. B. Beautiful heifers (grades) in calf, also few Holstein springers. H. A. KUHTZ, Waukesha, Wisconsin. 19*

Guernseys—All ages, both registered and grade. H. A. MAIN Sec'y, Jefferson Co. Guernsey Breeders' Association, Fort Atkinson, Wisconsin. 20*

Guernseys—High grade Guernsey calves, either sex, four to six weeks old, bred for production of milk and butter. Thirty dollars apiece delivered to any station, express charges paid here. Send orders or write. LAKE VIEW GUERNSEY PLACE, Whitewater, Wisconsin. 26-tf

For bargains on May Rose bulls with type and production, write KUHTZ BROS., Waukesha, Wis. 21*

For Sale—Registered Guernsey bull calves, good producing dams at farmers' price. OTTO KRUEGER, 427 East Broadway, Toledo, Ohio. 24*

Guernseys for Sale—From Federally Accredited herd. Bull calves, two bulls ready for service, sired by Clara's Sequel and out of high testing dams. Also ten pure-bred females. LLOYD RUNDELL, Roberts, St. Croix County, Wisconsin. 26*

Guernsey calves six weeks old, $20. F. O. B. Knapp. THOMAS HAGERTY, Knapp, Wisconsin. 2*

Bargains—Four highly bred registered Guernsey bulls. Ages about 3½ and 2½ years and 2 to 9 months. Herd tuberculin tested by Government. A. W. BROWN, Rhinelander, Wisconsin. 3*

Two registered Guernsey heifers for sale. Two years old. Bred to Langwater Frenchman, due in April. Also serviceable Guernsey bull whose dam and grandam average 653 lbs. fat. Federal Accredited herd. HOMER RUNDELL, Livingston, Wis. 4*

Accredited Guernsey Bulls—Best breeding and records. Ask for sale list. GUERNFALFA FARMS, Peebles, Wisconsin. 4-5

For Sale—Two May Rose Guernsey bulls, age 4 months. Sired by Langwater Frenchman, a half brother Ne Plus Ultra. Dams' Advanced Registry records 710 and 660 lbs. fat. HOMER RUNDELL, Livingston, Wisconsin. 4*

Registered Guernsey bulls and heifers. FAIRVIEW FARMS, Brodhead, Green County, Wisconsin. 2-9

Eight registered Guernsey bulls from one to eighteen months old. One with A. R. dam record 576 pounds butterfat, now 14 months old. Herd State and Federal Accredited tuberculosis free. Dams have cow testing association records. C. F. and R. BLACK, Mount Vernon, Indiana. 5-2

For Sale—Registered Guernseys. Both sexes. Herd under Federal Supervision and free from disease. CLOVERNOOK FARM, Whitefish Bay, Milwaukee County, Wisconsin. 6-10

Two Guernsey bulls of serviceable age and one five months. Best blood lines. Address STATE NORMAL SCHOOL, Platteville, Wisconsin.

Guernseys—Registered males and females, all ages. Breeding and type unexcelled. Grade cows, yearling heifers, heifer calves. No better quality anywhere. Tuberculin tested. Prices reasonable. Why not buy through an association and from breeders in the business to stay? Write your wants today. F. E. FOX, Secretary Waukesha County Guernsey Breeders' Association, Waukesha, Wisconsin. 6*

For Sale—Three registered Guernseys. Cow 6 years old in the spring, heifer coming 2 years, one yearling heifer. Very good heavy milking strain. Stock can be seen at my farm at Long Lake, Minn., or see me personally. A. F. NORDBERG, 801 Besse Bldg., Minneapolis, Minnesota.

For Sale—May Rose Guernsey bulls, one month to eighteen months old from accredited herds, some with A. R. dams. Write for particulars. JULIUS STENBERG, Withrow, Minnesota. 6-2

For Sale—Registered Guernsey bull six years old. Tuberculin tested. Guaranteed a good breeder. Price $125.00. E. B. McREYNOLDS, Fairfield, Nebraska.

For Sale—Ayrshire bull calf. A grandson of Bargenoch Gay Cavalier. Also one yearling heifer. L. B. STRUBLE, Fredericktown, Ohio.

Brown Swiss bulls of serviceable age. A. C. BOODY, Hudson, Wisconsin. 4*

Jersey bulls—Two registered yearlings. Excellent individuals, Raleigh blood, Register of Merit dams. Reasonably priced, Federal supervision. Send for pedigrees. RAVINE FARM, Highland Park, Ill. 6-2

STOCK BUYER

Registered dairy cattle bought and sold. EDWARD A. WALTER, 111 Monroe St., Chicago. 18*

Will buy for you, dairy cattle of any breed, grades or pure-bred. DAVID W. WILLIAMS, Lake Forest, Illinois. 6*

DOGS

German Shepherd, airedales, collies, and old English Shepherd dogs. Brood matrons, puppies, farm helpers. 10 cents for instructive list. W. R. WATSON, Box 520, Oakland, Iowa. 20*

Hound and Horn. Prices. Photos. Write KASKASKE KENNELS. Herrick, Illinois. 3-4

Shepherd Pups—Heel working parents. FAIR OAK FARM, Norwood, Minnesota. 5-6

AUCTIONEER

Charles W. O'Neill, Auctioneer—6 years' registered stock and farm sales' experience. Now graduate from Fred Reppert School. Write early for dates. Address BRIDGEPORT, Wisconsin. 3-4

STOCK WANTED

Wanted—Carload registered bred Holstein heifers. State price and breeding. ROBT H. LEDBETTER, Redmond, Oregon. 5-2

SWINE

Duroc-bred gilts and boar. Prize winners. PHILLIP LEHNER, Princeton, Wisconsin. 5*

Chester White, registered, service boars. Cut prices. ARTHUR ROBERTS, West Bend, Wisconsin.

O. I. C. pigs, born November 27, 1920. Either sex. HOWARD B. BINKLEY, Safe Harbor, Pa. 6-2

POULTRY

Baby chicks, quality first. Pure-bred, bred-to-lay from free range flocks. White Leghorns, Buff Leghorns, Barred Rocks, White Wyandottes. Send for catalog. WANDSCHNEIDER'S HATCHERIES, Box 1, Fort Atkinson, Wisconsin. 5-4

Highest prices paid for live and dressed poultry, pigeons, veal, hides, etc. Quick returns, fair treatment. C. E. McNEILL & CO., 325 W. So. Water Street, Chicago. 24*

Eggs $1 setting. Parcel post paid. Thoroughbreds. Barred Rocks, White Rocks, Buff Rocks, Anconas, White Wyandottes, Brown Leghorns, White Leghorns, Rhode Island Reds, Buff Orpingtons. PHILIP CONDON, West Chester, Ohio. 5-15

Bronze turkeys. MAC CRADIE BROTHERS, Hendrum, Minnesota. 5-4

S. C. White Leghorn cockerels, $2.00 each. Satisfaction guaranteed. Order from this advertisement. WALSHLAND FARM, LaValle, Wisconsin. 5-2

For Sale—Van Liere's Partridge Wyandotte cockerels, $5.00. 15 eggs, $3.00; 30, $5.00. Satisfaction guaranteed. J. W. VAN LIERE, Salem, Wis. 5-4

Minorca Eggs—S. C. White and Buff. CHRIS LONKE, Sunman, Indiana. 5-3

Baby Chicks—Limited number S. C. W. Leghorns at twenty dollars a hundred. Prepaid. March delivery. PORTER FARMS, Lake Geneva, Wis. 6-3

HORSES

For Sale—Belgium stallion bay 2,200-lb. 9-year-old or will trade for Guernsey or Holstein cows or heifers. W. C. WILLIAMS, Anderson, Indiana. 6-4

SEEDS

Farmers, ranchmen and dairymen. Order your Grimm and Cossack alfalfa seed direct from the grower. All seed recleaned and guaranteed. Ask for samples. WM. H. K. WILLIAMS, Triangle Ranch, Cottonwood, South Dakota. 26*

Jacques' Seed Corn—Early maturity, high yield, perfect germination. Grown in Clark County, North Wisconsin twelve years. My Golden Glow ripens in 100 days, yields 60 bushels shelled corn per acre. My North Wisconsin Yellow Dent ripens in 90 days, yields 50 bushels shelled corn per acre. Picked before frost, thoroughly fire dried. Careful tests show 98% to 100% germination. Money refunded if corn is unsatisfactory. Write for folder and prices to WM. H. JACQUES, Neillsville, Wisconsin. 1-13

Grimm alfalfa, soy beans, clovers, grasses, Iowar and Iowa 103 oats, field seeds all kinds. Ask for price list. DAVIS SEED CO., Dept. H, St. Peter, Minnesota. 2-7

Send for attractive price list of our select home-grown seed corn. Finest quality, several varieties. Fully guaranteed. Largest trade in Northwest. JOHNSON & ARNESON, Dassel, Meeker County, Minnesota. 3*

Seed Peas—Buy Northern grown Canada field peas direct from the grower, cleaned ready for seeding, 1,000 bu. for sale, 1 bu. $3.00; 2½ bus. $7.00; 5 bus. $12.50; 10 bus. or more at $2.25 per bu. Sacks included. Send for sample or order direct from this ad. L. P. MARTINY, Chippewa Falls, Wis. 4*

New Advance Wisconsin Pedigree barley, Iowa and other leading oats. Pure seed. Write for circular. KRUEGER'S SEED FARM, Beaver Dam, Wis. 4-6

Clovers, alfalfa, free from weeds. Soy beans, kiln dried corn. Everything guaranteed. HENRY MICHELS, Fond du Lac, Wisconsin. 5-5

Sudan Seed—Re-cleaned, double sacked, $3 per hundred, f. o. b. Lubbock. JOHN F. TURNER, Lubbock, Texas. 5-4

Seed Corn—Eureka Ensilage, Silvermine, Reids, Johnson, Rileys 52-day. C. L. HAMMOND & SONS, Rockport, Indiana. 5*

Seed corn Wisconsin Number 25, earliest Yellow Dent, fire dried, shelled and graded. Write for booklet. W. I. BROCKSON, Box D, Marinette, Wis.

New cold-resistant Early Golden Glow seed corn for the north and higher altitudes. Finest quality Wisconsin No. 7 and No. 1 oats. Medium Red and Mammoth clover. Genuine Grimm alfalfa. It will pay you to secure my samples and prices before buying. NOYES RAESSLER, Beloit, Wisconsin. 6*

We are again ready to supply our customers with our high grade seeds at the lowest prices. "Quality considered." Write for samples and prices. Seed is strictly guaranteed. PICKART BROTHERS, Malone, Wisconsin. 6-2

For Sale—Seed corn La Crosse County grown. 10 ears took sweepstakes at the La Crosse grain show. Silver King and Golden Glow, $4.00 a bushel, bags free. Tests 98%. The corn for your silo. The Silver King is the best. JOHN BENDEL, JR., Stoddard, Wisconsin. 6-3

Sweet clover seed, North Dakota grown. White, scarified, $9.00 bushel, sacks extra. CAPENER & ARCHER, Erie, North Dakota. 6-3

Soy Beans. All Wisconsin grown and tested. GUND COMPANY, La Crosse, Wisconsin.

State Fair. Sweepstakes clover seed, pedigreed barley, oats, corn, wheat, timothy, alsike, alfalfa, potatoes, flax, sweet clover, soy beans, peas. Write for prices. ARTHUR POPP, Jefferson, Wisconsin. 6-4

PARTNER WANTED

Partner wanted for retail store in a thriving farming and sawmill town. Only store in town and doing a fine business. Owner is old and sickly, and a single man. Wants to retire if partner will take charge. Will sell half or whole interest. Store experience not necessary. Address BOX 651, care Hoard's Dairyman.

BUSINESS OPPORTUNITY

Business for sale suitable for retired farmer, or one whose time is not fully employed. Address FRANK J. GRADY, 2119 Corry Street, Madison, Wisconsin. 5-4

TOBACCO

Homespun Tobacco—10 pounds, $3.00; 20 pounds, $5.00; 100 pounds, $20.00. FARMERS' UNION, Mayfield, Kentucky. 6-4

FARMS FOR SALE

A 431½-acre combination grain-tobacco-stock-dairy farm, one-half mile from Burkeville, a town with best transportation, eighteen passenger trains scheduled daily, good high school, hard surfaced roads two sides farm. 165 acres cleared, 40 acres fertile bottoms, 200 acres densely wooded, entire farm fenced and cross-fenced, springs furnish running water in all pastures. Modern 22-stanchioned dairy barn, three silos, deep well, running water, good dwelling, three tenant houses, all necessary out buildings, four tobacco barns, splendid orchard. Milk check runs over $600 per month. Alfalfa, clover, grasses, grain and bright tobacco grow to perfection. For quick sale and immediate possession given, will include three horses, one mule, two colts, milk cow, fifty chickens, feed, $3,000 worth of improved farm implements, machinery, wagons, Stewart truck, etc. A real bargain and money-maker at $23,000, sufficient cash payment to bind bargain, balance to suit purchaser, interest 6%. Owner has other interest. It will be to your interest to see this farm before you buy. Address OWNER, Burkeville Stock Farm, Box 65, Burkeville, Virginia. 6-2

For Sale—640-acre farm, summer fallowed; in heart of gas and oil fields. JESTRAB BROS., Havre, Montana.

FARMS FOR SALE

Dairy farm for sale—My business is demanding attention so completely that I find it necessary to dispose of my 280-acre farm located near Banks Lake 2½ miles from Wauconda, Illinois, about 40 miles northwest of Chicago. This farm is situated in one of the finest agricultural sections in the world with quick communication to a great market. All but 15 acres of woodland in this farm under cultivation. The soil is rich and thoroughly drained. Has been heavily stocked and is well fertilized. Ten-room house, large barn, and milk house, implement shed, two 40-ft. silos, tractor shed, blacksmith shop, chicken house, hog house, corn cribs, etc. Milking machine equipment for 50 cows. This farm is an opportunity for some practical man. It is a money maker. Good terms. Address LEROY A. KLING, 1702 Consumers' Building, Chicago, Illinois.

For Sale—Choice Ohio farms. All sizes and prices, some great bargains. Write for list. I. J. MILLER, JR., Conneaut, Ashtabula Co., Ohio. 22*

Farms, ask French if he has what you want. Write him and state your wants. Reference any bank here. J. R. FRENCH, Cortland, N. Y. 24-13

Landology special number just out, containing 1921 facts of clover land in Marinette County, Wisconsin. If for a home or as an investment you are thinking of buying good farm lands where farmers grow rich, send at once for this special number of Landology. It is free on request. Address SKIDMORE-RIEHLE LAND CO., 47 Skidmore-Riehl Bldg., Marinette, Wisconsin. 25-12

Rose Valley Farm—137 acres; 17 miles macadam roads to City Hall, Philadelphia; owner's residence, electric lights, hot water heat, open fireplaces; beautiful lawn and shade; extended view; large stable and carriage house; modern cow barn, 48 head; tenant houses; purest water in abundance; all necessary buildings; macadam roads each side and through farm; $50,000 less than cost of buildings. FARM 2024 N. 10TH ST., Philadelphia, Pa. 26*

Free Wisconsin Bulletins, soil, climate, crops. IMMIGRATION BUREAU, Wisconsin Dept. of Agriculture, Capitol Drawer 125, Madison, Wisconsin. 26-13

Hardwood cut-over land, silt loam, clay sub-soil. Neither sandy nor gravelly; close to town; good roads; good schools; in the heart of the dairy country. You deal directly with the owners. No agents and no commissions. Easy terms. Also improved farms. Write for map and Booklet No. 4. NORTH WESTERN LUMBER CO., Land Department, Stanley, Wisconsin. 1*

New York offers wonderful opportunities to farm buyers. Good farms, good markets, low taxes. Send for catalogue. THE HAZARD-RHODES CO., Salamanca, New York. 5-4

For Sale—165-acre farm, 30 cows, fine buildings; on macadam road, near city; $16,000, $2,000 cash, balance 5%. CHAS. PETERS, Castle Creek, N. Y. 5*

Modern dairy farm on good road in Waukesha County. 200 acres, comfortable brick dwelling, furnace heat, running water, horse barn, two large connected modern dairy barns, two silos, tile milk house. Complete breeding establishment. Convenient to Waukesha and Milwaukee. Price reasonable. R. E. BENSON, Dousman, Wisconsin. 26-sp1

Southern Michigan—Sixty acres, 2 miles from town, fertile clay loam, never rented, 50 acres under plow, balance timber and pasture, fine orchard, good buildings. Every respect a good farm and a fine home. $7,500, $1,500 down. MICHIGAN FARMS AGENCY, Box 928, East Lansing. 26-sp1

For Sale—A fine 100-acre black soil farm with No. 1 buildings. Will take a good house in part payment. W. H. NEVINS, Jefferson, Wisconsin.

Riverside Stock Farm—160 acres, one hour to Milwaukee, ideal location, good buildings, deep rich soil, no obnoxious weeds. Owner's age reason for selling. Exceptional opportunity. Deal with owner. JOHN MUELLER, SR., Mukwonago, Wisconsin. 6-3

$1,000 secures 114 acres with 14 cows and heifers, machinery, household furniture, hay, etc.; wood, fruit, sugar maples; good 9-room house, barn, poultry house; owner alone, $3,000 takes everything, easy terms. Details page 24 Illustrated Catalog 1200 Bargains. Free. STROUT AGENCY, 150 DL Nassau Street, New York City.

$250 secures farm with cozy dwelling, overlooking beautiful bay; 10 acres in famous resort section; on good road, near beach, convenient city; 8 acres tillage, ideal vegetables and tropical fruits; oranges, guavas, etc.; artesian well. Owner unable occupy, makes low price $1,000, easy terms. Details page 55, catalog free, STROUT AGENCY, 1210 FB Graham Building, Jacksonville, Florida.

145 acres, five miles from Milwaukee, on concrete road; large brick house, tenant house, two large basement barns, good orchard; 100 acres under plow, balance timber and pasture, with spring brook in same. GEO. W. ADAMS CO., 330 Caswell Block, Milwaukee, Wisconsin.

South Dakota—If you have $2,000 to put into a farm come to South Dakota where land is still selling at low price. Write for free bulletins. If you want to buy, rent or work on a farm write to IMMIGRATION DEPARTMENT, Irwin D. Aidrich, Commissioner, Capitol F-15, Pierre, South Dakota.

Yours for the asking. Our new spring list of Central Wisconsin farm bargains. Write today. GRAHAM'S LAND OFFICE, Marshfield, Wisconsin.

Taxes don't worry farmers in wealthy Western New York. Cheap farms, best markets, big profits! NEW YORK FARM AGENCY, Westfield. 3-sp1

Fine dairy farm for sale. 102 acres in the heart of the great Wentling Corner dairy district of Clarion County. Limestone country, fine soil, high, dry and level, underlaid with good coal, bank open, not leased; underlaid with gas, well on farm; free gas and $100.00 a year per well. Lots of fruit; good, large buildings; water in house and barn; good springs; good markets and roads; creamery close. Also best of schools, churches and railroads. $10,000.00 or $13,000.00 for everything including good sawmill. WADE CLARK, Knox, Pennsylvania.

Columbus, Miss; 900 acres creek bottom and timber land. $10.00 per acre. 300 acres in cultivation. Being sold by lumberman. Can sell enough pine timber in ten years to pay for land. Eighteen tenant houses, good dwelling, easy terms. Write ELMER R. WALTON, Box 382, Jackson, Mississippi.

Cut This Out—Learn today how settlers with farming experience can get new made-to-order dairy farms with buildings, stock, tools, etc. First payment $300, balance 30 years. Location famous Chippewa Valley, heart of Wisconsin. Close neighbors, markets, railroads, schools, creameries, best soil, pure water. Greater opportunity than Homestead. Several farms ready to move on now. Send today for free information. CHIPPEWA VALLEY COLONIZATION CO., C-201 Plymouth Bldg., Minneapolis, Minnesota.

190 acres for sale or rent, share basis. 110 plow, 65 pasture, meadow, 15 heavy timber. Cuts 80 to 100 loads alfalfa and clover. Choice orchard. Barn 96x42, holds 100 tons hay; granary and feed bins; silo 14x38; 40 cow stanchions; horse barn; 2 storage barns, hog, chicken and milk houses; spring water; 10-room dwelling. Near schools; ½ mile state roads; 4 miles Baldwinsville; 4 Liverpool, 8 Syracuse, New York. Will furnish cows, mostly registered Holsteins. Milk goes to Syracuse. Good dairyman wanted. F. M. MUNGER, De Kalb, Illinois.

For Sale—320 good Missouri Ozark timber land on county road, about 3 miles from station. Lays well. Fine fruit section. Splendid dairy and stock country. Fine water. Good climate. Pasture 9 months yearly. Very reasonable terms. W. A. TOWNES, Owner, Seymour, Missouri.

365-acre farm, 2 miles from railroad village on state road; good buildings; running water; large amount wood and timber; sugar bush, 1,600 trees; 50 cows; 2 horses and farming tools. Price $25,000 $5,000 down. WALTER CURTIS, Sheldon, Vermont.

Do you want a 120-acre farm in Wisconsin dairyland, two miles from city limites of Ashland, modern buildings, fully equipped with machinery, herd of high grade Guernseys, Duroc-Jersey hogs. Address BOX 656, care Hoard's Dairyman.

MACHINERY

Want the cheapest, handiest belt power? Then ask me about my Little Twister Power Transmitter for Ford and Dodge cars. FRANK R. WEISGERBER, Salina, Kansas. 16*

For Sale Cheap—A small lot of standard make Swedish Cream Separators, 400 pounds capacity, $29.-00, 500 pounds capacity, $34.00, 700 pounds capacity, $39.00. These are all new machines, wonderful bargains. THOMAS TAFFEE, Box 355, Lansing, Mich. 18*

Wanted—Single hand capper. State make. Address BOX 632, care Hoard's Dairyman. 5-2

For Sale—Avery 12-25 tractor used three seasons, John Deere three bottom plow, has plowed 10 acres; Janesville 10-ft. double engine disc harrow. All in excellent condition. A bargain price for first comer. L. G. JOHNSON, Whitewater, Wisconsin. 5-2

For Sale—3 H. P.-I. H. C. gasoline or kerosene engine and 18-inch feed cutter used one season. F. S. HALLADAY, Green Bay, Wisconsin. 5*

For Sale—Independent double-unit Milker, perfect condition, originally cost $130.00. $60.00 takes it. W. MORCK, 2531 Grand Avenue, Minneapolis, Minn.

For Sale—Staude tractor attachment for Ford. Used one year, good as new, farm sold no use for it. ½ price. Address BOX 617, Marengo, Illinois. 5-2

For Sale—A B.-L.-K. two double-unit milking machine, all complete, in good condition. First check for $125.00 will get it. ALOIS A. BINDL, Spring Green, Wisconsin. 6-2

For Sale—10-20 H. P. Mogul tractor rebuilt; 12-24 H. P. Happy Farm tractor, in good condition; your choice, $500.00. 3 bottom Oliver tractor plow, $150.00. 4 bottom Oliver tractor plow, $200.00. 10-ft. double tractor disk, $125.00, been used for demonstration only. R. H. LEAVITT, Beloit, Wisconsin.

Empire Double-unit Milker, 50-lb. pail, good condition, $70.00. ROY NYCUM, Mt. Carroll, Illinois.

AGENTS WANTED

Yes Sir, we have a special opportunity for you during spare time, an opportunity to do some good work in your neighborhood, for the betterment of dairy farming, that will pay you in cash for the effort you put forth. Write for our "Special Opportunity Getting Together" folder. Address HOARD'S DAIRYMAN, Fort Atkinson, Wis. 2-tf

Agents make big money selling our silos. Write today for catalog and big commission proposition. NAPPANEE LUMBER & MANUFACTURING CO., Nappanee, Indiana. 3-spl

Salesmen wanted to sell well-known line of oils, paints, and roofing materials direct to farmers. Men average from $100 to $200 per week. Commisssions paid weekly. Bonuses paid monthly. Wengerd of Ohio made $430 in one week. Callahan of Pennsylvania made $3,000 first six months. Meyers of Minnesota took 102 orders first month. Fine opportunity for live-wire salesmen, steady demand at all times. Shipping points: Cleveland, Chicago, Kansas City, Minneapolis. For complete proposition write CENTRAL PETROLEUM CO., Cleveland, Ohio. 6-3

FEEDS

For Sale—Mangle cattle beets, carload lots. Ask for quotations. JOHN L. SCHULTZ SONS CO., INC., Syracuse, New York. 6-4

FEED BAGS

Bags—We buy second-hand bags; pay one-half freight on 200 or more. LINCOLN BAG CO., Springfield, Illinois. 5-spl

CREAMERIES

Creamery wanted. Wish a good location to start or build a creamery or will buy a good plant. WALTER R. MEIER, Kilbourn, Wisconsin. 5-2

DAIRIES

Working interest in well established dairy, located in Lake County, Florida, doing a retail business of $5,000.00 a year, modern equipment, good Jersey stock. Present owner has other business making it necessary to depend on hired help to run the dairy, which has been found unsatisfactory, and for this reason a third or half interest is offered to a reliable and experienced dairyman on easy terms who can take complete charge not later than April 1st. A mighty good chance for a good dairyman to establish himself in the dairy business in Florida with a very small cash investment. Reference will be required in first letter. WOODLAND DAIRY FARM, Mt. Dora, Florida.

HAY

Alfalfa and prairie hay for sale. Prompt shipments. Personally inspected loading. Wire or write GUNN HAY CO., Lexington, Nebr. Reference Lexington State Bank. 11*

Number one and choice alfalfa hay and seed ready for shipment. Address A. L. DAMON & COMPANY, Inc., Rapid City, South Dakota. 8*

Alfalfa Hay for Sale—Write or wire for delivered prices. ALBERT MILLER & COMPANY, 192 North Clark St., Chicago. 17*

Alfalfa. We handle nothing but the very best quality. Write or wire JAMES BROTHERS, Rapid City, S. D., for delivered prices. 5-4

No. 1 dairy alfalfa $16.00 per ton f. o. b. Buffalo Gap, South Dakota. Arrival draft, inspection allowed, prompt shipment. BROOKSIDE FARM. 5-3

STANCHIONS

Crumb's Stanchions are guaranteed to please the purchaser. They are shipped subject to trial in the buyer's stable. They are right. Send for booklet. WALLACE B. CRUMB, Box H, Forestville, Conn. 2-10

FARMS FOR RENT

For Rent—Excellent opportunity for a man who knows how to farm and make money out of pure-bred Holsteins. Farm is 160 acres, 18 miles from Minneapolis City Hall, 2 miles from pavement and city of 4,500, on good gravel road. Barn has two Keystone silos. Only a man who has had dairy experience and is willing to invest some money will be considered as proceeds will be divided equally. Must furnish references of ability to get results. JAS. H. LEARY, 1132 Builders' Exchange, Minneapolis, Minnesota.

For Rent—Excellent dairy farm at Thorp, Wisconsin. Tenant to furnish horses and machinery and ½ of cows, and share proceeds equally with owner. Furnace heated, electric lighted house. Good out buildings. In village limits. DR. JAMES ALDERSON, Dubuque, Iowa. 5-2

Wanted—To rent on shares Niagara Maid Farms, East Aurora, N. Y., to a reliable, energetic, competent man, Hollander preferred. Farm consists of 400 acres, splendid soil; 350 acres tillable; two complete sets of farm buildings equipped with latest improvements; electrically lighted. Possession given April 1st or will sell on easy terms. J. T. SHANAHAN, 50 Hudson St., Buffalo, N. Y. 5-2

EXCHANGE

Wanted—To exchange 50 acres river bottom alfalfa land in ideal fruit and dairy section of California at $10,600—3,000.00 down—for small farm in central states as second payment. R. W. SHARP, 601 N. Fourth St., Fresno, California. 2*

TANNING

Let us tan your hide: Cow, horse, or calf skins for coat or robe. Catalog on request. THE CROSBY FRISIAN FUR CO., Rochester, N. Y. 1-52

PRINTING

Hoard's Dairyman Art Department designs your letter head free. Just tell us your breeds of stock. Book of 5,000 Farm, Ranch and Cottage names 25 cents. Ask for samples of letter heads, envelopes, shipping tags, cards, milk tickets, etc. Poor stationery is more of a damage than a help. Be sure and give correct post office address, including state. Address HOARD'S DAIRYMAN, Art Dept., Fort Atkinson, Wisconsin. 8-tf

MISCELLANEOUS

Wool? Let us show you how to obtain a good price for your wool. We do custom weaving, carding and spinning. You market finished products. Write for samples. MERRILL WOOLEN MILLS, Merrill, Wisconsin. 6-2

For Sale—Army four-buckle, all rubber overshoes, $2.98. N. WEINBERG, Fort Atkinson, Wis. 6-2

Insyde Tyres inner armor for automobile tires. Positively prevent punctures and blowouts. Guaranteed double tire mileage. Any tire. Enormous demand. Low priced. Write for particulars. County agents wanted. AMERICAN ACCESSORIES CO., B-741, Cincinnati, Ohio.



Advertising in this department is 7c per word. Remit in advance.

HELP WANTED

Wanted—Middle aged herdsman to take charge of modern dairy barn. Prefer married man with no children. G. J. THOMAS, Sioux Falls, South Dakota. 25*

Farm Couple Wanted—Man and wife above 30 years (no children) to be fully responsible on a 200-acre publically located dairy farm, where home and every detail is now, and must be maintained first-class; dairy and other machinery modern and electrically equipped where practical; product wholesaled exclusively—everything furnished and supplied. This is a plain, practical gentleman's place, requring a conscientious, competent, dependable couple who want a permanent position, who can care for and handle the necessary help, and know how a first-class place should be conducted. Give experience, qualifications, ages and present employment. JOHN S. SELL, Greensburg, Westmoreland County, Pennsylvania. 2*

Men—Boys Wanted—Railway mail clerks. $135 month. Particulars free. FRANKLIN INSTITUTE, Dept. H 117, Rochester, New York. 4-3

Wanted—Married man for small dairy farm and orchard at Bayfield, Wisconsin. Write J. DAVID SMITH, Albia, Iowa. 4*

Wanted—Two good four-time milkers, man for general farm work. All steady and reliable. Or would hire family capable handling all or part 160-acre farm and twenty semi-official Holsteins under owner's supervision. L. G. GLEIM, Arlington, Iowa. 5-2

Wanted—Man on alfalfa and small dairy ranch. $50 per month and board. Easy place to get land in good country. S. S. HILL, Barstow, Calif. 5-2

Wanted—A boy to work on farm, age between 15 and 17. JOSEPH H. THOMAS, Route 1, Belmont, Wisconsin. 5-2

Wanted—Married man with boy to work on dairy farm 1½ miles from town. Good buildings and electric lights. Give full particulars, number in family and salary expected. Address DRAWER M, Plymouth, Wisconsin. 5-3

Wanted—Man and wife. BRANCH EXPERIMENT STATION, Ashland, Wisconsin. 5-2

Wanted—Married man by April 1st for general farm work and to help milk and care for herd of Guernseys. In replying give age, number of children and church. E. HUSER & SON, Comstock, Barron County, Wisconsin. 5-3

Wanted—Jersey herdsman, married, no children preferred. Excellent farm and good buildings. Very pleasant surroundings, good furnishings and permanent position. Must be a man well experienced in feeding, fitting, calf raising, machinery and generally efficient, with push and energy. Please state full particulars, experience and salary and reference for prompt reply. OLD HOMESTEAD FARMS, Warsaw, Kentucky. 5-2

Wanted—Single, thoroughly experienced man for general farm work by month or year on modern farm. Good wages to right party. M. J. EINERSON, Blanchardville, Wisconsin.

Wanted—Young couple without children. Man for general farm work, wife to assist with house work. References exchanged. State wages expected. JOHN DILLON, Mondovi, Wisconsin.

Single man wanted as helper in dairy. Must have experience and no bad habits. Everything modern in barn. Will pay $50.00 per month and board. Prefer a man 25 to 35 years old. JAMES D. McINTYRE, Newman, Illinois.

Single man wanted as herdsman for Guernseys. A. R. testing. Position open March 15. L. C. COGGSHALL, Locke, New York.

Wanted—Man with experience as herdsman and A. R. O. work. Must also do general farm work. For particulars write. R. H. KOLHASE, Bertha, Minnesota.

Single man for general work on dairy farm. Milking machine used. State wages, reference and experience. OTTO HILL, Barneveld, Wisconsin.

Wanted—Experienced gardner, middle-aged, single; American preferred. One who can successfully plan and raise garden produce for an institutional school. State wages wanted. Reply at once. BOX 650, care Hoard's Dairyman. 6-2

Wanted—Herdsman who is well experienced in handling Guernsey cows for high and continual production for A. R. O. work. Place located in Pennsylvania. None but first-class men need apply. If married state size of family, also all particulars with wages expected and references. Position open in April. Address BOX 647, care Hoard's Dairyman. 6-2

Wanted—Single man to work on dairy farm by year. State experience and wages. F. C. SPELLMAN, Hollandale, Wisconsin. 6-3

Wanted—On modernly equipped dairy farm in Northern Wisconsin, married man to work year round. Must understand machinery and A. R. O. work. Farm located on outskirts of town. Let us hear from you. Address BOX 654, care Hoard's Dairyman. 6-2

Wanted—March first, single man for general farm work. Must be a good milker. State wages. GLENN NEWTON, Darlington, Wisconsin.

Wanted—Man and wife to take charge of small dairy farm, comfortable home, modern equipment. Write, state age, experience, size of family and salary expected. H. D. EWER, Ashland, Wis. 6-2

Wanted—Boy above school age to work on dairy where all round dairy work is done, including delivery with Ford car. Must be reliable, having good habits and some experience. Give reference and state wages wanted in first letter. WALTER DEFFNER, Blackwell, Oklahoma.

Wanted—Single man, with good habits, experienced on general farm. State wages wanted and give references. CHRIS W. THOUSAND, Blue Mounds, Wisconsin.

Wanted—Single man on dairy farm for general work and to assist in caring for and feeding Holsteins. State wages, reference and experience. THEO. THOMPSON, Barneveld, Wisconsin.

Wanted—Reliable man for general farm work by the month. State nationality and wages. B. J. McCANAGHER, Hollandale, Wisconsin. 6-2

POSITIONS WANTED

Farm Superintendent—Scientific, practical, energetic, desires position on large modern farm or estate and will put same on paying basis. Experienced in Advanced Registry, pure-bred stock, modern farming, tractors, orcharding, road and building construction. Married, no family. Excellent references. Address BOX 544, care Hoard's Dairyman. 4*

Position Wanted—Married couple to work in and take charge of boarding house on farm, experienced. Address BOX 639, care Hoard's Dairyman. 5-2

Experienced man wants position March 1st, fitting for sale. Address BOX 637, care Hoard's Dairyman. 5-2

Position wanted as farm manager or herdsman. Ten years at present place as manager. Experienced in A. R. O. work. Best references. Age 35. State wages first letter. Address BOX 644, care Hoard's Dairyman.

Wanted—Position to take entire charge of A. R. O. work in a Guernsey herd by man with exceptional ability and seven years' experience. Two world's records including the 1,103 one. Best of reference. W. C. BURDICK, Groton, Massachusetts. 6-2

Position Wanted—Experienced in separating, testing, butter making, etc. Address BOX 648, care Hoard's Dairyman.

Experienced man, age 29, married, clean habits, desires position. Understands general farming, good milker. H. D. NORTON, Sparta, Tennessee.

Position wanted as herdsman at once. Have made records. College training. Can direct labor. H. C. RUSSELL, Route 3, Auburn, New York.

Married man open for position April first or sooner. Have had wide experience managing large farms. Now managing 1,000 acres, with large herd, but owing to pressure of business, owner cannot continue. Therefore I am open to consider a live proposition on up-to-date place. Thoroughly understand modern farming, and have wide experience with cattle and rearing of same. Familiar with Advanced Registry work. Can handle help. Familiar with office work, or I would consider a position as herd manager with a good herd. Prefer Guernseys, but understand and am familiar with Holsteins. Excellent references. Address BOX 643, care Hoard's Dairyman, Fort Atkinson, Wisconsin.

Wanted—By March 1st or 15th, position on large dairy or grain farm. Lifetime experience. Married, steady and reliable. All replies answered. Address BOX 645, care Hoard's Dairyman.

Two Swiss with 5 and 7 years' experience in dairy work, also good farm workers, are seeking positions by March 15th. Address OTMAR CAGIANUT, Swan's Point Farm, Scotland, Surry County, Virginia.

Wanted—Managing position by live dairyman who will make your dairy pay. An American, single, age thirty. University training and a life's experience in dairy farming from seed selection to the production and sale of pure-bred cattle. Address BOX 642, care Hoard's Dairyman.

Position wanted in dairy by young man with several years' practical experience feeding and caring for cows. Three years with last herd. Best references. Address BOX 652, care Hoard's Dairyman.

Herdsman—Open for position April first, on good dairy farm. Experienced in official and semi-official work. Best of reference furnished. Nothing under $100.00 considered. All inquiries answered promptly. Address BOX 649, care Hoard's Dairyman.

Herdsman, single, desires position. First-class experience in A. R. O. work. Testing, calf raising, buttermaking. Agricultural college graduate. A-1 references. State salary. Address BOX 660, care Hoard's Dairyman.

Wisconsin Short Course man wants general work on Wisconsin farm after March 18. Age 29. Years' practical experience. State wages. Address BOX 659, care Hoard's Dairyman.

Experienced herdsman, single, wants position on Holstein farm where A. R. O. work is done. Understand feeding for long and short time testing, also good calf raiser. Prefer state of Michigan. State wages in first letter. Address BOX 658, care Hoard's Dairyman.

Position Wanted—Life experience with dairy cattle and swine. Just completed Short Course. Prefer small herd. State particulars and salary. Married, no family. Address BOX 653, care Hoard's Dairyman.

Wanted—By April 1st position on dairy or poultry farm. Single, reliable man, clean habits; experienced with poultry, some in dairy; prefer modern place, with congenial home surroundings. Address BOX 657, care Hoard's Dairyman.

Manager on dairy farm. Salary or shares. Agricultural training, life experience. Swede, married. Best references. Address BOX 661, care Hoard's Dairyman.

Position wanted by dairyman with large family, three of age, all experienced in dairy and field work. We want to meet reliable ;aity with land and stock on a percentage, or would buy on satisfactory terms. We are capable of making butter and ice cream, also handling market milk. All employed at present. Address BOX 655, care Hoard's Dairyman.

Dependable, experienced, married man wants to operate dairy farming business selling clean milk, no boarding. Describe farm, cows, equipment, location, condition of business, dwelling and surroundings. CLARENCE DORSEY, Mora, Illinois.

Manager ready for work now. Excellent references. Twelve years' experience. $1,800. R. E. MACMURCHIE, 205 W. Water St., Elmira, New York.

Manager or herdsman—Single, 36, wants position on modern farm or estate. Have lifetime experience breeding and handling pure-bred dairy cattle. Register of Merit work, fitting and showing. New England or middle states preferred. Address BOX 662, care Hoard's Dairyman.

Wisconsin to Give Milk

The farmers of Wisconsin, as the result of a bounteous harvest and restriction of trade, find themselves with a surplus of food products, a supply more abundant than the markets can absorb. At the same time numerous nations are being underfed, many millions of our fellow beings are facing starvation, and liberal gifts and donations of our means are being solicited for this worthy cause.

Dairy products, the representative product of the farms of Wisconsin, are well suited to stand transportation for long distances and are the best form of food obtainable to meet these needs. Therefore we indorse the movement now under way asking each farmer of Wisconsin, in place of a cash contribution, to give one day's milk supply to feed those in need. We understand that many manufacturers of dairy products are willing to manufacture such donations, free of charge, into the finished market commodity.

The slogan adopted in this movement has been "Let us market our surplus in relief and take our pay in good will."—Wisconsin Farm Bureau Federation.

Test seed samples now to find what proportion you can count on when sowing time comes.

MARKETS

CHICAGO, Feb. 17—Butter—Creamery, 47c; standards, 45c; dairy, firsts, 38@45c; seconds, 25@36c.

Eggs—Ordinary, 30@31c; firsts, 33½@34c.

Cheese—Twins, 23c; Young Americas, 24c.

MILWAUKEE, Wisconsin, Feb. 19—Butter—Creamery, tubs, 46c; prints, 47c; extra firsts, 42—42c; firsts, 41c.

Eggs—Current receipts, country candled cases, returned 30@31c; seconds, 26@27c; checks, 25@26c.

Cheese—Twins, 24½@25c; Daisies, 25c; Young Americas, 25½@26c; Longhorns, 26@26½c; fancy, Brick, 22½@23c; Limburger, 1 lb., 22c; 2 lbs., 23c; Swiss Loaf, 40@45c.

NEW YORK, Feb. 17—Cheese—Steady; state milk; common to specials, 25@29c; skims, common to specials, 19½c.

Butter—Firmer; receipts, 8,011 tubs; creamery, extras, 46½@47c; state dairy, tubs, 28@46c.

Eggs—Steady; receipts, 21,617 cases; nearby white fancy, 50c; nearby mixed fancy, 30@40c; fresh firsts, 35@39c.

SWINE



A Typical BERTLEY FARM litter of Durocs

Sows & Gilts

that will produce litters like this are bound to be profitable. We are offering such sows at bargain prices, bred for spring litters to our great herd boars **Masterpiece, Model Sensation, Bertley Orion Cherry King** and **Panama Special 15th.** Let us sell you one on our guarantee to satisfy.

BERTLEY FARMS, P. O. Box 1
GLENWOOD, ILL.
JUST OUT OF CHICAGO

Cedar Crest Farms

have never possessed a finer lot of **BERKSHIRES** than at present. Let us name you prices on fall and spring boars and young gilts.

J. K. Dering, Owner, Lake Villa, Ill.



MORE PORK IN LESS TIME

Duroc-Jersey hogs have a tendency to put on great amounts of pork at an early age. They are easy-feeding animals, and raise large families. These hogs were introduced less than 50 years ago, and yet in 1918, 51% of all the hogs marketed in the country were "Duroc-Jerseys." They are uniformly red in color. Increase your profits by raising Duroc-Jersey hogs.

Write for "DUROC-JERSEY HOGS ARE PROLIFIC AND PROFITABLE"—sent free to hog-raisers by the largest swine record association in the world. Over 12,000 members.

The National Duroc-Jersey Record Association. Dept. 300 Peoria, Ill.

Greatest Labor Saving Dairy Barn Equipment Ever Invented

This Lever Locks Every Stanchion

YOU save a lot of time and hard work when you use West Bend Stanchions and One-Lever Control because one move does the work of fifty. Instead of going from cow to cow and locking or releasing each one separately, you stand at the head of the line and throw the lever once, operating all the Stanchions and Cow Stops simultaneously.

With ordinary equipment it is necessary to lock up and release each cow individually. With the West Bend Automatic Swinging Stanchions and One-Lever Control, **two to fifty cows can be locked in place as easily as one.**

One throw of the lever operates the entire row of Stanchions, whether it be two, ten, twenty or fifty. The West Bend way saves time, saves labor, avoids risks. You can release all the cows at one time, then stand at end of the line and see that they leave in a quiet, orderly way. Think how much easier, quicker, more convenient the West Bend way is. Yet, if necessary, West Bend Stanchions can be operated individually, and, if desirable, one or more cows can be kept in the stable when the others are released.



2112

Automatic Cow Stops

prevent the animal from getting its head in at the wrong place. In addition, West Bend Stanchions have a perfect line-up device and many other valuable points.

Greatest Features—Yet Costs No More

West Bend Barn Equipment costs no more than the "other kind." But there is no comparison in convenience and time-saving features. It is sold by leading dealers. The line includes Stanchions, Stalls, Pens, Litter and Feed Carriers, Water Bowls, etc.

Send Your Name for FREE Book

Send us your name on a postal and receive our big, illustrated Barn Equipment Book, also particulars regarding our FREE blue print, Barn Plan Service. Shows you how many money-making farmers are installing the West Bend Equipment. Write TODAY.

WEST BEND EQUIPMENT CO.
277 South Water Street WEST BEND, WIS.

West Bend BARN EQUIPMENT



Stock Raising in WESTERN CANADA

Is as profitable as grain growing. Successes as wonderful as those from growing wheat, oats, barley, and flax have been made in **raising Horses, Cattle, Sheep and Hogs.** Bright, sunny climate, nutritious grasses, good water, enormous fodder crops—these spell success to the farmer and stock raiser. And remember, you can **buy on easy terms**

Farm Land at $15 to $30 An Acre

—land equal to that which through many years has yielded from **20 to 45 bushels of wheat to the acre**—grazing land convenient to good grain farms at proportionately low prices. These lands have every rural convenience; good schools, churches, roads, telephones, etc., close to live towns and good markets.

If you want to get back to the farm, or to farm on a larger scale than is possible under your present conditions, **investigate what Western Canada has to offer you.**

For illustrated literature with maps and particulars regarding reduced railway rates, location of land, etc., apply to Department of Immigration, Ottawa, Canada, or

GEORGE A. HALL
123 Second St., Milwaukee, Wis.
Canadian Government Agent.

WESTERN CANADA Farm Lands at Low Prices The Wheat Belt of America

SILOS AT HALF PRICE

My Winter Sale of Silos is now on. I will allow a discount of 50% on all silos sold this month. My silos are of a well-known make, all new and first class in every way. Built of the genuine Clear Oregon Fir, the most durable material used for silos. Your neighbor probably bought one from me last year. Ask him how he likes it and how much he saved.

M. L. SMITH
MFRS. AGENT
Flood Bldg. Meadville, Pa.



PERMANENCY

Is what you get in CORN BELT TILE silos. They are repair proof, paint proof, storm proof. Thoroughly glazed, beautiful in appearance, strongly reinforced. Include tile chute, feed room, steel back ladder and hip roof rafters. Discounts for early shipments.

The Corn Belt Silo Company
Evanston, Ill. Dept. H, Brazil, Ind.

PLANS FOR POULTRY HOUSES All Styles. 150 Illustrations. Also copy of "The Full Egg Basket." These will surely please you—send 25c. INLAND POULTRY JOURNAL, Dept. 61, INDIANAPOLIS, IND.

Keep Tab on Your Cows

Send 5c in stamps for samples and prices of our weekly and monthly Milk Record Sheets. **Hoard's Dairyman, Fort Atkinson, Wis.**

Six Old Friends Whose Advice Has Helped Me

(Continued From page 217)

in that I am not certain it fattens my bank roll. When I secured my copy of this book I wanted to know more about milk and the changes it undergoes after leaving the cow's udder. Because I couldn't see the thing which soured it I was curious to know more about it. This book tells me. From its pages I learned the important relationship bacteria bear to dairying. I know something of how these tiny organisms grow and why—that there are good bacteria as well as those which injure milk. Once when we were having a good bit of trouble at our co-operative creamery because milk and cream were brought from the farms in bad condition, we called the worst offenders together and made good use of my knowledge of the "bugs in milk" in showing these patrons how to keep their product in good condition. I like to know why it is necessary to wash our cream cans after they are returned from the creamery. I have a new view of tuberculosis since reading the discussion of the possible contamination of milk by this disease organism. So, even though my cows may not give more milk because I read of the bacteria which grow in their product, I should not like to part with this book.

⚜

Perhaps other readers of Hoard's Dairyman have chosen other books for their dairy advice. It may be my "dependables" would not suit the reference needs of another dairy farmer. I do know these six, here on my desk, have been of very great assistance to me.

Iowa. HAWKEYE.

Influence of Profitmaking Through Testing Association Contagious

HOARD'S DAIRYMAN:—Snake River is the dividing line between Gooding and Twin Falls Counties, Idaho, but no such artificial barrier is effectual in restraining the contagious effects of a wholesome example. The farmers and dairymen of Twin Falls County formed a cow testing association in the fall of 1915, and, although somewhat tardy in recognizing the virtues of its sister county's organization, a cow testing association came into being in Gooding County in 1919. Thirty members and less than 300 cows constituted its charter membership.

With the elapse of barely twelve months, each member of the cow testing association was visited and requested to place an appraisal on the benefits having accrued to himself and herd of cattle by reason of affiliation with the organization for one year. Their individual responses would be interesting reading, but the massed benefits as represented by their total estimates are certainly imposing enough—$7,000, all told. Scattering pure-bred herds are included in the calculations but for the most part grade or scrub cows predominated. Operating expenses were figured at $1,500, leaving a margin of $5,500 favoring the maintenance of a cow testing association. The plans of the Gooding County association for 1921 are more elaborate than heretofore, the results achieved justifying an expansion which entails the employment of two testers instead of one. A bull association has been formed and its membership is in the market for pure-bred animals.

Walk a log or paddle a canoe across Snake River and you are inside the boundary limits of Twin Falls County, where a cow testing association

has been functioning for five years. Duration of time is not an inconsiderable factor in the operation of cow testing associations, when profits are increasingly large in relation to the age of the organization. At least this conclusion is warranted by the accomplishments of the farmers and dairymen of Twin Falls County compared to the results obtained by the cow testing association of comparatively recent formation in Gooding County. The Twin Falls County Association maintains 235 cows, yet, during the fiscal year of 1919-20, the number of pounds of butterfat was calculated to be 66,622.10, representing a gross financial return of $43,-970.58. The Gooding County Cow Testing Association yielded 49,332.44 pounds of butterfat valued at $33,-309.72. The marginal difference between the new and old organizations favors the latter by an increased butterfat production of 17,289.66 pounds, representing an enhanced income of $10,660.86. The significance of the difference is magnified in view of the comparatively few cows in each association.

The Dairy Division of the United States Department describes as lamentable the scarcity of cow testing associations in the far western states, when the tremendous value of the work is so obvious. The oft repeated but wholesome example of co-operative agricultural extension activities of Denmark are again to the fore. Approximately one-third (represented by 700 cow testing associations) of the dairy animals of Denmark operate under the discriminating view of official cow testers. The butterfat yield nearly doubles that of the average cow in America. "Is there any wonder she can undersell us on dairy products?" inquires the Dairy Division. There are approximately 2,-000,000 dairy cows in eleven western states, almost twice that of the cow population of Denmark, and yet only 50 cow testing associations have been organized.

Washington, D. C. S. R. WINTERS.

The Appearance of Cheese

Recently a week's make of cheese of the uncolored twin type was delivered at a warehouse unboxed. This particular lot of cheese was well made, well finished, and uniform in size. The quality was good and the appearance would have been especially pleasing and attractive had the cheese been boxed at the factory and delivered in a clean, bright condition. As it was, every cheese had become more or less dirty and soiled due to careless handling in hauling from the factory to the buyer's warehouse.

There may be exceptional cases where boxes cannot be obtained that it becomes necessary to have the cheese leave the factories unboxed. At such times every effort should be made to protect the cheese from coming in contact with unclean surfaces and every care given in handling to avoid a soiled and damaged appearance.

In some parts of the state, the practice of sending cheese to the buyers unboxed has become a habit and a bad one. The usual excuse is that boxes cannot be secured at the factory. This may be true in a few instances but I find that the small saving made in avoiding hauling charges in the delivery of boxes at the factory is most generally the real reason. It is appreciated that factory operators have been forced to economize in every way to be able to continue in business, but such economies as result in marketing cheese in any but the best possible condition as to finish and appearance are false and can only eventually result in permanent loss and injury. Makers, operators, and others engaged in the production of cheese must realize that the finished appearance of the cheese and the package play an important part in the marketing of our products.

There never was a time possibly when there was such a need for better cheese both in quality and finish than at the present time. The markets are loaded with inferior goods but the best grades can always find a place. With the coming of lower prices there always comes a greater discrimination on the part of the buyers as to quality and the maker who cannot or does not give every attention to the appearance of his goods and to the quality will get less and less consideration from the buyers of their products.—Wisconsin Dairy and Food Commission.



Take Pride in Your Barn—Make Real Profit Out of It

You wouldn't bind wheat by hand in these days of labor saving machinery. Then why do you house valuable dairy cows in wet, dirty, old-fashioned stables and expect to get the most out of them?

No matter how few or how many cows you own, STAR Equipment will make money for you by cutting labor costs, helping herd health and increasing the milk yield.

Any modern equipment is good, but numerous patented features put STAR in a class by itself. The Star Unit System permits you to add stalls as you buy more cows. The Curb Clamp cuts installation cost—the Alignment Device saves work—these are a few of many Star exclusive features. Investigate for the sake of owning a barn you can be proud of, both from a standpoint of "looks" and profit

The Star Line is not confined to Steel Stalls, Stanchions, Water Bowls, Pens, Ventilation Fixtures, Litter and Feed Carriers, but also embodies Harvester Hay Tools, Cannon Ball Door Hangers, Hoghouse Equipment, Garage Door Fixtures and all kinds of farm specialties. It takes a 320-page catalog to tell the Star story.

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1 Star Alignment Device
Instantly lines cow at gutter after she is in stall—keeps stall, bedding and cow clean.

2 Star Stanchion Adjustment
Narrows or widens stanchions to exactly fit cow's neck. Safety and comfort.

3—Star Curb Clamp
"Sets a stall in 60 seconds"—permits of concrete work being finished before stalls are set Cuts time of installation in half.

4—Star Unit System Stall
Each stall assembled before shipment, ready to go in place the moment it arrives.

5—Star Wood Lining
Hard maple lining forced in U bar, anchored so it won't come out.



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Just specify on the coupon below the number of cows, young stock and horses you want to house and the experts in our Plan Department will send you a practical blue print of elevation, floor plan and outside of a barn especially suited to your requirements. And it doesn't cost you a cent. This is our "get acquainted" offer. Mail this coupon. We'll mail the plans free.

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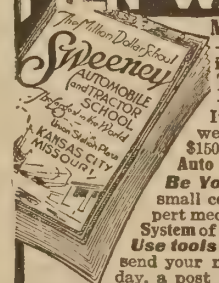
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Don't sit by and watch your profits fall off through feeding stock chilled food and ice water. Give them warm food—they'll thrive on it and give you more and better milk. Hogs have larger frames and more solid meat hens lay better Have plenty of water for scalding, boil spraying mix, render lard, boil sorghum or sap, heat water for stock, for washday, preserve fruit. Burn chunks, long sticks, cobs — anything. Guaranteed. Write for prices.
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Seeing your friends and having them join in for a club of subscribers.

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Mechanically Inclined —to send for my big Illustrated 72-PAGE BOOK— **FREE!**
It tells how in a few weeks you can earn from $150 to $400 a month in the Auto and Tractor business. ***Be Your Own Boss.*** At small cost learn to be an expert mechanic by the Sweeney System of working on real cars. ***Use tools not books.*** Simply send your name and address today, a post card will do, for our Free book and 27 photographic reproductions of machine shop work, etc. **Let's Go---Write Now!**
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Tag your stock—best and cheapest means of identification for Hogs, Sheep and Cattle. Name, address and number stamped on tags. Catalog mailed free on request.
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Farm in Oswego County, New York. Seven miles from Oswego City, 24,000 population. One mile from railroad station. 320 acres including 4 acres developed muck, 40 acres undeveloped muck, 15 acres orchards, sugar bush. One of the finest barns in Oswego County. Two good houses. Artesian well 105 ft. deep—five other wells. Will sell at bargain. Reasonable terms.

Dime Building and Loan Association, Oswego, N. Y.

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These prices include compiling of pedigrees.

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A 6x9 inch book bound on the end.
$3.25 a page, 500 books
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A 6x9 inch book, bound on the end. Good quality paper.
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Wisconsin Live Stock Advertising Company

Pioneer Bldg., Madison, Wis.

DISPERSAL SALE 45-Registered Holsteins-45

Two Herds—One an Accredited Herd, the other under State and Federal Supervision

Tuesday, March 15, 1921 at 1 o'clock, on my farm

Near York, Pa, also all horses, mules, hogs and farm implements. This is a grand lot of cows, heifers and young bulls. My herd sire a 32.48-lb. grandson of K. K. S. V. and Colle Charge. Sold on a 60-day guarantee retest. Send for catalog. Trolly cars run within 2 squares of the farm near the Lincoln Highway.

H. N. FORVEY, York, Pa.

Yearling Bulls

From 21-lb dams. One has 662 lbs. butter, over 17,000 lbs. milk at three years. By proven bulls with daughters up to 30 lbs. Best of Ormsby and yearly record backing. Good size and type. Guaranteed to please and stand a 60-day retest. Priced to sell. Write

RIVAL STOCK FARM, Laurens, Iowa

Washington D. C., Weekly News

(Continued From page 220)

association has not found it possible to use the butterfat basis of sale owing to the impracticability of making the necessary tests and this will be overcome by the establishment of a central testing laboratory in connection with the new plant. Another feature to be added is a plan of looking after lost cans. With these two innovations working directors of the association believe that the cost of the plant can be repaid in the annual saving to members.

The controversy over the entry into Washington of milk and cream from New York has reached the legal stage and the first round was won by the milk dealers' representatives seeking to open the doors of the Capitol to the milk and cream shipped here by the Merrell-Soule corporation of Syracuse, and coming from untested dairies in that state. Justice Gould in District Supreme Court this week handed down a preemptory writ of mandamus, directing District Health Officer W. C. Fowler to grant the necessary permit for this milk to be received and sold here. The case involves the validity of the health regulations of the District of Columbia which provide that milk from cows not tested for tuberculosis, and found free from that disease, can not be sold here. The Merrell-Soule Co. presented applications from 182 New York farmers for permission to ship milk here, and it was admitted that these New York dairies were not tuberculin tested. Dr. Fowler refused the permits. Justice Gould in granting the mandamus, approves the contention of the plaintiffs, that "there is no law in the District of Columbia which requires the tuberculin test".

Dr. Fowler will appeal the case, it is understood, his attorneys contending that his ruling comes within the powers which he holds by virtue of his office, and therefore has all the effect of law.

The case is being fought by attorneys for local milk dealers who sought, when the case was started, to get this supply of milk and cream at a time when the supply here was short, and the Maryland-Virginia association was insisting on its advance price contract for the winter months.

Dispersal Sale

100 HEAD Registered Holstein-Friesian Cattle

Friday, March 18, 1921

At 10:00 A. M. Sharp.

Linside Farms and personal property are sold. This great herd must be disbanded after fifteen years of careful breeding with 30-lb. sires at head of herd.

Rag Apple Korndyke 20th 204631, sired by Rag Apple Korndyke with 51 A. R. O. daughters, one 37 lbs. and whose dam is Mutual De Kol, the 30-lb. show cow with 2 A. R. O. daughters is now in service. The whole breeding herd with A. R. O. records up to 27½ lbs. butter 7 days with a lot of two-year and yearling heifers by 30-lb. sires and bred to a 30-lb. bull with the 1920 crop of heifer calves and three young bulls from A. R. O. cows will form a wonderful opportunity for buyers to fill their needs. Herd Federal tested with 60-day retest privilege.

Farms one-half mile north Unionville, reached by stone roads and trolley; ample hotel accommodation in West Chester.

S. T. Wood, Sale Director, Syracuse, N. Y.

Kelly & Baxter, Auctioneers.

Send for Catalogs

W. B. WICKERSHAM,

Chester County, EMBREEVILLE, PA.

DISPERSION—

Registered and High Grade Holsteins, Owned by A. J. McLennan

Clear Lake, Wisconsin

TUESDAY, MARCH 8th

FARM SOLD. CATTLE TO BE SOLD WITHOUT RESERVE

35 head registered Holsteins.

14 good grade cows, 10 high grade heifers.

Wonderfully good herd, combining splendid individuality and great production.

Every cow carries a splendid udder.

Tuberculin tested. Sold under the usual guarantee. Herd includes one 29-lb. cow and 5 of her daughters. Several young cows on test, making good records.

Sale at farm, in village of Clear Lake, Wis. Terms cash, unless other arrangements are made before sale. Approved bankable notes may be used. Catalogs Sent on Application

F. H. Everson, Sale Manager

The Second of A Noteworthy Series

— Make Your Plans to Attend

PABST SALE — SURPLUS ANIMALS — APRIL 2nd



Pabst King Pontiac Lad will be sold. He is one of our herd sires. He is a son of Pabst Hengerveld DeFreule that has just made over 39 lbs. in 7 days. He is a full brother to Pabst Champion DeFreule that has just made over 37 lbs. in 7 days and 151 lbs. in 30 days. We have 49 of his daughters in our herd and 30 cows safely in calf to him. He is the highest record son of King Pontiac Champion ever sold. His breeding and individuality should place him at the head of some great herd.

28 Young Bulls—15 Cows

Young bulls in the sale will include some of the very best we have ever bred, including fifteen by Creator and nine by Pabst King Pontiac Lad. Practically all these bulls are from splendid record dams that will have greater opportunities. One son of Creator is from a 29-lb. and almost 900-lb. daughter of "Champion," another is from a 21-lb. 2-year-old daughter of Champion Dora Korndyke, champion Holstein cow for two consecutive years' production, another is from Pabst Ivy with 34.21 lbs. in 7 days and a good yearly record, another from Pabst Kinnickinnic with 35.50 lbs., twice over 34 lbs. and three times over 32 lbs.

29 bulls of this class will be sold.

The fifteen young cows and heifers in this sale will furnish an excellent opportunity to procure desirable foundation cows, in calf to good sires. Practically all of milking age have records, are from good record dams, by noted sires and in calf to one of our herd bulls. Seven of them are in calf to Creator. Never before have so many been offered in calf to this great sire. There will be daughters of Maplecrest King De Kol, Woodcrest Clyde, King Pontiac Champion, King Pietertje, Pabst Pontiac Hengerveld and Korndyke Segis Johanna.

Remember that Pabst Stock Farm won first place last year as breeder of prize winners. The animals it sells to others make good for them. In buying at this sale you buy the blood that is represented in many of the prominent herds.

Be sure to get your name on the catalog list now and send for full information on this sale. It is our second semi-annual.

PABST STOCK FARM,

OCONOMOWOC, WIS.
Waukesha County.

Bargain in ORMSBY BULLS

Buy this line-bred Ormsby who has 4 crosses of Sir P. O. M. Mostly white. Straight. 7 months old. Sire is by Sir P. O. M. 20th and out of an 18-lb. two-year-old daughter of Buffalo Beets De Kol. Dam, who now has a number of sisters on yearly work will be tested at next freshening. She is by a 24-lb. son of Sir P. O. M. Second dam is sister to a 30-lb. cow and is by Sir P. O. M. 25th. Third dam is out of a yearly record daughter of old 'Sir Piet'. First check for $150 takes him. Buy now and get advantage of future tests.

R. L. Olson, Red Wing, Minn.

First Annual Reducing Sale at Elmwood Stock Farm, March 10—25 Head Females, 5 Bulls

All females in calf to Sir Fobes Ormsby Pietertje No. 248344—4 nearest dams average over 1,100 lbs. butter in year. There will be such females as Queen Johanna Alba Ormsby, a granddaughter of S. P. O. M. with 25 lbs. in 7 days going at 1,000 lbs. for year, Elmwood Korndyke Almeda going at a 1,000 galt.

J. C. KIEFFER, Auburndale, Wis.

For catalog write J. P. Heintz, Hewitt, or J. C. Kieffer, Auburndale, Wisconsin.

Holstein Bulls At Farmers' Prices

We are not in the game to get rich but to help promote the breed by offering pure-bred bulls at the lowest prices, enough to cover raising. Write for prices and descriptive list. The Ormsby kind.

RAMSEY COUNTY HOME,

J. E. McMahon, Supt., North St. Paul, Minn.

Ohio Farmers' Round-Up

(Continued From page 221)

necessary vitamines to induce growth. The manner of raising orphan pigs has considerable economic importance in Ohio, while the correct selection of feeds for fattening hogs determines whether the farmer will have a profit or loss at the end of the feeding season. The cereal proteins are generally lacking and must be balanced with tankage, oat meal, or fishmeal. The legumes are valuable in the ration because the leaves of legumes furnish the needed vitamines and are low in fiber. Calcium and phosphorus are the two essential mineral elements needed most in the hog's ration. These may be supplied by feeding steamed bone meal, to make it, perhaps, one per cent of the ration. It is sometimes necessary to mix this with tankage in order to make it palatable.

100 Bushels-to-the-acre Corn Club

Eighteen Buckeye corn growers were elected to membership of the 100-bushels-to-the-acre Corn Club and were given gold medals during the Farmers' Week session. The highest yield of the contest was 123.24 bushels per acre secured by Leslie Brown of Highland County.

The average yield of the 33 men finishing the contest during the past season was the highest since the contest started 4 years ago. The average was 89.64 bushels. In 1917 when 41 finished, the average yield was 68.52 bushels; in 1918, the average yield of 42 contestants dropped to 63.45 bushels; and in 1919, the average of 32 contestants was 87.58 bushels.

The Ohio Farm Bureau holds its annual meeting during Farmers' Week. Their plan this year was to organize a governing body composed of 22 Ohio farmers, each representing a district of 4 counties, and each chosen by his own district, with the assistance of 3 women, chosen at large during the annual convention. The districts have been increased from 8 to 22. Farmers' organizations in Ohio are harmonious. There is no lost effort through friction or rivalry; no duplication of time or labor and team work is planned and done, the result being a perfect correlation of all activities that seek to promote the interests of the farmers. O. E. Bradfute, vice-president of the National Farm Bureau Federation, was elected president of the Ohio Farm Bureau.

Western Associations

(Continued from page 225)

er, states that the average production per cow for 1920 was 336.5 lbs. of fat, the total number of cows being 249. The high herd of the association contains 14 cows averaging 454.4 lbs. fat. He compares six herds where production as determined by test records was used as a basis for the feeding and management, and where grain was consistently fed, with six herds where poor feeding and care were practiced. The first six averaged to produce for the year 2,109 lbs. of milk per cow more than the cows in the second six herds. There was a benefit of 141.6 lbs. of fat per cow from the good feeding. The first six herds averaged $53.18 more returns above feed cost than did cows in the second six herds.

An increase of $30,000 per month is claimed by George Knight, tester for the Los Angeles Association, which has 3,000 cows. This claim is based on records which show the average fat production per cow for December, 1920, to be 36 lbs. and that for December, 1919, to be 28 lbs. This 24,000 lbs. butterfat at $1.30 per pound (which is the whole milk price for fat in Los Angeles) equals $31,200. Cups and medals to the value of $1,000 are offered in this association in 1921 for the best records made.

In a cow testing association at Santa Ana, California, a member culled 13 cows from his 45-cow herd and decreased his production only 12 gallons per day. In doing this culling he saved $60 per month.

From the western office of the Dairy Division comes a report of cow testing associations in the West, in which six associations are listed as "one hundred per cent", meaning that all of the members in these six associations own pure-bred bulls. Three associations are in Idaho, two in Colorado, and one in Washington.

C. Wiborg, tester in the Petaluma, California, Association, states that only two scrubs are left since February 1st. The Wahkiakum Association in Washington finished its year "one hundred per cent" but in reorganizing added new members which own scrub bulls. The Bandon Association in Oregon has members which own 18 pure-bred bulls and 19 scrubs.

A study of herd improvement work covering a period of ten years has shown us that when properly conducted the work of a cow testing association benefits its members. A proper understanding of the work proves this claim to be true in hundreds of instances. Hundreds of successful dairy farmers take a just pride in referring to the time they first joined an association. Usually it takes only a few months' work to create within them a desire to own a higher producing herd of cows. And when one begins studying along these lines—in most cases—he is sure to develop a broader mind, a wider vision, and better judgment which means a better farm home and a better citizen.

Wisconsin. FRANK LYNN.

Jersey Cattle Notes

For week ending February 4:

Number of animals registered: bulls, 250; cows, 663; total, 913. Number of transfers recorded: Bulls, 127; cows, 535; total, 662.



THE EXPERT EXPLAINS

How Plenty of Fresh Drinking Water

INCREASES MILK PRODUCTION

There must be liquid to make liquid; and the more water a cow drinks, the more milk she will give. That has been proven. Your outdoor tank in cold weather freezes—or the water is so cold the cows will drink but little. In summer the water is stale or too warm—and they won't drink much of that.

Fresh, pure water—*direct from the well*—is the kind the cows like—the kind they drink lots of—the kind, therefore, that *increases milk production.*

That is what a Milwaukee Air Power Water System will give you—for bowl or feed trough. And it will enable you, without trouble, to keep the cow barn clean, avoiding danger of disease and infection and loss of profit by milk refused on account of uncleanliness.

This is one of the ways in which a Milwaukee Air Power Water System actually *pays* in dollars and cents. There are many other ways. Find out about them. Write for our big new, free catalog. Find out all about the system—how it can be installed on your farm, how it operates, how it benefits you—and what other practical farmers say about its *paying* features. And we will send you the name of our Water and Light Expert near you.

Write us *today*.

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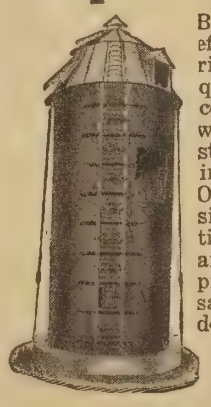
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Write for our descriptive circular and study this splendid type before you buy.

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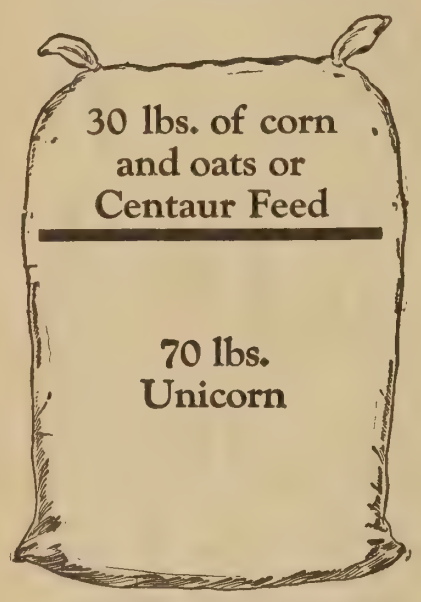
Dairy Alfalfa

Carlisle Commission Co.

Live Stock Exchg. Kansas City

"High-Priced" Unicorn Makes Low-Cost Feed

Feed this way with clover hay



For November, four out of the ten highest cows in all Indiana cow testing associations were fed Unicorn.

Average milk . . 1609.5 lbs.
Average fat . . . 59.9 lbs.

Those who are not feeding Unicorn say that it is "high-priced."

Those who *are* feeding Unicorn say that it gives them a greater profit than they can get with any other feed.

The Unicorn feeders know that it's not the price of a thing that counts, but how much you get for your money.

There's more milk *and more profit* in a ton of Unicorn than there is in a ton of any other feed—home-mixed or boughten.

Use Unicorn and cut down your feed bills. Goes farther. Lasts longer. Actually *costs less*—not more.

CHAPIN & COMPANY
Chicago
New England Office at Boston

"Here's Real Tobacco"
says the Good Judge

That gives a man more genuine chewing satisfaction than he ever got out of the ordinary kind.

Smaller chew, lasts longer—so it costs less to chew this class of tobacco.

And the good, rich tobacco taste gives a world of satisfaction.

Any man who uses the Real Tobacco Chew will tell you that.

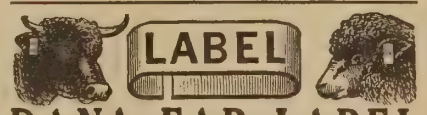
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Get Genuine *LYMAN'S GRIMM*—99% pure by test. Will not Winterkill. Produces large yields of high feeding value every year without replanting. 40% less seed is required for a stand.
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361 WATER ST. EXCELSIOR, MINN.

The Home Grown Ration

(Continued from page 218)

to water, or providing her in some manner with an abundant supply of it, is an important part of her requirement. In passing, it will be a matter of interest to note that she requires, in addition to the dry matter consumed, approximately 150 pounds of water daily.

Our experiment stations, with their trained research workers and laboratories, are in a position to tell us many interesting facts about the feed consumption, milk production, and nutrition requirements of dairy cows. Results of carefully weighing and checking the feed consumption and milk production, taking into consideration the waste materials that pass from the body, and further noting the change or constancy in the live weight and the health and tone of cows, are the basis of several feeding standards familiar to many dairymen, and used in a general manner for calculating the "balanced ration" for dairy cows.

These feeding standards, for example, tell us that a cow weighing 1,000 pounds in dry condition will require the equivalent of 30 pounds of silage and 8 pounds of clover hay. Feeding standards express this fact, however, in a statement of the dry matter, digestible crude protein, and total nutrients which the cow will require. For example, 30 pounds of corn silage and 8 pounds of clover hay contain approximately 12.5 pounds of actual dry matter, which include .7 of a pound of digestible crude protein and a total of 7.9 pounds of digestible nutrients. The amount of protein in this ration is 8.8 per cent of the total digestible nutrients. The cow in question, in a fresh condition, and making 50 pounds of 4 per cent milk daily, and requiring the equivalent of 40 pounds of corn silage, 11 pounds of clover hay, and 15 pounds of concentrate mixture, will be getting the equivalent of 30.9 pounds of dry matter which contains a total of 23 pounds of digestible nutrients and 3.42 pounds of digestible crude protein. The protein in this case amounts to 15 per cent of the total digestible nutrients.

The marked difference in the rations for the 1,000-pound cow when dry and when producing at the rate of 50 pounds of milk daily, in terms of farm feeds or the research worker's terms of dry matter, digestible protein, and total digestible nutrients, brings out the fact that the nutrition requirements of cows must necessarily vary in proportion to their milk production capacity. A further study also teaches us that these requirements vary with differences in live weight, disposition, or temperament, or other characteristics of cows, and their conditions of environment. In the preparation of rations to meet the requirements of cows, one must take into consideration the composition of various feeds with reference to the available digestible nutrients which is influenced by the amount of crude protein, referring to the nitrogen compounds of the plant, the carbohydrates representing principally the starch and sugar compounds, and the fat which we naturally think of as the oil of plants.

As practical dairymen, we are familiar with the class of feeds like clover and alfalfa hay, oil meal, cottonseed meal, gluten feed, dried distillers grains, brewers grains, and others which we naturally class as highly nitrogenous or protein feeds. The practical herdsman, in mixing feeds and preparing his rations, naturally likes to combine a variety of these feeds with the farm grown cereal grains which are naturally rich in carbohydrates and fairly rich in fat. He thus prepares the "balanced

ration", or what we have come to call perhaps more frequently, a "complete ration", which is most efficient in supplying the requirements of the cow.

Protein in the Dairy Ration

We hear much about protein in rations for milk production and of protein requirements of dairy cows. Because of the importance of protein in its relation to the nitrogenous tissues of the body, which constantly have to be repaired from protein compounds in the feed, such tissues, for example, as the hide, hair, horn, hoof, and connective tissues of the body; and furthermore the relation of protein to the casein or cheese part of milk, protein being its principal source, this compound may be regarded for Wisconsin conditions, at least, as the most important factor in dairy rations.

Just at this time we also hear considerable about the "kick" in old time and substitute drinks affected by prohibition measures. Protein seems to be the "kick" that many rations lack for stimulating milk production. Cows producing daily one-half to two pounds of butterfat will require approximately 1.5 to 3.5 pounds of digestible crude protein. An analysis of rations found on the average farm will show a great variation in the amount of protein they contain. The production of cows vary accordingly in most instances, and too often are below their possibilities in milk production, because of too small an amount of protein being fed, or having been fed at a time in their lactations when it was necessary to properly maintain the cow and support her in the production she was capable of making.

Proteins Variable in Efficiency

Scientists, furthermore, inform us that all proteins are not alike. They have demonstrated that the quality of proteins in different feeds may vary greatly in efficiency under certain conditions. Hart, of our Wisconsin station, in a trial with dairy cows, using corn silage, corn stover, corn meal, and starch as a basal ration, and at different periods supplementing this ration with distillers grains, gluten feed, oil meal, skimmilk powder, and casein, respectively, all relatively high protein feeds, showed that the relative percentage efficiency of these feeds for taking care of the needs of the cows with reference to protein requirements was 45 for gluten feed, 61 for oil meal, 60 for distillers grains, 59 for casein, and 60 for skimmilk powder.

In a later trial where clover hay was substituted for corn stover in the basal ration, gluten feed as a source of protein appeared equal to oil meal, distillers grains, or cottonseed meal. Again, later, where alfalfa was used with corn silage, corn meal, and starch as the basal ration, oil meal and gluten feed showed equal value as protein supplements, while cottonseed meal fell short to as low as 28 per cent efficiency and distillers grains rose to the high point of 50 to 53 per cent merit as one of the four feeds. These trials justified the popularity of distillers grains when they were available and the eagerness with which they were sought by dairymen for test rations.

(To be concluded in next week's issue)

Calls for Discussion of Chlorophyl

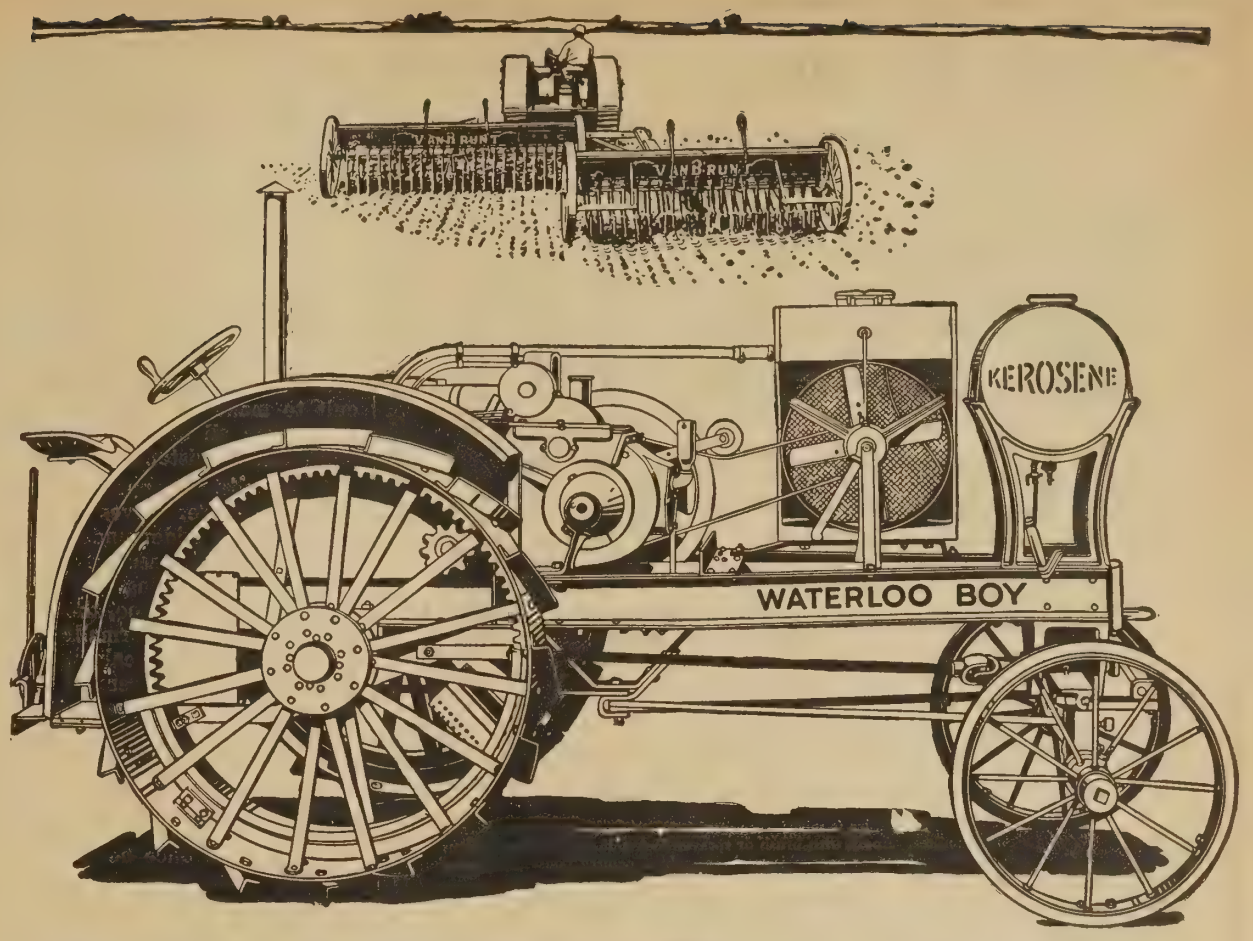
HOARD'S DAIRYMAN:—I would like to see a discussion taken up in the Dairyman by some chemist or botanist, who is well qualified to do so, as to why we get so much greater results from feeding a green forage crop.

The "green" substance or chlorophyl, which the microscope reveals moving through a living plant, undergoes some change in the process of curing a crop. We are coming to realize that pasteurized milk has lost something, that some vitamines have been changed or destroyed.

Now may we not eventually come to discover that something in the chlorophyl, or green substance of plants, has been changed or destroyed in the process of sun curing?

It is a matter of common observation that a plant has more perfect milk-producing and body-sustaining power when fed green feeds. Most of this power seems retained in silage. The more of a green cure we can get on hay, the greater its palatability and feeding value. In the process of sun curing, are there some life giving properties that might be called vitamines changed or destroyed?

Bloomville, N. Y. L. P. G.



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THE makers of the Waterloo Boy Tractor do not consider it enough that their product is dependable and gives efficient service. They have built it into another feature which means much throughout the years of its profitable use. That feature is Waterloo Boy economy—not only in the use of fuel and oil, but for general up-keep and repairs.

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Back in 1914 Mr. E. F. Rowe, a farmer living near Hampton, Iowa, bought a Waterloo Boy Tractor. It was one of the earlier models put out by its builders. Its gears were not enclosed, its bearings were of the plain type—it lacked many of the improvements found on the present Waterloo Boy.

Mr. Rowe used his tractor for all his field operations and for most of his belt work. In checking up his expense last fall, he found that he had spent but approximately $5 for repairs during his six years of ownership. **Only $5 for repairs during six years of dependable, efficient, service.** And it is still going strong.

This is but one instance of Waterloo Boy economy. There are many, many others. Improvements on the present Waterloo Boy make it a great deal more economical than the one Mr. Rowe owns. The gears are now enclosed and run in oil, Hyatt roller bearings at all important points reduce friction and add to its long life. Every feature of construction makes for economical up-keep and operation.

Find out what a Waterloo Boy Tractor will do for you on your farm. Try it out. Your John Deere dealer will be glad to co-operate.

The Waterloo Boy Tractor and the John Deere No. 5 Tractor Plow make a reliable plowing outfit.

Write for a folder describing the Waterloo Boy fully. Also ask for Better Farm Implements, a 114-page book illustrating and describing the John Deere full line of farm tools. It's free. Address John Deere, Moline, Illinois, and ask for Package WB 714.

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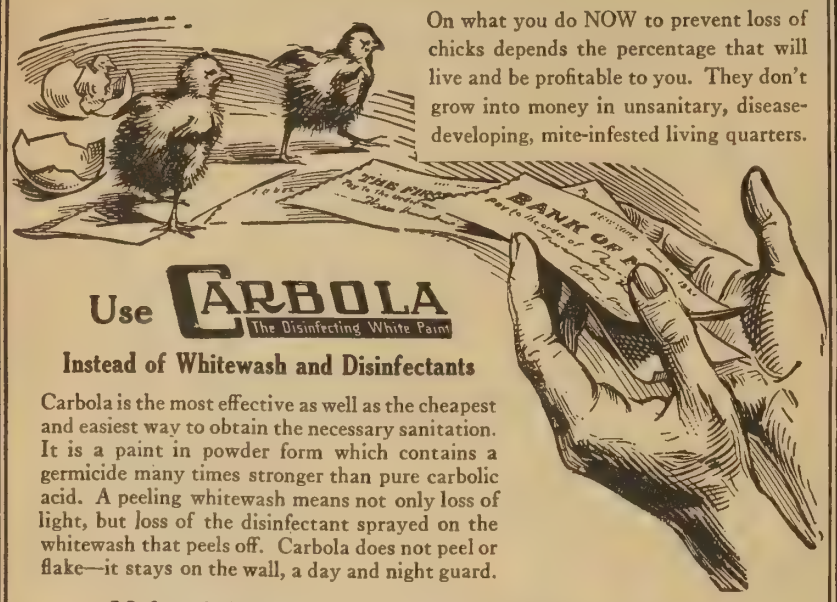
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Are you going to build a new dairy barn or are you going to make the barn you have more efficient and up-to-date? If so, learn of The Humane Way Barn Equipment.

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Today's Chicks are Tomorrow's Checks



On what you do NOW to prevent loss of chicks depends the percentage that will live and be profitable to you. They don't grow into money in unsanitary, disease-developing, mite-infested living quarters.

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The Disinfecting White Paint

Instead of Whitewash and Disinfectants

Carbola is the most effective as well as the cheapest and easiest way to obtain the necessary sanitation. It is a paint in powder form which contains a germicide many times stronger than pure carbolic acid. A peeling whitewash means not only loss of light, but loss of the disinfectant sprayed on the whitewash that peels off. Carbola does not peel or flake—it stays on the wall, a day and night guard.

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TREATMENT: If STERILOID is used at the first sign of abortion the cow will go her full time and have a healthy calf. If your cows or heifers do not come in season, or fail to get with calf, use STERILOID. Cows get with calf after only one treatment. Write today for **FREE BOOK.** It explains the causes and symptoms of Abortion and tells how to treat Abortion, and make your cows regular, healthy breeders with STERILOID. Also contains letters from breeders who have used STERILOID successfully.

GUARANTEE: We will refund money in every case when STERILOID FAILS to make good. PRICE $1.00 plus 4c tax. Mailed Postpaid, in plain wrapper.

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Powerful
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B-K is a concentrated pure Sodium hypochlorite — such as is endorsed and used by leading veterinarians, physicians and breeders.

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MADISON, WIS. *Gal and 5 Gal. Pkgs.*

DON'T LET YOUR COWS ABORT

Take no chances of losing calves, cows and milk profits from Contagious Abortion. If it has attacked your herd, get rid of it at once. If you have escaped so far—KEEP IT OUT.

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THE GUARANTEED REMEDY FOR CONTAGIOUS ABORTION

Treats this disease scientifically through injections into the blood which kill the abortion germs and immunize healthy animals against them. Can't harm the cow. Has wonderful record of success. Prompt and positive in action —reasonable in cost.

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VETERINARY

Advice is given free in this department. Inquires must be signed by the writer, and should pertain to veterinary Matters only. Where an immediate reply and prescription are desired by mail, the inquiry must be accompanied by a fee of one dollar. In every instance it will be necessary to give a full description of the symptoms present.

Suppression of Milk (Agalactia)

There are several phases of this subject which may be touched upon briefly and all of them deeply concern the dairyman who finds it difficult to make market milk profitable even when all of his cows milk normally and persistently.

It is most disappointing when a well bred heifer calves for the first time with her udder undeveloped and milkless, and all cases of suppression of milk are annoying and expensive. In some instances, too, the udder apparently develops normally yet gives little if any milk at calving time and treatment fails to remedy the condition. Failure of the udder to develop in a heifer from heavy milking ancestry indicates congenital derangement of the nerve and blood supply of the part and such condition is, as a rule, hopeless so that the animals should at once be fitted for the butcher. In rare instances milk gradually secretes and increases in amount, if the udder is massaged thoroughly several times daily and the teats manipulated as if they gave milk, but it scarcely pays to give such treatment. When the udder is fully developed, yet fails to secrete milk, the measures we have suggested may, however, succeed in a fair percentage of cases, especially if some milk is secreted from the first. Many dairymen believe that in such cases, allowing a calf to nurse will, in time, be likely to stimulate full milk secretion.

Sudden shrink in established milk flow quite commonly results from shock, fright, chill, running, a long journey, change of milkers, weaning of a calf or an attack of indigestion or other disease. Persistent failure to yield normal quantities of milk usually suggests inadequate feeding, dry pasture, fly torment, lack of drinking water, or some such cause. Prompt removal of the cause may quickly be followed by restoration of normal milk secretion and other measures of relief prove beneficial. They consist in placing the cow in a comfortable box stall, blanketing her warmly and giving copious warm drinks of flaxseed tea, hay tea, and thin, nutritious gruel well sweetened with blackstrap molasses. In cases of chill ground ginger or essence of ginger should be added and in other cases it always is well to give 30 to 60 drop doses of fluid extract of nux vomica 2 or 3 times daily along with ½ to 1 ounce doses of such galactogogues as powdered fennel, anise seed, and juniper.

It sometimes happens that a cow that has been giving a full flow of milk suddenly ceases to do so, suppression being complete at the second or third milking. Careful examination may discover no apparent cause for this occurrence and the cow appears to be perfectly well in every way. There is no history of shock, fright, chill, or anything else that might have upset the nervous system. The milk simply stops secreting indicating failure of the trophic nerves to function. The customary treatments mentioned above wholly fail in this class of cases, but if a qualified veterinarian can at once be employed to administer alkaloidal drugs, such as strychnin and pilocarpin, milk secretion may quickly be reestablished.

Other causes of shrink in milk or partial or complete suppression are the various forms of mammitis which will be discussed in subsequent articles.

Cornstalk Disease

Please write me in full what is cornstalk disease in cattle.

Elkador, Ia. G. G. W.

The term "cornstalk disease" is not specific but is used to describe any malady that quickly kills cattle pasturing cornstalk fields. In many instances hemorrhagic septicemia is the actual disease present and may be correctly diagnosed by post mortem examination and if necessary laboratory tests. In that event vaccination will be in order and usually is worth applying on general principles when the cattle are dying of the so called cornstalk disease. In some outbreaks cattle are killed by forage poisoning or impaction of the rumen or poisonous matters in the dry stalks. The veterinarian has to determine the exact nature of the disease in each instance.

Dysentery

I have a registered Jersey bull 17 months old. When I first got him I fed him a grain ration of three parts corn, two parts oats, and one part middlings, about six pounds per day, and clover hay. He did well for about six weeks when he developed scours. I had our local veterinarian treat him for about a month but he has been unable to do him any good. I finally discontinued the grain ration I had been feeding and gave him about a gallon of bran a day and timothy hay, but it has not helped him much. I also kept him in stall for several days and fed him nothing but hay. Early in the morning his bowels seem to be in fairly good condition but by night he scours again.

Clarksville, Tenn. L. F. S.

It is to be suspected that the bull is afflicted with Johne's disease, also called chronic bacterial dysentery. It is an incurable, contagious germ disease and eventually proves fatal. The appetite is retained but the animal becomes emaciated despite good feeding. Suspected animals may be tested with Johnin, similar to tuberculin, to determine if the disease is present.

For Barrenness in Cows, Mares and Sows, Use Hood Farm Breeding Powder

Astonishing Success in Making Barren Animals Breed — Indispensable After Abortion — Invaluable Where Cows do not Clean — Profitable to use on Every Cow After Calving.

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Brooks' Appliance, the modern scientific invention, the wonderful new discovery that relieves rupture, will be sent on trial. No obnoxious springs or pads.

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Has automatic Air Cushions. Binds and draws the broken parts together as you would a broken limb. No salves. No lies. Durable, cheap. Sent on trial to prove it. Protected by U. S. patents. Catalog and measure blanks mailed free. Send name and address today.

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This preparation has been made and used with fairly good results at the Wisconsin Agricultural Experiment Station. Possibly your veterinarian may be able to arrange for such a test. Meanwhile try the effects of a dram of subnitrate of bismuth and two drams of oil of eucalyptus given twice daily, and then oftener if found necessary.

Lameness

I have a mare twelve years old which becomes very lame in front feet by spells. Sometimes she will be all right for several days, then lame, makes no difference about work on the road. They come on when not working at all. She moves like a horse that has just been foundered until she has gone about a mile then is all right until she stands a few minutes.

Hanna, Ind. G. H. W.

The symptoms suggest navicular disease, but that most affects road horses and requires unnerving as the only means of removing the lameness. In a draft horse, sidebones would be a more likely cause of lameness but it aggravates with exercise.

We conclude, therefore, that the lameness must be due to rheumatism. If you cannot employ a veterinarian, clip off the hair and blister the hoof head and fetlock joint with a mixture of 2 drams each of biniodine of mercury and powered cantharides and 3 ounces of lard. Rub it in for 15 minutes and then smear some of the ointment upon the blistered surface. Tie the horse up short. Wash blister off in 48 hours and then apply a little lard daily. Blister the other leg a week after the blister has been washed from the other one. The blistering may be repeated once a month if seen to be necessary. At times of attack, also give the mare a dram of salol three times daily. Keep the mare in a dry, light, well ventilated stable.

Depraved Appetite

I have a pure-bred Jersey heifer 2½ years old milking in first lactation that will frequently lick red clay earth and sometimes chew and swallow small clods of clay dirt. What does her system crave? She gets all the alfalfa hay she will eat, although she doesn't eat as much hay as most cows do.

McShan, Ala. C. E. B.

Allow the cow free access to rock salt and, if possible, a succulent feed such as roots or silage. If the trouble persists, add bone meal or precipitated phosphate of lime to the feed, starting with a tablespoonful twice daily and increasing the dose if found necessary. Half an ounce of bicarbonate of soda given twice daily in water often proves remedial.

JERSEYS

JERSEY BULL
Ready For Service

Dropped July 25, 1919. Solid dark fawn, black tongue and switch. SIRE—Sigma's Raleigh Majesty 156131, by a R. of M. grandson of Royal Majesty, out of Raleigh's Sigma 241848, Champion Jersey butter cow of Iowa, in R. of M. 1,011 lbs. butter in 1 year—1,951 lbs. in 2 consecutive years, out of a daughter of Raleigh's Fairy Boy, by a son of Mabel's Raleigh. DAM—In R. of M. 448.35 lbs. butter at 3 years old. A prize-winning granddaughter of Oxford You'll Do, out of a cow of Champion Flying Fox and Golden Fern's Lad breeding.

Price $175.00 F. O. B. Forest Lake, Minn.

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JERSEY BULL—Dropped March 27, 1920
Sire is brother to 35 R. of M. cows. Dam's test 12,968 lbs. milk, 620 lbs. fat in 1 year. Bull dropped October 2, 1920, Majesty breeding. Dam's average test 7.23% fat. Two grandams with 555 lbs. butter in 1 year. A good tested cow for sale.
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SALE ANNOUNCEMENTS

Feb. 26—Holsteins. John Wuethrich's Holstein Sale at Greenwood, Wis.
Mar. 8—Holsteins. A. J. McLennan, Clear Lake, Wis. F. H. Everson, Sale Mgr.
Mar. 10—Holsteins. Elmwood Stock Farm First Annual Sale at Auburndale, Wis. J. P. Heintz, Sale Mgr.
Mar. 15—Holsteins. H. N. Forvey and York Sanitary Milk Co., York, Pa.
Mar. 15-16—Holsteins. Fletcher Bros. Dispersion at Fond du Lac, Wis.
Mar. 15-16—Holsteins. Wisconsin Breeders' Sale at Fond du Lac, Wis. S. H. Bird, Mgr.
Mar. 17—Guernseys. Elkhart County Guernsey Breeders' Association Consignment. C. M. Enders, Secretary, Wakarusa, Ind.
Mar. 22—Holsteins. Blue Earth County Holstein Breeders' Consignment Sale, Mankato, Minn.
Mar. 23—Holsteins. Iowa Holstein Breeders' State Sale at Waterloo, Ia. C. F. Jenness, Sec.
Mar. 28—Holsteins. Isaac DeMunck & Sons, Plymouth, Wis. I. DeMunck, Sale Mgr.
Mar. 29—Holsteins. Fred Gessert, Plymouth, Wis. Fred Gessert, Sale Mgr.
Mar. 29-30—Holsteins. Watertown Holstein Sales Co., Watertown, Wis. F. Darcey, Secy.
Mar. 29-30-31—Holsteins. Philadelphia, Pa. Second Brentwood National Sale.
Mar. 30—Guernseys. La Crosse Co. Guernsey Breeders, West Salem, Wis. H. W. Griswold, Mgr.
March 30—Holsteins. R. L. Goelzer Sale at Plymouth, Wis. R. L. Goelzer, Mgr.
Mar. 31-April 1—Holsteins. H. J. Goelzer's Sixth Sale at Plymouth, Wis. E. E. Goelzer, Mgr.
Mar. 31—Guernseys. First Consignment Sale of Calumet Co. Guernsey Breeders' Association at Chilton, Wis. F. E. Fox, Waukesha, Wis., Sales Manager.
April 1—Guernseys. First Consignment Sale of Registered males and grade females. Calumet Co. Guernsey Breeders' Association at Chilton, Wis. F. E. Fox, Waukesha, Wis., Sales Manager.
April 2—Holsteins. Pabst Stock Farm Second Semi-annual Sale at Oconomowoc, Wis.
April 7, 1921—Holsteins. Central Wisconsin Holstein Breeders' Ass'n. 13th Semi-annual Consignment Sale at Marshfield Sales Pavilion, Marshfield, Wis. R. A. Peterson, Wisconsin Rapids, Wis., Sale Mgr.
April 15—Holsteins. Virginia Holstein-Friesian Breeders' Club Sale, Richmond. W. L. Kirby, Manager.
April 19-20—Holsteins. Ohio Holstein Breeders' Association Second Annual Sale at Columbus, Ohio. H. C. Barker, Sec.
April 21—Holsteins. Eaton Co. Holstein Breeders' Second Consignment Sale at Charlotte, Mich.
April 21—Brown Swiss. Illinois Brown Swiss Breeders' Association Annual Spring Sale, Morton, Illinois. Chester G. Starr, Pekin.
April 23—Selected Guernseys from the Sunnybrook and Willowbrook Herds at Sunnybrook Farm, Eatontown, N. J. Leander F. Herrick, Sale Mgr.
April 25-26—Holsteins. Waukesha County Holstein-Friesian Association Sale at Waukesha, Wis. W. L. Baird, Sec'y.
May 2—Holsteins. Walworth County Holstein Breeders' Association Eighth Semi-annual Sale at Elkhorn, Wis. Ben Bachhuber, Mgr.
May 3—Holsteins. Clark County Quality Sale at Owen, Wis. J. Wuethrich, Sale Mgr.
May 4—Holsteins. Minnesota Holstein Breeders' Association Third Annual Sale at Faribault, Minn. B. D. Scott, Sec.
May 5—Jerseys. Wisconsin Jersey Breeders' Ass'n. Sale at Madison, Wis.
May 9—Holsteins. Brown County Holstein Breeders' Sale at De Pere, Wisconsin.
May 10—Guernseys. Dispersal Sale of Emmadine Farm Herd at Hopewell Jct., Dutchess Co., N. Y. Leander F. Herrick, Sale Mgr.
May 12—Guernseys. J. L. Hope's Annual Sale at Florham Farms, Madison, N. J. Leander F. Herrick, Sale Mgr.
May 12—Holsteins. Jefferson County Holstein-Friesian Breeders' Ass'n. second consignment sale. A. F. Gafke, Sec'y.
May 12—Holsteins. Marathon Co. Holstein Breeders' Association Sale at Wausau, Wis. Francis Darcey, Watertown, Wis., Mgr.
May 13—Holsteins. Chippewa Falls, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 13—Eastern Guernsey Breeders' Association Combination Sale at Devon, Pa. Leander F. Herrick, Sale Mgr.
May 17—Holsteins. State Fair Grounds, Milwaukee, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 18—Jerseys. Monroe County Jersey Breeders' Consignment Sale at Tomah, Wis.
May 18-19—Holsteins. Manitowoc County Holstein-Friesian Breeders' Association, Manitowoc, Wis. Chas. Hampke, Manager.
May 25—Guernseys. Portage Co. Guernsey Breeders' Association Annual Consignment Sale of Registered Guernseys at Amherst, Wis. R. K. McDonald, Sec'y. F. E. Fox, Waukesha, Wis., Sale Manager.
May 26—Guernseys. Portage Co. Guernsey Breeders' Association Annual Consignment Sale of Registered Guernsey males and grade females at Amherst, Wis. R. K. McDonald, Sec'y. F. E. Fox, Waukesha, Wis., Sales Manager.
May 26—Holsteins. Marshfield, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 27—Holsteins. Outagamie County Holstein Breeders' Ass'n. Sale at Appleton, Wis. Edw. O. Mueller, Sec.
June 1—Holsteins. Dispersion of Fairview Stock Farm's Herd at Anderson, Ind. O. L. Janney, Owner.
June 9—Holsteins. First Annual Bred Heifer Sale, Thorp, Wisconsin. W. H. Krause.
June 9—Holsteins. First Annual Sale, Holstein-Friesian Co-operative Association of New Jersey, Trenton, New Jersey. J. W. Bartlett, Secretary, New Brunswick.

Sophie 19th of Hood Farms
World's Champion Long Distance Dairy Cow

9 years R. O. M. records total 110,918.1 lbs. milk, 6,356 lbs. fat, 7,945 lbs. butter 80% fat. Now on tenth yearly test in sixteen-year-old form. Has made in four months 5,137 lbs. milk, 295 lbs. fat. We offer grandsons of this World's Champion cow. They will sire size, production, constitution, longevity. Write for description and pedigree of bulls and bull calves. Prices from $200.00 and up.

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N. B. Over a quarter century breeding Jerseys for large size, heavy production, strong constitution, longevity and profit, enables us to offer you a bull that will sire profitable producers. Our correspondence is very large, to save time and correspondence, we would appreciate your writing us priced bull you wish to purchase, and we will send full information on more than one for your consideration.

JIMMY DODGE, Mgr.

Jersey Cows
For Sale
FROM FEDERAL ACCREDITED HERD

I have six cows for sale with Register of Merit records from 400 to 500 lbs. butterfat, age from 3 to 8 years. Prices from $250.00 up. One of these is a daughter of Noble's Fawn Prince, record 493 lbs. Five will freshen between January 5th and April 15th. These are all good individuals of right type.
P. G. WARMINGTON, Honey Creek, Wis.

Pine Lawn Dairy Farm

is offering 2 young bulls out of high producing cows. One, a grandson of Golden Maid's Viscount, 18 months old. One, a son of Beauvoir's Chief; he a son of Western King's Chief. Also a few cows and heifers. Write for pedigrees. Will sell cheap to make room.
H. S. Hager, Prairie du Sac, Wis.

HERE'S YOUR OPPORTUNITY
Bull calf born March 4, 1920, sired by a grandson of Majesty's Western King and out of a R. of M. daughter of Ibsen's Chief. For full pedigree and price write
E. E. HILL & SONS, Tomah, Wis.

Valley Farm is Offering
Several bulls, 6 to 12 months old, from R. M. cows. Sired by Golden Maid's Viscount and Kilda's Royal Majesty, two of the best Island bred bulls living. At prices to sell. Write
FRED STUBLEY, Black Earth, Wis.

JERSEYS—DUROCS
Just one bull old enough for service and a few young calves. Hood Farm breeding.
F. R. Constance & Sons, Waupaca, Wis.

Hillcrest Jerseys
Bull calf born March, 1920. Sired by Imp. grandson of Golden Fern's Noble. Priced right for quick sale. Write
ROLLIE VANDERVORT, TOMAH, WIS.

Six Splendid Jersey Bulls
FOR SALE. Good type, well bred and well grown, 12 to 18 mos. old, from dams in R. of M. or on test. Rich in the blood of H. F. Torono, Figgis, H. F. Pogis 9th, Pedro, Loretta D, King Sappho King and Golden Maid's Prince.
J. Q. EMERY & SON. - Edgerton, Wisconsin

Register Merit Jersey Herd
At Head, Mona's Jacoba Premier grandson: Pogis 99th of Hood Farm. Dam, Mona's Jacoba, record 806 lbs. butter: Granddaughter Jacoba Irene, young stock; St. Lambert breeding for sale. R. C. Green & Son, Albion, Wis.

For Better Jerseys
We do not retain in our herd any cow which under favorable conditions will not produce 500 lbs. of butterfat (600 lbs. butter) in 1 yr. on official test.
We have a few young bulls for sale.
THORNBURY FARM
LIBERTYVILLE, ILLINOIS
W. A. BREWERTON, Owner L. A. BENT, Mgr.

MILK 10509 Lbs. FAT 586 Lbs.
Average of 175 R. of M. records made by Ayredale cows. Forty R. of M. records made in 1920 by 16 two-year-olds, 4 three-year-olds, 1 four-year-old and 19 mature cows average 10,596 lbs. milk, 586 lbs. fat. With 16 two-year-olds bred at Ayredale in the 1920 lot, they equal previous records made largely by mature cows.
This 1920 performance is pleasing, because it proves our herd sires are breeding on and up.
Bulls and bull calves from above cows for sale. They insure big cows that are big profitable producers. To save correspondence, I would appreciate an inquiry from you giving age, color and priced bull you wish to purchase.
AYREDALE STOCK FARM
F. W. Ayer, Bangor, Maine

BELSWOOD FARM
Financial Bred Jerseys
We are offering for sale a splendid lot of bulls and bull calves out of R. of M. dams with records of 500 lbs. butter. Also several heifer calves. Send for illustrated catalog, containing pedigrees and delivered prices.
A. F. Block, Mgr., Norwood Park, Illinois.

Montpelier Jerseys
Three young bulls ready for service. Trace three times to Oxford Lad. Fine typy individuals. Right in every way.
Montpelier Manor Farms, Laurel, Md.

POLLED JERSEYS
Breeders' names and Spillman's "Inheritance of the Poll Character in Cattle" mailed free.
CHAS. S. HATFIELD, Secy, R4, Box 5, Springfield, Ohio.

CLOVERDALE
Jersey Bulls For Sale
$125—Age 13 mo.—$125
No. 1. 829.6 lbs. butter average R. O. M. record for 2 grandams. Two grandsires of 2 nearest sires premium winners National Dairy Shows.
No. 2. Sire out of cow with 865 lbs. butter R. O. M. record. Grandson Noble of Oaklands. Dam's 2-year-old R. O. M. record 446 lbs. butter. Her sire's dam R. O. M. record 886 lbs. butter. Others $75.00 up.
E. O. ANDERSON, Shelby, Michigan

Messrs. Ayer & McKinney announce the purchase of the breeding and importing business of Mr. Edmond Butler, Mt. Kisco, New York.

Through this transaction, all Mr. Butler's Jersey interests pass into the hands of Ayer & McKinney.

From this date the business will be handled from Meridale Farms, Meredith, New York.

The next annual sale will be held at Meredith, on June 2, 1921—the day following the annual meeting of the American Jersey Cattle Club.

Visitors always welcome at the Oconto County home of Jerseys.

JERSEY CREST FARMS, OCONTO, FALLS, WIS.

We are offering an interest in our business by selling young Bulls sired by Sayda Rose's Jap, No. 166586, out of young cows now on Register of Merit test who will finish in AAA Class.

Jap-Sayda Blood Predominates

We are reasonable in our offerings. Herd tuberculosis free, under Federal supervision. Health—Beauty and Economic Production our watchword!
We are now able to supply breeders who have written us previously regarding Jap-Sayda calves, if interested.

Vermont Buttermakers Compete

Forty Vermont buttermakers entered the contest staged at the meeting of Vermont Dairymen's Association the middle of January. C. M. Story won the first prize with a score of 97.5.

Many of the competitors were former winners of prizes. All entries were good and scored high, competition was close. Mr. Story takes the first prize to a creamery that has never won before, and Mr. Story is relatively new in the buttermaking business.

The Dairymen's Association met in connection with the maple sugar makers. The different state cattle associations met at the same time. Some of the speakers were Commissioner E. S. Brigham, Professor A. A. Borland of Pennsylvania State College, Dean J. L. Hills, E. C. Collingswood of New York, and F. H. Abbott of the Eastern Farmers' Exchange.

The dairymen's banquet was the last big event of the convention. There was a strong program of speakers and entertainers. The toastmaster was Congressman Frank L. Greene. Other speakers were Governor James Harkness, President Guy Bailey of University of Vermont, and O. E. Bradfute of Ohio, who represented the Farm Bureau Federation.

Pennsylvania. E. A. KIRKPATRICK.

The Alabama Farm Bureau Federation has completed a temporary organization and voted to affiliate with the national organization. With Alabama in, there remain but two states of the Union not affiliated.

BROWN SWISS



BETTY OF LAKE VIEW

Breed Brown Swiss Cattle

As producers they are worth every cent you pay for them. Cows are easily sold at reasonable prices. Their earning power has not been capitalized. Brown Swiss meet the ideals of working farmers.

BROWN SWISS CATTLE BREEDERS' ASS'N
IRA INMAN, Secretary, Beloit, Wis.
William B. Hale, Pres., Aqueduct Bldg., Rochester, N. Y.

JUBILEE FARM
Brown Swiss Cattle
Young stock for sale. Individuals of Quality. The best producing blood lines of the breed.
BOX 747, PEORIA, ILL.

Fairview Dairy Farm
Brown Swiss Cattle
FOR SALE
Both Male and Female
F. P. MINNETTE & SON, Sauk Center, Minnesota

AYRSHIRES

Pure-bred Ayrshire Cattle For Sale
Best of breeding. Calves sired by a Grandson of Brown Kate, record 1,080 lbs. butter in year.
Wm. Nisbet & Sons, Richland Center, Wis.

Delchester Farms Ayrshires
Tell us your wants and we can supply them at prices you can afford to pay.
Aged cows, bred to Glenury, an A. R. son of Finlayston.
Aged cows, bred to Rena's Baron of Highland, an outstanding son of Baron's Best of Bargenoch.
Heifers, bred to these two great sires.
Young heifers.
Bull calves.
All the above stock carries some of the best producing blood of the breed with A. R. ancestry on both sides.
Herd free from tuberculosis
DELCHESTER FARMS
Edgemont, Del. Co., Penn. - Thomas W. Clark, Supt.

Linndale Farm Ayrshires
"Are bred for Production"
Bull calves out of A. R. cows and sired by sons of World Record cows, for sale.
Our { Breeding, Conformation and Prices } are right.
See what we offer before you buy.
JOHN LINN & SONS,
Manhattan, Kansas.

Weymouth Farms
"Ayrshires of Quality"
All cows on Advanced Registry Test. Herd Tuberculin Tested.
We can supply you a herd sire of choicest breeding.
MARTIN A. TOWLE, Mgr.
NORTH WEYMOUTH, MASS.

Metropolitan Farm
For Sale—Bull calves from our best A. R. cows. These calves are from one month to one year old. Priced for quick sale.
Write for pedigrees and prices.
METROPOLITAN LIFE INS. CO.,
Neil J. Parker, Farm Supt.,
Wilton, New York.

BLACKBURN FARM
HOME OF
Addington's Champion
Grandfathers—Nox'emall and Finlayston
Father—Rena's Champion, 17 A. R. Daughters
Mother—Addington Queen 3d, two Mature Records each over 19,000 lbs.
For Sale —
4-year-old cow—Fresh Dec. 12, 1920
2-year-old heifer—Fresh Jan. 16, 1921
Also Young Stock
Tuberculin Free Herd
Sewickley, Pennsylvania

Lippitt Farm Ayrshires
For the first time we offer females for sale. They are producers with type.
Write for prices to Hope, R. I.

Ayrshire Stock
of all ages for sale. Satisfaction guaranteed
L. W. McCONNELL, Wellington, Ohio

Official Milk and Fat Records Completed in 1920 by the Gossard Breeding Estates

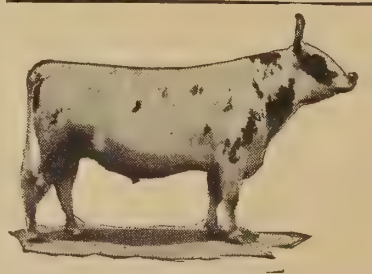
All but one record made at the Indiana plant. A dozen other records being made at the Kansas plant will be listed later.

Name	Class	Age	Start	Milk	Fat
Henderson's Dairy Gem 35176	M	9-30-11	Apr. 1919	20,042	806.71
Highest official record in Indiana 1920					
Willowmoor Lily 9th 46060	S 3	6-10-16	Apr. 1919	16,300	649.31
Willowmoor Woodbine C	J 3	7-21-15	Jan. 1919	16,761	590.05
Willowmoor Roxana 37768	S 4	6-22-14	Jan. 1919	15,002	582.94
Willowmoor Katherine 37050	M	1-26-14	Nov. 1919	15,680	577.34
Average for five cows				16,757	635.47
Willowmoor Woodbine 4th 46099	J 2	1-25-17	May 1919	14,950	571.32
Willowmoor Mandy 42842	J 3	10- 7-15	Mar. 1919	13,626	549.80
Willowmoor Lily 10th 46079	S 2	9-16-16	Apr. 1919	12,472	537.82
Willowmoor Bright Girl 2nd 26004	M	8-21-09	Nov. 1919	14,178	536.48
Willowmoor Barleith Snowdrop 29475	M	8- 4-10	May 1919	13,806	521.11
Average for ten cows				15,282	391.38
Willowmoor Sarah 37055	M	2-16-14	Feb. 1919	13,792	520.15
Willowmoor Bluebird 37763	S 4	4-14-14	Feb. 1919	13,981	516.93
Willowmoor Hattie 2nd 46092	J 2	12-20-18	Apr. 1919	12,201	514.96
Willowmoor Soncy Girl 29470	M	7-24-10	Aug. 1919	13,786	504.34
Willowmoor Jess 39316	J 4	9-29-14	Feb. 1919	13,048	500.91
Average for fifteen cows				14,641	564.69
Willowmoor Happy Girl E 37063	M	12- 6-13	Mar. 1919	12,990	495.20
Willowmoor Brownie 2nd 42950	S 3	1- 3-16	Sep. 1919	13,312	486.55
Willowmoor Cherry Maid 42936	S 3	7- 6-18	May 1919	12,923	479.54
Willowmoor Lily 11th 46090	J 2	11-26-16	Apr. 1919	11,156	469.00
Willowmoor Elsie Ruth 49087	S 2	7-14-17	Oct. 1919	11,367	456.13
Average for twenty cows				14,068	542.82
Willowmoor Lily Pan 42920	J 2	4-14-15	Sep. 1919	11,307	453.43
Willowmoor Dahlia 38078	M	8- 4-14	Oct. 1919	11,425	450.09
Willowmoor Thrush 42925	J 4	5- 7-15	Oct. 1919	13,164	439.32
Willowmoor Woodbine 3rd 46097	S 2	1- 4-17	Sep. 1919	10,951	435.32
Bida of Middlesex 45419	J 2	3- 7-17	Oct. 1919	10,878	420.89
Average for twenty-five cows				13,564	522.23
Willowmoor Hilda Poultney 46096	J 3	12- 3-16	Sep. 1919	10,594	402.46
Willowmoor Dolly 38076	M	8- 1-14	Dec. 1919	10,217	392.56
Willowmoor Inez 39322	S 4	12-16-14	Aug. 1919	11,399	388.20
Willowmoor Diana 42046	S 3	11-11-15	July 1919	10,194	380.43
Willowmoor Lady Beauty F 35853	M	10- 3-13	Feb. 1919	10,149	379.25
Willowmoor Primrose 53634	J 2	3-25-14	Sep. 1919	9,450	346.51
Willowmoor Crystal 42957	J 3	2-20-16	Sep. 1919	8,448	316.24
Willowmoor Barleith Snowdrop C	S 3	8-28-15	May 1919	8,389	311.45
Average for thirty-three cows				13,664	484.03

23 out of the 33 cows making records are under five years of age.
We have the finest kind of sons and daughters from these cows to offer discriminating buyers now. Write to Box 100 E, Martinsville, Ind., for prices on females and young bulls.

AYRSHIRES Preston, Kansas — BERKSHIRES Martinsville, Indiana — PERCHERONS Axial, Colorado

GOSSARD BREEDING ESTATES



We Have For Sale
the well bred Ayrshire bull, Bargenoch "Drexel" (18474) Imported. Bred by John Logan, Bargenoch, Scotland. Born Feb. 2nd, 1919. Color white and red. Sire, Bargenoch Magnificent (9579). Sire of Bargenoch "Royal Champion" sold at Bargenoch sale, 1919, for $7,267.00.
Dam, Bargenoch Victoria (37003). Scotch record: 9,221 lbs. milk, 4.23% fat in 43 weeks; 11,070 lbs. milk, 4.50% fat in 47 weeks.
BARCLAY FARMS, John Cochrane, Manager, ROSEMONT, PENNSYLVANIA

Middlesex Meadows Ayrshires
We owned *CAVALIER'S NETHERHALL CHANCELLOR* who sired the winning bull calf at this year's National Dairy Show. We have two young bulls ready for service by this sire and out of cows with official A. R. records of better than 12,000 lbs. of milk and 450 lbs. butterfat. Both these youngsters have excellent conformation but we must have room and the first check for $400 takes either one. We have also some younger calves by this bull out of A. R. cows at $250 and up.
A. Henry Higginson
South Lincoln, Mass.

World's Champion Ayrshires
Fully Accredited Tuberculosis Free
— 200 Head in Herd

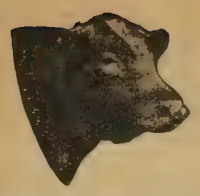


AUCHENBRAIN WHITE BEAUTY 2D
A. R. 14,721 lbs. milk, 4.33%
In 13 years, 112,486 lbs. milk and 13 calves
110 animals in herd are descended from this cow
The 1st, 2nd, 6th and 7th highest records were made here. Four cows average 22,823 lbs. milk, 1,046 lbs. butter. 100 A. R. records made here average 13,246 lbs. milk. Choice stock of all ages for sale at prewar prices. Special — Young bulls line bred to Auchenbrain White Beauty 2d.
PENSHURST FARM, Narberth, Pa.
(7 miles from Philadelphia)

ALTA CREST AYRSHIRES
Special Offering of
Ayrshire Bull Calves
Imported — Home Bred
which we believe to be the greatest lot of Ayrshire Youngsters ever offered by any breeding establishment in America.
Write for Sale List
Animals of all ages for sale. Over 200 head in the Herd. New Importation direct from Scotland to arrive August 1, 1920.
ALTA CREST FARMS,
Arthur H. Sagendorph William Hunter
SPENCER, MASSACHUSETTS

Orchard Lodge AYRSHIRES
Stock for sale, all ages.
Both sexes, prices reasonable.
G. W. STOLLER, Johnstown, New York

Bensalem Ayrshires
For Sale:—Bull Calves from our best A. R. Dams, and sired by "Queen's Favorite", whose Dam, "Bloomer's Queen", holds the World's Record as an Ayrshire Four-year-old with 21,820 lbs. milk, 1,009 lbs. butter. Grandam of Sire, Auchenbrain Brown Kate, Ex-world's Champion, 23,022 lbs. milk, 1,080 lbs. butter.
FRIENDS HOSPITAL, Frankford, Phila., Penn.



Economy in Production ← GUERNSEYS → Quality of Products



The possibilities of the Guernsey are indicated by a cow purchased on the Island of Guernsey in 1914. The purchase price was $378 and the cost of shipping her to her American home was about $200. In 1920 this cow and three of her descendants were sold for $22,700. Every Guernsey cow can increase bank deposits if given a fair chance. Send for our free literature.

THE AMERICAN GUERNSEY CATTLE CLUB, BOX H 26, PETERBORO, N. H.

HONESTY PRIDE OF BIRCHFIELD 44580



Sire — Langwater Warrior 26509
Dam — Langwater Honesty 49479
10,536.9 lbs. milk, 517 lbs. fat, at 2 yrs. and 5 months

We are now offering a few splendid sons of Honesty Pride of Birchfield. From cows with A. R. records or now on test. Everyone is a straight backed, growthy, vigorous youngster. These young bulls will put type and production in your herd. Prices range from $150 to $300.

Quality Guernseys **HIGHLANDS** *Tuberculin Tested*

NYE H. FREEMAN, Herdsman, Linwood, New York

Guernsey Herd For Sale

14 Females—4 Bulls

Daughters and sons of Imp. Spotswood Sequel A. R., Langwater King of France A. R., May King of Linda Vista A. R. and Galaxy's Sequel A. R. The cows have A. R. records up to 672 lbs. fat at 3 years old and most all are from A. R. dams. A choicely bred herd of heavy producers, absolutely clean, Federal Accredited. Will be sold singly or as a herd.

PAUL LOVE, St. Austell Farms **Jackson, Mich.**

Guernsey Bulls

Our last 9 official records average over 510 lbs. fat, including all ages. Our herd sire has 8 A. R. daughters, including one with 572 lbs. fat in Class GG. His three nearest dams average 822 lbs. fat. Send for pedigrees and prices on young bulls with this backing.

Folly Farm, Box 587, Libertyville, Ill.

Thorn Hill Farm Guernseys



Have several well bred young Guernsey bulls for sale at reasonable prices. All my own breeding. May Rose and Glenwoods, out of A. R. cows with records from 500 to 750 lbs. of fat. Write for sales list to

AUGUST ZIESING, Deerfield, Ill.

Do You Want A Guernsey Bull

Closely related to Pergue's Crescent A. R. with a record of 13,316.9 lbs. milk and over 582 lbs. fat in Class EE and dropping two calves within the year, entitling her to second place in her class? Some excellent young bulls closely related to Pergue's Crescent ready to head your herd. Write for descriptive circular, or come and see them.

Ernest W. Sass, Box H, Streator, La Salle County, Illinois.

FOR SALE

A very fine 8 months old registered Guernsey bull, light fawn and white, clear nose. Healthy, active, weight about 450 lbs. Sire and dam both A. R. Very fine pedigree. Satisfaction guaranteed. Price $200 delivered anywhere.

FOR SALE

A very good registered Guernsey bull, 9½ months old. Clear nose, very pretty color, light fawn and white. Grandson of Rex of Rich Neck, who has 3 A. R. daughters averaging 570 lbs. at 2 years old and one son 1 year old that sold for $10,500 last November. Very good pedigree, healthy. Satisfaction guaranteed. Price $160. Deliver with papers. Come or write.

G. R. MILLER, R.F.D. 3, Box 80, Weyauwega, Wis.

SARNIA FARM GUERNSEYS

We are offering several very high class bull calves, 1 to 10 months old, nearly all out of A. R. cows. Send for sale list and circular giving pedigrees and pictures of the herd sires. Place your order now for bred heifers from 1920 importations.

Charles L. Hill & Son, - Rosendale, Wis.

Wern Farm Guernseys

I am offering for sale 20 head of choice Grade Guernsey springers coming with first and second calf. Also have two bulls highly bred along May Rose lines just ready for service, that I will sell. For full particulars, write, wire, or come and see the stock.

Wern Farm, Waukesha, Wis.

Koshkonong Place Guernseys

Herd Bull: ANTON'S KING CECIL
(6 May Rose crosses).

BULL CALVES 6 mos. to 1 yr. old from A. R. daughters of

Jury and Gilt-Edge of K. P.

Herd on Federal Accredited list.

A. R. HOARD, - Fort Atkinson, Wis.

MAPLE HILL FARMS

May Rose bulls for sale from 2 to 16 months old with A. R. backing.

Fruit Bros., - Waukesha, Wis.

642 Pounds Fat

is the average on the A. R. daughters of Bellfounder, the sire of Countess Prue, the World's Champion Guernsey and My Fancy, eighth in Class A.

We offer bull calves carrying 15%—50% of this consistently high producing blood.

Prices $225.00 to $600.00.

The demand is keen; write today.

FALCON'S FLIGHT FARMS, Litchfield, Connecticut.

SAUGERTIES FARM GUERNSEYS

For Sale Bull Calves sired by Ultra May King, 27600. A. R. breeding. May Rose strain. Send for Sales List. Federal Accredited Herd No. 1511.

SAUGERTIES FARMS, Saugerties, New York.

Mound City Farm Guernseys For Sale

May King's Reputation of Mound City (63800) born Dec. 3, 1919.

Sire—May King's Vrangue of Ingleside (15430). Dam—Alma Ethel, three records namely 495 class G. 621 lbs. class AA and 704 lbs. class A. Alma's King of Mound City (63801) born Dec. 23, 1919. Sire—Cinderella's King of Mound City (40476). Dam—Alma Lehigh (43704). 340 lbs. fat class G. 648 lbs. fat class A. Rose's May King of Mound City (63802). Born March 19, 1920. Sire—May King's Vrangue of Ingleside (15430). Dam—Rose of Little Platt (55717) record of 667 lbs. fat in class AA now fourth in her class. Some younger bulls of equal breeding.

Chas. A. Wilkins, Platteville, Wisconsin

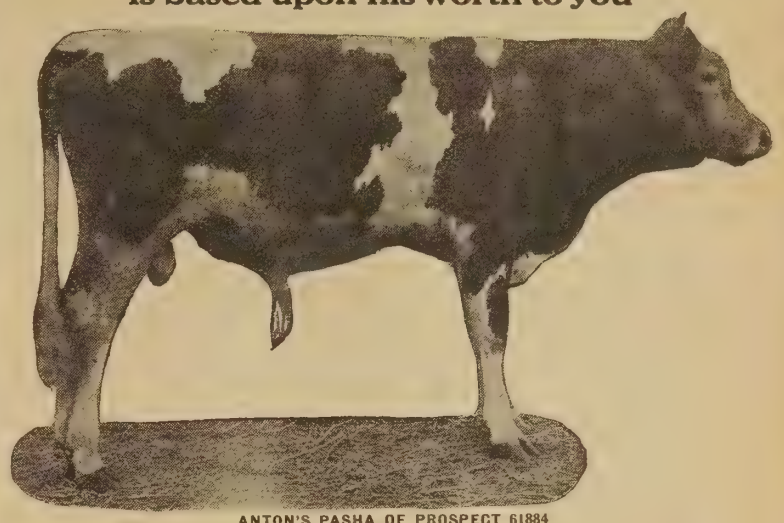
Homestead Farm

Offers for sale bulls from 11 to 13 months of age from A. R. dams. Also a few young bull calves of excellent breeding, and three A. R. cows. Write for sale list or come and see them.

JAMISON BROS., Appleton, Wis.

The Price of This Bull Calf

is based upon his worth to you



ANTON'S PASHA OF PROSPECT 61884
Dropped October 31, 1919

SIRE—Anton's King Confidence 43517.
Traces 6 times to May Rose 2nd. His dam made 764.65 lbs. fat as junior 4-year-old. He is sired by Anton's May King, whose dam has a record of 766 lbs. of fat. Besides all of this he is the best individual that ever stood at the head of the Hoard's Dairyman Herd.

DAM—Buttermaker of Prospect 68769.
A young heifer of great promise. She is of good size and length. Both her sire and dam contain much of the blood of Starlight's Excelsior 7992. She recently completed a record as a junior three-year-old of 364 lbs. During her test she was milked but twice a day and received the regular herd ration.

As an individual Anton's Pasha is hard to beat. He is exceptionally well developed and has improved greatly since August when the above picture was taken.

Write or wire us if you want him.

Hoard's Dairyman Farm

Fort Atkinson - - Wisconsin

Guernseys For Sale

Pure-breds — A large number of bulls, bull calves, cows, heifers and heifer calves.

Grades — Cows, heifers and heifer calves. Listed for sale through the banks of Wisconsin. Send us your wants.

Other Live Stock: Breeders are listing with us other dairy cattle, beef cattle, horses, sheep, and swine. Write us if you want stock. We will answer promptly.

BANKER FARMER EXCHANGE.
D. H. Otis, Director. 1822 Chadbourne Ave., Madison, Wis.

MR. GUERNSEY BREEDER

we are offering bulls of May Rose, Glenwood and Yeksa breeding out of A. R. cows. Our records range from 450 lbs. to 864 lbs. of fat; ages from 2 months up to serviceable age for $100 and up.

Can spare a few fine females.

CORIUM FARM, F. J. Rueping, Owner, Fond du Lac, Wisconsin

CityViewFarm GUERNSEYS

FOR SALE: Typy May Rose bulls out of A. R. cows or cows on test with records up to 615 lbs. fat AA Sired by Bell Buoy of Linda Vista, 17 A. R. daughters, and Langwater Good News. Some of these bulls trace 18 times to May Rose II and are priced to sell.

O. R. SCHWALEN, Roberts, Wis.

Tilden Farms Guernseys

FOR SALE: Several typy, May Rose bulls out of A. R. cows and sired by Hope's May Rose of Maple Hill (35903), whose dam is a class leader with 776 pounds of butterfat at 3 years. Also several choice pure-bred females and a few excellent grade cows. Herd on Federal Accredited list.

TILDEN FARMS
James H. Murphy, Mgr. Delavan, Wisconsin

Here's Your Opportunity!

Good Grade Cows in car lots. Pure-bred Males, Females with type and good producing ability. Investigate.

Fox River Valley Guernsey Breeders' Association
Harry Leppla, Sec'y, Appleton, Wis.

CITY HOME FARM GUERNSEYS

Fine registered Guernsey bulls of serviceable age and younger of most fashionable breeding. Priced right. Can also spare a few fine females.

F. W. MEYER BARRON, WIS.

Tratt Guernsey Herd

Herd headed by Bob Rilma's Monogram whose dam and grandam have A. R. records averaging 887.5 lbs. fat.

Bull calves for sale by him out of cows with good A. R. records.

Write for pedigrees and prices.

RALPH TRATT, WHITEWATER, WIS.

GORDONDALE

Guernsey bulls of serviceable age offered for sale, also younger ones. They carry May Rose breeding, are from A. R. dams and have splendid A. R. backing Ask us about them.

Herd under Federal Supervision.

L. E. GORDON, JR.,
Nelsonville, Portage Co., Wisconsin.

Young Bulls For Sale From A. R. Dams

I am offering several young sons of Golden Noble of Craigmoor A. R. He is a son of Langwater Raritan A. R. and from Imp. Daisy Moon 4th (639 lbs. fat).

These bulls are from A. R. dams with records up to 648 lbs. fat.

They are from 3 months to a year old. For prices and pedigrees call or write

Maple Heights Guernsey Farm

Frank E. Swan, Wauwatosa, Wis.

Federal Accredited Herd.

Responsibility of the Buyer

HOARD'S DAIRYMAN:—A great deal has been said, and is being said, about the responsibility of the seller in live stock transactions. This arises from the fact that a great many farmers every year buy their first pure-bred animal; they engage in the enterprise with high hopes, convinced that pure-bred live stock spells the way to speedy success.

We do not hear a great deal any more about the old style horse trader who operated in an unwritten code which meant let the buyer beware. Unfortunately, however, the rise of trading in other classes of live stock has infested the farming business with a new type of trader; those men who deal primarily in pedigreed live stock.

Nobody denies that we have dishonest salesmen of live stock, though their number is no doubt grossly exaggerated. A very little fire can sometimes cause a great deal of smoke. It is the writer's opinion that the live stock industry as a whole is sound, and that inexperienced men are overly fearful of deception.

Those farmers, breeders, and dealers who have been long in the business, and who have sold many animals, are able to tell a story which shows that there are two sides to every question. Again and again when buyers have asked for adjustments on animals bought, investigation has revealed that the buyers were trying to "slip something over" on the seller.

The two most frequent cases in which buyers try to deceive the seller are those dealing with tuberculosis and abortion. A buyer has been known to place a cow just purchased in his own herd, and when she reacted later, blame the seller and sue him not only for the value of the cow but also for the value of the herd, which he alleges was infected by the new coming cow. When the facts are sifted it is discovered that the buyer tried to shift the burden of a situation from his shoulders to those of the most convenient bystander. And it is the same way with abortion. Breeders will not readily admit that they have abortion in their herds. When they buy a cow which later aborts they declare their own herd was free.

Breeders who deal in large numbers of bulls also claim that many sellers fraudulently claim sterility. I remember one case in which a man returned a bull, claiming him to be a nonbreeder. The seller had considered his customer an honorable man and had not investigated. It developed later that the buyer had registered a great many calves as sired by that bull; and, sure enough, the bull proved to be a good breeder when returned to the seller.

The honest buyer of course recognizes that not all sellers are honest. But, being honest himself, he will give the seller a square deal by first establishing the status of his own herd. Before he introduces any new blood into his own herd he should make sure that the herd is tested for tuberculosis. His veterinarian, in case of trouble later, can then testify that the herd was clean or not clean, as the case may be. Abortion cannot be checked up as closely, but any dairyman can tell whether abortion is in virulent form in his herd.

In the case of bulls of breeding age, the buyer owes it to the seller to feed and care for a bull properly, and not to use him excessively. Many bulls have been ruined by new owners through crass carelessness and neglect. The seller should not be held responsible.

Wisconsin. W. A. FREEHOFF.

GUERNSEYS

May Rose Bull For Sale
VISCOUNT OF EDGEMOOR No. 49389
21.09% May Rose
Sire: Imp. Itchen May King 25174 Grand Champion N. D. S. 1920.
Dam: Manoa's May Rose 25269 545 lbs. fat.
Born February 1, 1918, well grown, very good type, and a sure breeder.
Also offer two younger bulls, one ready for light service and one September calf by above sire.
F. C. MEYER, Lancaster, Wisconsin

Iowanola Guernseys
We are offering
A Very Fine Son
born July 25, 1920, out of Imp. Kitchener's Express 43925, his dam has 592 lbs. of fat, and out of Franseca of Homa Della who has 12,855.2 lbs. of milk and 640.09 lbs. of fat in Class D. This is a very typy calf and should appeal to any one in need of a bull. Correspondence solicited.
MOUNTAIN BROS.,
Carrier 403, Des Moines, Iowa.

Harbor Hill Guernseys
Masher's Galore 8572 A. R.
Increased the Average Production Credit of 12 A. R. daughters out of A. R. dams by 181 lbs. We offer his double grandson out of another daughter also making a better record than her dam.
C. H. Hechler, Superintendent
Box 30, Roslyn New York

Forestdale Farm
3 Bully Baby Bulls 8 Handsome Healthy Heifers
— 2 to 18 months
from Superior Standard Sires, also a few A. R. matrons. May Rose Breeding. Tuberculin tested. $250 lowest price.
R. D. DeForest, Amsterdam, N. Y.

Hillswold Farm
Shrewbury, Mass.
Registered Guernsey bull calves for sale. Dams in Advanced Registry and tuberculin tested. Prices right, and animals guaranteed to suit. W. A. Cloues, Mgr.

Guernsey Females
bred to an outstanding son of Ne Plus Ultra, one of the greatest sires of the breed. Fifty head from which to select.
MEADOWLAND FARM, Litchfield, Conn.

Guernsey Bulls For Sale
Polly's Anchor No. 42845, born August 24, 1916, and Imp. Bluebird of Lakeside No. 45329, born June 15, 1917. Good, straight bulls, very gentle and sure breeders.
For Sale by
RADISSON FARM, ANOKA, MINN.

GRASSLAND FARMS GUERNSEYS
Choicely bred males and females for sale. (The natural increase of the herd.)
Herd federal tested for tuberculosis. Send for sales list. Satisfaction guaranteed.
Taconic, Conn., Litchfield Co., (C. N. E. R. R.)

Guernseys
Best May Rose breeding. Both sexes and all ages from an Accredited Herd. Write your wants and send for lists.
E. S. Person, Minot, N. D.

Major Oliver S. Johnson

The Dairy Auctioneer
—
Tipton, Ia.

Green Meadow Farms
NOW THE HOME OF
Langwater Steadfast
We are now offering *a fine Yearling Bull* sired by *Langwater Renown* and out of a fine Imported Dam with a record of 16,510.90 milk, 717.79 fat. We offer with him *ten fine Imported heifers* old enough to be bred. Anyone wanting to start a small herd, this is a rare chance.
We also have *a few two-year-olds* of May Rose and Golden Secret breeding that will be fresh this coming spring. Also *four yearling bulls*, old enough for light service of the above breeding. Our herd is now in the third year Federal Accredited List. For price and particulars address
GREEN MEADOW FARMS
Walter Jauncey, Mgr., Williamstown, Mass.

The Mixter Farms
For Sale at farmers' prices,—bull calves sired by May Rose bulls and out of May Rose dams with records of 500 to 700 lbs. fat. Also a number of producing females—animals that will be a credit to any herd and prove profitable in dollars and cents.
Write us before purchasing elsewhere. Mixter Farms have bred over 3,000 pure-bred Guernseys. J. S. Clark, Supt., Hardwick, Mass.
300 Guernsey Females.

HOLSTEINS

PUBLIC SALE
March 8
11 Head Registered
HOLSTEIN
Cows and Calves
Under State and Federal Supervision
And
22 Duroc Jersey Bred Sows
WALTER M. FORTNER, Craig, Mo.

BULL CALF
Sire's dam, butter, 1 yr., 848 lbs.; her daughter, 1,055 lbs. Grandsire's dam, 987 lbs. at 11 yrs.; her full sister, 1,344 lbs.; another, same dam, 1,322 lbs. Dam, Miss Pietertje Alexina 3d, sister to Miss Pietertje Alexina 2d, 1,290.91 lbs. A dandy calf, priced right. Write quick to
McKAY BROS., - - CADDOA, COL.


Pave the Way For GREATER PROFITS with RIVER MEADOW

Grade and Pure-bred Holsteins
High producing cows, heifer calves from our best and most persistent producers, and
Pure-bred Holstein Bulls
which will sire such animals. You will never be able to buy them more cheaply than today. You may rely upon, lowest prices for good cattle, closest attention to your requirements, courteous and conscientious treatment, and more than satisfaction, with your purchase from
River Meadow Farm, Portlandville, N.Y.
"We supply the Best Cows in New York State to Buyers Who Appreciate such Animals."

Holstein Bull
Tuberculin tested and ready for service. Sired by King of the Changelings, a 33-lb. son of King of the Pontiacs. Dam, a daughter of a 33-lb. sire and has an A. R. O. record of 15.57 lbs. butter in 7 days at two years of age, averaging almost 4%. He is well grown and a splendid individual. First check of $175 takes him.
HARRY W. PETZOLD, Owego, Tioga Co., N. Y.

Holstein Service Bulls
sired by
King Bess Burke Ormsby
whose 5 nearest dams average 36.56 lbs. butter in 7 days, 1005 lbs. in 1 year.
PRICED TO SELL
TUBERCULIN TESTED
Milford Meadows Stock Farm
Lake Mills, Wisconsin

SERVICEABLE SONS OF Sir Bess Ormsby Fobes
Young bulls out of tested dams and by "the best individual son of the best son of S. P. O. M." Let one put production and type in your herd.
Linden Lawn Stock Farm
B. W. RABENHORST, Jefferson, Wis.

Sons of a 36-lb.—1315-lb. Sire
They are sons of Dutchland Creamelle Denver Prince. His sire is a 30-lb. 1,028-lb. grandson of Colantha Johanna Lad and his dam, the highest record daughter of the same sire, with 36 lbs. in 7 days, 1,315 lbs. in a year.
They are from tested (records up to 20 lbs.) and untested dams — Good producers rich in the blood of Mooie Mutual De Kol and King Segis Pontiac.
The calves are from 2 to 8 months old. Priced right.
Jefferson County Asylum, Jefferson, Wis.
W. E. Voigt, Supt.

Bull Ready For Service
Nicely marked and a good individual. Dam 20 lbs. butter at just 3 years. Next dam a 23-lb. 4-year-old. Two nearest dams of his sire average over 32 lbs. and ten nearest dams over 29 lbs. in 7 days Not a break in a three-generation pedigree. Priced to sell. Call or write
Halsey J. Sedgwick, Limeridge, Wis.

Three Sisters For Sale
Granddaughters of a 35-lb. bull. Two fresh, one to freshen soon. Bred to a 37-lb. bull. Three- and four-year-olds. $900 takes the three.
ORINE W. BEHNCKE, R. 7, Box 83, Marshfield, Wis.

Grade Heifer Calves—$20
Good grade heifer calves by pure-bred sires $20 f. o. b. cars. Pure-bred bull calves $40 and up. Good, registered heifer calves at reasonable prices.
J. C. BOLGER, Waterloo, Wis.

A GRANDSON OF KING LYONS
Ready For Service
His dam made 25.63 lbs. butter from 657.5 lbs. milk as a 4-year-old. He was born Jan. 24, 1920, is well grown and a first class individual. Tuberculin tested. A bargain at $175. First check takes him.
LORENDALE STOCK FARM, F. B. Loren, Central Square, Oswego Co., N. Y.

Yearling Bull
Ready For Service
Whose 5 tested dams average 28 lbs. His sire is by a son of "IT" out of a 29-lb. cow. His dam is a 21-lb. daughter of a 27-lb. cow. He is priced at a bargain.
G. G. Burlingame, Cazenovia, N. Y.

44 REGISTERED HOLSTEINS
TO BE SOLD
March 3rd, Stoughton, Wis.
Complete Dispersion of J. A. Onsrud's Holstein Herd, at the Farm
It includes:
18 milking cows or heavy springers—all but 3 of them young cows.
8 yearling heifers—daughters of King Beets Repeater, he a grandson of Queen Juliana Dirkje.
12 younger heifers—daughters of present herd sire.
5 young bulls.
Sir Pontiac Plum Johanna, a son of a 19-lb. jr. 2-year-old. He is 3 years old, a splendid individual, guaranteed right in every way.
8 horses, and all farm implements sold the same day.
J. A. ONSRUD, Stoughton, Wisconsin

Mr. Holstein Breeder—

You are Invited to

Pinehurst Farms

at any and all times. Come if you want a herd sire or foundation females. Come if you don't want to buy. We believe you will be interested in Sir Ormsby Beauty Pontiac Segis and his get and in our herd of producing females, many of them now doing very well on 7-day and year test.

You will be welcome and remember if you should buy from us, we stand back of every animal sold

Pinehurst Farms Co., Sheboygan Falls, Wis.

Cows and Heifers

A Few Good Bulls

Because I am overstocked, I am offering some very good registered females for sale. They either have A. R. O. records or are from A. R. O. dams.

Can also offer some excellent young bulls by a 33-lb. sire and from A. R. O. dams with records up to 28 lbs.

Every animal sold is guaranteed to be as represented.

Write or come and see for yourself.

J. D. McDonald West Salem, Wis.

Serviceable Bulls For Sale

Sired by Pabst Pontiac Hengerveld, a son of King Pontiac Champion from Pabst Hengerveld Colanthus (31.5 lbs. butter in 7 days, 1,057 lbs. in a year.

These are nicely marked, well grown youngsters out of good producing dams. Several are ready for service, others are younger.

Write today.

John Alexander, Baraboo, Wis.

GREENBUSH FARM

REGISTERED HOLSTEINS

Offering a service son. by a 1225.67-lb. sire, from a 657.1-lb. senior 4-year-old dam. Good individual. Price $400. Several others at $150 and up. Herd under federal supervision. For complete information address

GREENBUSH FARM,

R. Turano, Herdsman, Glenbeulah, Wis.

$100 to $200 Buys A Bull From A Good Record Dam

Am offering several for those prices sired by a 26-lb. bull and from A. R. O. dams with records up to 25.46 lbs.

Write at once. They'll go fast.

H. W. Crawford, R. 5, Campbellsport, Wis.

A Fedral and State Accredited Herd Offers—

two serviceable sons of M. M. Rag Apple Oak Denver, a grandson of the 36-lb. cow, Dutchland Colantha Denver (1,315 lbs. butter, 25,431 lbs. milk in a year). No. 1—Born Oct. 7, '19. Dam's record 16.04 lbs. as a heifer; second dam 24.79 lbs.; third dam 28.88 lbs. Bull mostly white, very good individual. Price $250. No. 2—Born Nov. 5, '19. Dam's record 19.75 lbs.; second dam 18.75 lbs.; third dam 21.45 lbs. Half white. A show bull. Price $200.

For complete information and pedigree write

A. M. Anderson, Whitewater, Wis.

1000---HERD---1000 Quality Holsteins

GRADES AND PURE-BREDS

Just now we have a splendid lot of grade heifers. Write for our pure-bred bull list.

Jefferson County Holstein-Friesian Breeders' Association.

A. F. Gafke, Secretary, Jefferson, Wis.

A BULLY CHANCE

to get a serviceable sire—born March 15, 1919. A fine individual—well bred—well marked—well grown. Sire, a son of King Segis Pontiac out of a 26-lb. daughter of Juliana King of Rock. Dam, A 26-lb. daughter of King Korndyke Veeman Wayne, he out of a 31-lb. daughter of Sir Veeman Hengerveld. Will trade for pure-bred Holstein females, liberty bonds or cash. If you want a herd sire—what have you got that you don't want? Write or call for price, pedigree, photo. Also have some younger bulls. Herd tuberculin tested.

RIDGEHURST STOCK FARM,

Glen C. Ramsey, Ft. Atkinson, Wis.

5-10 WELL BRED HEIFERS

SEVERAL GOOD YOUNG BULLS

are what we are offering just now. The heifers are registered two-year-olds, bred to freshen this fall. The bulls, old enough for service, are from A. R. O. dams and by Sir Ormsby Homestead Butter Boy, a 35-lb. bull. One is by a 42-lb. grandson of S. P. O. M. Come and see them.

ANDREW FRANK, FOX LAKE, WIS.

Bull For Sale — Born January 2, 1920

Dam:—A 22.62-lb. granddaughter of Johanna McKinley Segis. She has several good daughters in the herd with records up to 33.48 lbs. butter in 7 days and 112 lbs. milk in one day.

Sire:—A son of Molly Johanna Korndyke, former world's record 2-year-old with 30.62 lbs. butter in 7 days. Write for pedigree and price.

W. J. McROBERT, Waupun, Wis.

ORMSBY BULL — Born Feb. 28, 1919

Sire, King Ormsby Pontiac De Nijlander, whose two nearest dams average over 30 lbs.

Dam, Aaltje Hengerveld Tritomia Segis. A. R. O. 17 lbs. at 3 yrs., next dam 29.68 in 7 days. Color light, fine individual. Ready for service. Price $300.

Fairview Stock Farm Whitewater, Wis., W. G. Marshall, Prop.

The Holstein Breeders' Sale Co.

Fond du Lac Wis., will hold a

QUALITY SALE

March 15 and 16, 1921

We Will Sell 150 Head of Cattle

60 cows with A. R. O. records, 25 bulls, 2 out of 30-lb. dams, 65 head of bred heifers, yearling heifers and heifer calves, all out of A. R. O. dams.

All animals over 6 months of age Tuberculin tested, also a 60-day guarantee given.

Fletcher Bros., Waupun, Wis., will disperse their entire herd of 55 head. This herd includes a 30-lb. 3-year-old and her 2 daughters, a 26-lb. junior 2-year-old daughter of a 32-lb. cow. Every animal in milk has an A. R. O. record.

W. W. Williams, Fond du Lac, Wis., will disperse his herd of 30 head, all with records or out of record dams. This herd includes a 30-lb. cow due to freshen sale time, and her yearling son by a 36-lb. sire. He will also sell his Junior herd sire out of a 31-lb. cow.

Among other offerings are: 3—28-lb. cows, 2—27-lb. cows, 3—25-lb. cows, 1—24-lb. cow, 1—21-lb. cow, also 5—20-lb. cows. Daughters of 30, 29, 28 and 25-lb. cows.

Watch for further information.

S. H. Bird, Sale Mgr., So. Byron, Wis.

A Son of This World Record



Oak Lodge Colantha Lady

Three-year-old

For Sale

Oak Lodge Colantha Lady, his dam, made over 18 lbs. butter as a senior yearling. As a junior 3-year-old she has just finished a world's 305-day record with over 21,000 lbs. milk and 816 lbs. butter.

The sire of this youngster is King Pontiac Artis Sadie Vale, 34-lb. son of the great King Korndyke Sadie Vale.

The bull himself is light in color and very well grown. Come and see him or write us for complete information.

Gustave Pabst's Hollyhock Farms

Frad J. Southcott, Manager Dousman, Wisconsin

LAKESIDE STOCK FARM

of SYRACUSE, N. Y

offers serviceable young bulls of the highest individuality, several of them by 30- to 40-lb. sires, and from 30- to 34-lb. dams, part of them State Fair prize winners. In individuality they can not be easily excelled. Lakeside also offers a very choice lot of yearling and two-year heifers and young cows.

E. A. POWELL, Prop.

A Grandson of Piebe Laura Ollie Homestead King

READY FOR SERVICE—FOR $400

He was born March 19, '20, is very well grown and a splendid individual. His sire, King Homestead Veeman Pontiac is by "Piebe" and from a 32.48-lb. daughter of King Segis Pontiac Count, now doing very well on yearly test. His dam, a 19.78-lb. junior 2-year-old, is one of the best producing [illegible] daughters of S. P. O. M. and Spring Brook Bess Burke. He is from a healthy herd and guaranteed healthy. Write today for photo and pedigree.

S. B. SIMONS, Sullivan, Wis.

2 Serviceable Bulls

ALL SONS OF THE 1235-LB. YEARLY SIRE

Sir Korndyke Bess

The Dams' yearly records all over 800 lbs.

R. E. Benson - - Dousman, Wisconsin



Yearly Records

Choice Young Bulls

from one to fourteen months old for sale. Sired by Cloverlawn Johanna Piebe whose five nearest dams average 1,070 lbs. of butter, 23,809 lbs. of milk a year. Herd numbers 140 head, forty cows with yearly records. State exactly what you want.

JOHN PULS, - HARTFORD, WISCONSIN

HOLSTEIN BULLS AND HEIFERS!!

To make room in our barn we offer a dozen or more heifers from 1 month to 3 years of age. They are backed by some of the best families of the breed. Also a few bulls sired by King Korndyke Veeman, whose two nearest dams average over 37 lbs. butter in 7 days. Come and see them or write to

WISCONSIN STAR STOCK FARM, ED. M. SHULTZ HARTFORD, WIS.

A. R. O. BULLS—2 Weeks to a Year Old

At Bargain Prices

They are sons of Rag Apple Pontiac, a 30-lb. grandson of King of the Pontiacs, from well bred dams with records up to 27 lbs. in 7 days. Write today for prices and pedigrees. I'll answer your inquiry promptly.

W. W. Quackenbush, - West Salem, Wis.

WAUPACA COUNTY HOLSTEINS

The Home of Healthy Holsteins

More Federal Accredited Herds than any other County in Wisconsin

200 Grades and Pure-breds ready for immediate shipment

WAUPACA COUNTY HOLSTEIN-FRIESIAN BREEDERS' ASSOCIATION, A. B. Rowe, Secretary, Waupaca, Wis.



HOLSTEIN CATTLE

Fred H. Lee, Plymouth, Michigan, writes:

"I have 26 head of Purebred Holsteins, all descendants of my two original cows. I have become owner of a large farm, near Detroit, which otherwise would have been impossible. I have not been able to back Holsteins but Holsteins have had to back me."

Send for Free Booklets

The Holstein-Friesian Association of America

101 American Building, Brattleboro, Vermont

How About This Son of King Pietertje Ormsby Piebe?

Four of his nearest dams average 34.7 lbs. butter in 7 days and 1,197.54 lbs. in a year from 25,424.6 lbs. milk. K. P. O. P. 27th individually is a dandy as he should be.

HIS DAM, *SUNNY LADY*, has a 32.88-lb. 7-day record with 883.9 lbs. in a year from over 19,000 lbs. milk. Her dam is that wonderful 41-lb. cow, Lady Mutual Friend, with 1,281 lbs. butter in a year and the dam of some of our best producing females.

HIS SIRE IS *KING PIETERTJE ORMSBY PIEBE*. You know him.
We offer this fellow on easy terms of payment. Write today if you're interested.

Hargrove & Arnold — **Norwalk, Iowa**

Herd Under Federal Supervision

SIR JOHANNA FAYNE



42147

now has 9 daughters 20,000 pounds or over. All of his yearly tested daughters, 3½ years old or over average 21,465.1 pounds milk and 831.45 pounds butter. 17 daughters average 20,000 pounds. A few young sons left at reasonable prices. Herd under Federal Supervision.

IOWANA FARMS
DAVENPORT, IOWA



SADIE CORNUCOPIA EIBERTJE

Her Son For Sale—

This cow was 2nd prize A. R. cow and 3rd prize 4-year-old at Dairy Congress, 1920. She is by the best son of the 1st 30-lb. cow and has a 20-lb. 2-year-old record with 510 lbs. butter in 345 days. Now on test as a 4-year-old with 400 lbs. butter in 1st 6 months. Her dam 530 lbs. butter in 10 months; next dam 516 lbs. butter 365 days at 2 years. Calf is by Woodcrest Sir Clyde, who is from a 33-lb. and 970-lb. dam; born May, 1920. More black than white. Given a Federal Certificate of Health.

Write for photo and pedigree today.

W. B. BARNEY & SONS, - - - Chapin, Iowa

Registered Holstein Bulls

4 Yearlings, 7-4 to 6 months old
$100.00 and up if taken soon

All sired by 30-pound bulls. Out of A. R. O. dams with records made on the farm running from a 17-lb. two-year-old to 21-lb. two-year-old, and aged cows from 22 to 30 pounds. We have 13 granddaughters of King of the Pontiacs in our herd and one of his sons out of a 30-lb. dam. Also a grandson of Pontiac Korndyke out of 1,105-lb. dam, 30 pounds, 7 days.

C. A. PARKS, Mgr. — **Assumption, Ill.**

BULL CALF FOR SALE

Sire is a 27-lb. son of Johanna McKinley Segis, the 40-lb. bull that sold for $25,000. Dam is a granddaughter of Pearl of the Dairy's Joe De Kol with 78 A. R. O. daughters. Marking ⅔ white.

Long Distance Phone 389.

DUETT ROBINSON, R. 3, Capron Ill.

Buffalo Creek Farm Holsteins

This yearly record bull calf for sale, born Nov. 28, 1919.
Name, King Lavera Ormsby No. 297926. Sire: King Pietertje Homestead Ormsby No. 221488. Dam: Lavera Hortensia Bawn 2d, No. 124734, with a record of 26,010.2 lbs. of milk and 1,050.55 lbs. of butter in a year. Write for price and pedigree. This calf won 5th premium at the Dairy Show.
Herd under Federal Supervision.

H. L. BINGHAM, Supt., Arlington Heights, Ill.

Whitehurst Farms

BULLS FOR SALE FROM SEMI-OFFICIAL DAMS. Priced Right.

A. F. Randolph, Prop., Canton, Ill.

A Son of LIEUTENANT RAG APPLE

from a 7/8ths sister to a 948-lb. junior two-year-old daughter of a 1,281-lb. cow. $100.00. Let us tell you about him. Serviceable.

BLUEBELL FARM, Riceville, Iowa

Fairhurst Herd

On the Accredited List

We offer young bulls, fine individuals and well grown. Sired by 33-lb. bull and from dams with records up to 30 lbs. Write for pedigree and price.

KITTLE BROS., Holland, Ohio.

High Grade Holstein Cows For Sale

Will sell ten of the best high grade cows in Illinois. They are young and sound; have cow testing records up to 16,000 lbs. of milk in a year, one with over 100 lbs. fat in 30 days. This is the highest record herd in cow test work in Macoupin County. Some months they have been the best ten cows in the state. All fresh or close springers. Here is your chance to get some real cows at a reasonable price. Write for prices and descriptions.

J. M. Kahl, - - Shipman, Illinois

THE TRAVERSE HERD

We have what you want in

BULL CALVES

the large, fine growthy type, guaranteed right in every way. They are from high producing A. R. O. ancestors. Dams' records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.

Traverse City State Hospital, - Traverse City, Michigan

The Pontiac Herd

"Where the Champions come from"

Offer Bull Calves sired by sons of *Pontiac Korndyke, Hengerveld De Kol, Pontiac Dutchland, or Admiral Walker Pietertje.*
Do you want a Pontiac in your herd?

PONTIAC STATE HOSPITAL, Pontiac, Mich.

Sunshine Stock Farm

Offers several good sons of King Nudine Colantha No. 211378 (four nearest dams average 32.66 lbs. butter in 7 days) from high producing dams, some with A. R. O. records. Priced right. Write for description and pedigree.

MILLARD A. BOWERS, Moores Hill, Ind.

4 Holstein Bullsfor Sale

All by King Segis Pontiac Cor-Will, 190512, whose sire is King Segis Pontiac, 44444, and whose dam is an A. R. O. daughter of Pontiac Korndyke. Also two fine young registered cows, one a granddaughter of Pontiac Korndyke. **Wm. N. Osborn, Wanatah, Ind.**

Lord Netherland Rag Apple

Son of Ex-Champion 4-yr.-old Heads Our Herd

Five of his six nearest sires have 40-lb. daughters. Four of his six nearest dams have 31-lb. daughters. His two nearest dams average over 40-lbs.

We have his first sons for sale.

LAWRENCE PAUMIER, - - (Stark Co.) - - Louisville, Ohio

ZEHRINGHURST HOLSTEIN FRIESIANS

A Few Splendid Young Bulls

for sale that have show ring type, that are backed by 7-day and yearly records and by the best productive breeding in Ohio. They are from an accredited herd, are guaranteed right and are priced to sell.

Zehringhurst Farm, Germantown, O. Oscar O. Zehring, Prop.

A 26-Pounder For Sale

A handsome, large, straight bull calf born Nov. 8, 1920. White in color except a few black spots. Sired by my De Kol Hengerveld Burke bull, and out of a very large, straight, square, handsome cow with a perfect udder and teats. This cow recently made in a 7-day official test 552.0 lbs. milk and 26.14 lbs. butter. Her sire is the best son of Pontiac De Nijlander, the champion butter cow of the state of Michigan. $300.00 will buy him.

A few others for less money out of cows with records up to 24 lbs.

I. M. SHORMAN, - - - - - - Fowlerville, Michigan



S. I. P. S. ATTAIN

$500 BUYS THIS BULL!

He Won First at the Delaware State Fair This Past Season

His sire is a 30-lb. bull. His dam made, as a two-year-old, 20.52 lbs. butter in 7 days and 753.37 lbs. in 365 days, she by a 30-lb. bull and out of a cow with 26 lbs. in 7 days and 685.81 lbs. in 305 days.

WINTERTHUR FARMS Winterthur, Del.

Federal Accredited Herd



PABST KING COLANTHUS (206276)
A 31.57-lb. son of King Pontiac Champion.

A Beautiful Son of Pabst King Colanthus (206276)

and our Best Show Cow

Lady Oakland (253314)

Born February 5th, 1921.

Lady Oakland took First Prize at Seven Fairs. Price $200

The Home of 2 World and 4 State Record Cows.

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Minnesota Holstein Breeders' Association

Be sure that you buy Minnesota Holsteins from state association members. They are responsible. For list of members and other information address

THE SECRETARY, 406 MARKET BANK BUILDING, MINNEAPOLIS, MINN.

This Splendid Son of Sir P. O. M. 41st

For Sale—Ready For Service



Born January 22, 1920

He is an outstanding individual, straight as a line and of unusual quality

HIS SIRE

Sir Pietertje Ormsby Mercedes 41st is destined to become one of the world's greatest sires. His sire is known as "The World's Greatest Sire of Show Ring Winners and Yearly Producers." His dam is the only 1,000-lb. cow in the world having three daughters above 1,000 lbs. or six averaging 995 lbs. No sire in the world equals him in point of proven transmitting ability in both sire and dam—and "41st" is proving it by handing it down to his offspring. The greatest show cow out this past year was one of his daughters. His first daughter to complete a yearly record is finishing with over 1,100 lbs. as a junior four-year-old.

HIS DAM

Edenvale Bessie Homestead, a grand individual with a record of 28.75 lbs. butter and 622.3 lbs. milk. Her dam is a three-fourths sister to Jessie Fobes Bessie Homestead, former world's champion 4-year-old with 34.96 lbs. in 7 days. Her sire is by the noted show bull, Sir Beets Cornucopia Netherland and from a 29-lb. cow. Mooie Mutual De Kol, Homestead Junior De Kol and De Kol 2d's Paul De Kol No. 2—all close up in the pedigree.

Send for pedigree and further information

E. C. Schroeder Farms, Moorhead, Minn.

(Herd under Federal Supervision)

Minnesota Holsteins

For Your Next Herd Sire



Miss Korndyke Akkrummer Ormsby 30-lb. 4-year-old. 39.67 lbs. butter at full age. Owned and developed by J. B. Irwin.

get a son of Sir Ormsby Banostine Champion, son of Duchess Skylark Ormsby, world record cow. We have some good ones for sale from dams with good 7-day and year records.

Woodlake & Clover Farms,
John B. Irwin, Station F,
Minneapolis, Minnesota.
"The Home of the Ormsbys."



Lola Segis Pontiac Homestead

the highest record bull in southern Minnesota, heads our herd. His sire, Piebe Laura Ollie Homestead King, has more daughters that as 2-yr.-olds have produced 20,000 lbs. milk in a year than any other. His dam, a 34-lb. 4-year-old daughter of King Segis Pontiac Count, has 3 records averaging 33 lbs. and has made over 1,000 lbs. in 1 year. We have a few serviceable bulls and younger from A. R. O. dams for sale.

Clover Lea Farm, W. W. Walker, Owner. Austin, Minnesota



Sir Walker Segis Homestead

The best show bull and son of the great bull, PIEBE LAURA OLLIE HOMESTEAD, out of a "COUNT" daughter, BEAUTY BEETS WALKER SEGIS, world's greatest heifer, with two yearly records over 25,000 lbs. milk and 1,000 lbs. butter in heifer form, and a seven-day record of 35.03 lbs. butter from 730 lbs. milk.

We offer several choice bulls, one month to a year old, out of high yearly record and A. R. O. cows, at very reasonable present day prices. Pedigrees and photos will be sent.

A. J. LASHBROOK, - - Northfield, Minnesota

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BISCAY SALES CO., BISCAY, MINN.

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Sons of "COUNT"—

—"The Marvel of All Sires"

Whose daughters have broken more World's Records than the daughters of any other sire of the breed in both long and short time work. He has eight 1,000-lb. daughters.

Sons of "PIEBE" — "The Present Day Sensation"

The only bull in the world with five 20,000-lb. two-year-old daughters.

Sons of "COUNT" from daughters of "PIEBE"

Sons of "PIEBE" from daughters of "COUNT"

We have the finest line of young bulls we have ever raised at ARDEN FARMS, priced in accordance with present financial conditions. LIBERAL TERMS GIVEN IF DESIRED. Write me for particulars.

J. M. HACKNEY

602 Merchants Bank Building, - - - St. Paul, Minnesota

Bull Calves of Ormsby Breeding

from A. R. O. dams for sale, 2 to 8 months old. Prices $200 to $1,000. We can also offer several good, typy cows bred to a good Ormsby bull. Write or come and see us.

MINERAL SPRINGS STOCK FARM, - - SAVAGE, MINNESOTA

Stuart—McIntyre—Hansen, Owners.

Address correspondence to Axel Hansen, formerly with John B. Irwin.

6 Good Cows For Sale

THE MINNESOTA KIND

They are all by a 36-lb. sire, are bred to a son of King Korndyke Colantha Ormsby, and are due to freshen this fall and winter. They are from 3 to 5 years old and absolutely straight and right. Lack of barn room forces us to sell.
Write or come and see them.

E. J. Brosious, - Stillwater, Minn.

Grandsons of Sir Pietertje Ormsby Mercedes

The sire is Sir Pietertje Ormsby Mercedes 22d a son of Minnesota's first 1000-lb. cow. These bulls are all nicely marked, straight top lines. Very good individuals from good A. R. O. dams.
For pedigrees and prices, write

O. J. GROVER, - GLYNDON, MINN.

Grandsons of

Duchess Skylark Ormsby and of S. P. O. M. 38th.

for sale. These youngsters are from A. R. O. dams that are now making good yearly records. Write today for further information.

POPLAR HOLLOW STOCK FARM,
Bertram D. Scott, Prop., Richfield Station
Minneapolis, Minn.

Bull Calf

advertised last week is sold. Here is another good one ready for light service. Sired by a 30-lb. bull. Dam a 14-lb. 2-year-old who will be tested again next spring. Priced so reasonable that you can't afford to be without him. $150.00 for immediate sale.

V. R. Holmes, Anoka, Minn.

We Are Not

giving anything away but our sons of King Segis Pontiac Fayne Star are marked down to where any progressive dairyman can afford to own one.

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Get A Calf

We have a grand bunch of youngsters on hand. Come and pick out a calf while you have a big choice. Grow him to suit you. Saves you money and we are selling them as cheaply as we can. Show calves that are backed by generations of official testing and careful breeding. Sons of DUTCHLAND CREAMELLE COLANTHA LAD No. 165049. His yearly daughters all average over 834 lbs. of butter at 26 months of age.

GRAHAMHOLM FARMS,
H. R. Searles, Mgr., Rochester, Minn.

Sir Korndyke Ormsby De Kol 15th—21 Months Old

His sire is a son of Sir Korndyke Hengerveld De Kol; 51 A. R. O. daughters, one of whom has a 7-day record of 39.56 lbs. and several above 1000 lbs.

His dam has a record of 23.778 lbs. and now on yearly test.

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ORIGIN FARM

HORNLESS HOLSTEINS, Registered and A. R. O. Animals, all ages, for sale. Federally Tested.

GEO. E. STEVENSON, Scranton, Penna.

Mankato Holstein Farms

Offer a Son of

King Colantha Ormsby Bess

A Sir Pietertje—Bess Burke combination. Nine dams average over 1,000 lbs. Dam is by a brother to Pietertje Maid Ormsby. 894 lbs. butter and 21,833 lbs. milk last year. Running at a world's record gait for the year. Over 400 lbs. butter and 10,000 lbs. milk first four months. Several bulls at prices warranting their use in grade herds.

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(Herd under State and Federal Supervision)

Marlow & Randall, Mankato, Minn.

RICHLY BRED

HOLSTEIN BULL CALVES

out of A. R. dams and sired by our two richly bred herd sires — **King Piebe Ormsby Mercedes**, a 35-lb. son of Sir Korndyke Bess and every dam in pedigree over 22 lbs. and **King Pietertje Mercedes Ormsby**, a son of Sir Pietertje Ormsby Mercedes and out of a 19-lb. senior two-year-old dam.
Herd tuberculin tested. Write for information or visit herd.

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From Yearly Record Dams—Age 1 to 14 Mos.

Six three-year-old heifers in my herd (under ordinary farm conditions) have just finished yearly records averaging 722 lbs. butter from 16,639 lbs. milk. To make room for calves now coming on, am offering at bargain prices three grand individual sons of above cows ready for service. Act quick. Herd under Federal Supervision.

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HOLSTEINS—Females

We offer some very choice females, all ages, priced very reasonable. Mostly bred to our 34-lb. bull, Piebe Count Com. One or a carload.

BLACK AND WHITE STOCK FARM,
Route 3, Melrose, Minnesota

Edinboro Lake Farm

Show Type HOLSTEINS Production

Six state yearly record champions 1918-19.

We offer bull calves by Sir Paul Veeman Hengerveld and Sir Ormsby Skylark Fredericka, out of yearly record dams with type.

Edinboro, Pa.

SONS

of Sir Echo Sylvia Johanna —

7/8 Brother to the $106,000 Bull

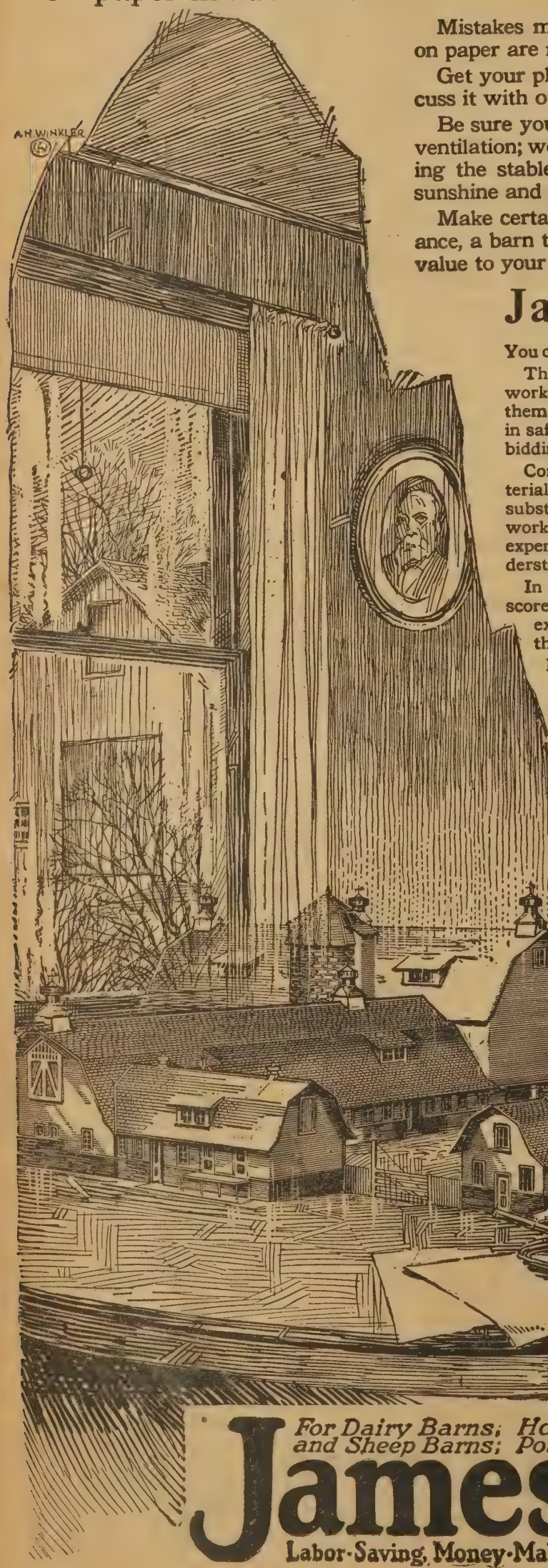
From high bred fine individual A. R. O. cows up to 30 lbs. Several on test now. All good, straight individuals, backed by lots of milk and butter. Some are ready for service. Priced very low. Write for catalog.

(Herd Under Federal Supervision)

CHESTNUT HILL FARMS,
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HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING



Fort Atkinson, Wisconsin Volume LXI, No. 7 March 4, 1921

Dairying is most profitable



PRICES for dairy products have held firmly, while the cost of feed has been greatly reduced. Because of this there is relatively more profit than ever in dairying, and many farmers are turning low-priced feed into high-priced butter-fat. An eminent dairy authority says that you can make corn worth $2 to $3 a bushel by feeding it to good cows.

Times like these prove the value of dairying. It is the backbone of the nation's agriculture — the most profitable, surest and safest of all branches of farming. Dairying is not suffering from overproduction, is not overcrowded or overdone.

And De Laval Cream Separators have done more than any other factor to place the dairy industry on such a firm and profitable basis. They save cream, time and money twice a day, every day in the year. They produce a steady cash income. They have made the market accessible, even though you live 500 miles from a creamery. They keep the skim-milk on the farm to produce another crop of calves, hogs and poultry. They are made so well that 20 to 30 years' service from a De Laval is not unusual. Over 2,500,000 are in use in all parts of the world.

You need a De Laval more than ever. There is a De Laval agent near you—see him.

The De Laval Separator Company

NEW YORK	CHICAGO	SAN FRANCISCO
165 Broadway	29 E. Madison Street	61 Beale Street

Sooner or later you will use a De Laval Cream Separator or Milker

HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING

Volume LXI — FORT ATKINSON, WIS., MARCH 4, 1921 — Number 7

Factors Limiting Profits in Dairying

I. J. MATHEWS, INDIANA

PROFITS on the dairy farm are largely dependent on five factors: size of business, amount of live stock, milk receipts per cow, crop acres tended by each man and horse, and the crop yields. These factors are forcibly brought out by figures collected by L. R. Roberston and covering 27 farms in Indiana where cows furnished the principal source of income. These farms are not specialized dairy farms but are comparable with the ordinary farm whose chief source of income is from milk cows, but which supports other animals, as well as growing some crops for cash sales. These figures apply to all parts of the country and on farms under similar conditions, regardless of their location. Only by such an analysis of his business can each dairyman tell where to improve his income; it gives him the clue to the weakness of his methods.

Before presenting these figures, it is well to make it clear just what is meant by "labor income", since all the net results are given in terms of labor income of the operator. Suppose all receipts from a given farm are $3,936 and that the expenses for everything bought including hired labor, etc., are $1,277. Subtracting the farm expenses from the farm receipts would give $2,657 as farm income. Now subtract from this the interest on the capital invested, say, $671, and we have $1,958 as labor income. These figures apply to the 27 farms whose records were obtained in Robertson's survey and represent the average farm receipts, farm expenses, interest on capital, and labor income.

Records kept on dairy farms the country over show that about 55 per cent of the cost of milk production is for feed while twenty per cent is for labor. Feed and labor together register about three-quarters of the entire expense. It is therefore obvious that any feed saving or labor economies are directly reflected in the income of the owner. These 27 farms ranged in size from 52 to 380 acres and averaged 12 dairy cows to the farm. The labor income of the owners had a wide variation, running from $130 in one case to $7,620 in another.

Big Business Most Economical

Generally speaking, the larger the farms, the greater the labor income of the operator. Many things account for this. With the larger farms, it is possible to use the larger types of machinery and it is possible to use the same machine over a larger number of acres. Generally, also, the larger the farm, the less money must be invested in buildings for each acre of land in the farm. Some of these 27 men found it profitable to increase their business by pasturing some of their stock on rented pasture. The following table giving figures from this survey illustrates the larger income on big farms:

Acres in farm	No. farms	Labor income
58-175; average 127	16	$1720
176-320; average 221	11	2377

Heavily Stocked Farms Most Profitable

The relation of the amount of live stock kept on the farm to the labor income of the owner is shown by the following table. In this table mention is made of animal units and figures are given with animal units kept on each ten acres of land on the farm. What is an animal unit? Manifestly, it is impossible to add cows, pigs, and poultry and so these must be reduced to some equivalent and, since we are talking about cows, let's reduce the animals to cow units or that number of each that will eat about as much feed and produce about as much manure as one cow. For practical purposes, two calves or colts would equal one cow in this respect; similarly, 5 mature hogs, 10 pigs, 7 sheep, 14 lambs, or 100 chickens would be an animal unit. With these figures, the stock kept on each farm was reduced to terms of animal units per ten acres of land:

Animal units per 10 acres	No. farms	Labor income
Less than 1.5; average 1.07	11	$1340
1.5-1.75; average 1.62	8	1891
1.76-254; average 2.1	8	2987

The result of more stock in making more dollars jingle in the pocket of the operator is here vividly brought out. The larger the number of stock, the less the overhead expense per animal unit. Then, too, more stock makes it possible to keep the help employed more evenly during the year. This is a great factor as help kept the year around is much less expensive per hour of work done than that employed only during the rush seasons.

Good Cows Enhance Labor Income

The milk receipts per cow are a mighty factor in swelling the labor income of the dairy farmer as is witnessed by the results given below:

Milk receipts per cow	No. farms	Labor income
Less than $73	15	$1452
$73-$109	7	1543
$110-$201	5	4200

The relatively large number of farms whose receipts per cow were less than $73 each shows that this was one of the weakest points encountered in the survey. It means that many dairymen are not getting satisfactory returns because they are spending good time and good feed on unproductive, hence unprofitable, cows. Good quality cows not only gave more milk but their calves sold for more money than the calves from mediocre producers.

Efficient Labor Helps Income

Some men working in small or odd shaped fields did not take care of very many crop acres; other men working in larger fields or with more horses and larger machinery took care of larger fields or with more horses many more crop acres. These differences as set out below show how dependent the labor income of the owner is upon the crop acres cared for by each man employed:

Crop acres per man	No. farms	Labor income
Less than 40; average 33.5	8	$1502
40-100; average 66.1	19	2129

The differing efficiencies of horses used on these farms was about as variable as that of the men. The average horse on the average farm took care of 16 acres. On some farms, each horse cared for but 13 acres while on adjoining farms thirty crop acres was the lot tilled by each horse.

Crop yields affect labor incomes but not to the extent that might be thought. Small crop yields make serious inroads into the labor income but where dairy cattle are kept year after year the crop yields are usually high and, when the dairyman finds himself with a small labor income, he can usually strengthen it most by increasing the efficiency of men and horse labor, the size of business, or the quality of cows. Competing crops must be eliminated and some other kinds of stock such as hogs or chickens are quite necessary. The figures given here furnish a standard by which dairymen can compare their businesses with those given. Is the business large enough? Is there enough live stock on the farm to consume all roughages and give even labor distribution? Is horse and man labor giving maximum service? Could some fields be enlarged so as to give longer bouts? Here is food for thought.



HANDY TRUCK ON FARM OF PERRY VYNGAR, WISCONSIN,—A CONVENIENT MEANS FOR QUICK, SAFE TRANSPORTATION OF DAIRY ANIMALS

Can Home Grown Rations Maintain Milk Production?

GEO. C. HUMPHREY, Wisconsin College of Agriculture

IN the minds of many farmers and in their practice of feeding dairy cattle, "home grown rations" appear to be sufficient for securing profitable milk production. Such farmers do not expect a large flow of milk, except in the case of comparatively fresh cows on fresh green pasture, which, where supplied in abundance, is one of the most complete rations that can be named. It is the opinion of another class of farmers that in order to secure most profitable returns from dairy cows, and throughout the greater part of the year, a ration should include a considerable amount of purchased feeds, more especially concentrates rich in protein. This class of men recognize that the average farm grown ration used in the middle and north central states is deficient in the amount of protein required by dairy cows capable of making relatively high productions of milk. For this reason it is their opinion that home grown feeds must be supplemented with such concentrates as oil meal, cottonseed meal, gluten feed, or other feeds bearing a high per cent of this compound.

For some time past it has been recognized that the amount of protein in a ration is one of the limiting factors in securing a given amount of milk from a cow, or growth in young animals; and, naturally, therefore, a considerable study has been made by experiment station workers regarding the value of protein mixtures for growth or milk production. As a result of this work, it has been learned that the quality as well as the quantity of protein and furthermore, that the manner in which the protein of one feed combines with the protein of another feed, has much to do in determining the value of a given ration in meeting all of the requirements for most satisfactory results. The newer knowledge gained teaches us that the time is past for set nutritive ratios or balanced rations that are based simply on the amount of protein, regardless of its quality, if most economical results are to be secured.

A new field for investigational work has therefore been established; for it is only by a long series of investigations that we shall be able to learn all of the facts relating to what feeds will combine to the best advantage to give most efficient results. The practical feeder will observe and learn many of these facts from his personal experience and, in fact, he has already gained a knowledge of many rations that are highly efficient. A protein supply that will keep a cow in what is called "nitrogen equilibrium", or, in other words, that meets all the requirements for body maintenance and at the same time enables the cow to make the amount of milk she is capable of producing, is all that is necessary.

Rations of Clover or Alfalfa Hay, Silage and Cereal Grains

Dairymen have been taught the superior value of clover and alfalfa hay because of their relatively high protein content, and in many instances have been led to believe that with these hays it is comparatively easy to provide a ration from farm grown feeds that will answer all needs. To judge the efficiency of a dairy ration, the measure of a cow's capacity to produce milk must be taken into consideration and furthermore the influence the ration will have on her body as regards maintenance. A ration that is incomplete or insufficient will result in one of two things in a very short time; namely, a reduced milk flow, or an improper maintenance of the body. Only in the case of cows of strong milking tendencies and with reserve of body tissue will milk production keep up for any period of time at the expense of the body tissues. Nutrients supplied from the ration must be the chief source of the milk that any cow produces. Sooner or later in any event, where the ration is insufficient, there will be a reduction in the milk flow to a point where the ration can: first, meet the requirements for maintenance; and, secondarily, produce a given amount of milk.

At the Wisconsin Agricultural Experiment Station studies are being made by the Agricultural Chemistry and Animal Husbandry Departments to learn the results of making combinations of feed that meet the requirements of cows under the newer knowledge regarding protein mixtures. Two trials have been made: one with clover hay, corn silage, and cereal grains; and another with a similar ration excepting that alfalfa hay was substituted for the clover hay. These trials have been published in Volumes XXXVIII and XLIV of the Journal of Biological Chemistry and are briefly reviewed herewith to answer numerous inquiries concerning them. Regular bulletins will undoubtedly be published after results that will further verify those thus far reported have been secured.

The Ration with Clover Hay

The original plan for feeding this ration was to carry three cows through a period of sixteen weeks, divided into four periods of four weeks each. The ration was to consist of medium red clover hay and corn silage, to which was added ground oats in the first period of four weeks; ground barley in the second period of four weeks; ground corn in the third period of four weeks; and a mixture of the three grains in the fourth period of four weeks. To correct any lack of energy supply in the different rations, a small amount of corn starch was added to each. The plan as outlined was carried out for the first two periods, when it was necessary to substitute two new cows, for the reason that before the end of these two periods the production of milk had gradualllly decreased to a point where it was necessary to have at least two better producing cows to note further results of such rations on maintaining fairly high milk production.

The system of feeding three of the cows conformed to the common practice of feeding 1 pound of grain to 3 pounds of milk, while two of the cows received a larger proportion of grain to stimulate a greater production if possible. Silage was fed in amounts varying from about 23 to 29 pounds, and hay in amounts from 7 to 10 pounds. Two of the cows used were pure-bred Guernseys, one a grade Jersey and two pure-bred Holsteins. They were fed and milked twice daily, had free access to water, and received every attention to secure favorable results. The excreta was quantitatively collected and analyzed and the milk weighed daily. A seven-day's composite sample of the milk was secured and tested for butterfat.

Production Records

Cows 1, 3, 4, and 5 used in the trial started with productions of milk ranging from 31.3 pounds to 37 pounds daily. Cow No. 2 began the trial with a production of about 24 pounds of milk daily and ended the period of sixteen weeks without decreasing her average daily flow of milk more than 3 pounds. In the case of the higher producing cows, the production of milk within a month's time decreased to approximately that of cow No. 2. These cows upon being put into the trial, immediately went

(Continued on page 274)

A Co-operative Creamery in Idaho

PHILIP T. FORTNER, IDAHO

DAIRY cows, alfalfa, fruit, and a program of co-operation are making Payette County, Idaho, a richer county each year. A few years ago fruit including apples, cherries, and prunes immediately came to mind upon mention of Payette County. Now while fruit growing is still a stable and profitable industry, making Payette County one of the leading fruit districts in the state, the dairy cow has also come to the front bringing a profitable diversity to farming operations.

The development of the dairy industry in Payette County really begins with the organization of the Farmers' Creamery in 1915. The farms in the county then as now were small, as are the individual holdings in nearly all fruit districts. Some years profitable results were secured from the fruit crop, but in many years the reverse was the case, thus making an unsatisfactory condition. A few cows of rather ordinary type had been brought into the county by some of the farmers to afford a steady income. Marketing conditions were bad, however, and leading farmers recognized that if dairying were to increase, existing conditions must be remedied. The result was the organization of the Farmers' Co-operative Creamery Company which has from that time on been a remarkably successful example of a farmers' marketing organization and brought about a large increase in the number of cows owned in the county.

Here is the record of business for the four complete years for which statements are available.

Year	Lbs. of butter	Gals. of ice cream
1916	200,440	2,122
1917	264,409	5,192
1918	428,718	10,528
1919	611,000	17,267

Because of the efficient management of the creamery, prices several cents above any other market have been paid throughout that time. This margin was five cents a pound for the past three years and last year $35,000 was paid local farmers above what they could have received from any other source. Since the organization of the Payette creamery five co-operative creameries and cheese factories in Southwestern Idaho have failed. The success attained in Payette is credited to the businesslike management of J. R. Brown, a graduate of the Oregon Agricultural College, who has served the organization as manager since its incorporation.



MODERN PLANT OF FARMERS' CO-OPERATIVE CREAMERY CO. AT PAYETTE, IDAHO

When the creamery started in 1915, Mr. Brown was the only employee and business was started in a small shed in the edge of the town. The product of 300 cows was the entire volume of business. In 1919 there were fifteen employees and 1,170 patrons owning approximately 4,000 cows and manufacturing was done in a new modern creamery building costing $17,000 which had been entirely paid for in addition to $13,000 worth of other real property owned by the company surrounding the creamery site.

In addition to paying prices well above the market for butterfat, a patronage dividend totaling $5,000 was turned back to patrons at the rate of one cent per pound of butterfat supplied in 1919. All employees of the creamery also received a bonus equal to ten per cent of their year's salary and final payments were made on the property of the creamery.

There are now 198 stockholders in the Farmers' Creamery and all of the stock is subscribed. Stock bears ten per cent interest.

The creamery manufactures butter under the name "Sunshine Brand" which is sold in carload lots being shipped to New York and Chicago as well as the Pacific Coast markets. An excellent quality of butter is produced and Manager Brown invariably

(Continued on page 291)

SAND SOIL SALVATION

L. F. GRABER, Wisconsin College of Agriculture



HAROLD G. FROST
A heavy weight in brains on a light weight soil.

TO one who is accustomed to view the rich limestone soil areas of southern Wisconsin, it is quite a revelation to go up into the sand country and see alfalfa growing where rye, potatoes, sand burs, and possibly six per cent interest grew mostly before.

But this is just exactly what one will find in the vicinity of the little sand swept village of Almond, Wis., where there are now a few pioneers in the business of sandy soil salvation. Not among the least of these is Harold G. Frost.

Equipped with an agricultural college education, a reasonable amount of funds, unusual enthusiasm and pep, good judgment, and a love for outdoor labor and outdoor life, he married and settled down on his father's farm of some two hundred forty acres, to win his way in the wiles of sand land culture.

That was seven years ago. For the most part his dream has come true, for he has redeemed that soil, built it up, renovated it, put "pep" into it, rejuvenated it, and all the while these improvements have more than paid for themselves—and that is saying a lot.

Sandy soil salvation sounds sentimental, but it takes a sort of missionary zeal to really put it across. Harold G. Frost has that kind of enthusiasm.

"I'll tell you there is no soil in all the world," he often repeated to me as we went from field to field "that you can tear down as quickly, that you can run out, impoverish, and ruin almost beyond the point of redemption as rapidly as you can a sandy soil. There is just one big factor that offsets all this foreboding, and that is where my hope and trust, and where I believe the hope and trust of the sand country, lies. There is no soil in general that responds so well, that reacts so readily to good treatment as this very sand land. The big problem is to what extent can we expend our hard earned money for soil improvements so that the increased returns will pay for their cost plus reasonable profit. There is a head scratching proposition that has always puzzled me. This economic aspect of sandy soil improvement and sandy soil farming is the crux of the whole situation. I know I made a big mistake when I started out seven years ago."

Lime! Lime! Lime!

"If I had not been quite so timid and conservative when I began to run this farm—if I had had greater dollars and cents confidence in the soil facts that I became acquainted with in college, I believe today I would be debating whether I should spend the winter in Florida or California. I mean this. I had no idea—at least no full comprehension — of what benefit lime—ground limestone—would be for this sand country, consequently my first use of limestone was in an experimental way and on a rather small scale. To one field I applied about three tons per acre seven years ago. We ran out of limestone on the north end of the field. It was planted to corn and later grain. The lime seemed to help, but no result showed up which made me very enthusiastic until the year we seeded this field down to alfalfa. Well, sir, I am not going to tell you about it—I'd rather show you. I want to let this lime talk for itself."

With this he took me over one of his eight-acre patches of alfalfa, as good as anyone would wish to see. But when we came to the north edge of the field the soil was bare as a board. There was nothing there except a few scattered weeds. The edge of the good alfalfa looked like a map of the coast of Maine.

"That irregular boundary of the alfalfa is where we threw out the last shovels and you can see where everyone lit. This experience and one or two others here has led me to buy during the past year seven carloads of lime and six of these have arrived and have been unloaded and distributed. We put on about three tons per acre with a lime distributor having a double agitator and it works fine. We plan to put this lime on the top of the plowed soil and work it in as we prepare the seed bed.

"Lime, lime, lime is the first step in the salvation of this sand land. It doesn't make any difference whether it's alfalfa or clover, it takes lime to make it grow. Why, I'd just as soon feed clover seed to chicks as to sow it on our soil without using lime. I say this from bitter experience. I've wasted lots of money, time, labor, and energy because I failed to appreciate early in the game that these soils are too destitute of lime for such lime hungry crops as alfalfa and clover, that we absolutely have to have to keep up our fertility."



NO LIME, NO ALFALFA AS ILLUSRATED BY ONE OF FROST'S FIELDS

Alfalfa Better Than Clover

"Speaking of alfalfa and clover as hay crops, which do you prefer?" I interjected. 'Both," he replied, "but, five years ago I would not have favored alfalfa. However, I've learned more out of college than I did in college, which is not meant as a reflection on agricultural education—far from it—but I now put alfalfa ahead of clover. Not that I love clover the less, but that I love alfalfa more. And here are my reasons. First of all, alfalfa lasts longer, it stands the winters better, especially if you use hardy but hard-to-get genuine Grimm, Baltic, or Cossack seed. Alfalfa is more drought-resistant than clover, particularly in its first year's growth, and we need drought-proof hay caps on soils that dry out as readily as these."

"But," I asked, "is it not true that red or mammoth clover is easier to grow than alfalfa?" "Yes and no" was the rejoinder. "On poor sandy soil I guess clover is safer but on any reasonably fertile sand, alfalfa is as sure if not the surer. They are both good crops but my faith is pinned to alfalfa."

In growing alfalfa Mr. Frost is most careful about the methods of seeding. First, last, and always, the soil conditions must be made right. "Lime, inoculation, and manure make alfalfa doubly sure" is his motto. The soil is generally fall plowed and then harrowed and rolled in the spring with a corrugated roller to bring about the desired firmness of the seed bed. The alfalfa seed is inoculated just prior to seeding with a bacterial culture which he secures through his experiment station. The seed is sown at the rate of from fifteen to twenty pounds per acre, early in May. Sometimes a light nurse crop of about three pecks of oats is used, but to save the alfalfa from summer drought it is invariably cut the latter part of June or the first part of July for hay. "If you use a nurse crop with alfalfa on sandy soil get it off early," is Mr. Frost's flat assertion.

"I like the alfalfa-timothy mixture suggestion, and have used fifteen pounds of alfalfa seed and five pounds of timothy seed per acre in all my new seedings. The timothy helps to keep out the weeds where the alfalfa may be a little thin."

"What nurse crop do you prefer?" I queried. "Kherson oats," was the prompt reply. "It heads out early and makes fine hay. By the way, that's a wonderful oats for good sand land. It ripens up fast and escapes the damage of the hot, dry winds, rust infections, and grasshoppers that generally make their appearance about the middle or latter part of July. Swedish Select has always been the standard oats around here, but this year our Kherson outyielded it by nine bushels an acre. On rather poor sand Swedish Select is better. The Kherson is too short stemmed for any soil without a fair degree of fertility."



NO CROP IS MORE IDEALLY ADAPTED TO SANDY SOIL THAN THE SOY BEAN

Fertilizers to Fight Drought

From the alfalfa we journeyed to a cornfield of some twenty acres, most of which had been cut to fill a good sized silo. It was the cleanest field I had ever seen. Hardly a weed could be found. "How do you keep your corn so clean?" I asked. "Oh, that's easy," he replied. "You know sandy land has many virtues that the heavy soil farmer never learns to appreciate. First of all it is seldom ever too dry or too wet to work or plow our fields. We are not troubled with clods or lumps. The ground mellows down in spendid shape. In the spring our soil warms up quickly, and with plenty of rain and a reasonable degree of fertility, crops grow with almost lightning rapidity. The soil cultivates so readily it is an easy matter to get rid of the weeds, and rain seldom keeps us out of the fields for any great length of time. Of course we are seriously affected by prolonged summer drought. That's where the heavy soil fellows have a big advantage on us, but we can overcome this in a measure by the proper use of manure and fertilizers and by surface cultivation. This may seem strange but let me explain. If we have plenty of available fertility in this soil our early ripening crops, such as grain and hay, will generally make their full growth and development before the dry spell comes. With late crops like corn and potatoes this holds true to a less degree. I am a firm believer in commercial fertilizers in addition to manure. I generally use from 100 to 150 lbs. of a 2-12-2 fertilizer drilled with a fertilizer attachment in my corn at corn planting time. It certainly gives the corn a quick start and I believe it pays the biggest kind."

Fighting Sand Pests with Fertility

It is the writer's observation that grasshoppers thrive best, multiply with the greatest rapidity, and do the most damage during dry weather. Without assuming the prerogatives of an entomologist, he has a belief

(Continued on page 286)

When To Buy A Milker

WALTER JACK, OHIO

NOW is time to give the purchase of a mechanical milker consideration. In early spring and summer herds will be in full flow of milk, and when the tendency of the herd is toward maximum production is the time to install a machine. Dairymen too often make the mistake of waiting until the rush of work of midsummer to purchase. It requires time for the operator to become familiar with a mechanical milker, and after the cow has passed her maximum flow, she will not as readily respond to mechanical milking.

It is the contention of the writer that the machine should be applied to the cow immediately after the calf is removed. If this is not practicable, in any event the machine should be ready for operation as soon as perhaps eight or ten cows have freshened and the calves are removed. Starting with a small number of cows, it is much easier for the owner to become familiar with the machine and the manipulation of the cow's udder during the milking process. As the number of fresh cows increases, the task of milking will become easier. I have observed that machines installed in midsummer have generally failed to give the satisfaction they should. Our machine was purchased in July. It was used on a dairy which freshened in the spring, and the service which it gave was less satisfactory than that of any one of the five other seasons in which we have made use of it. A small proportion of the cows responded at once, while even some of the number were not yielding well to the milker at the end of six weeks.

It is the observation of the writer, that the older the cow the more perverse she is in the matter of milking. We have had no trouble in accustoming a heifer to the milker, and they respond readily when the calf is taken from them. I have observed heifers swing their heads in the stanchions and quietly watch the unit in the process of milking. They seldom protest, and we have had no trouble with cows kicking as they do in hand milking. The young cow will respond better than the old cow at any season of the year, and the heavy producer will accustom herself more readily to the milker than the cow from which milk must be pumped by force of suction.

The dairyman must not conceive that the milker will do all the work, while he is seated behind the cows with arms folded. It is as essential for him to work with the machine, as for the typewriter operator to operate the machine. It is necessary to manipulate the udder as the milking advances, and in this way stripping may be reduced to a negligible quantity. However, in some herds there will be, regardless of the efficiency of the machine, cows that will at times fail to respond, perhaps in one or more than one quarter. Manipulation and the testing of these cows by stripping in the teat cup will determine which cow should be stripped. It is the writer's preference to strip the cows in a pail and keep the machine busy milking. With two double-units, one man can attend to changing machine, manipulating the udders, and stripping such cows as must be stripped in a pail. With three double units, a boy and man can handle this outfit very efficiently, and for best results two persons are required. The tendency at present is to install three double units, and it is the belief of the writer that such an installation will be of advantage in herds of 18 or more cows.

It will require some time for the operator to familiarize himself with a machine. The purchaser should not condemn a milker at the end of the first two or three milkings or even at the end of a week or month if it fails to work as well as he may expect, for after all it is first the man, then the cow, and last of all the machine, as Professor Larsen has stated. Most all machines seem to have been brought to a very high state of perfection and are giving very satisfactory service in herds, yet there are machines of all makes which are standing around milk houses unused. This condition is not in any way a condemnation of the machine. It may be due to the herd, to installing the machine late in the lactation period, to a bothersome power plant, or to lack of service on the part of the dealers. This service feature may have considerable to do with some plants falling into disuse.

It is the tendency of local distributors and salesmen to believe that the milker has been on the market sufficient time to become a fixed piece of farm equipment similar to a mower or harvester, and they remain with the dairyman one, two, or three milkings, and then allow him to shift for himself. Furthermore, their method of instructing the farmer may not be strictly pedagogical, as the writer observed in the case of the plant on a neighbor's farm which was ordered out, since the farmer was not given sufficient instruction and encouragement in the use of the machine. On the other hand, three men on this farm are familiar with thresher, tractor, automobile, and all other farm machinery, yet they were not satisfied with the mechanical milker, although the machine installed was one of the best.

It is a question in the writer's mind if all farmers should buy a milker as they do a mower, relying on their ability to get away with it, with limited service from the dealer. Some of the best machines are sold on "no trial" basis, while others as good are sold affording the farmer opportunity to try the machine. In the latter case, one might expect usually a greater effort to satisfy the purchaser and get him well started with the machine. On the other hand, if the farmer purchases a machine without trial he will stick to it until he does get results.

There is no question but that mechanical milking is the most efficient and sanitary method, and in all probability will prevail in all herds above eight cows. We could not and would not go back to hand milkng. In any event the dairyman should purchase his machine that he may get it working at the beginning of the lactation period. He should have it working early in the season when he will have time to give the work the attention that he should. He will find it tiresome "squatting" and he will be clumsy about the handling of the teat cup clusters, but in time this will become entirely natural. When his movements become mechanical then he will realize the high degree of efficiency he can obtain by use of the machine.

Dairy Echoes From Oregon

F. L. BALLARD, OREGON

THERE has been renewed interest this year in cow testing associations in Oregon. Four new associations have been organized and three which had been in operation were reorganized. The new associations brought the total number in the state to thirteen. Interest is strong for similar work in four or five other counties. It is of some significance that the only associations in the state are in counties employing agricultural agents. It seems that the service of the agents is really an essential in keeping the organization going from year to year. In the thirteen associations are 5,622 cows. During the past year more than 500 unprofitable animals were eliminated, it is said.

There are four associations in Coos County having 3,370 cows on test. Tillamook County, famous for its cheese manufactured and sold co-operatively, has two testing associations. One has 1,000 cows enrolled and employs two testers during a part of the season. In several counties where there is not yet sufficient interest for an association or where dairying is just developing and the cows too few in number, there are testing clubs carried on under the direction of the county agents. Milk is weighed regularly and samples are taken once a month and tested at the various high schools which have installed a Smith-Hughes system of agriculture, the work being done by the boys or by the Smith-Hughes teacher. The oldest testing association in the state is in Tillamook County and has been in continuous operation since 1912.

Fees per cow run from $1.50 a year to $3.00 and in several of the associations there is a minimum charge per member running from $20 to $36 per year. The highest fees are paid in Jackson County, a specialized fruit district, where dairying is not yet a major line of farming. The association in Jackson County has the highest fee per cow, $3.00, and as there are only 320 cows in the association, additional funds were provided by commercial organizations in the county whose directors realize the benefits to the future of the county from weeding out the poor producers.



A new Class F champion record of production for the Guernsey breed was recorded November 6, 1920, at the conclusion of a twelve months' test, by Katherine's Trixie, owned by Circle W Farm, Ohio. The milk production for the period was 18,945.7 lbs., a margin of 3,416.9 lbs. over the previous record, held by Langwater Hope. The butterfat record was 791.48 lbs. Katherine's Trixie was sired by Madge Chena's King of Anna Dean Farm. Her dam was the imported Trixie of the Isle. Katherine's Trixie was 2 years, 6 months, and 28 days old when she began her test.

Throughout the test Katherine's Trixie was milked four times a day. She was a very persistent milker, her closing day showing a production of 46.4 lbs. Her best day's milking was 61.9 lbs. Her maximum day's ration was 18 lbs. of grain. She completed her test weighing 1,350 lbs. She carried a calf for 185 days of the test period.

Ten county breeders' associations confined to the advancement of different dairy breeds were organized or reorganized in Oregon during 1920 and of these four were county Guernsey breeders' associations; eight were Holstein associations, while ten were organized to promote the interests of the Jerseys.

There are five counties bordering directly on the Pacific Ocean on the Oregon coast. Warm winter winds and cool summer breezes make this section bordering on the ocean an ideal dairy district. Four of the counties, Tillamook, Coos, Lincoln, and Clatsop, are already important dairy districts and rapidly developing. All are also engaged in a county-wide tuberculosis clean-up campaign. Six thousand cows have already been tested in Clatsop County where the work has been practically completed. There were 136 reactors. In Lincoln County 1,500 showed seven reactors. Equally low percentages are being found in the other counties. This work is proving very popular in Oregon and several other counties are planning on clean-up campaigns.

Fifty new silos were constructed by dairymen in Benton County in 1920. This increase is largely due to the increased acreage of corn in the county. Corn does excellently for ensilage purposes in the Willamette Valley, but the old fashioned one-crop farming system has hung on to a considerable degree in some counties. In 1915, there were only 500 acres of corn in Benton County, and the farmers who raised it were pleased with the results. The county farm bureau staged a corn show in 1918. The acreage of corn in the county increased to 2,656 acres in 1919. One Benton County dairyman says that a man with a silo and no cows is in the dairy business in a better way than the man who has the cows and no silo, while others state that they make

more money from one-half to two-thirds of feed now that they have a silo.

⚜

There is some discussion in the state regarding the enactment of a compulsory dairy bull replacement law by the coming legislature. Some believe this the most effective way to increase the quality of Oregon's dairy stock since, notwithstanding vigorous educational campaigns on the part of extension agencies, the Oregon Dairymen's Co-operative League, banks, and the breed associations, there are still large numbers of farmers who are inactive in herd improvement. It is planned to model such a law, if it is finally thought desirable, after the state stallion registration law. Some leaders are opposed to such laws on the grounds that they should not worry much about the man who is not sufficiently interested in his business to trade a scrub bull even up for a pure-bred one, as dairymen in Coos County have had opportunity to do this fall.

A large number of dairymen are taking advantage of that opportunity, however. In Coos County, three banks which combined last year to employ the county agricultural agent as their agricultural representative, are trading pure-bred bulls for scrubs on an even basis. The banks are sharing the immediate financial losses in this connection in the assurance of increased business when the dairy stock of the county is on a higher average production basis. After the trading had been in progress for several weeks, the banks assembled more than fifty scrub sires and paraded them through the streets of Marshfield to the freight yards where they were shipped out of the county to a Portland packing house.

⚜

The anti-oleo bill which was placed on the ballot in Oregon for the last regular election with the idea in view to establish an annual license fee of $500 for manufacturers and $250 for wholesalers and also an annual fee of $5.00 for hotels and restaurants which served oleomargarine, was voted down by the people of the state approximately two to one. Analysis of the vote showed a rather peculiar situation. The bill in general had strength in the dairy districts, Coos and Washington Counties voting in its favor. Tillamook County, one of the leading dairy counties, voted against it. Deschutes and Malheur Counties, alfalfa growing districts reclaimed from the desert by irrigation and surrounded by a large cattle territory, also voted in favor of it. This is thought to indicate that the alfalfa growers are looking with increased favor on the dairy business in place of growing alfalfa hay for sale only.

⚜

The market commission bill which sought to establish a state department of markets and had the backing of the Dairymen's Co-operative League, the Oregon Growers' Association, and many other farmers' organizations, was also voted down. This bill failed to carry in any county. Its failure is credited to the general tightening financial situation and a cry for decreased taxes together with a general lack of understanding of its importance.

Will Chicago Dairymen Win?

Bramhall Says They Will—If They Change Their Present Practices

In a late issue of the Breeder's Gazette, John T. Bramhall makes some very clear statements concerning the dairy situation in the whole milk districts about Chicago. He sets forth the conditions which are now found on these farms and shows that far less than satisfactory returns are being secured. He states that the dairymen of this section can win out if they will do certain things and then proceeds to list a number of those practices which are usually considered essential to profitable dairy farming but which, he stated, have not been in practice in the district of northern Illinois. To "win out" he advises those very practices which have been put before dairy farmers for thirty years by every agency which seeks to promote the good of dairy farming, but which they have almost universally failed to adopt. Excerpts from Mr. Bramhall's statements follow:

"The character of stock kept is really the crux of the situation. The pure-bred herd is in a small minority, and good grades, above the 5,000-pound mark, are not numerous. The cows are mongrels. Selling all his milk, the dairyman cannot afford, from the income standpoint, to raise calves, and it is only in exceptional cases that he does so. When the cows go dry he sells them off and buys fresh animals, and so the gamble goes on. The building up of herds of good blood or proved records is therefore impossible, and while it may be admitted that one 12-quart-a-day cow is much more profitable than two 6-quart-a-day cows, the 12-quart-a-day cow is only a dream to the average dairyman. Another disadvantage which is easy of correction is in the neglect of barn records. The dairyman keeps hotel for a dozen or twenty cows, and has no record of whether they are paying their board or not. He does not raise hogs, for he has no skimmilk, and thus is deprived of an important source of revenue. He keeps little or no poultry. So the milk dairyman is compelled, or so it appears, by the conditions of his business to be a one-crop farmer; a producer of milk, buying his meat and feeds, raising a minimum of crops, and compelling, by the necessities of the case, the consumer to make good his losses. In other words, he has got to get a higher price for his whole milk than his brother dairyman who sells cream and retains his skimmilk for his small stock. Whether it pays him, in the long run, is another story. At all events, the people of the city must have their milk, and they pay the price.

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"Will the dairymen win? The dairymen will win, according to my lights, if they are wise; but they will surely lose if they are foolish. By that I mean that if they use wisdom in their methods, if they study the best systems of dairying, weed out their boarder cows, select their cows by record tests and pedigree, raise the promising heifers, build up their herds, use only pure-bred bulls, keep barn milking records, and figure on cost per cow rather than per quart, organize cow testing associations, diversify in their farming, and support and extend their co-operative organization; if, in short, they grow wiser, and learn how to produce the most, the best, and the cheapest, they will be in the way to win; otherwise not."

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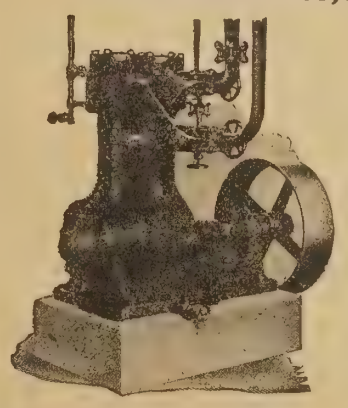
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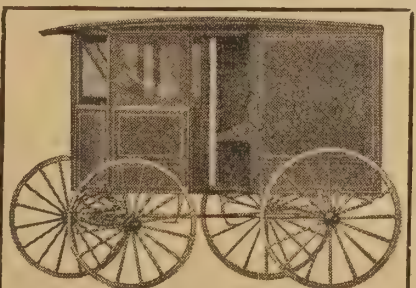
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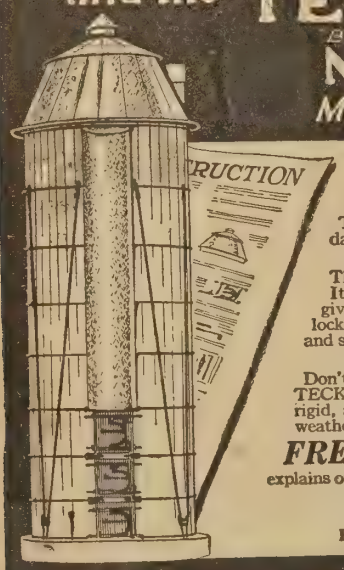
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Neutralized Butter Ruling

Wisconsin Dairy Interests Hold That Law Has Been Misinterpreted

HON. W. M. WILLIAMS,
COMMISSIONER OF INTERNAL REVENUE,
WASHINGTON, D. C.

DEAR SIR:—We beg leave to submit a few brief statements anent the controversy as to what constitutes "butter", what constitutes "adulterated butter", and what constitutes "renovated butter", under the terms of the Oleomargarine Act of 1902 and the National Food and Drugs Act of 1906 and the interpretation of certain views of those laws by the United States Attorney General as recently given to you.

We accept without reservation the definition of butter as set forth in Section I of the Act of Congress of August, 2, 1896, 24 Stat., known as the Oleomargarine Act as follows and as quoted by the Attorney General of the United States, to-wit: "The word 'butter' shall be understood to mean the food product usually known as butter, and which is made exclusively from milk or cream, or both, with or without common salt, and with or without additional coloring matter.

So far as the United States authorities are concerned in this matter, this is the compelling definition for "butter".

In a similar manner what constitutes adulterated butter within the meaning of the Act of Congress of May 9, 1902, 32 Stat., 194 is as follows:

"Adulterated butter" is hereby defined to mean a grade of butter produced by mixing, reworking, rechurning in milk or cream, refining, or in any way producing a uniform, purified, or improved product, from different lots or parcels of melted or unmelted butter or butterfat, in which any acid, alkali, chemical, or any substance whatever is introduced or used for the purpose or with the effect of deodorizing or removing therefrom rancidity, or any butter or butterfat with which there is mixed any substance foreign to butter as herein defined, with intent or effect of cheapening in cost the product or any butter in the manufacture or manipulation of which any process or material is used with intent or effect of causing the absorption of abnormal quantities of water, milk, or cream;"

And in a similar manner what constitutes "process butter" or "renovated butter" is likewise defined in the aforesaid Oleomargarine Act of May 9, 1902, as follows:

"Process butter" or "renovated butter" is hereby defined to mean butter which has been subjected to any process by which it is melted, clarified, or refined and made to resemble genuine butter, always excepting "adulterated butter" as defined by this Act."

Our information is to the effect that the United States Secretary of the Treasury October 11, 1920, submitted to the United States Attorney General the following questions:

1. Is a grade of butter produced from decomposed or rancid cream, which has been neutralized with chemicals before churning, adulterated butter within the meaning of Section 4, Act of May 9, 1902, and therefore, taxable as such; and

2. Is a grade of butter produced from cream which is high in acid and has a bad odor, and which has been neutralized with chemicals before churning, adulterated butter within the meaning of Section 4, Act of May 9, and, therefore, taxable as such?

Our information is to the effect that the Attorney General advised the United States Secretary of the Treasury, that under the definitions of "butter", "adulterated butter", and "process or renovated butter", the grade of butter produced as described in each of the two questions presented is "adulterated butter" and taxable as such.

Mr. Commissioner, we challenge that conclusion of the United States Attorney General as unwarranted and unfounded by the terms of the Act of Congress of 1902 defining "adulterated butter", and we most respectfully ask your careful consideration to the error which the United States Attorney General has made in arriving at this conclusion.

Concerning the so-called grades of butter described in the two questions submitted, he states: It cannot be considered "butter" as it is not made exclusively from milk or cream, or both, with or without common salt, and with or without additional coloring matter. He asserts that is is not "process" or "renovated butter" for reasons which he assigns. In these two contentions we agree with him absolutely. But he then says, "I conclude therefore that Congress intended to include such butter within the definition of 'adulterated butter' under Section 4 of the Act of 1902, ante, since it appears to be a purified or improved butter which is the result of processes during which substances have been introduced and used for purpose of and with the effect of deodorizing and removing rancidity."

We emphatically deny the accuracy of this conclusion as above quoted as it is unwarranted by the terms of the law and the facts in the case. In this conclusion, the United States Attorney General takes into consideration only a part of the definition of adulterated butter and not the entire definition. He has no right to form a conclusion from a part of that definition and not take into consideration the entire definition and the true meaning of words as used in the various parts of that definition. He has no right to hold through a process of exclusion that the butter described in the questions is "adulterated butter", because it is not "butter", and because it is not "renovated" or "process butter".

Referring to the recognized definition of adulterated butter as quoted in the Oleomargarine Act, there are in that definition three distinct specifications of conditions under which butter is declared to be "adulterated butter":

1. "A grade of butter produced by mixing, reworking, rechurning in milk or cream, refining, or in any way producing a uniform purified or improved product from different lots or parcels of melted or unmelted butter or butterfat, in which any acid, alkali, chemical, or any substance whatever is introduced or used for the purpose or with the effect of deodorizing or removing therefrom rancidity."

2. "Any butter or butterfat with which there is mixed any substance foreign to butter as herein defined, with intent or effect of cheapening in cost the product."

3. "Any butter in the manufacture or manipulation of which any

process or material is used with intent or effect of causing the absorption of abnormal quantities of water, milk, or cream."

To hold that the finished products resulting from the use of the substances portrayed in either of the questions submitted to the Attorney General and hereinbefore quoted, is "adulterated butter" within the meaning of said definition of adulterated butter, and therefore subject to taxation, it is absolutely necessary to hold that the terms "melted or unmelted butterfat" are one and the same thing as the terms "milk, cream". That is to say that these terms are interchangeable in the said definition. This reduces the said contention to an absurdity. If those terms are interchangeable in meaning, then specification I in the definition of "adulterated butter" can read as follows: "A grade of butter produced by mixing, reworking, rechurning, *in melted or unmelted butterfat*, refining, or in any way producing a uniform, purified, or improved product from different lots or parcels of melted or unmelted butter, or milk, or cream."

Stated in another form: "Congress in its definition of adulterated butter intended to provide for the manufacture of adulterated butter by permitting the working, churning, or reworking of different lots of butter or milk or cream by reworking or churning in milk or cream." It is absurd to think that Congress intended to provide for the purification of milk or cream by working, reworking, or churning *milk or cream* in milk or cream; which conclusion must inevitably follow if the term "melted" or "unmelted butter" is one and the same term as "milk" or "cream". It is in such an absurd attitude that the United States Congress is placed if the aforesaid terms are interchangeable.

Referring now to the second specification in the definition of "adulterated butter" above cited the question is, what does this second specification seek to accomplish?

Demonstrating in the remarks on specification I that "melted" and "unmelted butterfat" is not one and the same thing as "milk" or "cream", the object of specification II of the definition of adulterated butter as set forth above is to bring within the terms of the definition of adulterated butter any butter or butterfat with which there is mixed any substance foreign to butter as herein defined with intent or effect of cheapening in cost the product. The United States Attorney General in his opinion has nowhere contended that there is any foreign substance introduced into the finished product produced from the substances portrayed in each of the above questions above with intent or effect of cheapening in cost said finished product. There is a very good reason why he has not made that contention for it cannot be successfully shown. Therefore it is an absurdity to hold that the finished products resulting from the use of the products described in questions I and II come within the second specification of the definition of "adulterated butter" and as such is subject to the Internal Revenue tax.

Referring now to the third specification in the definition of adulterated butter as set forth above. The object of specification III is to bring any butter in the manufacture or manipulation of which any process or material is used with intent or effect of causing the absorption of abnormal quantities of water, milk, or cream. The United States Attorney General does not contend and he cannot successfully maintain that a neutralizer is used with the intent or effect of causing the absorption of abnormal quantities of water, milk, or cream in the finished product.

Therefore, he cannot maintain that the finished product resulting from the use of the products described in questions I and II comes within the third specification of the definition of "adulterated butter" and as such is subject to Internal Revenue taxation.

Congress has provided by law the regulation and control of products resulting from the use of the materials as described in questions I and II submitted to the Attorney General, but inasmuch as the law thus enacted by Congress does not come under your jurisdiction we do not discuss it in this communication.

Mr. Commissioner, for reasons hereinbefore set forth, we contend that you are without authority of law to impose a revenue tax upon the finished products resulting from the use of materials as described in questions I and II; and that such action on your part would be usurpation of power based upon an erroneous conclusion.

Signed by: J. Q. Emery Dairy and Food Commissioner; A. J. Glover, editor Hoard's Dairyman; C. H. Everett, editor Wisconsin Agriculturist; Geo. McKerrow, President Wisconsin Farm Bureau Federation; H. C. Larson, Secretary of Wisconsin Buttermakers' Association; C. J. Dodge, director of Wisconsin Buttermakers' Association; E. H. Farrington, Head Wisconsin Dairy School; Harry Kluetter, chemist of Dairy and Food Commission; and Martin Vantwerpen, of Gridley Dairy Co.



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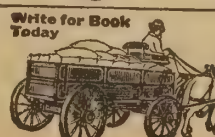


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Ayrshires on Reymann Memorial Farms

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ONE of the greatest herds of pure-bred Ayrshire cattle in the United States is being developed on the Reymann Memorial Farms, West Virginia, which comprise the largest separate branch of the experiment station of the college of agriculture of West Virginia University. Already these farms have 121 pure-bred females, making the largest herd of pure-bred Ayrshires owned by any experiment station in this country. The farms, two in number, comprise a total of 931 acres and were given to the state university by the Reymanns of West Virginia.

As these farms are situated fifteen miles from a railroad, the entire product of this dairy herd is converted into cheese and is then marketed by parcel post. The monthly production is about 3,000 lbs. and not more than three cheeses go to any one person. No cheese is sold to wholesalers, the product largely going to retail stores, hotels, and to individuals. In addition to supplying people in many parts of West Virginia, the farms ship to points in Texas, Missouri, New York, and other states. This cheese took second prize at the National Dairy Show in 1918.

During the last year, thirteen cows, seven of which were heifers with their first calves, qualified for the Advanced Registry of the breed with an average production of 9,476 lbs. of milk, 427 lbs. of butterfat. Eleven more cows, nine of which are two-year-olds, have been entered for the official test this year and several more will be entered a little later.

The best record of production during the past year was nearly 14,000 lbs. of milk, 512 lbs. of fat, this record being made by Whitey Nox, a six-year-old cow. The next best record was made by Cacapon Nancy, a three-year-old cow, with a production of nearly 12,000 lbs. milk, 497 lbs. of fat. These records were made on feed grown on the farms with cottonseed meal as a supplement. The average production of the herd the past year was almost twice what it was two years ago. The average size of the cows has also increased.



AYRSHIRES AT PASTURE ON REYMANN MEMORIAL FARMS, WEST VIRGINIA

Dairying on the Ranges

HOARD'S DAIRYMAN:—Recently four hundred stockholders and patrons of the Farmers' Creamery Company of Williston, North Dakota, held the annual dinner and meeting of the association. The secretary's report showed that during 1920 the creamery had received 267,593 lbs. of butterfat and paid out for it $138,513.13 as compared with 142,365 lbs. received in 1919 for which $88,635.13 was paid. The company, composed of farmers of Williams and McKenzie Counties, has increased its volume of cream business 53 per cent.

The two counties are in the northwestern corner of North Dakota, in the section so severely hit by drouth last year. The main business of the farmers of the new country is wheat growing. Those who depended upon their wheat last season, harvested a minimum crop, and then on top of that the bottom fell out of the price of wheat. They have been and still are up against the bitterest of hard times. Perhaps no more striking demonstration of the value of dairying could be cited, than the fact that in the face of such a situation the farmers who have milk cows along with their wheat have come out at the end of the year with a 53 per cent increase in their farm returns.

The wisdom of introducing a creamery at the earliest possible moment on the frontier is also demonstrated. A large part of the country tributary to the Williston Creamery is just emerging from the homesteading stage. Until a few brave spirits got together and established a creamery at Williston, there was no market for cream, and a milch cow except for the family supply of milk and butter was a profitless investment. The few village stores on the prairie could take a little butter, but such a small amount that farmers trying to market butter with them were not seldom told, "Sorry, but I can't take your butter today. We have more than we can get rid of." Those were pre-railroad days.

A few years ago the Great Northern railroad which passes through Williston built a couple of spurs, one north and one south from Williston. It was then a handful of farmers and merchants who ventured to found a creamery. Stores in the tiny new villages along these branch lines were solicited to collect cream from the farmers and ship to Williston. At first there was no cream to collect, but gradually a few farmers began to bring in a little cream. When they received cash in return it set them going, for cash is a scarce article in the homesteading areas. From such a beginning the Williston Creamery has grown in a few years to its present size. It is now housed in a new hundred thousand dollar building.

But to get the whole story of this pioneer creamery one should go back

to the time not more than twenty years ago when McKenzie and Williams Counties were still a part of the "Ranchers' Paradise", and thousands of "Long Horns" roamed their prairies. It was then, as the story goes, that a tenderfoot who visited one of the round-up camps made the famous remark, "A funny country. Hundreds of horses and not one to ride—thousands of cows and not a drop of milk to drink or a bit of butter to eat." In those days they figured it required twenty acres of land to raise one beef for market. Now there are quarter sections with fifty head of dairy cattle on them.

There was a picturesqueness about the old cattle days on the Missouri slope, but it was not all romance. The writer of western stories and the cowboy movies tell one side of the free range story; there is the other, the bellowing of starving, freezing cattle and the piles of bones which dotted the prairies each spring. Twenty per cent loss from starvation and exposure was what the western Dakota cattlemen figured on. With no feed to buy, no taxes on land to pay, no care to give their herds except to round them up in the spring to brand the calves and in the fall to "cut out" the beef for market, they easily grew rich from the sale of the eighty per cent that came through the winter alive.

With the curtailment of the range by settlement, ranching has lost some of its picturesqueness, but it also has lost its inhumanity and its extravagant wastefulness of live stock and land. The twenty acres which used to be required to grow wild grass enough for one steer now can produce corn, alfalfa, soy beans, and sunflowers enough to feed a nice little dairy herd. It is only lately that this discovery has been made, however. The wheat farmer until very recently had an undisputed sway in the region as had its predecessor, the cattleman.

The Williston Farmers' Creamery is showing the way to the third era, the era of stabilized prosperity when the dairy cow will take the throne from King Wheat, just as King Wheat usurped the authority of the Long Horn.

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Speaking before the Wisconsin-Illinois Guernsey Breeders' Association in Madison, February 10th, H. W. Griswold presented data as evidence of the breed's superiority in economy of production. His figures were gathered from Circular 129 of the University of Wisconsin which lists the production of and the ration fed to the Register of Production cows of Wisconsin cow testing associations in 1919-20.

In his analysis, Mr. Griswold stated that the average fat production of Guernseys and Holsteins was very nearly equal. The days of pasturing were about the same. The Holsteins average to consume 7,533 pounds of silage and the Guernseys 7,017 pounds. Holsteins consumed 1,607 pounds of hay and Guernseys 1,909. In grain consumed the Holsteins were charged with an average of 2,446 pounds and Guernseys with 1,748 pounds. Mr. Griswold estimated that the Holsteins consumed one pound of grain for each 3.7 pounds of roughage, while the consumption of grain by the Guernseys was one pound for each 5 pounds of roughage. When silage is valued at $5 per ton, hay at $20, and grain at $40, he calculated that, making the same fat production, it costs $13 more to feed the average Holstein cow for a year than to feed the average Guernsey.



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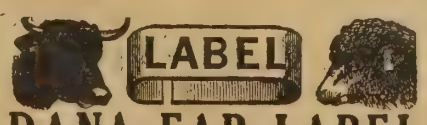
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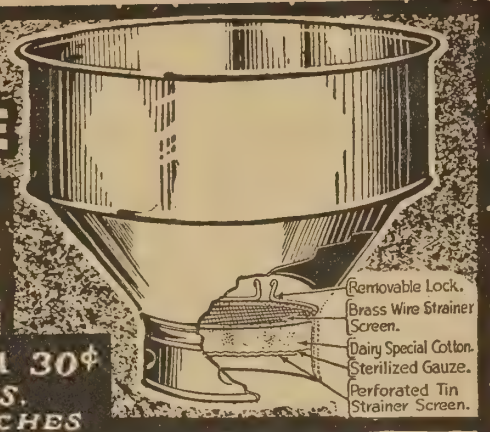
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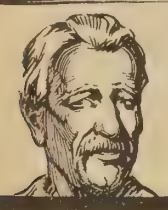
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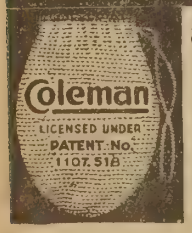


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Washington Farmer Simply Applies Liquid Smoke—Flavor is Improved and All Shrinkage Prevented

Victor Hillhouse of Conconully, Wash., has no use for a smokehouse. In a few hours, without fire or loss, Mr. Hillhouse cures his meat by simply painting it with Wright's Smoke. "I am convinced that it is the only system of smoking meat," says Mr. Hillhouse. "No more of the old way for me. I wouldn't be without Wright's Smoke if it cost $10 a bottle."

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Wright's Smoke and Wright's Ham Pickle cost little at any drug store. If your dealer hasn't the genuine, guaranteed Wright Food Products, write E. H. Wright Co., 847 Broadway, Kansas City, Mo., for free book.

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H. A. Moyer, Syracuse, N. Y.

Cow Testing Associations

RECORDS, PRICES OF FEEDS, FAT, AND MILK

Following is the summary of reports received during the week and up to the time of going to press of this issue:

State	Association	Tester	Month	No. of cows tested	No. of cows producing over 40 lbs. fat	Fat production of high cow	Owner
Conn.	Canaan	B. F. Dibble	Jan.	237	37	80.6	H. S. Lippincott
N. H.	Claremont—Lebanon	E. C. Perry E. Lavagnino	"	133	14	64.6	W. E. Beaman
R. I.	Newport Co. Co-op.	E. S. Fanning	"	295	13	68.2	M. M. VanBeuren
Pa.	Troy	C. F. Lewis	"	324	56	82.5	W. D. Huntington
Ohio	Barnesville	Geo. Huitema	"	216	36	64.9	L. J. Taber
Ind.	Porter Co. Co-op.	Ben G. Marsh	"	350	54	90.8	Morgan Bros.
Ky.	McCracken Co.	C. O. Robb	"	155	4	45.2	Yopp & Hayden
Mich.	West. Allegan Co.	M. Farmer	"	234	44	71.1	F. T. Lane
"	Kent Co. Co-op.	W. A. Wegner	"	239	46	76.7	A. Clark & Son
Ill.	Monroe Co. No. 1	E. V. Doemming	"			65.7	R. Boxmeyer
Wis.	Wilton	Chas. Stivers	"	378	34	60.4	C. C. Heath
"	Ellington	M. Nelson	"	340	13	54.2	D. P. Halloran
"	Polk County	F. Christopherson	"	366	33	63.1	M. H. Shortess
Ia.	Winneshiek Co.	Carl Wennes	"	169	11	56.0	J. P. Quandahl
"	Delaware Co.	W. S. Bissell	"	274	15	67.5	H. C. Neiman
"	Monona—Farmersburg	Ernest Lihn	"	415	46	67.2	F. G. Wellman
Minn.	Pioneer	H. C. McMurray	"	1080	201	79.3	F. Ruble & Sons
"	Faribault	B. F. Fullerton	"	310	54	76.9	Herman Budde
"	Northfield	H. Marshall	"		61	85.8	Wm. Rose
Ore.	Columbia Co.	O. T. Johnson	"	301	11	85.1	Jake Dowling
Cal.	Tomales, Marin Co.	Julian Ward	"	699	50	59.2	E. C. Steinbeck
"	Pt. Reyes, Marin Co.	L. H. Meads	"	1235	221	89.5	D. McIsaac
Ida.	Ada Co.	A. C. Reck	"	149	25	65.4	Joe Brewer
Kans.	Lyon Co.	Lute Williams	"	196	27	72.6	R. S. Griffith
Wis.	Eureka	I. W. House	"	469	50	72.6	H. T. Ellis
"	Richfield	A. R. House	"			84.2	Adolph Kurtz
"	Amery	L. Otterson	"	307	25	56.3	J. W. Anderson
Ohio	Coshocton Co.	J. Emig	"	250	12	61.1	Levi Pew
Pa.	Uwchlands	C. M. Happersett	"		45	82.0	Woodbine Farms
"	Clinton	K. S. Bailey	"	253	21	62.8	G. G. Gaylord
"	North Branch	F. J. Holt	"	297	18	83.6	A. M. Northrup
Md.	Southern Harford	A. P. Dows	"	365	25	54.3	H. D. Coale & Son
N. J.	Salem Co.	F. A. Tuoti	"	420	49	97.3	S. L. Moore

Association Notes

Canaan, Connecticut:—During January 12 boarder cows were culled. Three per cent market milk sold for $3.34 per cwt. Feed prices are: hay, $25 per ton; silage, $8; cottonseed meal, $45; corn and oats, $43; gluten, $60; oil meal, $54; bran, $43.50; middlings, $43.

Claremont—Lebanon, New Hampshire:—The farmers bought a carload of grain during January at a considerable saving. One member purchased a year-old Jersey bull. January market milk sold for $3.50 per cwt. The creamery paid 56c per lb. for fat. Milk retails for 12c per quart and butter for 65c per pound. Feed prices: mixed hay, $20 per ton; silage, $9; oats, $46.40; bran, $44; gluten feed, $61; cottonseed meal, $48; oil meal, $50; corn meal, $40.

Troy, Pennsylvania:—The average for the ten highest producers in the association in January was 62.2 lbs. butterfat. Three per cent market milk sold for $3.04 per cwt. The creamery paid 63c per pound for fat. Milk retails for 10c per quart and butter for 55—60c per pound. Feeds sold as follows: gluten, $2.75—$3 per cwt.; oil meal, $2.85—$2.95; cottonseed meal, $2.75—$2.95; corn meal, $2.30; buckwheat and oats, $2.25; wheat middlings, $2.40; bran, $2.30.

Barnesville, Ohio:—January 3.5% milk sold for $2.90 to $3.40 per cwt. and 5c per point above this test. Local feed prices: Larro, $2.85; bran, $2.10; oil meal, $3; cottonseed meal, $3; hominy, $2.50; gluten, $2.75; beet pulp, $3; corn, 90c per bushel; oats, 70c.

Porter County Co-operative, Indiana:—Two scrub sires were sold during January, and a pure-bred Holstein bull purchased. This association is now free from scrub sires. Six unprofitable cows were also disposed of. Market milk testing 3.5% sold for $2.50 per cwt. The creamery paid 44c per pound for fat. Milk retails for 15c per quart and butter for 50c per pound. Feed prices are: alfalfa, $20 per ton; other hays, $18; ground corn, $22; corn and cob meal, $18; bran, $35; gluten feed, $50; cottonseed meal, $48; oil meal, $60; hominy, $38; ground oats, $25; silage, $5.

McCracken County, Kentucky:—One pure-bred Jersey bull was brought in from Christian County in January. One carload of bran was bought co-operatively. Market milk testing 3.6% sold for $4.50 per cwt. and 6c per point above. The creamery paid 46c per pound for fat. Bran sold for $32 per ton; cottonseed meal, $36—$41; crushed corn, $25.

Western Allegan County, Michigan:—Two members report the same results at a smaller cost when they changed from a ready mixed feed to a ration suggested by the tester and mixed themselves. January 3.5% milk sold for $2.25 per cwt., a premium of 4c per point above this test

A 1-Piece Cow Stall

ONE Attachment

THAT describes the CLAY Cow Stall. Easily and quickly put up—and *stays up*. Nothing to break. Warranted not to bend. For bigger dairy profits—through safety, sanitation and a saving of time, feed and labor—equip with the

CLAY SANITARY ONE-PIECE STALL

Strong Smooth Steel Tubing No Angles, Joints Or Heavy Castings

Simplest, strongest cow stall made. Outlasts the barn. Designed with the help of hundreds of dairy farmers who *know* what the dairy farmer needs. None of the faults of old-style stalls — all of the good points barn equipment can have.

CLAY Equipment will save you *hours* every week, keep your herd comfortable and contented and pay dividends from the start in a bigger yield of milk.

CLAY 2-Way 1-Hand Stanchion

Instantly closed or opened *both* ways with *one* hand. Eliminates troublesome sure-stops. Locks at 6½, 7½, or 8¼ inches—fits either cow or heifer without change. Hangs squarely in center of stall—cow can't miss it. Lock guaranteed brute-proof.

YOU CAN MAKE MORE MONEY

CLAY Guaranteed Equipment makes dairy-barn work quick, easy, pleasant. In hundreds of dairy barns it has quickly paid for itself and increased cow earnings. It will make money for you.

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902 Clay Street, CEDAR FALLS, IOWA.

being paid, and 6c per point above 4%. The creamery paid 45—52c per pound for fat. Feed prices: hay, $17—$20 per ton; silage, $6; bran, $40; cottonseed meal, $43—$50; Unicorn, $67; corn and oats, $40; middlings, $48; oil meal, $60.

Kent County Co-operative, Michigan:—January market milk testing 3.5% sold for 2.40 per cwt. The condensery paid 54c per pound for fat and the creamery paid 50—58c per pound. Milk retails for 15c per quart and butter for 53c per pound. Prices charged for feeds are: oil meal, $50 per ton; cottonseed meal, $45; corn meal, $42; oats, $38; gluten, $43; bran, $37; Unicorn, $62.50; Larro, $65; silage, $8; alfalfa, $25; clover, $20; timothy, $16.

Wilton, Wisconsin:—Out of 300 tuberculin tested cows, the 4 reactors were disposed of at once. During January the creamery paid 72c per pound for fat. Feed prices are: corn, 55c per bushel; oats, 50c; barley, 90c; bran, $32 per ton; oil meal, $48; alfalfa, $27.50; mixed hay, $18.

Ellington, Wisconsin:—Thirteen herds were tested for tuberculosis and only four reactors were found. One herd has been entered on the accredited list, making a total of four herds in the association now on the list. Nearly all members are feeding oil meal as a part of their ration. Very little ready mixed dairy feeds are being fed by members. Cows show larger profits from home-prepared rations. During January the creamery paid 47c per pound for fat, and the cheese factory paid 53c per pound. Milk retails for 8c per quart, butter for 50c per pound, and cheese for 24c per pound. Feed prices are: silage, $6 per ton; mangels, $5; clover hay, $18; alfalfa, $26—$28; bran, $34; oil meal, $49; Queen Dairy, $45; oats, 37c per bushel; corn, 60—65c; barley, 65c.

Delaware County, Iowa:—Two pure-bred Holsteins were purchased in January. The creamery paid 60c per pound for fat. Milk retails for 12c per quart and butter for 55c per pound. Feeds are bought at the following prices: corn, 60c per bushel; oats, 40c; oil meal, $45 per ton; bran, $30; cottonseed meal, $40.

Monona—Farmersburg, Iowa:—Eleven cows were sold and seven purchased during January. One member has purchased a Holstein bull whose dam produced 859 pounds butter as a 3½-year-old and whose sire's dam produced 1,077 lbs. butter. Sixteen cows in the association produced over 50 lbs. fat; the association average being 28.22 lbs.

Pioneer, Minnesota:—Market milk sold for $4.75 per cwt. in January. The creamery paid 64c per pound for fat. Milk retails for 12c per quart and butter for 58c per pound. Feed prices are: hay, $10—$15 per ton; silage, $3—$5; bran, $28—$47; oil meal, $38—$67; corn, 40—50c per bushel; oats, 35—50c per bushel.

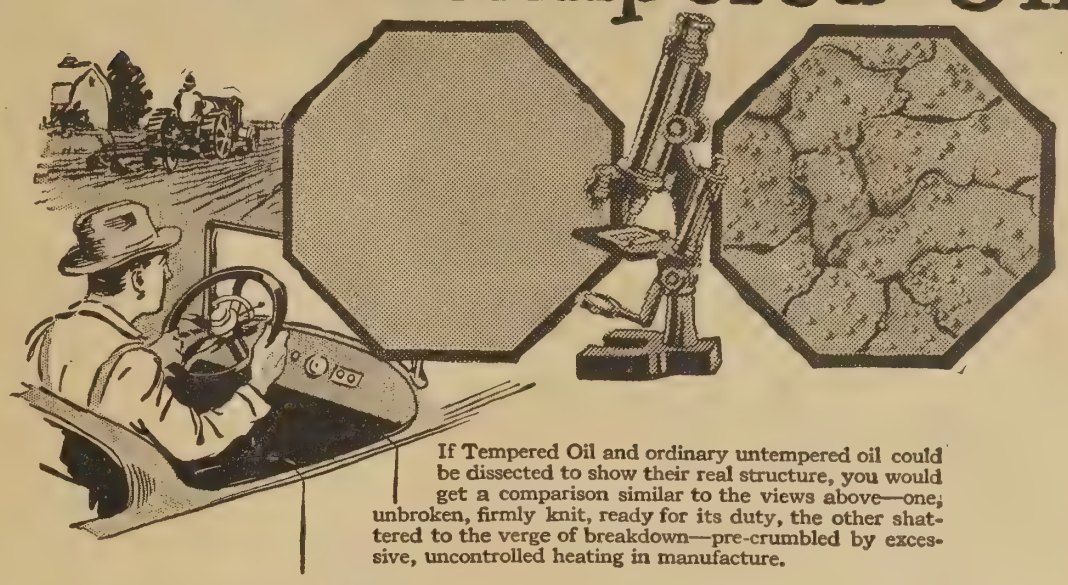
Blue Earth Couny, Minnesota:—This is the second month of testing in the new year and results are very gratifying. The association is "one hundred per cent" in the use of pure-bred sires. The grade herd of Holsteins owned by E. D. Oliver produced an average per head of 63.71 lbs. fat during December. They were milked three times a day. The high cow produced 84.5 lbs. fat during the month. Sixteen herds are either on the tuberculosis-free list or under federal supervision. Thirteen members have electricity in their homes. Ten members have drinking cups in the barns, and find them a good investment. The feeding of balanced rations has made a marked improvement in many herds. The average price for fat in December was 64c per pound. Milk retails at 12c per quart.

Columbia County, Oregon:—Four unprofitable cows were sold for beef in January. Two more pure-bred bulls were purchased. One carload of barley, oats, and corn meal was cooperatively purchased. An increased amount of grain is being fed in the association, with a balanced system of feeding. The cheese factory paid 56—59c per pound for fat in January. Feeds sold as follows: mill run, $1.60 per 80 lbs.; Cascade Chop, $2.20 per cwt.; ground barley, $3; molasses feed, $2.35; oil meal, $4.25; alfalfa meal, 2c per pound; alfalfa hay, $22 per ton; cocoanut meal, $39.

Marin County, California:—The hills are green here and cows are getting a little grass, but dairymen are beginning to realize the need of the

(Continued on page 288)

Breakdown Comes Sooner In Untempered Oil



If Tempered Oil and ordinary untempered oil could be dissected to show their real structure, you would get a comparison similar to the views above—one, unbroken, firmly knit, ready for its duty, the other shattered to the verge of breakdown—pre-crumbled by excessive, uncontrolled heating in manufacture.

OIL fit for motor use can stand only a certain amount of heat. By its very nature it must thin out, break down and wear away after just so much has been endured.

The tremendous roasting or "over-cooking" necessary in making oil by ordinary refining processes, shortens its life just as would so much use in your motor—cuts down its power of heat resistance in advance and steals away the first prime vigor of the oily body before the oil is ever used.

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Its worth shows in longer life, safe and certain lubrication under the severest heat, and almost complete freedom from carbon.

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***"Tempered*=an oil QUALITY—not just a brand name"**

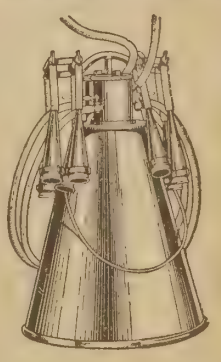
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LIBERTY MILKER COMPANY 102 North Cedar Street, Owatonna, Minn.

EDITORIAL COMMENT



A PHENOMENAL COW

A Michigan reader writes to ask for suggestions concerning his Holstein cow which he reports is producing 70 lbs. of milk per day with an 8.4% test when milked twice daily. He states, "I am feeding timothy hay and oats only" and asks, "Is this considered a good record?" and "would it be advisable to give her the state official test?"

Surely such a cow should be given official recognition at once that she may be acclaimed the world record producer on the world record poor feeding.

MAGNITUDE OF AGRICULTURE

Farming is the largest industry in the United States. Few people comprehend its magnitude. The officials of the National Association of State Marketing estimate that the farmers of the United States sell a sufficient amount of farm products to load 23 cars a minute, valued at $20,000, and buy $200 worth of farm supplies every time the clock ticks. They also estimate that during the next decade farm products will amount to 225 million carloads, valued at not less than 175 billions of dollars and that more than 100 millions of dollars' worth of this will be placed upon the market. They estimate that farmers will buy not less than 60 million dollars' worth of farm supplies. The purchasing power of the farmer and the magnitude of his business are not appreciated until the total account is brought together and then the figures are so large they cannot be comprehended.

CAUSE FOR OPTIMISM

How prone people are to think that their occupation is suffering more than others. In this time of readjustment, when everything seems to be going contrary to the way it should, there is opportunity to look around and find persons much worse off than those engaged in agriculture.

It has been estimated that 28 per cent of the labor in the Atlantic States is unemployed at the present time and in the Middle West, from Pittsburg to Chicago, more than 50 per cent. Being out of work in these times of high priced commodities is a serious matter and the farmer may well appreciate that his occupation gives him labor, three square meals a day, plenty of clothing to wear, and he knows where he is going to sleep at night. It is to the interest of agriculture that all people be employed and at good wages for it is the laborer who furnishes the large market for farm products.

PROVIDE FOR LEAN YEARS

Some economists believe it is the duty of the farmer to market all his produce and to liquidate his debts as far as possible. They believe this would materially assist in bringing the country back to normal. We do not look upon the situation in this way. It seems to us the farmer will not be conducting his business to the best advantage until he markets his crops throughout the year and in some instances extends the period over more than a year. Marketing of many crops at the time of harvesting depresses prices and the farmer loses by it.

Professor G. F. Warren of Cornell University, New York, says: "We have not yet developed means for financing and storage of large crops. A considerable part of such crops should be held for more than one year. The popular idea that it is wrong to store more than one year needs to be revised. The crops of the good years should be used to supplement poor years."

Without doubt Professor Warren had in mind Pharaoh's dream and Joseph's interpretation of it. It will be remembered that Pharaoh dreamed that he stood by the river—"And behold, there came up out of the river seven well favored kine and fatfleshed and they fed in a meadow. And, behold, seven other kine came up after them out of the river, ill favored and leanfleshed; and stood by the other kine upon the brink of the river. And the ill favored and leanfleshed kine did eat up the seven well favored and fat kine. So Pharaoh awoke. And he slept and dreamed the second time; and, behold, seven ears of corn came up upon one stalk, rank and good. And, behold, seven thin ears and blasted with the east wind sprung up after them. And the seven thin ears devoured the seven rank and full ears. And Pharaoh awoke, and, behold, it was a dream."

It was Joseph who pointed out to Pharaoh that "the seven good kine are seven years; and the seven good ears are seven years; the dream is one. And the seven thin and ill favored kine that came up after them are seven years; and the seven empty ears blasted with the east wind shall be seven years of famine." Because Joseph interpreted Pharaoh's dream, he was made ruler of Egypt and he traveled up and down this land urging the people to store their corn in the years of plenty for the years of famine that were to come. And it should be remembered that "when all the land of Egypt was famished, the people cried to Pharaoh for bread; and Pharaoh said unto all the Egyptians, 'Go unto Joseph; what he saith to you, do.' And the famine was over all the face of the earth; and Joseph opened all the storehouses, and sold unto the Egyptians; and the famine waxed sore in the land of Egypt. And all countries came into Egypt to Joseph for to buy corn; because that the famine was so sore in all lands."

We should have as much wisdom as Joseph and the farmers of this country may well be held responsible for providing storage in order to have an adequate supply for the lean years.

QUALITY PAYS

We wish it were possible to impress upon every milk producer the importance of producing a high quality product. It seems to be difficult for all dairymen to comprehend how important it is to produce a high grade of milk in order that there may be produced from it the finest butter and cheese.

A farmer in Vermont, producing milk for direct consumption, felt that he was not being paid for having his milk thoroughly cooled and aerated. He thought the consumer did not appreciate this effort and that he was not being fully compensated for the extra service he was putting into the production of his product. He learned his mistake when he happened to be in the store where his milk was sold. A customer entered and asked for his milk. Being informed that there was none of this man's milk on hand, the customer inquired when another delivery would be made. The storekeeper told him it would be the next morning but informed him that he had other milk. The customer preferred this particular milk and waited until morning that he might have some of it. He was not only willing to pay a higher price for it, but to make another trip to the store.

Two things are accomplished when dairy products are of high quality; the consumer is willing to pay a higher price for them and he will consume more of them, both highly advantageous to the advancement and profits of dairy farmers. This would be appreciated by a greater number of farmers if they were in position to receive the reflex action of the market. The farmer who heard the customer call for his milk and refuse to accept any other milk, learned that it pays to produce a high quality product. He has had his lesson from the person who buys his milk.

HERE'S WHY FARMERS UNDERVALUE SKIMMILK

"Yes, I can inform you." This is in response of an Indiana reader to our editorial comment, in the issue of Hoard's Dairyman for February 11, concerning those farmers who are indifferent to the feeding value of skimmilk. "I can make a guess," he continues, "that these same farmers are only half alive to the value of ensilage, or alfalfa, or the tuberculin test. They milk cows, but they do not recognize that they are dairymen. They keep poultry, but they would roundly deny that they are poultrymen. Neither are they sheepmen, though their farms keep some sheep; and in spite of the fact that they have some hogs they would tell you that they are not swine breeders. In short, they are crop raisers and stock multipliers, excellent in their way, perhaps, but impelled by no very generous and satisfying ambition.

"If these farmers read farm papers it is not with the vital spark of understanding, but with a smoked glass kind of a mind. Their business is not with them a profession to be studied and perfected. It is mostly an occupation from which to get a living, and to be gotten through with to the point of making retirement possible and old age leisure.

"These farmers live up and down my road, and I call them by their first names. As I see it, the main matter for them is the negative kind of an education provided for them in the public schools of forty years ago, and even ten; and worse than that, still far too common today. In short, I believe, and so do school authorities the country over, that the rural schools need reforming into modern day institutions; they are administered by people who are not rural minded, taught by teachers who are not rural minded, and turn out a product that is not rural indeed. To very many of the pupils the deadening book grind was and still is a bore, and they left school, and are still leaving it, with indifferent mastery of even the mechanics of reading. How can Hoard's Dairyman, or any other farm paper grip the attention and convictions of such farmers. Rural schools for rural children will give us a new rural population in due time."

DAIRY TEMPERAMENT

Gradually it is dawning upon the minds of farmers that the thing we call "dairy temperament" in cows plays a big part in the work they do. As an illustration of what it does we quote from the report of one of the agents in a dairy cow testing association. He says:

"In one of the herds of this association we found a little grade Guernsey that weighed 820 lbs. and she made 410 lbs. of butterfat, actually half her weight in butterfat."

What did this? Some would say it was the breed. But there are plenty of Guernseys, some of them pure-bred, as there are in all breeds, that will not come up to the mark of this little cow. The cause must lie deeper than breed, although we have more of such cows in breeds that have been bred along the lines of dairy temperament.

What is this mysterious force that creates such powerful differences in the outcome of animal life? We see it in race horses. It is the same in dogs and fowls bred and developed for special purposes. It seems to underlie all demonstration of superior ability or capacity in men as well as animals without much regard to size. It manifests itself to a certain extent in form and type but even here it has its own independent way. Cows of faultless type are sometimes far below in yield to those of inferior type.

It is difficult to define temperament in words. As near as we can come to it is this: A strong predisposing tendency in the individual toward performance in a given direction. Whatever it is it must be reckoned with in all our breeding operations. With dairy cattle we must select our breeding animals as much as possible from those that show decided dairy temperament as well as type if we hope to keep in line with our central purpose.

Seeding Alfalfa With Fertilizer—Use of Acid Phosphate

Please tell me if alfalfa seed can be safely sowed without damage from fertilizer where 600 lbs. of equal parts of ashes from wood, 16% acid phosphate, and chicken manure are ground up together and all sowed in the same furrow with a fertilizer drill, 600 lbs. per acre. How much 16% acid phosphate can be put safely to the acre on wheat in the spring?

Springtown, Ark. T. B. L.

Owing to the fact that well rotted hen manure is relatively high in ammonium salts, the chemical reaction resulting between the calcium content of the wood ashes and these salts might liberate ammonia which would not only mean a loss in the available nitrogen of the manure, but in addition there might be a deleterious effect upon the alfalfa seed. However, we are not inclined to believe that any serious consequences would follow. If it is practicable for you to do so, it might be well to incorporate the ashes with the soil sometime previous to applying the other fertilizer and sowing the seed.

The general recommendation is to use from 150 to 200 lbs. of acid phosphate for each grain crop in a rotation. The only danger from heavier applications is in creating a too acid condition in the soil. No absolute standard can be fixed because of the varying phosphorus content of the soil and the demand of the particular crop. It would ordinarily be possible to apply at least 300 lbs. acid phosphate to wheat without danger, but it would be uneconomical when 180 lbs., say, would be sufficient.

Cost of Making Cheese

A cheesemaker owns the cheese factory and equipment, furnishes all the supplies and all the labor; how much per pound ought he to be paid by the patrons for making cheese known as Daisies? The factory in question receives 2,262,599 lbs. of milk in a year.

In the factory mentioned, the whey separator was paid for by the sale of butterfat skimmed, the cheesemaker owning all the rest of the equipment. How much per thousand pounds should he receive for skimming the whey? On the basis of sales of skimmed butterfat, what percentage of the sales should he receive?

Wisconsin. C. R. P.

The exact cost of making cheese varies at different factories according to the various conditions such as the interest and depreciation charge which must be made on the factory building and equipment. Some makers have a poorly built, small factory building on which the interest and depreciation charge is small. Others have more investment and cost.

The labor charges also vary somewhat at different factories. We have found so much difference in factory costs that we have advised that every maker should figure his own costs, and have issued a bulletin showing how this can be done.

As a general average figure for the cost of making Daisies at the present time, I would say that 3½c or 4c is about right. Where the cheesemaker is to be paid for his labor, in running a separator, he might charge $15 a month extra for this work.

The maker is sometimes paid ½ of the whey cream money, which amounts to ½ to ¾c a pound on the cheese, and in this case the price per pound of making cheese is often reduced somewhat so as to make the maker's entire pay for making cheese and skimming whey equal to about 1c a pound for his labor.

The cost of his supplies, etc., is likely to equal about 3c a pound, making the total cost for making cheese very close to 4c a pound.

Wis. Coll. of Agriculture. J. L. SAMMIS.

Ration Lacks Protein

I would like information about feeding of good grade Holstein cows. I have ten head, all fresh recently. Proper feeding I feel will increase the production of milk, which is not very large just now. Am feeding about one and one-half bushels of good corn silage twice a day. Besides this we are giving the cows cut fodder—all they can handle. I have some corn and oats which I could feed, also have a good power grinder. What proportion of each shall I grind, how much ought to be fed, and would it be profitable to add some other meal such as linseed or cottonseed?

Gibsonburg, Ohio. A. W. A.

This ration is very low in its protein content and for that reason production must necessarily be limited. The herd will benefit very greatly from the addition of protein feeds. Not only should such feeds greatly increase the milk flow of the herd but they should reduce the cost of production per hundred pounds of milk.

There are two ways of supplying this needed protein: through the purchase of a legume hay such as clover or alfalfa, or through the feeding of oil meal or cottonseed meal. We believe it advisable to feed clover or alfalfa in as large amounts as the cows will eat, feed silage at the present rate or in somewhat lesser amounts, and feed as much corn stover as the cows will pick over.

In addition a concentrate mixture of 300 lbs. of ground corn, 200 lbs. of ground oats, and 100 lbs. of oil meal or cottonseed meal, fed at the rate of one pound for each four lbs. of milk produced, should give good returns. We believe this will increase profits.

The Small Diameter Silo

Two eight-foot silos thirty-two feet high will feed ten head of cattle the whole year, and one eight-foot silo thirty-two feet high will feed eight head until we have good pasture in northern Indiana, which is some time in May. A ten-foot or fourteen-foot silo with the same capacity will not feed the same number of cattle as long as the eight-foot silo, for you have to throw out too many cubic inches of silage in order to feed it off fast enough to keep the silage from spoiling.

I think the best plan is to build one small silo and if that does not answer put up more small silos. It's the length of the tube that counts, not the diameter.

Bremen, Ind. H. C. F.

⚜

I have two 8x24 silos, one is up three years and the silage came out as bright as when put in this winter. I have one about empty and have not had a handful spoiled. The other I put up last summer. If it would not keep in an 8-ft. silo I would not have spent $250 for the second one the same size.

Greensburg, Pa. J. E. W.

⚜

In 1915 I erected an 8x25 ft. silo and it has kept the silage perfectly every year. Have filled it with corn silage alone, corn and soy beans, and sorghum. All have kept equally well and I have fed as few as 5 cows up to middle of June and it was all good down to the last. Mine is a steel silo but I do not see any reason why one of any other material should not do just as well.

Bahama, N. C. H. L. U.

⚜

Silage will keep in a small diameter silo as well as in a larger one. At least it will here in Idaho where we have a dry climate with no rain from the middle of May until September first.

When feeding silage in summer have a heavy wet canvas and cover the silage when through feeding it. This will help to keep it moist and to hold its flavor and you will have no waste or dry silage.

Kuna, Idaho. I. A. K.

⚜

Two years ago I built a silo six feet inside diameter. As I have only two cows and a Shetland pony to feed I figured it was large enough. It works fine. I have as fine silage this winter as I ever saw. Of course a small diameter will allow freezing up here in the north. This winter I stacked straw for bedding around it and it has kept frost out entirely.

My advice would be to build as small silo as you want and it will work. More people build too large diameters than too small. In cold climates build silo in the barn or in the ground or surround it with straw.

Eagle River, Wisconsin. O. G.

Pasture Grasses

I have a field that is quite wet. Last year I cut alsike and timothy off it. Now I want to turn it into a permanent pasture. What in your opinion would be the best to do? I thought of seeding it to redtop before the frost went out. If that is a good plan, how much to the acre would you sow?

Lyons, Wisconsin. H. M. P.

In seeding the above piece of land down to a permanent pasture there are two procedures, either of which might be followed. According to the first one a mixture of about 10 lbs. of Kentucky blue grass, 10 lbs. of red top, and 2 lbs. to 4 lbs. of white clover should be seeded per acre before the frost is out of the ground this spring. This might be a good plan since the piece is already in timothy and alsike clover. If the field is very wet for any length of time, the redtop will be the predominating grass within a few years. If this plan is followed, either pasture this season or take it for hay again. The later might offer some advantages.

According to the second procedure, the field would be plowed and reseeded using a small grain as a nurse crop; a mixture consisting of timothy, 5 lbs. to 8 lbs; alsike clover, 4 lbs. to 6 lbs.; redtop, 10 lbs.; Kentucky blue grass, 10 lbs.; white clover, 2 lbs. Hay crops could be taken from this for at least a couple of years, during which time the slower growing grasses like blue grass and redtop would become established.

If this field is not drained, we would advise draining it. All grasses do much better on well drained soil.

Oil Meal vs. Cottonseed Meal

I understand that oil meal and cottonseed meal are about equal in feeding value when used in rations for dairy cows. A local feed dealer offers cottonseed meal in the cake considerably cheaper than oil meal.

Abilene, Kans. E. B. B.

Oil meal and cottonseed meal fill similar places in the cow's ration, both being high in their content of protein. A choice between them depends upon their market price and also upon the particular combinations of other feeds with which they are to be used.

Oil meal is somewhat laxative in a ration, while cottonseed meal has the opposite effect. Therefore in rations in which such feeds as alfalfa and silage are supplied in liberal amounts, cottonseed meal will very often give better results than using oil meal and combining the three laxative feeds.

In a test ration it is often wise to use both meals for the sake of variety and palatability. In the ordinary ration, in Kansas where alfalfa is fed liberally, cottonseed meal at the present price is a cheaper source of protein. In the general ration, therefore, we would favor this latter meal and would use oil meal rather as a conditioner than as a major source of protein. Cottonseed meal (41%) contains approximately one-fourth more protein per hundred pounds than does old process oil meal, but always note the analysis on the bag as the protein content varies and is sometimes even lower than oil meal.

Limestone on Alfalfa Sod

Is it practical to apply limestone on rye or alfalfa seeding with intentions of sweetening soil for alfalfa?

Eagle, Wis. W. H. J.

Ground limestone should be applied on the soil after it is plowed and prepared for seeding. If the alfalfa is already seeded with rye, the limestone may still be applied; but it is never advisable to apply the limestone and then plow it under. The reason for this is that the rains will tend to wash the limestone into the soil, and if it is plowed under the tendency will be to carry it into the subsoil instead of the top soil which is most likely to be acid.

When to Freshen Jerseys

Pease let me know at what age to breed Jersey heifers.

Sandy, Oregon. W. F. F.

Jersey heifers mature at an earlier age than some of the heavier breeds and therefore may safely be brought to milk production younger. It is recommended that well grown Jersey heifers may be bred to freshen at twenty-four to twenty-seven months.

Measuring Timothy

In estimating the amount of timothy hay in a mow, how many cubic feet is considered for a ton? For a section of this mow, 26 by 12, hay 6 ft. deep, how many tons would you consider a fair estimate?

Eau Claire, Wis. A. B.

A ton of timothy hay is usually calculated to occupy a space of 420 cubic feet. Figuring on this basis, the space specified contains approximately six and one-fifth tons.

Hoard's Dairyman

Fort Atkinson, Wisconsin

Founded 1885 by W. D. HOARD

W. D. HOARD & SONS CO., Publishers
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Subscription in United States and Mexico $1.00 per year; 3 years, $2.00; Canada, $1.50 per year.

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All foreign countries in the Postal Union $2.50 a year; not in the Postal Union $3.00, including postage.

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Entered at Fort Atkinson, Wis., as second class matter.

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Coming Events

Farmers' Grain Dealers' Association meets at Sedalia, Mo., March 16 and 17. Secretary, John Sheay, Columbia, Mo.

May 23—Missouri State Holstein Association first Annual Show of Sale Cattle at Sedalia, Mo.

Sings an unnamed lover of the farm: The country is a place to live in, as well as a place in which to earn a living. One-third of our people must be on the land and that third must love the land.

New Secretary of Agriculture



HENRY C. WALLACE

President Harding's appointment of Henry C. Wallace as Secretary of Agriculture is generally endorsed by farmers and farm organizations as a wise and gratifying selection. He is rural-minded, has a broad conception of farm affairs, and is well equipped mentally to fill the new position of trust to which he has been called.

Mr. Wallace is editor of Wallaces' Farmer, succeeding his father who was affectionately know as "Uncle Henry" to thousands of farm readers during the past quarter of a century. He knows personally, as well as editorially, of some of the trials and tribulations of a farmer and live stock breeder. Mr. Wallace was born at Rock Island, Ill., May 11, 1866. He was graduated from Iowa State College in 1891, was Professor of Dairying at that institution from 1892 to 1894, and finally joined his father in his farm newspaper enterprise. Mr. Wallace was married in 1887 to Carrie Brodhead, and they have six children: Henry A., John B., Annabelle J., James W., Mary O., and Ruth E.

The Feed and Hay Market

[Report by U. S. Bureau of Markets.]

The feed market during the week ending Feb. 19, presented few new features. Colder weather and snow in many sections stimulated confidence on the part of jobbers and resulted in mill offerings, especially those of wheat feeds, being more readily taken for speculative account. While southeastern, southwestern, and Pacific Coast markets were generally lower, middle western and northeastern markets reported an improved feeling among the jobbing trade. Conditions in Cincinnati and a few markets in northeastern territory continue dull, and the course of prices was downward.

Stocks in general are good because of light consumption and adequate production and it is doubtful whether the opening of the heavy feeding season could be entered under more favorable circumstances from a feeder's standpoint. Receipts at warehouses were good. One Buffalo warehouse reports the storing of 900 tons of bran during the past week, while stocks of beet pulp in that market increased to over 4,000 tons. Brewers grains, malt sprouts, and various other feedstuffs appear in plentiful supply. The situation in regard to supply and demand in consuming sections is practically unchanged. Supplies are generally heavy and in many sections much in excess of requirements and the outlook for an increased demand is not considered good.

While prices on wheat mill feeds in the middle western and northeastern markets advanced anywhere from 50c to $1.50, southeastern markets declined approximately to the same extent, because of large stocks. Middlings were in better request than they have been for some time. Little improvement in the demand for flour middlings and red dog was noted.

Mill prices on cottonseed cake and meal were firm but as stocks in dealers' hands continue large there was little interest shown in offerings, which were fairly liberal. Stocks of seed on hand at mills are about 7,000 tons larger than they were at this time last year, indicating continued good offerings particularly of the high protein content meal. Exports of cottonseed cake and meal during January 1921 were about 16,000 tons compared with 26,000 tons January 1920. Hulls are steady and prices unchanged.

Linseed Meal Prices Down

Minneapolis mills lowered their price on linseed meal to about $36.50 f. o. b. that market. The demand is fair but is still much smaller than during former years. Farmers and feeders are reported to be buying in small lots only, which condition appears to be general. In eastern territory, prices are stronger due to a better export demand and improved buying for local account. Stocks are good.

The yellow hominy feed is quoted in several markets $1.50 per ton less than white hominy feed, though it is quoted in the Chicago market on the same basis. The price was slightly easier because dealers are well stocked and the demand is confined principally to immediate shipment.

Business in beet pulp is stagnant and excessive stocks of both domestic and imported pulp, together with continued offerings from abroad and Canada, caused dealers to reduce their prices materially. The lowered quotations failed to bring any increased demand. Southern California and a few southeastern markets report a fair request. Philadelphia brokers quote $4 lower than last week.

Hay Market Weaker

With the exception of New York, prices on timothy were either unchanged or lower at the principal markets. Declines of $1 per ton at Philadelphia, $1.50 at Atlanta, $1 at Cincinnati, and 50c at Chicago and Minneapolis occurred during the week. At New York the heavy decline in prices during the previous week caused shippers to suffer heavy losses and shipments were curtailed to such an extent that prices were forced up about $3 from the low point.

The alfalfa market generally was also weaker because of a heavier movement with no improvement in the demand. Prices declined $1 to $2 per ton in several weeks. The increased receipts of alfalfa during the past two weeks have been caused chiefly by the movement of the western hay. Shippers in Montana, Idaho, Wyoming, and Colorado are anxious to move as much of their hay as possible before the last of April when the time for the application of the reduced rates will expire.

Considerable of the alfalfa being marketed is only of fair quality. This is causing a better demand for the choice hay but a very poor demand for the poor hay and heavy concessions must be made to move most of the low grade arrivals. Several cars of low grade hay are on track unsold, with demurrage accruing, at both Kansas City and St. Louis.

Carload Prices of Hay and Feed at Important Markets February 19

(In dollars per ton)

Commodity	Boston*	New York*	Philadelphia	Pittsburgh*	Lynchburg	Atlanta	Jacksonville	Savannah	St. Louis*	Cincinnati*	Chicago*	Minneapolis*	Omaha*	Kansas City*	Seattle
HAY															
Timothy and clover:															
No. 1 Timothy		31.50	24.00	24.50	27.50	31.00	31.00	32.00	27.00	23.00	24.00	19.50		19.00	
No. 1 Clover, mixed		25.50		23.00		29.50	29.00	29.50	24.00	19.50	19.00	16.00		16.00	
No. 1 Clover		23.00		23.00	23.50				25.00	19.00	19.00	16.00		16.50	
Alfalfa:															
No. 1 Alfalfa						32.00	32.50	32.00	28.00	22.50	24.00	21.00	18.00	18.50	19.00
Standard Alfalfa						30.00	31.50		22.00	21.50	21.00	18.00	14.00	16.00	
No. 2 Alfalfa						29.00	30.00	29.00	17.00	16.00	15.00	16.00	9.00	13.00	
FEED (Bagged)															
Wheat Bran:															
Spring	31.25	31.00	31.00	29.00	31.50	31.00	31.50			25.50	24.50	21.00			
Soft Winter	32.00	31.50	32.50	31.00	33.50	31.00	33.00	32.00	23.00	26.50	24.50				27.00
Hard Winter		31.00	31.00	29.00		31.00			22.00	25.50			19.50	19.50	
Wheat Middlings:															
Spring (Standard)	30.50	30.50	30.00	28.00	31.00	31.50	33.00			25.00	24.00	20.50			
Soft Winter	34.50		35.00	31.00		32.00	36.00		26.00	27.50					26.50
Hard Winter			31.00	31.00		31.50			25.00	25.00					
Rye Middlings	27.50	28.00	26.50	25.00	28.50					23.00	24.00	18.50	20.50		
High protein meals:															
Linseed		45.50	44.50	42.00					42.00	42.00	40.00	36.50	17.00	40.00	44.00
Cottonseed (41 per ct)	38.50		37.25	37.00					33.00		34.50	36.00	41.50	31.00	40.00
Cottonseed (36 per ct)	37.00	36.50	35.25	34.50	34.00	31.50	33.00	35.00	32.00	31.25	33.00	34.00			
No. 1 Alfalfa meal (med)						30.00	34.00		21.00	25.00	24.00		20.00	19.00	
Gluten feed	43.28		40.50	38.50						38.50	35.00				
Hominy feed (white)	32.00		28.00			33.00			23.50	26.00	25.00		17.00		
Ground barley										36.00	32.00	22.00		27.00	40.00
Beet pulp	36.00	32.50	32.00				44.00	44.00		38.50					

*Hay quotations represent average of cash sales at these markets.

New York Butter Market

NEW YORK CITY, FEB. 22:—Developments of the last two weeks clearly indicate that a healthier condition would exist in all markets if values were reduced sufficiently to create an active demand. Since the holiday season there has been a gradual decline in the quotations of butter. While the decline was slow at the outset, it reached a climax during the second week in February when the quotation on extras reached the low mark of 42½@43c. When that low price was reached, consumers immediately began to purchase butter freely and have continued to do so with the result that practically all the accumulated supplies of all grades of fresh butter were cleared, leaving the market with scarcely enough available supply to satisfy demand. The condition of the market at the present time is the best that it has been for several months. Pessimism has vanished and there is a marked eagerness on the part of buyers to lay in sufficient supplies to last them for several days. For some time hand to mouth buying has prevailed, and it is now highly pleasing to receivers to deal with less critical buyers.

One factor that is having a decided influence on the market at present is the chain store trade. Chain stores are keeping their retail prices in line with wholesale prices with the result that their trade in butter is enormous. As their storage stocks are becoming depleted they are very active buyers on the open market which is resulting

(Continued on page 276)

Cheese Prices Steady

[Report by U. S. Bureau of Markets.]

Cheese markets show further recovery from the temporary dullness which featured the early part of the month, and trading during the week ending February 19 was fairly active with the tone of the markets steady to firm, especially on the larger styles. Local business was slow in some quarters, but on the whole the situation was improved over recent weeks. At primary markets in Wisconsin, all styles moved fairly well, although early in the week it did not appear that this would be the case.

Supply and demand for a few styles have been irregular for some time with the result that price changes have in some cases shown more of a fluctuation than general market conditions would indicate. On February 14, prices resulting from trading on the Plymouth, Wisconsin, Cheese Exchange showed both declines and advances. Longhorns and Young Americas lost a cent or more, while white Daisies supported by active demand advanced ¼ to ½c. Wisconsin dealers report that the present demand for Daisies and Twins is heavy so that even though little immediate change is anticipated in prices, it would not be surprising to see these styles show advances.

Light Supply of Fancy Held Cheese

The market on held cheese remains steady. Except for the fact that stocks do not represent a surplus, especially on finer grades, held cheese prices might now be showing signs of slipping. However, there is still sufficient outlet, mostly in a small way, for held goods of quality to cause dealers to hold to top prices. More trade is turning to fresh cheese, possibly due in part to this. Held undergrades are not moving so satisfactorily as dealers desire. Domestic demand for this class of goods is light, and the export situation is such that movement is very slow.

The average wholesale prices on American cheese (style Twins) for the week ending Feb. 19, 1921, and for the corresponding week last year, were as follows:

	Week ending Feb. 19 1921	1920
	Cents	Cents
New York	27.7	29.1
Chicago	24.7	28.4
Boston	24.7	31.5
San Francisco	22.5	27.3
Wisconsin	24.6	28.4

The total receipts of American cheese at these markets were 2,701,725 lbs., as compared with 2,100,447 lbs. last year and 2,523,873 lbs. last week.



Activity Features Week's Butter Markets

[Report by U. S. Bureau of Markets.]

The strong rally which started the previous week on the butter markets continued throughout the week ending February 19. Unlike other firm spots of recent weeks, advances were not followed by reactions. Trade continued exceptionally good all week, and most of the buying was on fresh butter. New arrivals and held over stocks were well cleaned up. Toward the latter part of the week an actual shortage developed, and this together with the difference in price between storage and fresh turned a number of buyers back to storage. Storage prices on the best centralized cars advanced very rapidly the latter part of the week. Storage creamery did not share in the price advance but did begin to find some outlet, preference being for long lines.

The quick turn of the markets toward higher prices is as hard to account for as it was unexpected. Probably the low prices which followed the extended decline restored the confidence of buyers and it is certain that stocks of butter in the hands of jobbers and retailers had reached a low point. Danish butter at New York cost too much to compete on the market and the Danish market had also advanced making current offerings for future shipment cost up to 43½c C. I. F.

The markets all closed firm. It is likely that the shift to storage butter will ease up the demand for fresh and this together with the expected cargo of Danish at New York, may shortly take the edge from the market. However, there is no evidence of this as yet. Noticeable features of the market are that the range of prices between top and low scores is narrower than it has been for sometime, and that the Chicago market has continued to quote prices nearly on a parity with eastern markets.

The average wholesale prices on 92-score butter at five of the principal markets for the week ending Feb. 19, 1921, and corresponding week last year, were as follows:

	Week ending Feb. 19 1921	1920
	Cents	Cents
New York	46.8	67.2
Chicago	46.2	64.3
Philadelphia	47.5	68.0
Boston	46.7	66.0
San Francisco	48.9	62.2

The receipts of butter at these markets were 6,944,624 lbs. as compared with 5,220,763 lbs. last year and 6,901,382 lbs. last week.

Wisconsin Jersey Breeders

The Wisconsin Jersey Breeders' Association held their annual meeting at Madison on February 11th. In order to give greater publicity to the Jersey cow, it was decided to collect an assessment of a dollar per cow from all owners of pure-bred cows—this sum to be used in Jersey publicity and in the support of a fieldman, possibly in co-operation with the states of Minnesota, Iowa, and North Dakota.

It was also decided to hold an annual state sale at Madison on the first Thursday in May, this to take the place of the summer meetings that have been heretofore held. The executive committee is to act as the sales committee in managing the sale and selecting the cattle.

The following officers were elected: Charles Peterson, president; M. Stafslien, vice-president; G. W. Vergeront, Onalaska, secretary-treasurer.

$200,000 Saved for Farmers

According to Richard Hall, manager of the Grange League Federation Exchange of New York, a gross business of $1,369,349.20 was conducted by the Exchange in 1920. Mr. Hall estimates that a direct saving of over $200,000 was made to the farmers who purchased supplies through the organization, as well as the large saving brought about because prices in other markets were lowered through the influence of the Exchange.



You can't buy a cheaper feed than Larro

You may find a ration that costs less—but not one which produces bigger profits.

Thousands of successful dairymen are feeding Larro every day for just one reason—because in the long run it's the cheapest feed they can buy.

You may save one, two, or three cents daily on a cow's feed with a low priced ration.

Or you may get one, two, or three quarts more milk every day with Larro.

Which pays best?

May we send you names of dairymen in your own community who are *making more money* by feeding Larro?

The Larrowe Milling Company

206 Larrowe Bldg. Detroit, Mich.

(6)

Larro

The Ready Ration For Dairy Cows

Can Home Grown Rations Maintain Milk Production?

(Continued from page 260)

into a negative nitrogen balance, as the chemist expresses the situation where the protein supply is insufficient to meet the requirements for milk flow and body maintenance. They remained in this condition until the milk flow had decreased to a point where the demands upon the ration for milk production enabled the body to regain its nitrogen equilibrium.

What the Results Indicate

The results of feeding the clover hay, corn silage, and cereal grain ration show that such rations do not furnish dairy cows a sufficient amount of the right kind of nutrients to properly maintain their bodies and produce a high milk flow. On such rations, cows will naturally adapt themselves to the ration in a manner to secure proper body maintenance, and reduce their milk flow to a point consistent with the nutrients supplied in the ration.

In view of the fact that the cows were fed practically as much of the rations as they would consume and that they immediately went into a negative nitrogen balance while making the higher productions of milk, it is clearly evident that the protein mixture was insufficient. The conclusion to be drawn is that while a ration of clover hay, corn silage, and cereal grain meets the requirements for a flow of milk not exceeding 20 to 25 pounds, the quality or quantity of protein would have to be materially changed if a higher production of milk were to be secured for any extended period of time.

Rations with Alfalfa Hay

A year after the period of feeding rations including clover hay, a similar trial under practically the same conditions was made in which alfalfa hay was substituted for clover hay. The very great prominence given to alfalfa on the basis of the relatively high protein content led to the belief that as a home grown product it might offer the opportunity to supply a protein mixture that would enable a home grown ration to meet all of the requirements for proper maintenance and high milk flow. The rations in this second trial included alfalfa hay, corn silage, and cereal grains. The grains used were corn, oats, and barley, respectively, and a mixture of the three. These rations were fed over four consecutive periods of four weeks. The plan was to use only three animals for the entire period, but No. 3 cow went off feed at the end of the first four weeks and a fourth cow was substituted. With this substitution the plan was successfully carried through to the end of the period. As in the former trial with clover hay, records of feed consumption, milk and butterfat production, and the nitrogen intake and outgo were secured in order to show the final results.

The alfalfa hay was taken from a car lot bought by the University from a western market subject to the classification and grade "choice pea-green hay". As a matter of convenience in feeding and overcoming any waste, the hay was cut before feeding by an ordinary feed cutter. The grains were ground and with each ration a small amount of corn starch was fed to insure a constant and ample supply of energy-producing nutrients.

How Clover and Alfalfa Rations Differed in Composition

Air-dried samples of all the feeds were carefully analyzed in both feed-

Increase the Value of Your Farm With a Silo



Get the beauty and durability of tile in the Lansing **"ship-lap" block.** Ends overlap — extended shoulders top and bottom—less mortar exposed, better settling of silage—less chance for frost, better looking silo, blocks uniform in shade. Stronger walls. Notched ends on blocks prevent mortar from slipping. Twisted steel reinforcing. Steel hip roof—steel or tile chute—fire proof. Write for Catalog.

J. M. Preston Company
Dept. 302, Lansing, Mich.

Factories: New Brighton, Pa.; Urichsville, O.; Brazil, Ind.; Fort Dodge, Ia.

Lansing
Vitrified Tile Silo

Prices Cut on SWEET CLOVER

Write for our prices and generous FREE Sample before you buy. Sweet Clover is the greatest of all soil builders. It can positively be made to thrive on any soil. Our free booklet tells how.

Great pasture crop for horses, cattle, sheep or hogs. More nutritious even than Alfalfa or Red Clover. Positively will not bloat. Fine for milk cows.

You Want the Best Seed Obtainable. Our seed tested for purity in our Seed Laboratory. We have the true White Blossom Bi-ennial. *Write today for prices on seed, free booklet and free sample.*

Atchison Seed & Flower Co
Atchison, Kansas

CONDON'S SILO KING SEED CORN



Fills the Silo Quickest With The Very Best of Silage

Finest strain of Ensilage Corn ever grown—so say all farmers in describing **Condon's Silo King.** *A true statement.* Grows 16 to 20 feet high; very prolific—two to three ears to the stalk; makes heavy, thick growth of fodder; big, broad leaves from ground to tassel. Yields

40 to 70 Tons Per Acre!

One acre **Condon's Silo King** will produce more and better tonnage than 2 acres ordinary corn. Mr. Carpenter, one of Winnebago's progressive farmers, while on a visit to our Seed House, said: *"Would not have any other corn as a gift when I can get your SILO KING."*

FREE **Send Postal Today for** Generous sample **Condon's Silo King Corn** and big 1921 illustrated catalog, full of information about **Condon's "Sure-Crop,"** hardy, Northern grown, **pedigreed seeds.**

CONDON BROS., Seedsmen
Rock River Valley Seed Farm Box 140 **ROCKFORD, ILL.**

Oak Dale Leghorns

Are the most prolific and everlasting layers known.

One good cock bird of the Oak Dale Strain will work wonders in your flock. Write for catalog and prices.

"Satisfaction or your money refunded."

OAK DALE FARMS,
Box M, Austin, Minn.

ALFALFA HAY AND DAIRY FEEDS

CLOSE PRICES – PROMPT SERVICE

THE GOLDWOOD—AMRINE CO.
St. Joseph, Mo. Kansas City, Mo.
312 Am. Nat'l Bk. Bldg. 312 Victor Bldg.

ing trials to get a check on the nitrogen intake of the cows daily. The intake of nitrogen was necessary in order to get a comparison with the outgo of nitrogen which was secured by taking into consideration the analysis made of the excreta and milk, and thus know what was taking place as regards proper maintenance or a nitrogen balance on the part of the cow. From the analyses made of the feeds, there was a slightly higher per cent of nitrogen in all of the feeds of the rations used in 1918-19. This was undoubtedly due to a somewhat more favorable growing season for the production of nitrogen in the feeds concerned. This general difference in the nitrogen content of the respective feeds, however, was very slight compared with the principal difference there was in the per cent of nitrogen in the clover and the alfalfa hay. The per cent of nitrogen in the clover hay fed in 1918-19 was 1.74, and in the alfalfa hay fed in 1919-20 was 2.48. From the result secured it appeared that a unit of nitrogen in one ration was equal to a similar unit in the other, and that the difference was primarily in the higher nitrogen intake made possible by the higher nitrogen content of the alfalfa hay. In terms of total crude protein, 50 pounds of the ration with clover hay contained 2.86 pounds of crude protein and 50 pounds of the ration with alfalfa hay contained 3.44 pounds of crude protein.

From the data and records secured, about 60 per cent of the total crude protein was digested and therefore in terms of digestible crude protein the amount of crude protein utilized by the cows on the clover hay ration was 1.72 pounds and the amount of crude protein utilized by the cows on the alfalfa ration was 2.06 pounds.

Results of Feeding Alfalfa Hay Ration, and Conclusions

In feeding the alfalfa hay rations, it was found possible not only to maintain nitrogen equilibrium with cows milking 40 to 45 pounds of milk daily, but to maintain practically that flow over the period of 16 weeks. The milk of the cows, both in composition and flow, was well maintained. The only shrinkage in amount was apparently that incident to progress in the lactation period.

The results of the two trials would indicate that alfalfa hay has a superior value over clover hay, and makes it possible to use a home grown ration for maintaining comparatively high milk flow over a period of at least 16 weeks. The greater value of the alfalfa would appear to be in the greater amount and possibly better quality of protein it provides.

The results of the two trials furthermore indicate that it is unprofitable not to supply protein in quantities or of a quality that is sufficient to maintain nitrogen equilibrium and a flow of milk consistent with the productive capacity of the cow.

The ration including alfalfa hay had a nutritive ratio of 1:7.9 and provided a satisfactory ration with a less amount of digestible true protein than is specified in the requirements of the Armsby Feeding Standard, and also somewhat less digestible crude protein than is specified by the modified feeding standards suggested by Henry and Morrison. It should be taken into consideration that these trials cover periods of only 16 weeks. Longer observations should be made to decide whether rations including alfalfa hay similar to those fed in the second trial of this investigation would be adequate for an entire lactation period. Investigations under conditions pertaining to ordinary dairy practices will be made before definite and final conclusions are made with reference to what the possibilities are of utilizing strictly home grown rations for the maintenance of high milk production throughout entire lactation periods.

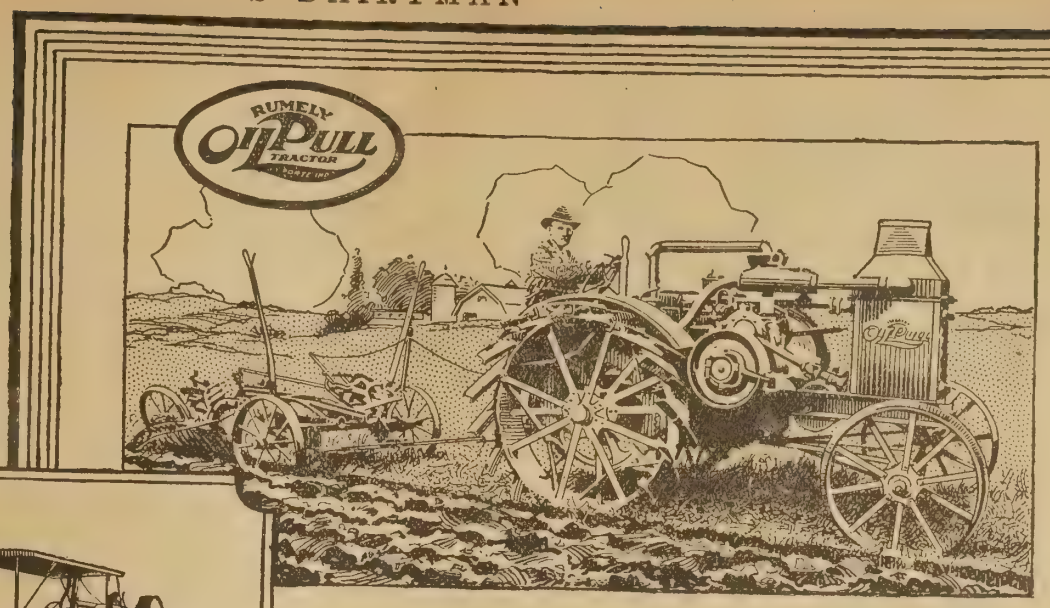
[Editor's Note:—This article was prepared for Hoard's Dairyman by Professor Humphrey because our recent mention of the Wisconsin experiments occasioned so many calls that the available reprints of the original article were exhausted. We are substituting this for the conclusion to his address before the 48th annual meeting, the first half of which appeared in our issue for last week, as it includes the experimental feeding with alfalfa as well as with clover.]

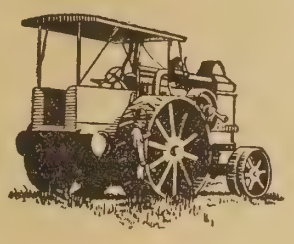
Jersey Cattle Notes

For week ending Feb. 11:

Number of animals registered: Bulls, 234; cows, 540; total, 774. Number of transfers recorded: Bulls, 233; cows, 516; total, 749.

A manure spreader saves time, labor and manure values, especially if the manure is hauled and spread as it is produced.





Let H. L. Miller, Cannon Falls, Minn., express to you his opinion of the OilPull tractor based on an experience of 8 years. He says:

"After eight years of hard plowing, threshing and road work, my OilPull is in such good shape that I would not trade it 'even up' today for a new tractor of any other make. It always has more power than I need, even on the toughest jobs. It has given no trouble and I am positive it will easily last 15 years more."

To its tremendous and never-failing power can be attributed much of the OilPull's unequaled performance and long life.

How much Power do You Demand in a Tractor?

THE investment you make in a tractor is chiefly to secure increased power on your farm. The power to plow more and deeper and faster—the power to operate your own thresher, sheller, silo filler, etc.—the power that saves your horses, relieves your help, speeds up the whole program of farm work—power that decreases production costs and increases farm profits.

And it is the great power and great reserve of power that enables the OilPull to do all ordinary farming jobs with ease and constant dependability and, in addition, to be fully equal to the extraordinary jobs—to work over hills, to operate steadily in toughest sod, to thresh tough, wet grain.

Indeed, it is largely its power—its ability to perform the hard jobs easily—that accounts for the unequaled length of life for which the OilPull is famous.

To all this is added an unequaled record of economy that makes the OilPull cheapest in cost per year of service, despite the mere selling price of any tractor. It is guaranteed to burn kerosene under all conditions. It is oil cooled. Two distinct lubricating systems—mechanical and splash—operating simultaneously, insure positive lubrication.

The Advance-Rumely dealer in your locality will be glad to supply all the information you desire about these or other features of the four sizes of the Rumely OilPull tractors, or about the five sizes of Rumely Ideal threshers. See him or write us.

ADVANCE-RUMELY THRESHER COMPANY, *Inc.*, LaPorte, Indiana
29 Branch Offices and Warehouses

ADVANCE-RUMELY

SOW SALZER'S SEEDS



Pure-bred, clean, plump, fertile seed like Salzer's may cost a trifle more than common seed, but you will have a better stand, more vigorous growth and a heavier yield as a result of sowing better seed.

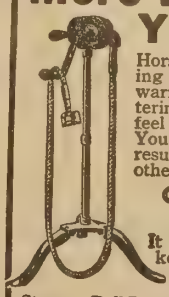
The Salzer Service we maintain at Cliffwood, testing all seed and proving its high standard of germination makes Salzer's Seeds the most profitable you can sow.

We are American Headquarters for Field Seeds; Wheat, Oats, Barley, Alfalfa, Clover, Timothy, Sudan, White Sweet Clover, Billion Dollar Grass, Potatoes, etc.

Salzer's Vegetable and Flower Seeds are guaranteed satisfactory to you in every respect or we will refund full purchase price. Catalog free on request.

JOHN A. SALZER SEED CO.
Box 155, La Crosse, Wis.

More Work From Your Horses



Horses, like people, work according to the way they feel. On warm spring days, horses sweltering under winter coats don't feel right and don't work right. You can't dry them off properly, resulting in colds, stiffness and other horse ailments.

Clip Your Horses This Spring

It will put life into them and keep them fit and ready. Progressive farmers clip their horses in the spring with a Stewart Ball Bearing Clipping Machine. Price $14 at your dealer's, or shipped by us on receipt of $2, balance on arrival. Guaranteed to please or money back.

15% More Wool



This Stewart No. 9 Machine gets 15% more wool than the best hand blade shearing. Shears quickly, does not cut the sheep, and anyone can use it.

Price, complete, $22 f.o.b. Chicago. Your dealer has it, or you can buy from us by sending $2 with order and paying balance on arrival.

Catalog No. 69 shows complete line of hand and power operated machines. Write for it.

Chicago Flexible Shaft Company
Dept. AB150 5600 Roosevelt Road, Chicago



What Father Thought An *Expense* Son Makes An *Investment*

A MIDDLE WESTERN FARMER tills the same acreage that he, his brother and father used to farm. And he makes *more* money.

His father used the implements others threw away—unknown makes—for which repairs were hard to get or unobtainable. To him, farm implements were an expense—one to keep small. The son buys *known* tools—the best. He believes that implements to a great extent determine his profits—that implements are an *investment.*

This year farm profits will depend largely on production costs—hence on implements. Before investing, the careful farmer will ask: "Does the tool mean better, faster work—is it dependable and durable?" Sixty-eight years' experience has served to answer these questions correctly in E-B line of farm tools. In these, your investment is protected. Every E-B tool is made to work when needed, to last many years, to lower production costs — facts attested to by farmers everywhere.

Close study of the farmer's needs has taught us *what* to make—sixty-eight years' experience has taught us *how* to make it.

Emerson-Brantingham Implement Co., Inc.

Established 1852 **Rockford, Illinois**

A Complete Line of Farm Machinery Manufactured and Guaranteed by One Company

Cotton Seed Meal is our specialty



Service is our long suit

Quality is our pride

46 Years In The Line

You are trading at Headquarters when you buy from us. Take the short route and write or wire us at our expense for prices.

F. W. BRODE & CO., Memphis, Tenn.
Estab. 1875 — Inc. 1915.



ROSS' Eureka Corn

These seven cows fed for one year on the product of one acre of Eureka Corn. Yield was 64 tons of best quality silage. Every bag of Ross' Eureka Corn bears our trademark—man holding stalk of corn. We have complete line of supplies for farm, garden, dairy, orchard or poultry. Seeds our specialty. Send for 120-page free catalog. Supply limited; write today.

ROSS BROS. COMPANY
55 Front St. Worcester, Mass.

Washington, D. C., Weekly News

[SPECIAL TO HOARD'S DAIRYMAN]

Washington, Feb. 23—With pressure at high tension to pass necessary appropriation bills, clean the slate of what the leaders call "essential legislation", and get the decks cleared for the new administration, matters of special interest to the dairy industry are not numerous in the national capital this week. The most interest is in the emergency tariff bill, which carries the hardly won dairy schedules and which still has a fighting chance to pass but still less to become law by the President's signature.

The Senate added so many amendments to the bill, that when it came back to the House a vigorous fight was made against even sending it to conference. The attack did not concern dairy schedules in particular, but came from two sources, old line Democrats who began to object seriously to the bill for its antagonism to the revenue tariff principles of that party, and Republicans from industrial sections who claimed that the bill would increase the cost of living and thus increase the difficulty faced by manufacturers in bringing down the labor costs of production of manufactured goods.

The fight lasted nearly all day in the House, where the Rules Committee had offered a rule to send the bill directly to conference, but finally by a vote of 192 to 133 the rule was adopted and the bill has gone to conference. The debate indicates something of the breaking up of party lines, and the attack that an agricultural tariff must face in the coming Congress. The latest news is that the tariff on butter was reduced to six cents, but the other dairy schedules had not been changed.

⚜

The Senate and House conferees are still deadlocked on the Capper-Volstead collective bargaining bill. The chances for any action are exceedingly slim.

⚜

The Banking and Currency Committee, investigating the farmer organizations, held a session on Tuesday and will hold one more on March 1, closing the investigation. On Tuesday last Dr. A. C. True was the principal witness. He told of the activities of the county agents in organizing farm bureaus, stating that this was in pursuance of what the agents found to be their necessities, as they needed organizations of farmers to co-operate with them in their agricultural extension work. They found it unwise, he said, to work with any secret organizations or with commodity organizations, as they needed an organization in which farmers generally were members. He said that the work of organizing farm bureaus was not being actively carried on by county agents at this time, as the American Farm Bureau Federation had its own organizers at work. Representative Wingo of Arkansas questioned Dr. True closely and asked him if he did not find much jealousy from farm organizations already existing. Dr. True admitted that this was true. George P. Hampton followed Dr. True on the stand, and told the committee of the sources of the financial support of the Farmers' National Council. He named three organizations that contributed: the Washington State Grange which paid $900 last year, the Gleaners' Federation which paid $300, and the Michigan Potato Growers' Association which paid $200. The total receipts were about sixteen thousand dollars. Two individuals, E. C. Laseter of Texas and W. L. Kent of California contributed about $7,500. The Plumb Plan league paid in about two thousand dollars and the All-American Co-operative Association more than a thousand dollars. His statement indicated very clearly that no big national farmers' organization except the Gleaners were affiliated with this so-called Farmers' Organization. At the final hearing on March 1, J. R. Howard of the A. F. B. F., and C. B. Smith and W. A. Lloyd of the Department of Argiculture will be witnesses.

⚜

The resolution authorizing the President to invite foreign delegates for a World Dairy Congress in the U. S. next year is on the unanimous consent calendar in the House, but will get more expeditious action in the Senate, where it is to be added to the agricultural appropriation bill as a committee amendment, thanks to the active interest in the project of Senator A. J. Gronna of North Dakota. This appropriation bill was temporarily sidetracked this week to make way for the railroad bill, but will be the next big bill considered.

New York Butter Market

(Continued from page 272)

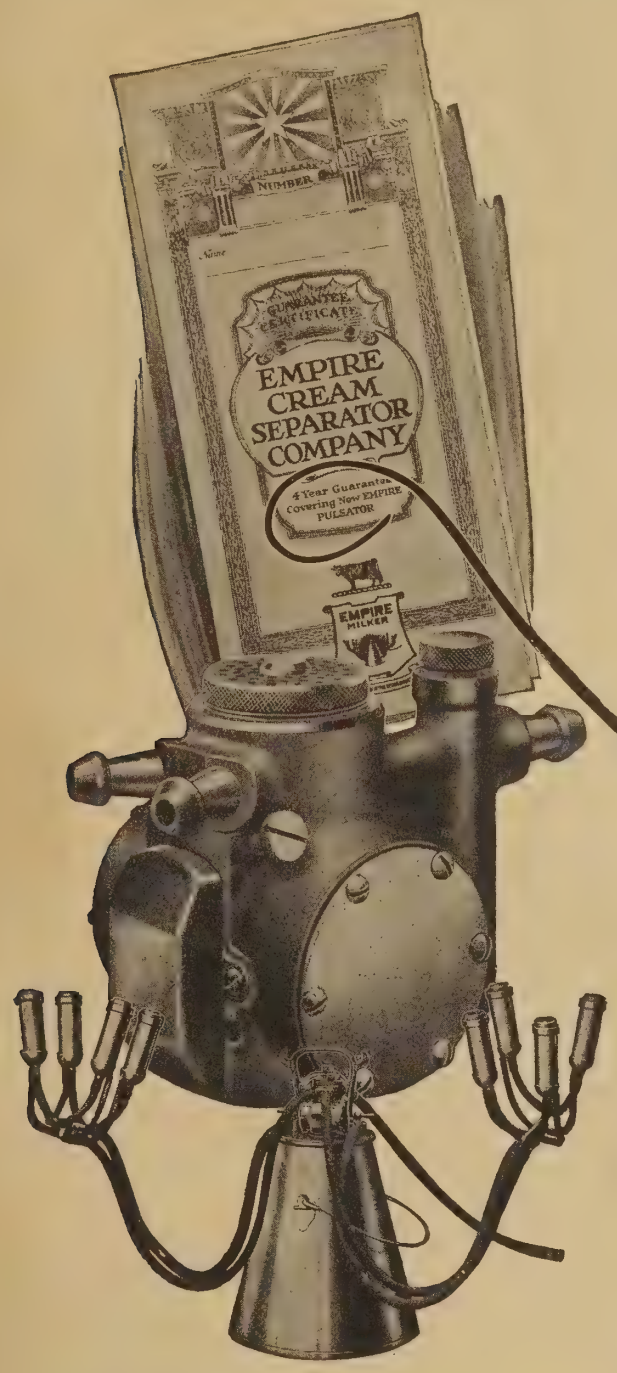
in a sharp clearing up of all available butter supplies in wholesale stores. In addition, out-of-town buyers are here in considerable numbers and are purchasing in large quantities. Receivers would have welcomed the present conditions during January as they were well stocked with large quantities of butter which had been taken to account at comparatively high prices. While those supplies are now absorbed, the holders of them have lost large sums of money.

Except for the arrival of the steamer, United States, on Thursday of last week, with a cargo of 7,940 casks and 100 boxes of Danish butter, there is little of that stock available. Another shipment of about 1,800 casks is expected to arrive today. For the first time in several months, the arrival of foreign butter is welcomed as it will help in a small way to supply the present strong demand. No other Danish butter is on the water at present, nor will there be any shipments for some time as Danish agents are now soliciting orders for the next shipments. The asking prices are 42@43 (c. i. f.), an advance of from four to six cents over the asking prices of two weeks ago. The selling prices of fresh Danish butter are now about 47@48c.

On Monday of last week, the quotation on extras advanced 1c, making the price for that day 45c. On each succeeding day of that week there was a similar advance with the exceptions of Thursday and Saturday, the quotation at the close on Saturday being 48c. Yesterday, there was a further advance of 1c and, as today is a holiday, Monday's quotations are unchanged. They are: Extras (92 score), 49c; higher scoring than extras (93 score or higher), 49½@50c; firsts (90—91 score), 46@48c; firsts (88—89 score), 43@45c; and seconds (83—87 score), 35@42c.

W. B. LIVERANCE.

At Last: A Pulsator with a 4-Year Guarantee



FOR years the Empire has set the pace in the milking machine field—and now it will assume a stronger position than ever before. This Pulsator is the result of our constant endeavor to "better the best."

Even with our years of experience, the best engineering talent obtainable and every possible facility for perfection of design and manufacturing, it has never before been possible to produce a Pulsator which could be guaranteed to maintain absolutely satisfactory service for a period of years. Now, however, by combining a number of well-tried engineering principles Empire has produced a Pulsator in which we have such boundless faith that we are backing it by an unqualified 4-year guarantee.

EMPIRE PULSATOR

Look at the illustration. The Pulsator is simple and self-contained—fool-proof and easy to adjust. All parts are easy to get at. It can be removed from the lid in a second. It is sanitary to the last degree. No slop or oil can get into the milk. Nor can any milk get into the Pulsator.

The fact that we are issuing a 4-year guarantee means more to any dairyman than the most detailed explanation of how the Pulsator works. And, remember that the guarantee of the Empire Cream Separator Company is as good as a bond.

The Empire Milking Machine with the new Pulsator is your opportunity to get increased milk production and reduce operating costs. Write for catalog 1-M.

EMPIRE MILKER
THE STANDARD OF THE BETTER DAIRIES

The "Family Coat of Arms" of the leading line of Dairy Machinery—EMPIRE.

"The Standard of the Better Dairies"

EMPIRE CREAM SEPARATOR COMPANY **Bloomfield, New Jersey**

Also manufacturers of The Separator with The MILLION DOLLAR BOWL

45 Clinton St., Chicago
605 Battery St., San Francisco
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80 York St., Toronto, Canada

EMPIRE MILKING MACHINES

Holstein Breeders' Sale

March 15th-16th

At the Sa

150 of the Best Holsteins

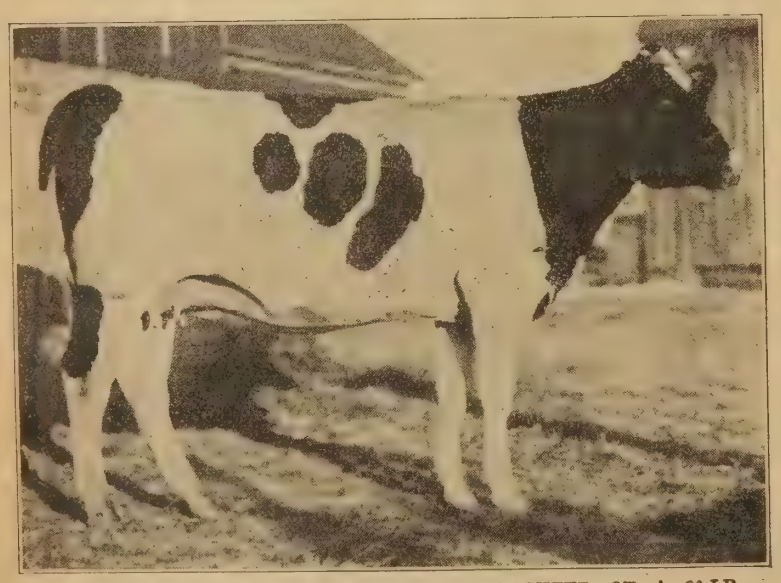
70 Cows with A. R. O. records, 55 bred Heifers, Yearling and Heifer Calves—all out of A. R. O. Dams, 25 Bulls—5 of them from 30-lb. Dams. Also some choice Yearly Bulls



The completely equipped heated



NELSON SEGIS PONTIAC—30.14 LBS. BUTTER, 583.4 LBS. MILK AS A 3-YR.-OLD. SHE AND HER DAUGHTERS TO BE SOLD IN THE FLETCHER HERD



ELMWOOD SEGIS FOBES—2-YEAR-OLD DAUGHTER OF A 30-LB. 3-YEAR-OLD—ONE FROM FLETCHER BROS'. HERD

FLETCHER BROS., WAUPUN, WIS., herd of 55 head includes a 30-lb. 3-year-old and 2 of her daughters, also a 26-lb. junior 2-year-old daughter of a 32-lb. cow and 3 of her sons, one of which is their junior herd sire. This cow is on test at the present writing and has made 31 lbs. and still gaining. Joe Oak De Kol Fobes, the senior herd sire, and 20 of his daughters.

THE W. W. WILLIAMS herd of 30 head is a part of the A. L. Williams Est. This herd includes a 30-lb. cow and her yearling son by King Waldorf Pietje Echo, he out of a 36-lb. cow and sired by a son of May Echo Sylvia. Also 12 of his daughters, two 27-lb. cows and their junior herd sire, Ensign Pontiac the Great, out of a 31-lb. dam.

We will sell two 30-lb. cows, 2 daughters of 30-lb. cows and a 28-lb. 4-year-old due in May to King Segis Pontiac of Rock. Two 27-lb. cows, three 25-lb. cows, one 24-lb., four 23-lb., and ten 20-lb. cows, 4 granddaughters of Caroline Paul Parthenea, a 34-lb. cow with 1,208 lbs. in a year, due soon to a son of King Segis Pontiac Count.

One 2-year-old herd bull whose dam has a 31-lb. 7-day, and a 719-lb. 305-day record. One 28-lb. yearling bull whose dam has 20,000 lbs. milk and 820 lbs. butter in 365 days. One yearling grandson of King Segis Pontiac Count with every dam having a good yearly record.

The cows and heifers are sired by and bred to such high record sires as:

Pabst Pontiac Adonis, 38.43, owned by J. B. Cain.

Pabst Champion Bruno, 37.70, owned by W. H. Bennett.

King Waldorf Pietje, 36.31, owned by Williams Bros.

Pabst Maplecrest Champion, 34.49, owned by C. H. Brugger.

Cleveland Johanna Sir Piebe, 30.62, owned by Tompkins Wright.

Joe Oak De Kol Fobes, owned by Fletcher Bros. & S. M. Randall & Son.

King Agatha Pontiac Lass, 30 lbs., owned by Harvest Farms.

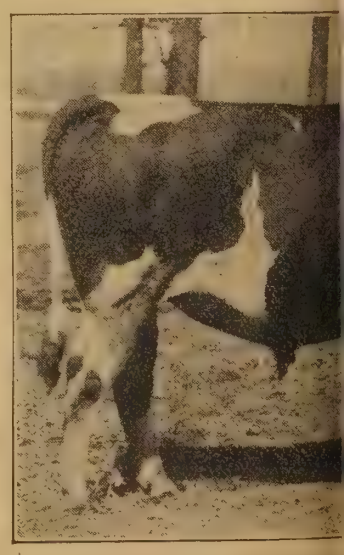
Two sons of King Segis Pontiac Count owned by R. J. Schaefer & S. H. Bird.

Also two sons of "37th", owned by A. G. Oelke & Adolph Otto.

A son of "36th", owned by Peter Hammond & Sons.

Other Consignors—

W. H. Gruhle	H. E. Braatz
W. McRoberts	Merrill Bros.
H. F. Pieper	H. L. Pieper
John Warber	W. H. Wilson
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JOE OAK DE KOL FOBES-GRANDSON OF HOMEST HIS DAUG

We have so many Good Cattle that we can not tell you ab

KELLY, MACK and POHLMAN, Aucti

S. H. BIRD, Sales Manager, -

Company Quality Sale

e Pavilion Fond du Lac, Wis.



avilion where the Sale will be held

Ever Sold in This Pavilion

All Animals over 6 months Tuberculin Tested. Also a 60-day Guarantee given

This Sale Includes the Dispersal of Two of the Best Small Herds in the State

FLETCHER BROTHERS HERD

Is One of the Greatest Small Herds in Wisconsin

It also shows what can be done with a foundation of 3 cows and a lot of hard work in a few years' time, by men who know how.

In this herd of 55 head, every animal has been raised and developed by Fletcher Bros. They can show from 4 to 6 generations from the foundation animals. Every animal of milking age has an A. R. O. record. The herd passed a clean T. B. test in January and will be tested again before the sale. A 60-day guarantee is given.

They have developed a 32-lb. cow who has twice made over 30 lbs. Their consignment includes her 26-lb. 2-year-old daughter.

They will sell their senior herd sire, Joe Oak De Kol Fobes, and 25 of his sons and daughters. He is a 29-lb. son of Fobes Tritoma Mutual D. K. Joe is a handsome individual and his sons and daughters are like him. He has 20 A. R. O. daughters and many more to be tested.

Also the junior herd sire sired by "Joe" and out of Korn. Queen Mutual Segis, 26.08-lb. 2-year-old. She made this record at 2 years and 7 months. This bull and his full brother will be sold. The dam is now on test and has just made 31 lbs. and still gaining. 3 sons in sale.



HER'S SENIOR HERD SIRE, A
R. DE KOL. HE AND 20 OF
WILL BE SOLD

Among the females is Nelson Segis Pontiac that made at 3 years, 586 lbs. milk, 30.14 lbs. butter. With her will be sold her 2-year-old daughter due to freshen, also her yearling daughter.

A 23-lb., 20-lb., and a 16-lb. daughter of the first herd sire, Sir Rose De Kol Korndyke, will be sold.

The second herd sire was King Colantha Korndyke Segis, a son of Johanna McKinley Segis. Seven of his daughters will be sold. Five of them have records over 20 lbs., the best one 26 lbs.

Joe Oak De Kol Fobes, the senior herd sire, was the next sire and of the 20 daughters of this bull to be sold, seven have A. R. O. records, including a 26.21-lb. junior 3-year-old and two 19-lb. junior 2-year-olds.

King Segis Johanna Parthenea, a grandson of "Count", was also used. His 4 nearest dams average 1,000 lbs. of butter in 365 days. Three of his 2-year-old daughters and 4 of his sons ready for service, will be sold. One of them is from a 26-lb. 3-year-old. You will find them exceptionally good individuals.

We lack space to tell of the good things to be offered in this herd. Come and see them, and you will want to own them.



LAUREL CLOTHILDE SEGIS—22.56 LBS. BUTTER, 546 LBS. MILK—
ONE OF FLETCHER BROS'. GOOD ONES



ANOTHER DAUGHTER OF THE 30-LB. 3-YEAR-OLD—AN
11-MONTH-OLD HEIFER

them all. Send for Catalogues and COME TO THE SALE

eers FRANK EVERSON, in the Box

- South Byron, Wisconsin

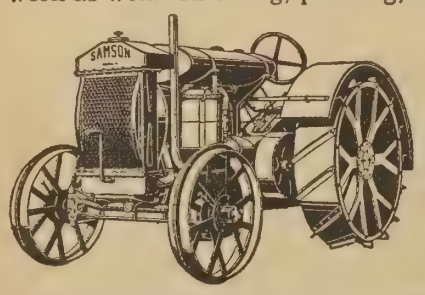
Power Farming Is a Profitable Investment

Nearly two hundred thousand farmers bought tractors last year. This emphatic endorsement of Power Farming shows that it has proved its worth as a sound economic farm investment. Power on the farm protects your capital in land, your present investment in labor, and pays a larger dividend on all of them.

If your farm is power-equipped you will have an added advantage this year. You will grow larger and better crops at lower cost. You will make a profit regardless of the market price *because your decreased cost will have widened the margin of profit.*

The Samson Model "M" is just the tractor you need for this purpose. You can depend upon it to do your work right. It is a tractor with carefully distributed weight and pulling power ideally suited to the average farmer's power requirements.

It is an economical power unit that is easy to operate and use the year round, not only for drawbar but for belt work as well. In tilling, planting, harvesting and threshing of your crops the Samson will deliver unfailing power at the time you need it most



Write for information on Samson Power Farming and its value to you. Learn how much you can save in time, labor and money on your farm.

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Division of General Motors Corporation
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STOP SCOUR

STOP YOUR GREATEST PIG, CALF AND COLT LOSSES

THERE isn't a man raising live stock who hasn't had big losses from Scours in pigs, calves, and colts. Now is the time to insure yourself against this greatest of the breeder's losses.

STOP SCOUR is not an experiment. It is not a theoretical formula prepared in an office for commercial purposes, but is the result of my many years actual practice of veterinary medicine.

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Give DR. STATTLER'S STOP SCOUR to your pregnant dams. Then give it to the offspring after it is born. Small doses will prevent Scours.

STOP SCOUR WILL CURE ANY CASE OF SCOURS WITHIN 12 TO 48 HOURS

STOP SCOUR is an absolute cure. If your pigs, or calves or colts are actually scouring, DR. STATTLER'S STOP SCOUR will cure the worst case. I have never lost a single case from Scours in my private practice.

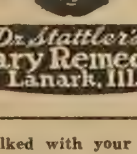
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Larson Presents Butter Statistics to Michiganders

"The United States is the greatest butter country in the world." C. W. Larson of the Dairy Division made this statement before the buttermakers at the recent meeting of the Allied Dairy Interests of Michigan at Grand Rapids in a most informing address on the present butter situation.

Mr. Larson ranked Russia second in the quantity of butter made, one-half of the output being exported; France third with a very small amount exported; Denmark fourth and exporting the greater part of her output; and Australia and Canada fifth and sixth with only a small percentage for export. He showed that the increase in butter manufactured in the United States during the past ten years has been slight, the total in 1920 being about 1,500,000,000 lbs., that the quantity of cheese is about the same as in 1910, and that the output of condensed milk has increased three hundred per cent. According to his data more milk is now being condensed than is going into cheese, and the manufacture of butter takes more milk than both cheese and condensed milk.

World Butter Shortage

There is less butter in the world than at any previous time in fifty years, said Mr. Larson. While the United States has maintained its creamery output, many other countries have netted decided reductions. This country exported slightly more butter in 1913 than was imported; in 1914 the reduction in tariff resulted in a small net import; and since that year the net imports have been substantially increased, the total import in 1920 being 37,454,000 lbs. Of this, 19,937,000 lbs. came from Denmark, 9,235,000 lbs. from Canada, 4,048,000 lbs. from Argentine, 3,061,000 lbs. from the Netherlands, and lesser quantities from other countries, including France, Norway, Sweden, New Zealand, European Turkey, and Germany.

The 1914 importations of cheese were large. From the beginning of the war exports exceeded imports, increasing until 1917, since when they have declined until 1920 when they were only about equal to the quantity brought in.

Imports and exports of condensed milk were about balanced at the opening of the war. Then came enormously increased exports which continued until 1920 when the number of cases sent out was cut in half. From the beginning of 1918 to June, 1919, the rate of export increased 400% and then declined to barely one-seventh of that rate by the end of 1920. Mr. Larson drew his hearers' attention to the fact that during the months of this marked decline, when exports represented fifty per cent of the output, production was not reduced.

World's Trade in Butter

The world's total export of butter in 1913, says Mr. Larson, was 700,000,000 lbs. Of this amount the United Kingdom imported 64.4 per cent and Germany, 17 per cent. Denmark exported 27.9 per cent of the total; Russia, 23.8 per cent; Netherlands 11.3 per cent; Australia, 10.6 per cent; and Sweden, 6.5 per cent. In 1919 the world's export butter business was 54 per cent less than in 1913, and the two largest buyers, the United Kingdom and Germany, took much less than half as much as they purchased in the year preceding the war. Not only is the world producing much less butter than before the war, but, by Mr. Larson's statistics, there is a marked underconsumption the world over, as compared to 1913. The

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Ladies' OXFORDS and SILK HOSE

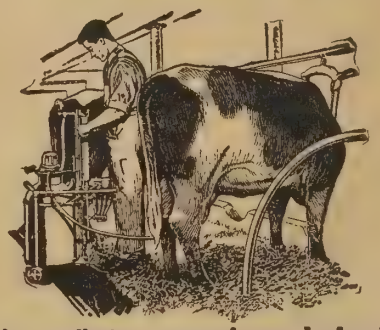
Oxfords are made of strong leather, which will give excellent wear. Have flexible leather sole and sensible Cuban heel. Very stylish. **Colors: Dark brown or black.** Sizes: 2½ to 8. Widths: D and E. The hose are made of fibre silk with double high spliced heel, sole and toe. Upper part is made of cotton with double garter band. Seamless. **Colors: Brown or black.** Sizes: 8½ to 10. One pair of hose with each pair of shoes. Order the shoes as pictured above by No. 60. **$2.98**

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The man with 6 to 16 cows can use this model, never needing a power driven milker. The man with a larger herd can use it to try out machine milking in a small, inexpensive way and **change later to our engine or electric power model.** Hand Power model accepted in trade at almost full purchase price.

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decrease of butter consumption in England of 200,000,000 pounds per year is six times the 1920 importations to the United States. Food control provisions there limit the per capita use of butter to one to one and a half ounces per week. It also fixes the price. March 31 1921, this control ceases and a marked increase in demand for butter is expected. Mr. Larson ventured no prediction concerning probable export increases to Germany, normally the world's second largest butter customer.

Butter Substitutes

In 1894 the United States consumed 70,000,000 lbs. of oleomargarine. By 1902 the yearly quantity consumed was 126,000,000. The tax put into operation that year kept down the increase so that it was only 140,000,000 in 1910. From that year the increase has been great, Mr. Larson's figures putting the total for 1919 at 350,000,000 lbs. and the 1920 estimate even larger.

Mr. Larson indicated the great need of agents in foreign countries to furnish the markets of the United States with information on foreign butter production. He showed that imports have depressed prices far more than their quantity justified because of the uncertainties of foreign conditions.

The need for improved quality in domestic butter was proved by prices quoted from markets where the imported product outsells much of it. Mr. Larson gave this as one of the important price factors demanding the buttermakers' immediate attention.

Discussing the influence of foreign exchange in butter importations to this country, data was presented showing that a tax as large as in the proposed emergency tariff would still have netted Danish exporters a profit throughout 1920.

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7 cows and 3 heifers, due to freshen from April to October. 2 open heifers. All tuberculin tested. Farmers' prices, $200 to $400. We offer these animals because of crowded conditions in our barns. We must make room.

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Another Good Young Bull

A son of Hester Aaltje Cornucopia, 24-lb. 3-year-old. His sire is King Pietje Alcartra Pontiac. His 7 nearest dams average 32.19 lbs. butter in 7 days. This fellow is a mighty good individual. He was born March 11. Write us about him.

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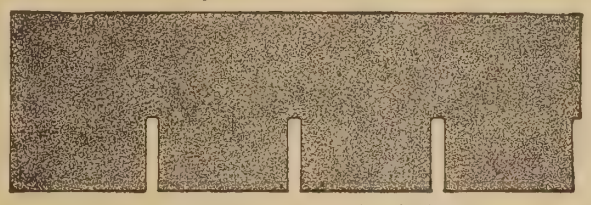
"DUKE" The only place you can buy sons of serviceable age sired by DUKE PIETERTJE KORNDYKE ORMSBY

The bull selling at the last Minnesota state sale for $33,000.00 is from the herd where he stood for three years prior to the sale. "Duke's" dam now has three records above 1,000 pounds, the last one was 1,190 pounds.

Now is the opportune time to buy one of these bulls as their sisters will be given every opportunity. Get a son now and be in line. Clean bulls from a clean herd. Prices reasonable. Write

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Easier to lay; made in red or grey-green slate surfaces. Size 10x32 inches; 112 strips to the square.

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Especially recommended for use over old wooden shingle roofs. Made in the Cut Shingle design and the Square Butt, as indicated. The designs are embossed in black over surfaces of unfading red or grey-green slate.

Both designs may be purchased in either color, and in the Vertical or Horizontal style. The Vertical style is made especially for covering old wooden shingle roofs.



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Contains the same extra strength and wearing qualities as MULE-HIDE Smooth Finish Roll Roofing with the added advantage of its slate surface. In red or grey-green; Heavy, weight 90 lbs. per square; Extra Heavy, weight 115 lbs.

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Makes good, tight roofs for farm buildings, dwellings, industrial buildings—in fact, any building with a sloping roof. May be purchased in three different weights—Extra Heavy, 60 lbs. per square; Heavy, 50 lbs.; Medium, 40 lbs. Directions for applying, together with Nails and Cement, are packed in each roll of MULE-HIDE Roofing.



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"The value of a dollar depends entirely on the thing it buys."

The cost of roofing is measured by its durability.

MULE-HIDE Roofing is not just a roof covering, it is a permanent protection, made durable by its inbuilt goodness.

There are no half way qualities in MULE-HIDE construction; its component parts are up to the highest standard.

"Not a Kick In a Million Feet"

applies to MULE-HIDE Roofing after many years just as it does the first year, and it is this condition that makes MULE-HIDE the least in cost per years of service.

Buy years of protected satisfaction. Buy permanent protection, not just a roof covering. Go to your lumber dealer and insist on MULE-HIDE.

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HOARDS DAIRYMAN JUNIORS

A DEPARTMENT FOR THE DAIRY FARM BOY

The Story of My Pig

HOARD'S DAIRYMAN JUNIORS:—In school, we have an agricultural department and all who take this work must perform some project during the summer. So I decided to raise a pig. I had heard that one pig alone would not do well so I took two. Many farmers have said that there is no money in raising hogs or there is no money in buying feed for them. I thought this would be a good chance to find out if these statements were true.

I took two little pigs of my father's, weighed them and then penned them up alone. I named the one I am writing about Charlie because often when he was out in the pasture he would start pulling a weed and then he would dance about almost like Charlie Chaplin in some of his funny shows. I selected a Duroc because we have this breed.

Green grass is important in raising hogs because it acts as a filler in the stomach when concentrates are being fed and it also acts as a laxative, a thing which all hogs need when being fed heavily. Pure water also serves as a laxative. At first my pig drank about eight quarts daily and at the close of the period he drank almost sixteen. When I weighed him, he was driven into a crate and both were weighed together and then the crate was weighed separately.

I mixed the swill and measured the corn and each was fed separately. He always drank the swill first and then he would eat the corn. I fed him morning, noon, and night right after my own meal. At first he got quite a little skimmilk, some oil meal, tankage, grist, and corn. The grist was made up of one-fifth ground corn, one-fifth ground barley, and three-fifth ground oats. I slowly decreased the milk and increased the corn until about the middle of July. Then I slowly quit feeding corn but kept on feeding some milk. When I quit feeding corn, I also stopped feeding oil meal and tankage. I then only fed him swill made of a small quantity of milk, plenty of grist, and water. I used to spend some time watching him eat and in scratching him. He became so tame that he would follow me about the pasture or any other place. My father also enjoyed petting him. My teacher occasionally visited me and gave me some advice and a few facts I obtained from my father. The rest I got out of our text book, "Feeds and Feeding". One day I spent at the county fair and I saw a full blooded pig that weighed 250 lbs. and he was only six months old. While there I learned that pigs should have somewhat long legs, large bones, and arched backs to make good show pigs. Well bred pigs look better, make faster gains, and also cheaper than scrub pigs.

Next year I intend to feed two more pigs and feed them from a self feeder to see if they will make more economical gains than those fed by hand. I have learned that a pig will make faster gains and cheaper gains when fed a balanced ration than on any other and that the quicker a hog is fattened after he is well grown, the cheaper the cost of the gain.

A boy who is wide awake, and interested in what he is doing, who is willing to try new methods, to experiment in feeding and caring for a pig makes a good pig club member.

Wisconsin. HENRY ACCOLA.

HOARD'S DAIRYMAN JUNIORS:—I am a pig club member because I am interested in pigs and have always liked to care for them. Through our county agent I was able to get a pure-bred sow from which my two pigs sprang. They have not yet been named as I have not sent for their papers. They are both for sale for breeding purposes and they will be named when sold with the papers.

I selected this breed through the advice of my parents as I could not get my favorite breed, the Hampshire, but I am beginning to think that the Duroc is as good a breed as any. I believe that pasture and green feed are very important in hog raising and I could mark from the very beginning the progress my pigs made when I began to pull weeds for them. I did not have a pasture for mine to run in that had much feed in it, so I had to cut the feed elsewhere and haul it to them.

Water is also a very important item in pig raising, so I gave them all they wanted to drink at all times. I weighed them once a week until they weighed 25 lbs. and each day they gained a half pound. Then I had to let them go as to the weighing until the end of the period. This was because I had no large scale. I fed them three times a day; in the morning corn and soaked barley and at noon swill made of ground barley, and at night the same as in the morning. At noon they also got whatever green feed I had for them. I spent some time playing with them and washing them and they soon became great pets. Mr. J. M. Coyner, our county agent, visited me and told me how to feed them and take care of them.

Pure-bred pigs are a great deal more profitable in a good many ways, and I figure it does not cost any more to keep a good hog than it does a scrub and the profits are sure to be larger in the end. And, oh, the joy of going to the fairs and more still if we are able to win the prize! As yet, I have made no plans for another year in the club work, but will be there I can assure you.

I have learned this much, that if one wants pigs that are worth while, he must keep them moving all the time and it surely takes a boy who is interested to make a good pig club member.

Wisconsin. LEROY CARLESON.



BROUGHT UP FROM THE VERY BEGINNING

Harford County Calf Club

This is the first year Harford County, Maryland, has had a calf club, though one-seventh of all the club members in the state come from this county. The county agent, B. B. Derrick, and his assistant, W. C. Snarr, with the aid of Louis Merryman and Herbert Hoopes, bought the Guernsey and Jersey calves for the members.

The meeting of the club was held on Saturday, January 22, in Bel Air. The officers elected for the coming year are: president, Edwin Preston; vice-president, Albert Ady; secretary, Richard Wills; and treasurer, Kenneth Wilson. A committee composed of Roland Davis, Albert Ady, and John Joesting were appointed to draw up a constitution and by-laws. The meeting was then adjourned to meet on Saturday, February the 19th.

The members started to keep records of their calves on the first of February. Monthly report sheets are kept by the boys and sent to the county agent's office at the end of each month, so a good line may be kept on the member's work.

The calves are of good breeding, and of the same blood lines as the best stock in the county. There are thirteen Jersey calves, sixteen Guernseys, and six Holsteins.

Harford County sent her best pigs in the boys' and girls' club to the Maryland State Fair at Timonium and won practically all of the prizes. That is what she expects to do in the calf club this year.

RICHARD WILLS, Secretary.

Junior Likes Agriculture

HOARD'S DAIRYMAN JUNIORS:—It has been a long time since I have written to you, but seeing that I now have a vacation from my school work, I will take the time.

We have just sold our capons. They averaged over seven pounds apiece and brought forty-eight cents a pound. We sold sixty-eight of them. Mr. Archibald, our teacher of agriculture, and I caponized them in June. We had very good luck with them and this summer I expect to caponize some myself.

We have thirty-seven head of cattle, but at present we are only milking thirteen of them. Fourteen of the others will freshen in the spring. The remainder consists of young heifers.

Our chickens are doing fine now. We are getting from 38 to 50 eggs a day and are selling them for 85c per dozen. We are feeding them a balanced grain ration and also chowder and they are certainly laying the eggs.

I am 15 years old now and am in the tenth grade in school. We have agriculture taught to us now and I surely do like it. We went to Trenton Fair on a field trip and we have taken several other short trips also. I like agriculture the best of all my subjects, because it is the only one that has to do with farm life.

I have two large Holstein heifers and am enclosing a picture of the largest. This was taken when she was two years and three months old. Her name is Lily and I think the world of her. But she thinks more than the world of me, too. My other heifer's name is Bessie. She is about two months younger than Lily.

New Jersey. ROLAND R. RENNE.



ROLAND RENNE AND ONE OF HIS HOLSTEIN HEIFERS

The Story of My Dairy Calf

HOARD'S DAIRYMAN JUNIORS:—I started the dairy calf contest work last spring. E. M. Gillig, teacher of agriculture at Sauk Center, got twelve boys in our neighborhood interested in it. I think we have a very good breed of dairy cattle at our place, and I am very interested in them. They are the Brown Swiss. I think they are the coming dairy breed; because they are so hardy and easy to keep, and give a large amount of milk, too. It is rich and well flavored. And they have a good quality of meat also, for being a dairy breed. So when the other boys were going to show how good the calves of their different breeds are, I made up my mind that I was going to show the rest of the fellows that I could do the best with my Brown Swiss.

I got my calf from my father. He and I work together on the whole



HENRY GABRIEL OF WISCONSIN AND HIS PURE-BRED BULL

herd, and I got a calf from him by working for it. He let me pick the calf I wanted, the little heifer calf from our good old cow, Believe, who was grand champion at our County Fair over all breeds in 1919. The name of our farm is the Farview Stock Farm, and I had my calf registered and called it Dorothy Believe of Farview. Dorothy was born July 24, 1919.

On April 16, 1920, my calf weighed 476 pounds. I started my feeding and my records from that day. We took a picture of Dorothy the day the contest started. She was a very nice, smooth calf, and showed very good type.

Then I started to give my calf pretty good care and careful feeding. I would often blanket her, and have always cleaned and brushed her, and kept her in a condition so that she was fit to show to visitors at any time. I kept an account of the feed she ate. She got bran, ground oats, oil meal, and slough hay most of the time. Here is about what her feed averaged by the month: 50 to 60 lbs. bran, 50 to 60 lbs. oats, 9 to 10 lbs. oil meal, and some slough hay, about 3 or 4 lbs. a day. She didn't get any skimmilk. She was in the pasture quite a bit of the time also. In the month of October we began to feed her some silage, about 8 lbs. a day.

In September my father took some of his herd to the state fair, and took Dorothy along. Down there she won the blue ribbon in her class, and there was some strong competition, too. The next week was our county fair and we took our stock to the Stearns County Fair also. Here my calf won the blue ribbon in her class, and Mr. McGuire, the judge, said my calf certainly was an excellent animal. I had her so she would stand the way I wanted her to and would lead well. I did lots of training on her and she was very gentle.

When the calves in the dairy calf contest were led in the ring, Mr. McGuire gave my calf the first prize, and, when Mr. Gillig figured up everything, my calf was the winner She is in fine shape. I groom her every day and blanket her.

This was a very interesting year for me, even if I did work hard. I spent a lot of time on my calf and I also worked on the herd right along with Dad. We did some official testing and I helped with that. I have learned how to raise calves, and also about handling the herd. I think official testing is a good thing, too.

Minnesota. GEORGE MINETTE.

Junior Letters

Hoard's Dairyman Juniors:—I am thirteen years old and in the eighth grade. I live in the beautiful blue grass region of Kentucky. The country is rolling and fertile. My home is about one-half mile north of Taylorsville on a hill. Taylorsville is in a valley at the junction of Salt River and Brashers Creek. The "L" and "N" railroad runs through the town.

Our farm, which is situated on the creek, consists of 66 acres of limestone soil. Twenty-four acres is bottom land and the rest is fine blue grass hillside. We had a fine crop of corn and tobacco this past year. We have six pure-bred Jerseys which will be fresh in a month. We also have two mules, two colts, and a driving horse. Mother has about 100 pure-bred White Wyandottes. I have a pair of White King pigeons and another pair of Blue Barbed Homers. We also have a dog and several cats. Will some of you juniors write to me? My address is Taylorsville, Ky.

Thompson Durall.

Hoard's Dairyman Juniors:—If you will permit me, since I have read the article published over the signature of D. M Green in Farmers' Bulletin 1114, I would like to give you my experiences and ideas relative to roup and chicken pox. I am a raiser of poultry and have been for 40 years. In my earlier days my hens used to be bothered with both of these diseases and I have lost many birds with them. But since I have learned the true cause of them, I have not had a single case of either in my flock.

Roup is caused by chickens roosting in drafts. Build your hen houses facing the south [illegible] g all the other sides closed. Then the south side and you will have neither roup nor sore head. The latter disease is caused by mosquito bites here in the South. Limber neck is caused by maggots lodging in the neck of the affected bird. Do not allow your flock to eat decaying meat and you will not be troubled with this disease.

Texas. C. D. Poole.

Hoard's Dairyman Juniors:—We have six cows and we have twenty acres all seeded with clover and grass. I am in the sixth grade. It is only a small school and only a few scholars. I like Jersey cows the best of all. We have two Jerseys and the rest are Holsteins. We are getting ten gallons of milk a milking. Most of them are all fresh just a week or two.

Washington. William Bower.

Hoard's Dairyman Juniors:—In looking over the Junior Page a week or two ago I saw the article you put in about facts when writing to the Junior Page, and I read it over very carefully.

In your letter you said that you thought it would be better to buy a calf and raise it to be a cow. I think so, too, and have thought of buying a calf many times, but have never done it yet, but plan to soon.

I am going to Madison high school this year and like it fine. I am taking four studies. They are as follows: Commercial Arithmetic, General Science, Algebra, and English. I like them all. We have been taking tests this week. There are about 200 students in our school and seven teachers.

We are milking eight cows now, and are making from 35 to 40 pounds of butter each week.

I am using my brother's typewriter to write this letter for the Junior Page.

I wish some of the juniors would write to me. My address is R. F. D. No. 1, Madison, Maine. Wilbur J. Ketchum.

Hoard's Dairyman Juniors:—We are living on an 80-acre farm. We have about 40 acres clear. This land is best for grasses such as timothy and clover. Blue giant clover grows from four to five feet high. Grain of all kinds grows here and is always first class. Everybody around here likes this land for it gives such good crops. Our cows have clover all year round in pasture but sometimes they blow up. We have seven cows at present. They don't milk very much because they will freshen soon. But in summer they each give six gallons a day.

I also have three Belgian hares and they grow fine.

Minnesota. Frank W. Urianek.

Hoard's Dairyman Juniors:—My father has taken the Hoard's Dairyman for several years and we like it very much.

I live on a farm of 160 acres, all of which is under cultivation except about 10 acres of maple timber. We have 20 head of high grade and registered Holstein cattle, but are only milking 8 now. We also have 6 horses, 15 hogs, and about 60 Rhode Island Red chickens.

I am going to high school now for my second year. We have a fine school of nearly 400 pupils, I enjoy my school work very much and like my teachers very well. I wish some of the juniors would write to me. My address is Box 699, Carson City, Mich.

Robert Bollinger.

Hoard's Dairyman Juniors:—I have some Belgian hares. I keep some of them in the corn crib. The rest I have a pen for. I feed them corn, oats, carrots, beets, and milk in the morning. At night I give them oats and water and make sure they always have plenty of hay. Now a word about dad's stock. He has 17 head of pure-bred Holstein cattle: five heifers, 11 cows, one bull.

Minnesota. John Crumb.

Hoard's Dairyman Juniors:—We had three weeks' vacation in our school as our teacher was sick. There are five of our pupils going to write for diplomas. I am one of them. There are 17 pupils in our school and we expect another one soon.

We are milking 9 cows, 8 of them are fresh ones. We have a cow that had twin calves Saturday morning. Both of them are females. We have 38 head of stock in our barn.

Wisconsin. Theodore Lehmann.

Hoard's Dairyman Juniors:—I live on a 120-acre farm on Big Foot Prairie, Ill., and am a Freshman in Harvard high school. We keep 31 head of stock, 15 of them are cows. We weigh our milk and test it. We also keep 5 draft horses. We did keep Duroc Jersey hogs but did not like them and are going back to the Poland Chinas.

My brother and I are raising a Holstein calf. She is 2 months old and weighs about 200 pounds. She has a fine udder and bears the signs of a good milker.

My mother keeps 85 Plymouth Rock chickens. I raised White Pekin ducks this year. One young drake weighed 8½ pounds. I like all kinds of poultry, pigeons in particular. I keep about a dozen pigeons and a pair of Red Homer and a pair of White Homer doves. If any of the juniors keep doves or are interested in them I wish they would write to me. My address is Route 3, Walworth, Wis.

Perry Goranson.



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Holstein heifer and bull calves. Pure-bred, registered and high grade. Splendid individuals and breedings. Delivered to you, $25 and up. Your inquiry will be given our best attention. BROWNCROFT FARMS, McGraw, N. Y. 5*

I have usually 100 head of registered and high grade Holsteins on hand for sale. Also registered and imported Percheron and Belgian horses. RALPH HUDSON, Milton Junction, Wis. 12

For Sale—At Elmwood Stock Farm, high grade Holstein cows, fresh and springers, by the carload. JOHN MURPHY, Mukwonago, Wis. 3*

"The Willows" offers fifty high grade Holstein cows for sale. S. D. SHAMBEAU, Waupaca, Wis. 12*

High Grade Holstein heifer calves, two to four weeks old, from tuberculin tested herds, $30 each, crated. Will ship C. O. D. WAUKESHA CO. HOLSTEIN-FRIESIAN BREEDERS' ASSOCIATION, Waukesha, Wis. 9*

High Grade Holstein and Guernsey calves. $25 crated. Safe delivery guaranteed. BROWN & COLLINS, Lima Center, Wis. 16*

Serviceable grandsons of Lola Segis Pontiac Homestead for sale, he a 34-lb., 1,000 lb. son of Piebe Laura Ollie Homestead King. Their dams are daughters of Joe Oak De Kol Fobes. Well grown, good individuals. Your choice, $150. R. W. MEAD, Stillwater, Minnesota. 10*

High Grade Holstein calves 6 to 8 weeks old, $30.00 each. We pay express and ship C. O. D. SPREADING OAK FARM, Whitewater, Wis. 11-tf.

For Sale—30 high grade Holstein milkers and springers. Will sell one or all. FRED JOHNSON, Waupaca, Wisconsin. 23*

Closing out herd of grade Holsteins, $100.00 each. H. A. KUHTZ, Waukesha, Wisconsin. 24*

You take no chances when you order your Holstein heifer calves from me as I ship C. O. D. and pay express. Also a few real producing cows cheap. E. F. THOMAS, Oconomowoc, Wisconsin. 26-8

For Sale—My entire herd of choice high grade Holsteins, mostly bred to and sired by thirty-pound bull. There is one full load of the best large heifers in southern Wisconsin, uniformly marked, about three-fourths white. C. L. SIMMONS, Belmont, Wis. 1*

Baby Bulls—Registered Holstein-Friesian by high class sires and heavy producing dams. Price is right. C. S. MULKS & SON, Whitewater, Wisconsin. 3-*

Holstein bull, ready for service, 2 dams averaged 106 lbs. milk 1 day, 40.67 lbs. butter 7 days, $200. Terms. ROY HARRIMAN, Appleton, Wisconsin. 5-6

Yearling bull for sale. From 19-lb. 3-year-old dam. Homestead Junior De Kol breeding. First check $150 takes him. ALBERT C. WOLLIN, Johnson Creek, Wisconsin. 5*

Good serviceable bulls, some good heifers at prices that are right. We are breeders, not dealers. We always satisfy. DATE HOLSTEIN FARMS, Baroda, Michigan. 5-4

Holstein bulls, 8 to 12 months from 30-lb. sire, King Korndyke breeding. Tuberculin tested. A. R. O. dams. $125.00 to $200.00. Also Waterloo Boy tractor, good as new, $625.00. G. A. UITDENBOGERD, Rosemount, Minnesota. 6-3

Holsteins—37-lb. herd sire, young bulls, cows, heifer calves. PHILIP LEHNER, Princeton, Wisconsin. 6*

Public Sale—March 26, 1921, at Frederick, Md. 35 registered Holsteins, horses, mules, registered hogs, farming implements. H. H. SWOMLEY. 6-3

Shipped C. O. D.—Anything in Holsteins. Registered bulls, $35.00. High grade heifers, $20.00. Real calves. RAY McFARLAND, Route 7, Watertown, Wisconsin. 6-2

Grade Holstein cows in carload lots and 4 registered bulls for sale. W. R. GATES, Fort Atkinson, Wisconsin. 6*

Registered and high grade Holsten calves, either sex, at farmers' prices. CITY LIMITS FARM, Watertown, Wisconsin. 6-4

I don't want your money until you see my calves. I offer beautifully marked, high grade Holstein heifer calves at almost veal price. Registered bull calves $35.00. I ship C. O. D. and if calves don't suit don't pay for them. Safe delivery guaranteed. J. M. McFARLAND, Watertown, Wisconsin. 6-4

Great Public dispersal of registered Holsteins on March 18, 1921, Linside herd, 100 head must be sold as the farms are sold and going out of business. Herd bred from 30-lb. sires and A. R. O. cows; wonderful individuals; great opportunity to get the best of fifteen years' careful breeding, Korndykes, Pontiacs, and Rag Apples. See large advertisement, page 292. Send for catalogue. W. B. WICKERSHAM, Embreeville, Pennsylvania. 6-3

For Sale—Seventeen Holstein cows. Six pure-bred and eleven high grades. ROBERT G. COYNER, Lyndon, Ohio.

A chance of a lifetime to get this kind of a bull at a reasonable price. Pabst Korndyke Pietertje. Four years old. Sire, 39 lbs. Dam, 26 lbs. If interested write for full particulars. H. A. JOHNSON, Superior, Wisconsin.

For Sale—Holstein bull Quirinus Pel Gerben No. 240404 H. F. H. B. Three years old. Guaranteed good breeder. Bred by Occoneechee Farm and out of 7-gallon dam. First check for $100.00 gets him. G. A. RIGGS, Apex, North Carolina.

A bargain—Holstein bull ready for service, very nicely marked, by a 22-lb. son of King Segis Pontiac Count, over 10 months of age. Worth $200.00, but will sacrifice for $90.00. Satisfaction guaranteed or money refunded. LITTLE RIVER STOCK FARM, Oconto, Wisconsin.

For Sale—A fine lot of Holstein bull calves from two to six months old, from two sires, both of which are from world's record dams. All of these calves are from tested dams. From $150.00 to $600.00. Send for extended pedigrees. PAUL REED, Oconomowoc, Wisconsin. 7-3

For Sale—Two excellent bull calves, three months old, well marked, and good individuals. Sired by a grandson of King Korndyke Sadie Vale. Heavy producing dams. Pedigrees ready. Price $100.00. Under Federal and State supervision. HILLCREST FARM, Dicken & Son, Fostoria, Ohio. 7-2

Alfa Valley Stock Farm offers three Holstein bulls 15 months old from yearly record dams. Photos and pedigrees furnished. R. SCHUSTER, Oregon, Wisconsin.

High grade Holstein heifer calves, three weeks old, $18. We ship C. O. D. subject to inspection. YOHN FARM, Watertown, Wisconsin. 7-5

Registered Holstein bull calves from 4 to 10 months old. Sire's dam has a record of 36 9-10 pounds butter in 7 days. Price each, $100.00. PETER NISSEN, St. Onge, Lawrence Co., South Dakota.

Registered Holstein heifers, summer and fall calves, $125.00. Young calves, $100.00. Liberty bonds or cash. E. A. FOTH, Sparta, Wisconsin. 7-2

A high class Holstein herd for sale. Rich in Ormsby blood. Seven-day and yearly records. Write BOX 674, care Hoard's Dairyman. 7-2

STOCK FOR SALE

For Sale—Three pure-bred Holstein bull calves from tested dams. Sire is a 22-lb. grandson of the sire of Iowana Sir Ollie. Price $100 each. Write for photos and pedigrees. Herd tuberculin tested. PAUL T. STOECKMANN, Reedsburg, Wisconsin.

High grade Holstein calves, either sex, $20.00. Registered bulls, $35.00. Registered heifers priced to sell. Shipped C. O. D. safe delivery guaranteed. PAUL McFARLAND, Route 7, Watertown, Wisconsin. 7-4

If you want pure-bred Holsteins, write BOX 675, care Hoard's Dairyman. 7-2

If you want to buy a Federally tested pure-bred Holstein herd or part of a herd, write BOX 673, care Hoard's Dairyman. 7-2

A 30-lb. Holstein show bull ready for service. 33-lb. sire, Dam—a show cow, will be tested in March. A 1,000-lb. prospect. Price $1,200. Buy this bull before price increases. Write BOX 672, Hoard's Dairyman. 7-2

Holstein Dispersal Sale March 7th, thirty head. Princess of Orange, 16,357.5 milk, 675.7 butter, 365 days. Official. Heavy with calf Pontiac herd bull. Great foundation cow. Pontiac herd bull, A. R. O. dam, 15,400 milk, 365 days, 25 lbs. butter, 7 days. Great two-year-old. Another large pure-bred cow A. R. O. dam. Heavy with calf Pontiac herd bull. Eighteen high grade Holstein cows, some heavy with calf, big milkers, and seven yearlings. GUSTIN & MORRISON, 1½ miles west Keystone, Indiana.

Guernseys for Sale—Members of the Ohio Guernsey Breeders' Association own more than 2,000 registered females. Also some of the finest bulls of the breed. Think of the progeny that results each year. Write for sale list of males and females. OHIO GUERNSEY BREEDERS' ASSOCIATION, Box 602, Sylvania, Ohio. 4*

My entire herd of grade Guernseys for sale. Also a few choice heifer calves at $30.00 delivered. SHADY HILL FARM, Whitewater, Wis. 23*

Guernsey heifer calves. Can ship you 10 at once about 4 weeks old. Calves out of my own herd, so know what I am shipping. $30 each crated. F. O. B. Waukesha. WERN FARMS, Waukesha, Wis. 18*

George-Washington Farms' Guernseys. Choice young bulls of serviceable age. GEORGE-WASHINGTON FARMS, Mankato, Minnesota. 19*

Guernsey bulls of May Rose breeding with records up to 700 lbs. fat in B. B. Beautiful heifers (grades) in calf, also few Holstein springers. H. A. KUHTZ, Waukesha, Wisconsin. 19*

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For Sale—Registered Guernsey bull calves, good producing dams at farmers' price. OTTO KRUEGER, 427 East Broadway, Toledo, Ohio. 24*

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For Sale—Yearling Guernsey bulls, May Rose breeding from A. R. dams, good individuals. ROY BURTON, Eagle, Wisconsin. 5-spl

Accredited Guernsey Bulls—Best breeding and records. Ask for sale list. GUERNFALFA FARMS, Peebles, Wisconsin. 4-5

For Sale—Two May Rose Guernsey bulls, age 4 months. Sired by Langwater Frenchman, a half brother Ne Plus Ultra. Dams' Advanced Registry records 710 and 660 lbs. fat. HOMER RUNDELL, Livingston, Wisconsin. 4*

Registered Guernsey bulls and heifers. FAIRVIEW FARMS, Brodhead, Green County, Wisconsin. 2-9

For Sale—Registered Guernseys. Both sexes. Herd under Federal Supervision and free from disease. CLOVERNOOK FARM, Whitefish Bay, Milwaukee County, Wisconsin. 6-10

Guernseys—Registered males and females, all ages. Breeding and type unexcelled. Grade cows, yearling heifers, heifer calves. No better quality anywhere. Tuberculin tested. Prices reasonable. Why not buy through an association and from breeders in the business to stay? Write your wants today. F. E. FOX, Secretary Waukesha County Guernsey Breeders' Association, Waukesha, Wisconsin. 6*

For Sale—May Rose Guernsey bulls, one month to eighteen months old from accredited herds, some with A. R. dams. Write for particulars. JULIUS STENBERG, Withrow, Minnesota. 6-2

Registered Guernsey bulls and females. Bulls of Advanced Registry breeding, $100.00 and up. Herd Federally inspected. HELENDALE FARM, Athens, Wisconsin. 7-5

To make room for pure-breds, ten or more choice grade Guernsey young dairy type cows and heifers, due soon or milking. Reasonable prices. QUINEILO FARMS COMPANY, 297 East Water Street, Milwaukee, Wisconsin.

3 Registered Guernsey heifers for sale, coming two years old. Daughters and granddaughters Imp. Clara's Sequel and from A. R. dams. Bred December to Langwater Frenchman. Federal Accredited herd. HOMER RUNDELL, Livingston, Wisconsin. 7*

Ayrshire bulls from one to twelve months old. Also heifer calves. A. R. O. breeding. HERMAN HIDE, Neenah, Wisconsin. 5-spl

For Sale—Several choice young pure-bred Ayrshire cows. DAVID W. WILLIAMS, Lake Forest, Ill. 7-4

Ayrshires—Yearling bull, grandson of Hobsland's Masterpiece Imported, Grand Champion Scotland, U. S. and Canada from dams imported from Canada, best breeding. BRACKENFELL FARM, Lombard, Illinois. 7-2

Brown Swiss bulls of serviceable age. A. C. BOODY, Hudson, Wisconsin. 4*

Jersey bulls—Two registered yearlings. Excellent individuals, Raleigh blood, Register of Merit dams. Reasonably priced, Federal supervision. Send for pedigrees. RAVINE FARM, Highland Park, Ill. 6-2

For Sale—Herd of nine grade Jersey cows and four heifers, one registered bull. Cows have been in test association past year. Five cows and four heifers, spring fresh. Price $1,200. Write for further description. EDW. H. CONROW, Flushing, Ohio. 7-2

STOCK WANTED

Wanted—Lists of registered and grade Holstein cows and heifers for sale. Report to any bank in Wisconsin or write to BANKER-FARMER EXCHANGE, 1822 Chadbourne Ave., Madison, Wisconsin. 7-spl

Wanted—Ayrshire bull calf. A. R. cow. Federal tested. $100.00 delivered to Monmouth. ZENAS SPICER, Monmouth, Illinois.

A herd of pure-bred Holsteins, high class individuals with good udders, priced reasonably. Tuberculin tested and bought subject to 90-day retest. Write BOX 676, care Hoard's Dairyman. 7-2

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Registered dairy cattle bought and sold. EDWARD A. WALTER, 111 Monroe St., Chicago. 18*

Will buy for you, dairy cattle of any breed, grades or pure-bred. DAVID W. WILLIAMS, Lake Forest, Illinois. 6*

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German Shepherd, airedales, collies, and old English Shepherd dogs. Brood matrons, puppies, farm helpers. 10 cents for instructive list. W. R. WATSON, Box 520, Oakland, Iowa. 20*

Shepherd Pups—Heel working parents. FAIR OAK FARM, Norwood, Minnesota. 5-6

Buy Shepherd police female, $75.00. We buy all pups you raise, $25.00 each. Send 10c stamps for information. LONG WORTH KENNELS, Waterloo, Iowa.

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Duroc-bred gilts and boar. Prize winners. PHILLIP LEHNER, Princeton, Wisconsin. 5*

O. I. C. pigs, born November 27, 1920. Either sex. HOWARD B. BINKLEY, Safe Harbor, Pa. 6-2

Three registered Berkshire boars, born May 21, 1920; fine individuals, best breeding, $25.00 each; also two bred gilts not registered, due in May, $25.00 each. Crated f. o. b. Thiensville, Wisconsin. QUINEILO FARMS COMPANY, 297 East Water Street, Milwaukee, Wisconsin.

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Baby chicks, quality first. Pure-bred, bred-to-lay from free range flocks. White Leghorns, Buff Leghorns, Barred Rocks, White Wyandottes. Send for catalog. WANDSCHNEIDER'S HATCHERIES, Box 1, Fort Atkinson, Wisconsin. 5-4

Highest prices paid for live and dressed poultry, pigeons, veal, hides, etc. Quick returns, fair treatment. C. E. McNEILL & CO., 325 W. So. Water Street, Chicago. 24*

Eggs $1 setting. Parcel post paid. Thoroughbreds. Barred Rocks, White Rocks, Buff Rocks, Anconas, White Wyandottes, Brown Leghorns, White Leghorns, Rhode Island Reds, Buff Orpingtons. PHILIP CONDON, West Chester, Ohio. 5-15

Bronze turkeys. MAC CRADIE BROTHERS, Hendrum, Minnesota. 5-4

For Sale—Van Liere's Partridge Wyandotte cockerels, $5.00. 15 eggs, $3.00; 30, $5.00. Satisfaction guaranteed. J. W. VAN LIERE, Salem, Wis. 5-4

Minorca Eggs—S. C. White and Buff. CHRIS LONKE, Sunman, Indiana. 5-3

Baby Chicks—Limited number S. C. W. Leghorns at twenty dollars a hundred. Prepaid. March delivery. PORTER FARMS, Lake Geneva, Wis. 6-3

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Saanan doe—Nine months, pure white, fine animal. Bargain, $15.00. SIDNEY SEELER, Newtown Square, Pennsylvania.

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For Sale—Belgium stallion bay 2,200-lb. 9-year-old or will trade for Guernsey or Holstein cows or heifers. W. C. WILLIAMS, Anderson, Indiana. 6-4

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Farmers, ranchmen and dairymen. Order your Grimm and Cossack alfalfa seed direct from the grower. All seed recleaned and guaranteed. Ask for samples. WM. H. K. WILLIAMS, Triangle Ranch, Cottonwood, South Dakota. 26*

Jacques' Seed Corn—Early maturity, high yield, perfect germination. Grown in Clark County, North Wisconsin twelve years. My Golden Glow ripens in 100 days, yields 60 bushels shelled corn per acre. My North Wisconsin Yellow Dent ripens in 90 days, yields 50 bushels shelled corn per acre. Picked before frost, thoroughly fire dried. Careful tests show 98% to 100% germination. Money refunded if corn is unsatisfactory. Write for folder and prices to WM. H. JACQUES, Neillsville, Wisconsin. 1-13

Grimm alfalfa, soy beans, clovers, grasses, Iowar and Iowa 103 oats, field seeds all kinds. Ask for price list. DAVIS SEED CO., Dept. H, St. Peter, Minnesota. 2-7

Send for attractive price list of our select homegrown seed corn. Finest quality, several varieties. Fully guaranteed. Largest trade in Northwest. JOHNSON & ARNESON, Dassel, Meeker County, Minnesota. 3*

Seed Peas—Buy Northern grown Canada field peas direct from the grower, cleaned ready for seeding, 1,000 bu. for sale, 1 bu. $3.00; 2½ bus. $7.00; 5 bus. $12.50; 10 bus. or more at $2.25 per bu. Sacks included. Send for sample or order direct from this ad. L. P. MARTINY, Chippewa Falls, Wis. 4*

New Advance Wisconsin Pedigree barley, Iowa and other leading oats. Pure seed. Write for circular. KRUEGER'S SEED FARM, Beaver Dam, Wis. 4-6

Clovers, alfalfa, free from weeds. Soy beans, kiln dried corn. Everything guaranteed. HENRY MICHELS, Fond du Lac, Wisconsin. 5-5

Sudan Seed—Re-cleaned, double sacked, $3 per hundred, f. o. b. Lubbock. JOHN F. TURNER, Lubbock, Texas. 5-4

New cold-resistant Early Golden Glow seed corn for the north and higher altitudes. Finest quality Wisconsin No. 7 and No. 1 oats. Medium Red and Mammoth clover. Genuine Grimm alfalfa. 'It will pay you to secure my samples and prices before buying. NOYES RAESSLER, Beloit, Wisconsin. 6*

We are again ready to supply our customers with our high grade seeds at the lowest prices. "Quality considered." Write for samples and prices. Seed is strictly guaranteed. PICKART BROTHERS, Malone, Wisconsin. 6-2

For Sale—Seed corn La Crosse County grown. 10 ears took sweepstakes at the La Crosse grain show. Silver King and Golden Glow, $4.00 a bushel, bags free. Tests 98%. The corn for your silo. The Silver King is the best. JOHN BENDEL, JR., Stoddard, Wisconsin. 6-3

Sweet clover seed, North Dakota grown. White, scarified, $9.00 bushel, sacks extra. CAPENER & ARCHER, Erie, North Dakota. 6-3

State Fair. Sweepstakes clover seed, pedigreed barley, oats, corn, wheat, timothy, alsike, alfalfa, potatoes, flax, sweet clover, soy beans, peas. Write for prices. ARTHUR POPP, Jefferson, Wisconsin. 6-4

For Sale—Albemarle Prolific Ensilage Seed corn. Wonderfully high producing ensilage, stalks 12 to 18 feet tall, well bladed, 2 to 7 ears of corn to the stalk; 12 to 20 tons of ensilage to the acre. High germination test. Price on request. E. L. GOSS, Somerset, Virginia. 5-spl

Wanted to buy clover seed. THOS. STEWART, Plainfield, Illinois.

Soy Beans. Northern grown Wisconsin Early Black and Ito Sans. Write for booklet. W. I. BROCKSON, Box D, Marinette, Wisconsin.

"Holco" ensilage seed corn, extra early, grows tall, leafy and full ear. Write for prices. HOLMES-LETHERMAN, Canton, Ohio. 7-3

Morse Soy Beans. 100 bushels good quality. ROY GUYER, Linneus, Missouri. 7-3

BUSINESS OPPORTUNITY

Business for sale suitable for retired farmer, or one whose time is not fully employed. Address FRANK J. GRADY, 2119 Corry Street, Madison, Wisconsin. 6-4

FARMS FOR SALE

A 431½-acre combination grain-tobacco-stock-dairy farm, one-half mile from Burkeville, a town with best transportation, eighteen passenger trains scheduled daily, good high school, hard surfaced roads two sides farm. 165 acres cleared, 40 acres fertile bottoms, 200 acres densely wooded, entire farm fenced and cross-fenced, springs furnish running water in all pastures. Modern 22-stanchioned dairy barn, three silos, deep well, running water, good dwelling, three tenant houses, all necessary out buildings, four tobacco barns, splendid orchard. Milk check runs over $600 per month. Alfalfa, clover, grasses, grain and bright tobacco grow to perfection. For quick sale and immediate possession given, will include three horses, one mule, two colts, milk cow, fifty chickens, feed, $3,000 worth of improved farm implements, machinery, wagons, Stewart truck, etc. A real bargain and money-maker at $23,000, sufficient cash payment to bind bargain, balance to suit purchaser, interest 6%. Owner has other interest. It will be to your interest to see this farm before you buy. Address OWNER, Burkeville Stock Farm, Box 65, Burkeville, Virginia. 6-2

For Sale—Choice Ohio farms. All sizes and prices, some great bargains. Write for list. I. J. MILLER, JR., Conneaut, Ashtabula Co., Ohio. 22*

Farms, ask French if he has what you want. Write him and state your wants. Reference any bank here. J. R. FRENCH, Cortland, N. Y. 24-13

Landology special number just out, containing 1921 facts of clover land in Marinette County, Wisconsin. If for a home or as an investment you are thinking of buying good farm lands where farmers grow rich, send at once for this special number of Landology. It is free on request. Address SKIDMORE-RIEHLE LAND CO., 47 Skidmore-Riehl Bldg., Marinette, Wisconsin. 25-12

Rose Valley Farm—137 acres; 17 miles macadam roads to City Hall, Philadelphia; owner's residence, electric lights, hot water heat, open fireplaces; beautiful lawn and shade; extended view; large stable and carriage house; modern cow barn, 48 head; tenant houses; purest water in abundance; all necessary buildings; macadam roads each side and through farm; $50,000 less than cost of buildings. FARM 2024 N. 10TH ST., Philadelphia, Pa. 26*

Free Wisconsin Bulletins, soil, climate, crops. IMMIGRATION BUREAU, Wisconsin Dept. of Agriculture, Capitol Drawer 125, Madison, Wisconsin. 26-13

Hardwood cut-over land, silt loam, clay sub-soil. Neither sandy nor gravelly; close to town; good roads; good schools; in the heart of the dairy country. You deal directly with the owners. No agents and no commissions. Easy terms. Also improved farms. Write for map and Booklet No. 4. NORTH WESTERN LUMBER CO., Land Department, Stanley, Wisconsin. 1*

New York offers wonderful opportunities to farm buyers. Good farms, good markets, low taxes. Send for catalogue. THE HAZARD-RHODES CO., Salamanca, New York. 5-4

For Sale—165-acre farm, 30 cows, fine buildings; on macadam road, near city; $16,000, $2,000 cash, balance 5%. CHAS. PETERS, Castle Creek, N. Y. 5*

Riverside Stock Farm—160 acres, one hour to Milwaukee, ideal location, good buildings, deep rich soil, no obnoxious weeds. Owner's age reason for selling. Exceptional opportunity. Deal with owner. JOHN MUELLER, SR., Mukwonago, Wisconsin. 6-3

Big farm bargain in New York. 396 acres. Fine land. Big crops. Good buildings. Forty cows, four horses, machinery, hay, grain, everything goes for $17,000.00. $7,000 gets possession. U. G. DAVIDSON, Route 1, Oneonta, New York. 5-spl

Modern dairy farm for sale—"Park Farms" at Linnsburg, Montgomery County, Indiana, on traction line and Big 4 Railroad; Indianapolis 39 miles; Crawfordsville 6 miles; grade and high school half mile; Wabash College 6 miles. 325 acres; 3 dairy barns; 120 stanchions; 4 silos, 550 tons; horse barn; large log house; excellent quality of soil; location most attractive. Run as dairy 7 years. Possession at once. Favorable terms. Non-resident owner. For full particulars address WM. L. ELDER, 201 Saks Building, Indianapolis, Indiana. 3-spl

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New York State dairy farms for sale. Fully stocked. Fully equipped. Catalogue free. HILLIS FARM AGENCY, Hobart, Delaware County, N. Y. 7-6

Wealthy western New York acre yields equal west. Farms cheaper, produce higher! Maps, lists free! NEW YORK FARM AGENCY, Westfield. 4-spl

117 acres, half mile from Jackson, 25 miles from Milwaukee, on concrete road; good heavy clay soil, 90 acres under cultivation; house with furnace heat, basement barn 40x100, silo, tool shed, hen and hog house, running water in house and barn; twenty cattle, four horses, and all necessary machinery. GEO. W. ADAMS CO., 330 Caswell Block, Milwaukee, Wis.

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Strout's Spring Catalog farms! Just out! More than 1,000,000 people will read this new 100-page illustrated catalog, packed with money-making farm bargains of 30 states. You'll want to read on page 15 details of 227 acres, 6-room house, barns with horse, 10 cows, implements, crops, $3,000, only $1,000 down. See 80 acres, page 73, house, barn, including horses, cows, pigs, chickens, tools, $1,200 takes all, $500 down. Details page 16, 400 acres, 10-room house, goood barns, silo, fruit, 1,000 cords pulp wood, 2,000 cords block wood, with 2 horses, 10 cows, 3 heifers, wagons, machinery, hay, crops, etc., etc., all only $4,500, part cash. This book goes to every corner of America; write today for your free copy. STROUT AGENCY, 150 DL Nassau St., New York City.

Learn about the great Wisconsin Colonization project. Land, buildings, stock, etc., only $300, payment, balance 30 years. We help you succeed. Few farms ready now. Write today. CHIPPEWA VALLEY COLONIZATION CO., G-201 Plymouth Building, Minneapolis, Minnesota.

137-acre New York farm bargain on milk route; equipped. Sugar grove, 100,000 timber. For description write ROUTE 1, BOX 53, Greene, N. Y.

For Sale—200-acre well improved farm in finest location, full set of new buildings, all fenced, half in cultivation, 75 acres clover; stock, crop, good machinery, $24,500.00. Owner FRANK NOVACEK, Route 2, Wheeler, Wisconsin. 7-3

Farm for sale containing 145 acres. Good barn and other buildings, near Superior. For particulars write GEO. ESSON, Superior, Wisconsin. 7-2

For Sale—640-acre farm, summer fallowed; in heart of gas and oil fields. JESTRAB BROS., Havre, Montana. 6-2

For Sale—2,000 acres fine hardwood timberland, birch, white ash, maple, white pine, spruce. Sawyer County, Wisconsin. Logging would pay handsome profit. Land delightfully situated for stock ranch. Two trout streams, six springs. Also 130-acre dairy farm, buildings new, on lake shore in Barron County. M. B. MARVIN, Freeport, Illinois. 7-spl

160 acres 2 miles from Wisconsin town of 1,000 population. 80 acres cleared, part plowed; fine pasture, good heavy clay loam soil, no sand or pine, lot of maple timber; on state R. F. D. and telephone line; new buildings worth over $9,000.00. Will include 35 head high grade Holstein cattle, 14 cows, pure-bred bull, rest heifers up to 2 years old, good heavy team, all new machinery, 50 hens, tools, feed, etc., for $28,000, $5,00 cash, rest at 6% long time or take smaller farm, clear wild land, good income property, or pure-bred Holstein cattle as part payment. What have you? Address BOX 668, care Hoard's Dairyman. 7-3

Clover, alfalfa sugar beet prairie. Owner's price, easy terms. Submit trades. GESELL, Thief River Falls, Minnesota. 7-4

FARMS FOR SALE

For cash rent, exceptional Holstein dairy farm 40 miles from New York City. Milk wholesaled 10c per quart. 115 acres, 75 fine grain, alfalfa hay land; balance pasture and wood. Good modern house and barns; improvements, silo, ice house, etc.; 1½ miles from fine town. Terms reasonable. JOHN REILLY, 157 W. 66th St., New York City. 7-2

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Wanted—To exchange 50 acres river bottom alfalfa land in ideal fruit and dairy section of California at $10,600—3,000.00 down—for small farm in central states as second payment. R. W. SHARP, 601 N. Fourth St., Fresno, California. 2*

Will trade 40 acres wild land, three miles from Spooner, for milk cows. Write JOHNSON, 1608 Lackawanna Ave., Superior, Wisconsin.

FARMS WANTED

Want several southern or central Wisconsin farms of from 80 to 200 acres with stock. Have number of immediate buyers. WALTER MILLER, 320 Brumder Building, Milwaukee, Wisconsin.

MACHINERY

Want the cheapest, handiest belt power? Then ask me about my Little Twister Power Transmitter for Ford and Dodge cars. FRANK R. WEISGERBER, Salina, Kansas. 16*

For Sale Cheap—A small lot of standard make Swedish Cream Separators, 400 pounds capacity, $29.-00, 500 pounds capacity, $34.00, 700 pounds capacity, $39.00. These are all new machines, wonderful bargains. THOMAS TAFFEE, Box 355, Lansing, Mich. 18*

For Sale—3 H. P.-I. H. C. gasoline or kerosene engine and 18-inch feed cutter used one season. F. S. HALLADAY, Green Bay, Wisconsin. 5*

For Sale—A B.-L.-K. two double-unit milking machine, all complete, in good condition. First check for $125.00 will get it. ALOIS A. BINDL, Spring Green, Wisconsin. 6-2

Perfection and Empire Milker units. Reduced prices. FELIX JULIUS, Stockton, Illinois.

For Sale—Staude tractor attachment for Ford. Used one year, good as new, farm sold no use for it. ½ price. Address BOX 617, Marengo, Illinois. 6-2

For Sale—One general electric two-horse-power motor, alternating current, single phase 110 and 220 volts. Used very little and good as new, price $125.00. Double B-L-K Milker unit, single cylinder pump, $35.00 each. AUSTIN ANDERSON, Randolph, N. Y.

For Sale—Two-cow Burton-Page Hand Milker, used one week. First $55.00 gets it. ALVIN PRESTHOLT, Clear Lake, Iowa.

Double-unit Empire, vacuum pump, tank, stall cocks for twenty cows. First check for $75.00 takes it. E. G. MYERS, Des Moines, Iowa.

For Sale—Burton-Page Hand Milker, used once. E. G. SCRIPTURE, Ironton, Ohio.

AGENTS WANTED

Yes Sir, we have a special opportunity for you during spare time, an opportunity to do some good work in your neighborhood, for the betterment of dairy farming, that will pay you in cash for the effort you put forth. Write for our "Special Opportunity Getting Together" folder. Address HOARD'S DAIRYMAN, Fort Atkinson, Wis. 2-tf

Salesmen wanted to sell well-known line of oils, paints, and roofing materials direct to farmers. Men average from $100 to $200 per week. Commisssions paid weekly. Bonuses paid monthly. Wengerd of Ohio made $430 in one week. Callahan of Pennsylvania made $3,000 first six months. Meyers of Minnesota took 102 orders first month. Fine opportunity for live-wire salesmen, steady demand at all times. Shipping points: Cleveland, Chicago, Kansas City, Minneapolis. For complete proposition write CENTRAL PETROLEUM CO., Cleveland, Ohio. 6-3

Agents make big money selling our silos. Write today for catalog and big commission proposition. NAPPANEE LUMBER & MANUFACTURING CO., Nappanee, Indiana. 3-spl

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Alfalfa and prairie hay for sale. Prompt shipments. Personally inspected loading. Wire or write GUNN HAY CO., Lexington, Nebr. Reference Lexington State Bank. 11*

Number one and choice alfalfa hay and seed ready for shipment. Address A. L. DAMON & COMPANY, Inc., Rapid City, South Dakota. 8*

Alfalfa Hay for Sale—Write or wire for delivered prices. ALBERT MILLER & COMPANY, 192 North Clark St., Chicago. 17*

Alfalfa. We handle nothing but the very best quality. Write or wire JAMES BROTHERS, Rapid City, S. D., for delivered prices. 5-4

No. 1 dairy alfalfa $16.00 per ton f. o. b. Buffalo Gap, South Dakota. Arrival draft, inspection allowed, prompt shipment. BROOKSIDE FARM. 5-3

Hay for Sale—Any kind in carloads. Can furnish choice alfalfa. GEO. L. FREDERICK, Beaver Dam, Wisconsin. 7-3

TOBACCO

Homespun Tobacco—10 pounds, $3.00; 20 pounds, $5.00; 100 pounds, $20.00. FARMERS' UNION, Mayfield, Kentucky. 6-4

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Crumb's Stanchions are guaranteed to please the purchaser. They are shipped subject to trial in the buyer's stable. They are right. Send for booklet. WALLACE B. CRUMB, Box H, Forestville, Conn. 2-10

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Molasses—Richest feed, lowest cost. Write for special price. CHICAGO MOLASSES COMPANY, 1131 East 77th St., Chicago, Illinois. 25-spl

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12x24 Washington Fir Kalamazoo stave and tile silo. Kalamazoo ensilage cutter. ALBERT C. WOLLIN, Johnson Creek, Wisconsin. 5-spl

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Hoard's Dairyman Art Department designs your letter head free. Just tell us your breeds of stock. Book of 5,000 Farm, Ranch and Cottage names 25 cents. Ask for samples of letter heads, envelopes, shipping tags, cards, milk tickets, etc. Poor stationery is more of a damage than a help. Be sure and give correct post office address, including state. Address HOARD'S DAIRYMAN, Art Dept., Fort Atkinson, Wisconsin. 8-tf

MISCELLANEOUS

Wool? Let us show you how to obtain a good price for your wool. We do custom weaving, carding and spinning. You market finished products. Write for samples. MERRILL WOOLEN MILLS, Merrill, Wisconsin. 6-2

For Sale—Army four-buckle, all rubber overshoes, $2.98. N. WEINBERG, Fort Atkinson, Wis. 6-2



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POSITIONS WANTED

Farm Superintendent—Scientific, practical, energetic, desires position on large modern farm or estate and will put same on paying basis. Experienced in Advanced Registry, pure-bred stock, modern farming, tractors, orcharding, road and building construction. Married, no family. Excellent references. Address BOX 544, care Hoard's Dairyman. 4*

Wanted—Position to take entire charge of A. R. O. work in a Guernsey herd by man with exceptional ability and seven years' experience. Two world's records including the 1,103 one. Best of reference. W. C. BURDICK, Groton, Massachusetts. 6-2

Superintendent, college graduate. Married. Open for position. Thoroughly experienced in constructive farming and stock raising, dairying, A. R. O. work. Only large proposition where results are appreciated. Address BOX 664, care Hoard's Dairyman. 7-3

Wanted—Position as farm foreman, by young, married farmer. No children. Life experience, honest, reliable. State details fully, salary, etc. EARL E. GROFF, 16 Franklin St., Gloversville, N. Y.

Wanted—Steady position on dairy farm March 1st by single man, aged 21. Experienced, use no tobacco. References. Wages, $70.00 month; board, room; state privileges first letter. WM. SANTON, Box 44, Monticello, Wisconsin.

Experienced man wants position immediately as Holstein herdsman. Address BOX 669, care Hoard's Dairyman. 7-2

Farm Manager—Hustler, scientific, practical and proven ability in every operation connected with modern methods general farming, dairying, etc., desires situation. Address BOX 670, care Hoard's Dairyman.

Position wanted as farm manager. Have had life experience in all its branches. Dairying, raising and handling crops. Can handle help to best advantage. Wife first-class housekeeper. Write full particulars, stating wages, etc. EDWIN T. SCHULTZ, Box 114, Dundee, Illinois.

Experienced milker, single, age 27, Hollander, wishes position. Will go anywhere. State wages and particulars. H. C. HOLLANDER, Metuchen, N. J.

Two reliable young men want positions together on a farm. Good farmers, familiar with tractors. Address BOX 679, care Hoard's Dairyman.

Position Wanted—Married couple without children on modern dairy. Wife can run boarding house. Address BOX 677, care Hoard's Dairyman.

HELP WANTED

Farm Couple Wanted—Man and wife above 30 years (no children) to be fully responsible on a 200-acre publically located dairy farm, where home and every detail is now, and must be maintained first-class; dairy and other machinery modern and electrically equipped where practical; product wholesaled exclusively—everything furnished and supplied. This is a plain, practical gentleman's place, requring a conscientious, competent, dependable couple who want a permanent position, who can care for and handle the necessary help, and know how a first-class place should be conducted. Give experience, qualifications, ages and present employment. JOHN S. SELL, Greensburg, Westmoreland County, Pennsylvania. 2*

Wanted—Married man for small dairy farm and orchard at Bayfield, Wisconsin. Write J. DAVID SMITH, Albia, Iowa. 4*

Wanted—Married man with boy to work on dairy farm 1½ miles from town. Good buildings and electric lights. Give full particulars, number in family and salary expected. Address DRAWER M, Plymouth, Wisconsin. 5-3

Wanted—Married man by April 1st for general farm work and to help milk and care for herd of Guernseys. In replying give age, number of children and church. E. HUSER & SON, Comstock, Barron County, Wisconsin. 5-3

Wanted—Experienced gardner, middle-aged, single; American preferred. One who can successfully plan and raise garden produce for an institutional school. State wages wanted. Reply at once. BOX 650, care Hoard's Dairyman. 6-2

Wanted—Herdsman who is well experienced in handling Guernsey cows for high and continual production for A. R. O. work. Place located in Pennsylvania. None but first-class men need apply. If married state size of family, also all particulars with wages expected and references. Position open in April. Address BOX 647, care Hoard's Dairyman. 6-2

Wanted—Single man to work on dairy farm by year. State experience and wages. F. C. SPELLMAN, Hollandale, Wisconsin. 6-3

Wanted—On modernly equipped dairy farm in Northern Wisconsin, married man to work year round. Must understand machinery and A. R. O. work. Farm located on outskirts of town. Let us hear from you. Address BOX 654, care Hoard's Dairyman. 6-2

Wanted—Man and wife to take charge of small dairy farm, comfortable home, modern equipment. Write, state age, experience, size of family and salary expected. H. D. EWER, Ashland, Wis. 6-2

Wanted—Reliable man for general farm work by the month. State nationality and wages. B. J. McCANAGHER, Hollandale, Wisconsin. 6-2

Wanted at once—Single man for general farm work. A. KOPPEIN, Troy Center, Wisconsin.

Wanted—Herdsman (single) for registered Holsteins. Must be able to take full charge of barn of 50 cows. Address BOX 663, care Hoard's Dairyman.

Wanted—Single man on dairy farm. Must be good dry hand milker. Give habits, past experience in first letter. Salary $50.00 per month, board and washing of everyday clothes. Address BOX 666, care Hoard's Dairyman.

Wanted—Single man to milk cows on semi-official test, milked three times per day. Must be honest, dependable, and willing to help with other work about barn and dairy a portion of each day. Give references, habits, past experience, age, nationality, and wages desired in first letter. Address BOX 665, care Hoard's Dairyman.

Wanted—Single man on dairy farm for general work and to assist in caring for Holsteins. Would like him experienced in A. R. O. work. State wages, experience and references in first letter. To start work immediately. FRANK J. NIEMER, Cassville, Wis.

Wanted—An experienced herdsman for a modern dairy farm three miles from Denver, Colorado. Must be single man, good feeder and caretaker. Able to handle men. Milking about 130 head of Holsteins. Applicant must have had experience on certified dairy and good references. Give age, experience and wages required in first letter. Address BROOKRIDGE FARM, Littleton, Colorado.

Wanted—Married man for general farm work, mechanical milker used. Separate house, garden and other conveniences, board. Eight summer months, $50.00 month. Permanent position for capable man. P. L. DEAKINS, Lancaster, Wisconsin.

Wanted—Single man to assist in dairy or drive milk wagon or make himself generally useful. LOCK BOX 122, Princeton, Illinois.

Wanted—Dairyman for Holstein herd. References required. Single man preferred. 717 NORTH KENDRICK AVE., Glendive, Montana. 7-2

Wanted—Good calf raiser and feeder. Must thoroughly understand feeding calves. PAUL DAHLKE, Austin, Minnesota. 7-3

Wanted—An experienced herdsman for fine herd of Holsteins. State reference and salary expected. M. L. ENRIGHT, East Grand Forks, Minnesota.

HELP WANTED

Wanted—Working herdsman and farm manager, sober, capable, and reliable, to take charge of dairy farm and registered Guernsey herd of forty animals, some on A. R. test. Must be married, wife willing to board some help, and both not afraid of long hours. Give full particulars including training, experience, age, habits, size of family, references and salary expected in first letter. No socialist or cigarette gentleman need apply. E. S. PERSON, Minot, N. D. 7-4

Wanted at once—One married herdsman, clean, honest and a hustler, to take charge of 60 pure-bred Holsteins, 20 cows milking. Must have knowledge in A. R. O. work, capable of handling a man and board him. 5-room house, water and electric lights, garden, milk, and can raise potatoes and chickens. Modern improvements; 1 mile city of 5,000. State wages, nationality and references. Also want assistant herdsman, single; board, room and washing furnished. STEVENS STOCK FARM, C. J. Arison, Supt., Sycamore, Illinois.

Single man, experienced in farm work, good milker. Start at once. Good pay. State experience, wages expected. L. L. RUMMELL, Medina, Ohio.

Dairyman, single, for small pure-bred herd at institution near Cleveland, older boys assisting with work. Must be good buttermaker, feeder and milker. Address BOX 671, care Hoard's Dairyman.

A dairy farm wishes two married men, so related or acquainted they can live as one famly. They can secure an up-to-date nine room house with furnace, bath room, fuel, milk, garden, etc. Must have good references. Apply in writing to MISS C N. CROWLEY, Worthy Hotel, Springfield, Massachusetts.

Wanted—An experienced man in both poultry and dairy work. Registered Jerseys. Salary or partnership. Good location and market town. L. P. HARRIS, Route 5, Dallas, Texas.

HELP WANTED

Married man wanted April 1st on farm near Philadelphia. Must be first-class farmer, understand running of all farm machinery, tractor, etc., good caretaker of horses. Wife to board 3 to 4 men at $25.00 per month. $60.00 per month, house and usual privileges. References as to character and abilities. State number in family. Address BOX 667, care Hoard's Dairyman. 7-2

Manager—For institutional farm of 60 acres. One who has had experience and can make things go. A good proposition for the right man. MOUNT MARIE, Canton, Ohio. 7-2

Wanted—By March 15th, reliable single man to work in certified dairy and test barn. Everything modern. Chance to learn a good business with pure-bred Holsteins. Also single man for farm work April 1st. ROBERTSON FARMS, H. E. Robertson, York, Pennsylvania.

Wanted—Man and wife on dairy farm. Man to be able to run farm machinery, wife to do the cooking and take care of the house. No other women folks here. Two and sometimes three to cook for. Good home for couple that want to make good. State wages and give reference. JOHN STEELE, Route 2, Oconomowoc, Wisconsin.

Wanted—April 1st, a good single headsman, one with experience in A. R. work to take charge of herd consisting of about 45 head registered Holsteins. Must have experience in milking test cows, balancing rations, be a good calf raiser and come well recommended. Best wages to right man who will have complete charge of herd. Address BOX 678, care Hoard's Dairyman. 7-4

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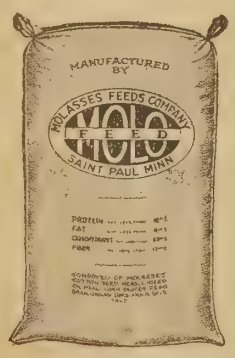
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Sand Soil Salvation

(Continued from page 261)

that an abundance of rain is the bane of their existence. At any rate, grasshoppers do thrive and by some are classed as a scourge in the sand country where soils dry out quickly. Early in the growing season they come forth. Some years they are worse than in others. A few sand farmers are combating them with poison bran mash, which appears to be effective locally but because it is not used universally, and due to the hopping proclivities of this insidious insect, the effectiveness of the method is questionable. Mr. Frost is of the opinion that after all fertility is one of the best solutions of the whole problem. "I have noticed," he stated, "that the poorer the soil the greater the crop injury from grasshoppers. Not that they are more plentiful on run-down land, but the crops grow so slowly and poorly that the grasshoppers get the best of them, especially with clover and alfalfa—two crops which are particularly relished by these arch enemies of our community. On good fertile, limed, sandy soil both alfalfa and clover grow so fast that they usually get ahead of the hoppers and the injury is comparatively less."

"I had supposed," I contributed with some apprehension, "that the worst scourge from the standpoint of personal comfort of the sand country was the sand bur. I've been expecting to be made aware of their penetrating presence about my ankles most any minute as we walk over these fields."

"Oh," he laughed, "fertility knocks them galley-west, too. I am glad to say that I don't think you will find any on this farm. Where you keep up the fertility the crops crowd them out. Fertility is the remedy for a whole lot of the woes of sandy land farming."

Mr. Frost calls the soy bean the "dual-purpose" member of the legume family of plants.

"It is not only a soil improver," he declared with much enthusiasm, "gathering most of its nitrogen requirements from the air, but it furnishes us with a protein rich forage for hay or silage or a concentrated feed in the form of the threshed beans. And, Great Heavens, soy beans, if inoculated, do grow in sandy soils. I've seen fields of them in this section that would surpass the best on heavy clay and clay loam soils worth double and treble what this land can be bought for. We grow them for seed—for hay, especially when we need an emergency hay crop, and we plant them with corn for silage, using about two-thirds corn and one-third soy beans, but planting the corn at the usual rate and using the soy beans in addition. Ito Sans, Manchus, and Early Blacks appear to be our best varieties. We will come to grow more soys. I believe they will make one of our best cash crops when grown for seed purposes."

Potatoes are a prominent crop on the Frost farm, as they are on most every farm in that territory. They furnish the principle income as a cash crop and are very essential in maintaining a dollar and cents balance on the right hand column of the sand farmer's ledger. But it is equally important to keep live stock to consume the roughage produced by those soil builders, clover and alfalfa, in conjunction with corn silage to furnish manure so essential for fertility maintenance. Mr. Frost kept a splendid herd of pure-bred Holsteins but a serious accident crippled him to such an extent that, together with the difficulties of the farm labor situation,

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For many years Square Deal Fence has been the choice of thousands of farm owners, because it best meets their requirements for appearance and durability. Made of best quality open hearth steel, heavily galvanized. Square Deal Fence always stands neat and trim, and requires fewer posts because of its better construction; the wavy or crimped strand wires expand and contract with heat and cold, but always stand tight. The heavy picket-like stay wires are locked to the strand wires with the famous Square Deal Knot, giving rigidity not found in other fences. Send for free books today; learn how you can save money by buying Square Deal Fence. (84)

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DON'T PUT OFF

Seeing your friends and having them join in for a club of subscribers.

it was necessary for him to dispose of his herd and eliminate milking. He now plans to feed steers to consume his roughage and to produce manure.

"One of the best parts of my farm is this open shed where I feed and where the manure accumulates with full protection against waste from leaching rains. The heavy soil farmer in general never has a full appreciation for the value of proper care in handling manure. The sand farmer has got to appreciate it or he is doomed. I believe I get the most out of my barnyard fertilizer by putting it on sod crops. I think there is less loss from leaching—a process that goes on only too rapidly in sand."

Outstanding Methods

Sandy soil farming has a multitude of problems connected with it which all come under the one head of fertility development and maintenance. I talked with the local banker about the general situation. He was enthusiastic about the possibilities of sandy land farming, but—to use his own words—"We have all got to adopt Frost's soil building methods and Frost's soil building enthusiasm. His methods are outstanding, and results speak for themselves. We need such outstanding methods instead of outstanding agriculture. There's soil robbery going on around here—too much of it—this land won't stand it—there is no place in all the wide world where there is more truth in the statement that a man who cheats his soil cheats himself, or else he cheats his children. Rather than see one of our customers tear down his soil to build up his bank balance and our bank deposits, I would a hundred times rather see that man bank his surplus into the land in the way of soil improvement. We have a few men like Frost who are farming with an eye to the future, who are using lime and growing alfalfa and all that sort of thing, but we need more of them—for they are the salvation of sandy soils."

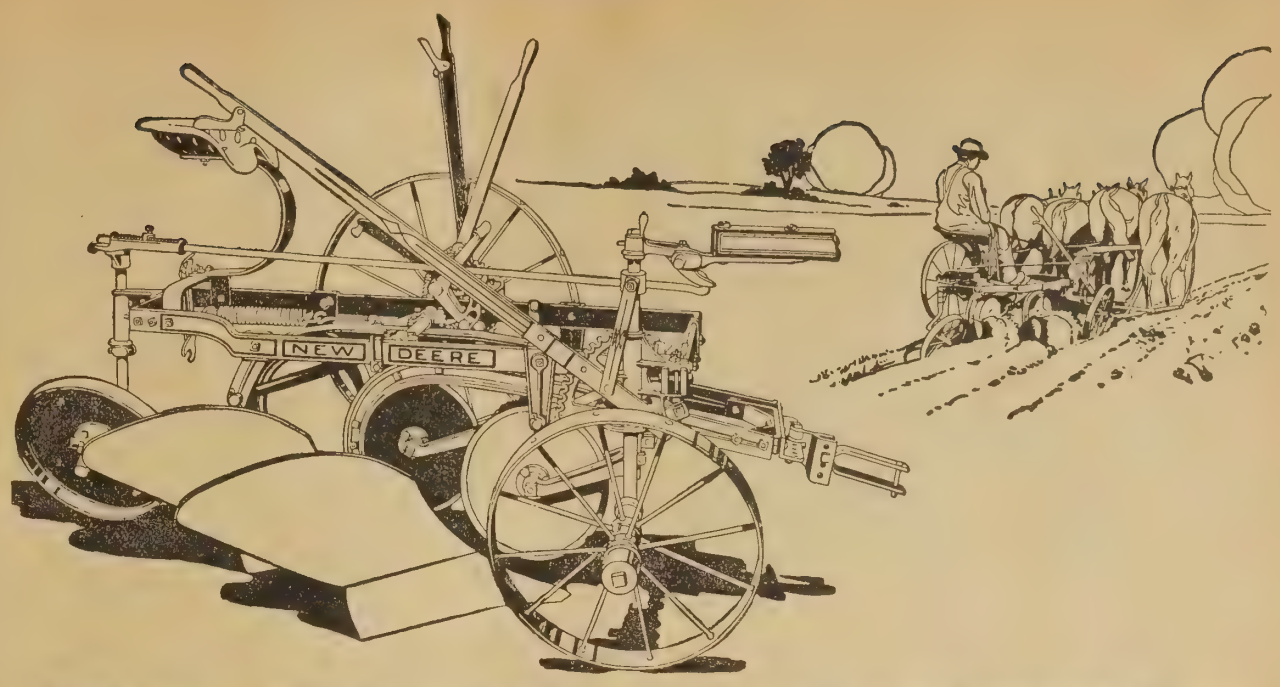
High School Tests Cows

An interesting contest in the testing of cows is being conducted by the agricultural department of the Eatonville, Washington, high school. Thirteen farmers have entered their herds. The work is conducted quite similarly to that in cow testing associations. The farmer weighs the milk and submits a sample to the school for testing each month. Students in the school figure the yield of the different cows and the cost of feed, and make estimates of the profits. The prizes, from five to ten dollars, are given each month for the highest production. In November F. Krones won the highest prize with a cow producing 44.73 pounds of fat. In December John Malm was given the highest prize on a cow which produced 41.52 pounds of fat.

Jerseys in Bull Associations

More than sixty pure-bred Jersey bull associations are now in operation. The last report from the Dairy Division indicates that 2,349 farmers are members of these associations. At that time there were 59 owning 266 pure-bred Jersey bulls. These bulls were being bred to 11,726 grade cows and 1,568 pure-breds.

South Carolina leads in the number of associations with 12; Mississippi has 11; North Carolina, 6; Alabama, 5; Indiana, 5; Missouri, 3; Pennsylvania, 3; Tennessee, 2; Washington, 2; Oregon, 2; Utah, 2; Idaho, 2; Vermont, 1; Georgia, 1; Louisiana, 1; Arkansas, 1; Illinois, 1; Virginia, 1.



Plowed its Way to Leadership

THE New Deere Gang was introduced to farmers 26 years ago. It was built for farmers who want the best—farmers who know that it is real economy to buy a plow that insures extra years of good service. The New Deere Gang quickly plowed its way to leadership. For many years it has been the leader of its type. Its record proves that most farmers want the best plow they can get and that the New Deere Gang meets their requirements fully.



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Write Today for a free folder illustrating and describing the New Deere Gang. Ask also for our big, free book, "Better Farm Implements"—114 pages—illustrates and briefly describes John Deere implements for practically every farming operation—has valuable information on the operation of implements. Address John Deere, Moline, Ill. Ask for package DG-514.

NEW DEERE GANG

Leadership of this plow is due, first of all to the high quality in its genuine John Deere bottoms. They are made by men who have spent years in studying soil conditions in all sections and designing plow bottoms to meet those conditions to best advantage. John Deere bottoms scour, pulverize, make a good seed bed—do the work the way the farmer wants it done. There is a type and shape for every soil. Made of the best plow-bottom materials and reinforced where wear is greatest, these bottoms are unusually long lived.

Makes Uniform Seed Beds. Because of double bail construction, full plowing depth is reached almost instantly and even depth of furrows is maintained. Front furrow wheel is controlled by a handy lever adjustment, insuring even width of furrows.

Pulls Light. The New Deere Gang is all-wheel-carried—no landside friction—no dragging of the bottoms. And the clean-scouring qualities and general high grade construction of the bottoms are great aids to light draft.

A Boy Can Operate It. Foot lever and auxiliary hand lever make it easy to lift the bottoms under all conditions.

Quick Detachable Shares—loosen one nut to remove share; tighten the same nut and share is on tight. **It stays tight.**

Long-lived. Made of only high grade materials, the New Deere Gang lasts much longer than ordinary plows. Fewer repairs are required.

See the New Deere Gang at your John Deere Dealer's. Inspect it thoroughly. Remember it has been the most widely used horse-drawn gang plow for 26 years. That's an A1 recommendation. You will find this plow an especially good investment.

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Made of famous Brazil Vitrified Fire Clay—ONE ton costs as much as FIVE tons of shale.

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Will not freeze or crack. Keeps silage in perfect condition. You never have to rebuild a "B-V-T"

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Is what you get in CORN BELT TILE silos. They are repair proof, paint proof, storm proof. Thoroughly glazed, beautiful in appearance, strongly reinforced. Include tile chute, feed room, steel back ladder and hip roof rafters. Discounts for early shipments.

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Dickey Glazed Tile Silos

Best of materials, six different diameters, everlasting hollow tile roof, easiest to build—such features as these have made the Dickey pre-eminent among silos.

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will have a silo within the next few years. Be the

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man in your neighborhood. *Liberal terms to agents. Write for complete silo book.*

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I am the fellow that Milks With

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It makes me smile when I see poor guys pulling away by hand. Buy a Mehring Milker and you can smile too. It was the first practical milker and still has the lead in speed, efficiency and cheapness of operation and repair. Send for a catalogue and be convinced. It will milk one or two cows at once. Price $80 cash or $85 on trial. Also engine power milkers.

W. M. MEHRING, Keymar, Maryland.

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Milking in One Third the Time Helps Keep Young Folks on Farms!

There is no questioning the fact that milking machines make farm life more attractive to children—for the drudgery of milking becomes an interesting occupation instead of work—with the dependable

HINMAN MILKER

They solve the help-problem for it is simplicity itself for even ten-year-olds to do the milking.

Over 50,000 in Daily Use

saving time and money for progressive dairymen everywhere.

Hinman Milkers are the easiest to clean and operate. They save their cost the first year.

Write for catalog—and with it we will include copy of "The Hinman Handshake" that gives facts you'll like to have.

Hinman Milking Machine Co., Oneida, New York

We also make Electric Milkers with 1-6 H. P. motor operating on alternating or low voltage current. No installing.





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We have slashed the prices on International Feeds both ways from the middle. Of course we are taking a loss, but we are ready to do this to play the game with the thousands of feeders who have so wholeheartedly approved International Feeds for years.

Don't take the price drop in your dairy products too seriously. The cut we have made in price on International Special Dairy will allow you to feed it at the same old good margin of profit. Same feed, same quality, at a smashing drop in price.



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to produce more milk than any other feed of similar analysis. You should get two more quarts of milk per day from each cow.

Remember that this feed is priced down to produce milk at a profit on the prices you secure. Write us direct for full information if you have no International dealer near you.

LIVE AGENTS WANTED—A live agent can quickly sell several cars of feed in each vicinity at this new, low price. Write for details.

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We Pay Parcel Post. We sell only High Grade Coffee and Tea

Send for our Money-Saving Price List, or better still

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Carlisle Commission Co.

Live Stock Exchg. Kansas City

Cow Testing Associations

(Continued from page 269)

silo. This association hopes to put some in new districts this year. Cocoanut meal sells for $20 per ton in cash. This feed is fed quite generally by dairymen and is worth about twice that price compared with the prices of other feeds on the market.

Lyon County, Kansas:—Milk sold to the Missouri dairy brought 72½c per pound butterfat in January. Cream sold for 45c per pound fat. Bran is rated at $1.50 per cwt.; corn chop, $1.20; cottonseed meal, $40 per ton; silage, $5; alfalfa, $10.

Coshocton County, Ohio:—January market milk sold for $4.18 per cwt., a test of 4% required. The creamery paid 50c per pound for fat. Milk retails for 14c per quart, butter for 60c per pound.

Clinton, Pennsylvania:—A countrywide membership campaign is on to interest more farmers in the work of the farm bureau. All but one member of this association joined. Two registered sires and one registered heifer calf were purchased. There are now but two scrub sires in use. Another member has installed drinking cups in his barn. January 3% milk sold for $3.18 per cwt. and 4c per point above. The creamery paid 65c per pound for fat. Feed prices are: bran, $42 per ton; gluten, $50; oil meal, $48; corn and oats, $43; silage, $6; hay, $25.

North Branch, Pennsylvania:—Ten cows were eliminated during the month, nine of which were unprofitable. Four pure-bred bulls and two pure-bred heifers were purchased. Four Advanced Registry records were made and several cows are still on official test. January 3% market milk sold for $3.40 per cwt. and 4c per point above. Milk retails for 12c per quart, butter for 60c per pound, and cheese for 28c per pound. Corn silage sells for $8 per ton; corn stover, $6; mixed hay and alfalfa hay, $20—$25; cottonseed meal, 43%, $60; linseed meal, $55; corn and cob meal, $24.

Southern Harford, Maryland:—Three cows were disposed of during January as unprofitable. One member has started in the pure-bred business with two Guernseys. Another member replaced his grade bull with a pure-bred bull calf.

Salem County, New Jersey:—Milk prices range from $2.57 per cwt. at the creamery to $7 per cwt. to hotel trade. Several members ship to hotels and receive good prices. January feed prices are: gluten, $60 per ton; cottonseed meal, $50; oil meal, $52; oats, $48; bran, $46; beet pulp, $50; corn and cob meal, $27; brewers, $50; silage, $10; mixed hay, $20—25; alfalfa, $30.

Year's Work of Clinton C. T. A.

The Clinton Cow Testing Association, Pennsylvania, has completed its first year of work with the following results. Out of 28 herds, 26 completed the test for the year. The average production of all herds for the year was 6,020 lbs. milk and 268 lbs. butterfat. To G. G. Gaylord goes the distinction of having the highest herd

SALE ANNOUNCEMENTS

Mar. 8—Holsteins. A. J. McLennan, Clear Lake, Wis. F. H. Everson, Sale Mgr.
Mar. 10—Holsteins. Elmwood Stock Farm First Annual Sale at Auburndale, Wis. J. P. Heintz, Sale Mgr.
Mar. 15—Holsteins. H. N. Forvey and York Sanitary Milk Co., York, Pa.
Mar. 15-16—Holsteins. Fletcher Bros. Dispersion at Fond du Lac, Wis.
Mar. 15-16—Holsteins. Wisconsin Breeders' Sale at Fond du Lac, Wis. S. H. Bird, Mgr.
Mar. 17—Guernseys. Elkhart County Guernsey Breeders' Association Consignment. C. M. Enders, Secretary, Wakarusa, Ind.
Mar. 22—Holsteins. Blue Earth County Holstein Breeders' Consignment Sale, Mankato, Minn.
Mar. 23—Holsteins. Iowa Holstein Breeders' State Sale at Waterloo, Ia. C. F. Jenness, Sec.
Mar. 28—Holsteins. Isaac DeMunck & Sons, Plymouth, Wis. I. DeMunck, Sale Mgr.
Mar. 28—Holsteins. W. B. Wickersham, Embreeville, Chester Co., Pa.
Mar. 29—Holsteins. Fred Gessert, Plymouth, Wis. Fred Gessert, Sale Mgr.
Mar. 29-30—Holsteins. Watertown Holstein Sales Co., Watertown, Wis. F. Darcey, Secy.
Mar. 29-30-31—Holsteins. Philadelphia, Pa. Second Brentwood National Sale.
Mar. 30—Guernseys. La Crosse Co. Guernsey Breeders, West Salem, Wis. H. W. Griswold, Mgr.
March 30—Holsteins. R. L. Goelzer Sale at Plymouth, Wis. R. L. Goelzer, Mgr.
Mar. 30—Guernseys. La Crosse Co. Guernsey Breeders. H. W. Griswold, Sale Mgr., West Salem, Wis.
Mar. 31-April 1—Holsteins. H. J. Goelzer's Sixth Sale at Plymouth, Wis. E. E. Goelzer, Mgr.
Mar. 31—Guernseys. First Consignment Sale of Calumet Co. Guernsey Breeders' Association at Chilton, Wis. F. E. Fox, Waukesha, Wis., Sales Manager.
April 1—Guernseys. First Consignment Sale of Registered males and grade females. Calumet Co. Guernsey Breeders' Association at Chilton, Wis. F. E. Fox, Waukesha, Wis., Sales Manager.
April 2—Holsteins. Pabst Stock Farm Second Semi-annual Sale at Oconomowoc, Wis.
April 7, 1921—Holsteins. Central Wisconsin Holstein Breeders' Ass'n. 13th Semi-annual Consignment Sale at Marshfield Sales Pavilion, Marshfield, Wis. R. A. Peterson, Wisconsin Rapids, Wis., Sale Mgr.
April 15—Holsteins. Virginia Holstein-Friesian Breeders' Club Sale, Richmond. W. L. Kirby, Manager.
April 19-20—Holsteins. Ohio Holstein Breeders' Association Second Annual Sale at Columbus, Ohio. H. C. Barker, Sec.
April 21—Holsteins. Eaton Co. Holstein Breeders' Second Consignment Sale at Charlotte, Mich.
April 21—Brown Swiss. Illinois Brown Swiss Breeders' Association Annual Spring Sale, Morton, Illinois. Chester G. Starr, Pekin.
April 23—Selected Guernseys from the Sunnybrook and Willowbrook Herds at Sunnybrook Farm, Eatontown, N. J. Leander F. Herrick, Sale Mgr.
April 25-26—Holsteins. Waukesha County Holstein-Friesian Association Sale at Waukesha, Wis. W. L. Baird, Sec'y.
May 2—Holsteins. Walworth County Holstein Breeders' Association Eighth Semi-annual Sale at Elkhorn, Wis. Ben Bachhuber, Mgr.
May 3—Holsteins. Clark County Quality Sale at Owen, Wis. J. Wuethrich, Sale Mgr.
May 4—Holsteins. Minnesota Holstein Breeders' Association Third Annual Sale at Faribault, Minn. B. D. Scott, Sec.
May 5—Jerseys. Wisconsin Jersey Breeders' Ass'n. Sale at Madison, Wis.
May 9—Holsteins. Brown County Holstein Breeders' Sale at De Pere, Wisconsin.
May 10—Guernseys. Dispersal Sale of Emmadine Farm Herd at Hopewell Jct., Dutchess Co., N. Y. Leander F. Herrick, Sale Mgr.
May 12—Guernseys. J. L. Hope's Annual Sale at Florham Farms, Madison, N. J. Leander F. Herrick, Sale Mgr.
May 12—Holsteins. Jefferson County Holstein-Friesian Breeders' Ass'n. second consignment sale. A. F. Gafke, Sec'y.
May 12—Holsteins. Marathon Co. Holstein Breeders' Association Sale at Wausau, Wis. Francis Darcey, Watertown, Wis., Mgr.
May 13—Holsteins. Chippewa Falls, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 13—Eastern Guernsey Breeders' Association Combination Sale at Devon, Pa. Leander F. Herrick, Sale Mgr.
May 17—Holsteins. State Fair Grounds, Milwaukee, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 18—Jerseys. Monroe County Jersey Breeders' Consignment Sale at Tomah, Wis.
May 18-19—Holsteins. Manitowoc County Holstein-Friesian Breeders' Association, Manitowoc, Wis. Chas. Hampke, Manager.
May 23-24—Holsteins. Missouri State Holstein Association Show and Sale at Sedalia, Mo.
May 25—Guernseys. Portage Co. Guernsey Breeders' Association Annual Consignment Sale of Registered Guernseys at Amherst, Wis. R. K. McDonald, Sec'y. F. E. Fox, Waukesha, Wis., Sale Manager.
May 26—Guernseys. Portage Co. Guernsey Breeders' Association Annual Consignment Sale of Registered Guernsey males and grade females at Amherst, Wis. R. K. McDonald, Sec'y. F. E. Fox, Waukesha, Wis., Sales Manager.
May 26—Holsteins. Marshfield, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 27—Holsteins. Outagamie County Holstein Breeders' Ass'n. Sale at Appleton, Wis. Edw. O. Mueller, Sec.
June 1—Holsteins. Dispersion of Fairview Stock Farm's Herd at Anderson, Ind. O. L. Janney, Owner.
June 9—Holsteins. First Annual Bred Heifer Sale, Thorp, Wisconsin. W. H. Krause.
June 9—Holsteins. First Annual Sale, Holstein-Friesian Co-operative Association of New Jersey, Trenton, New Jersey. J. W. Bartlett, Secretary, New Brunswick.

average in yield of butterfat. His herd of grade Jerseys averaged 340.8 lbs. butterfat in 6,516 lbs. of milk. The lowest producing herd made an average production of 193 lbs. butterfat in 4,444 lbs. milk. The second best herd in fat production was that of W. F. Hauenstein which averaged 323 lbs. fat, 6,582 lbs. milk. The herd averaging the highest in milk is owned by R. G. Erk, the production being 8,544 lbs. milk and 315.7 lbs. fat per cow. The lowest milk producing herd averaged 4,063 lbs. milk and 197.3 lbs. fat. A grade Holstein owned by R. G. Erk tops the list in the yield of milk. Her record was 11,696 lbs. milk containing 375.7 lbs. butterfat, at a net profit of $195. Later she sold at a record price. The most profitable and champion butterfat cow is a grade Jersey owned by W. F. Hauenstein. Her owner tried to sell her and "nearly gave her away" prior to the test, but she surprised him with a record of 465.4 lbs. fat in 8,578 lbs. milk at a profit of $214.35. To F. S. Wildenstein goes the credit of having a record cow in the honor roll every month during the year.

The dairymen of this association saw readily the advantage in owning pure-bred sires, with the result that twelve pure-breds replaced scrub bulls, making a total of seventeen pure-breds in the association at present. Five other members are making use of their neighbors' sires. Five silos were erected and four of the members installed drinking cups. Two milking machines were put in use and one electric light plant. Eighty-six cows were culled and sold as unprofitable. One herd of registered stock was bought and distributed among the members. Kenneth S. Bailey, the tester, states that at the present prices for feed and labor a herd must produce more than 6,000 lbs. of milk and 200 lbs. of butterfat per cow annually in order to yield a profit to the owner. Twenty of the 26 members joined for the second year's work.

Recent Guernsey Records

A number of very creditable records have recently been completed by Guernsey cows. Among these are the following:

Imp. Flora's Sailor Girl, owned by W. A. Munn of Wisconsin, as a two-year-old produced 11,676.5 pounds of milk containing 559.03 pounds of fat. She carried a calf 268 days of her test period. She has qualified for eighth place in class GG.

Ultra May Queen, owned by High Point Springs Farm, New York, now holds tenth place in class D with a production of 14,608.1 pounds of milk containing 757.74 pounds of fat. This record she made as a three-and-one-half-year-old.

Masherlette of Harbor Hill 2d, owned by Robert Stuart of New York, was a world's champion in the two-and-one-half-year-old division from December 18th to 25th, 1920. Her record of 12,602.2 pounds of milk and 634.3 pounds of butterfat in class FF exceeded that of the previous champion, Little Star of Glencairne, by 63.08 pounds fat. On Christmas Day her record was exceeded by that of Park's Judith Beauty, which produced 646.15 pounds of fat.

Folly Laura has qualified for fifth place in class GG as a junior two-year-old with a record of 10,270.3 pounds of milk containing 572.09 pounds of fat. She is owned by R. H. Connelley of Illinois.

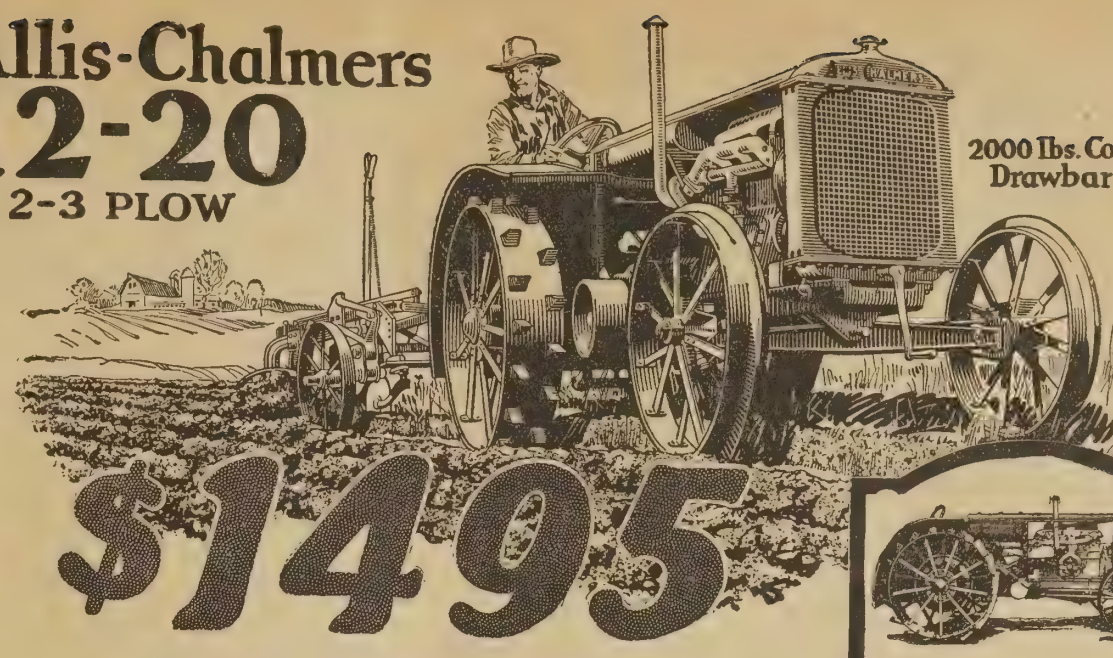
Seventh place in class AA is now held by Contrafuria, owned by F. K. Babson of Illinois, with a production of 15,764.8 lbs. of milk containing 745.09 lbs. of fat. She carried her calf 265 days of the test period.

Elm Road Polly, by completing a production of 10,976.9 pounds milk containing 647.18 pounds of fat, has come within 23 pounds of equaling the world's record for the breed in class DD. She holds second place in the division.

By completing a record of 15,015.8 pounds of milk containing 772.99 pounds of fat in the four-and-one-half-year-old division, Stranford's Verena of Chippewa, owned by L. P. Martiny of Wisconsin, takes tenth place in class B.

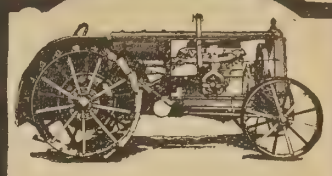
Katherine's Trixie, owned by Walter C. White of Ohio, now holds the world's record among two-year-olds in both milk and butterfat, her record being 18,495.7 pounds of milk containing 791.48 pounds of fat. She replaces Langwater Hope which has held the championship in this class for eight years.

Allis-Chalmers 12-20
2-3 PLOW



2000 lbs. Constant Drawbar Pull

$1495



IN this 18-30, Allis-Chalmers engineers worked out every construction feature which has been incorporated into the new A-C 12-20. Lubrication of the 18-30 is force-feed; air entering carburetor is first washed—freed of every particle of dirt and dust; "line-up" for belt work is made easy by use of automobile type of steering. It easily handles 4-6 24-inch discs or 3-4 mouldboard plows, with abundant reserve for emergencies.

MATCH IT IF YOU CAN!

$42,500,000 Allis-Chalmers Company Offers Perfected Tractor at an Unequalled Price

AFTER seven years' development, one of the world's largest manufacturing organizations goes into large-scale production—offering perfected tractors at volume prices! To build a tractor more economical to operate, with greater reserve power, with brute endurance—this was not the only aim of foremost consulting engineers and one of the world's largest engineering staffs when work first started on Allis-Chalmers tractors, seven years ago. A matter of equal importance was how to combine with super-quality a *low price*. For Allis-Chalmers sought a tractor lower in first cost than others of its rating, as well as cheapest in cost per year of service.

Seven Years to Build This Tractor

Vastly more than "blue-print" perfection was demanded by the $42,500,000 Allis-Chalmers Mfg. Co., with a world-wide reputation and over a half-century's experience in building machinery for some of the largest factories and engineering projects in the world. Constant factory and field tests—of the severest sort—were to *prove* these tractors *perfected* before Allis-Chalmers would go into volume production.

Naturally, adherence to such standards meant that many *different* models be built—that development continue for a period of years. So Allis-Chalmers proving and improving went on. In the mammoth general plant, tractors were built for testing—*in quantities of only five at a time.* Design was changed at will. For it did not mean the sacrifice of thousands of dollars' worth of specialized machinery whenever better construction was discovered.

Finally, a finished A-C 18-30 was built—embodying every improvement resulting from seven years of thorough, careful engineering. Long-time tests were conducted—in every kind of soil. In limited numbers, tractors were released into every section of the country. It was the "O. K." of the farmer that Allis-Chalmers wanted! And not a single A-C 18-30 owner made complaint about the service.

It was on the basis of this remarkable record that the perfected Allis-Chalmers 12-20, here offered, was designed—*embodying the same time-tested features which have made the A-C 18-30 famous.*

Now, with final designs proven *right*—with one of the largest tractor plants and foundries completed—the $42,500,000 Allis-Chalmers Company goes into volume production with prices down to almost unheard of levels!

One Hundred Tractors a Day!

This is the mammoth production capacity Allis-Chalmers has provided. Every economy resulting from volume manufacturing is reflected in the 12-20 price of $1495. Every saving due to the enormous buying power of this $42,500,000 institution is passed on to the buyer.

Point for point, quality for quality, the 12-20—like the 18-30—represents one of the greatest values in the industry. You find its heavy-duty, smooth-running motor, for example, more accessible than the engine of a motor car or truck. Though rated at 2000 lbs. drawbar pull, it is actually capable of developing and maintaining a power surplus of 25 per cent. Removal of two side inspection plates exposes entire crankcase; valves can be reached for grinding or cleaning of carbon by taking off a single cylinder head; complete access to transmission is secured through a large dust-proof cover plate; clutch shoes can be removed for re-lining in 15 minutes. An exceptionally large copper fin-and-tube type radiator prevents overheating, even in the warmest weather.

Compare the Allis-Chalmers 12-20 with other tractors up to $1800—and match it if you can! Match its modern design! Match its reserve power! Match its wonderfully excellent construction—its materials—its workmanship—its downright durability!

WRITE FOR BOOKLET TODAY—Ask for the 18-30 or the 12-20 booklet—or both—giving complete details of exclusive Allis-Chalmers construction features which make these tractors so advanced in design.

DEALERS—Write today for attractive dealership and jobber proposition. Share in the mammoth sales co-operation program which goes with Allis-Chalmers' 100-tractor-a-day production capacity!

ALLIS-CHALMERS MFG. CO., Dept. 28E, Milwaukee, Wis.

Watch ALLIS CHALMERS this Year

ALLIS-CHALMERS A-C MILWAUKEE

DRIED BEET PULP

Laxative, Succulent, Palatable—Keeps Cows Healthier

ATTRACTIVE PRICE
NOW IN EFFECT

Ask Your Feed Dealer

The Larrowe Milling Co.
Detroit, Mich.

Keep Tab on Your Cows

Send 5c in stamps for samples and prices of our weekly and monthly Milk Record Sheets. **Hoard's Dairyman, Fort Atkinson, Wis.**

VETERINARY

Advice is given free in this department. Inquires must be signed by the writer, and should pertain to veterinary Matters only. Where an immediate reply and prescription are desired by mail, the inquiry must be accompanied by a fee of one dollar. In every instance it will be necessary to give a full description of the symptoms present.

Simple Mammitis

The affix *itis* means inflammation of, and the word mammitis therefore is inflammation of the mammary gland or udder. Mastitis is another term for the same condition and by stockmen it is termed garget or caked bag. It is a catarrhal condition of the membrane lining the ducts of the teats and udder.

This form of mammitis has to be differentiated from acute mammitis and contagious mammitis which will be considered in subsequent articles. It is not difficult to make a correct diagnosis of this simple ailment as an attack does not cause fever or any serious derangement of the system. Usually but one quarter of the udder swells and becomes more or less hot, red, and painful. The milk changes in consistency and contains curds or clots, but is not brown or bad-smelling and does not contain pus. The cow may be a bit stiff or straddle a little in gait, but rarely loses appetite. Milk secretion, however, may be lessened in quantity. Some attacks come on without appreciable cause, occasion very little disturbance, and quickly subside. Many attacks, on the contrary, tend to run into the acute form if not promptly and properly treated, and especially when they recur.

The known causes are many and different. Some of the commoner ones are chill, shock, bruise, irregular, rough, or incomplete milking, change of milkers, coming in heat, prolonged excessive feeding of protein-rich feed, running, chasing by dogs, chafing, standing in cold water when warm, and slight injuries.

A rarely recognized cause is sucking of the teats by other calves during the early days of life when milk is fed. This tends to cause a slight attack of garget which comes on again at the birth of the first calf. It may also result from the "drying off" process. Lying upon bare or insufficiently bedded concrete stall floors is another unsuspected cause and attacks may likewise result from lying upon cold, wet, or frozen ground when the udder is congested.

The rear part of concrete stall floors should be covered with cork brick or boards and be well bedded and stalls should be wide enough to prevent cows from stepping upon one another's teats. Also see that cows do not have to step over high sills in doing which they are liable to injure their teats. So far as possible remove or avoid all causes mentioned.

Isolate a cow whenever anything goes wrong with her udder. Keep her separate and milk her last until perfectly recovered. There is no absolutely specific remedy. Each veterinarian has his own pet plan of treatment. On general principles, however, it may be advised to reduce rich feed, and frequently strip the udder clean, foment it with hot water for 15 minutes every 2 hours, massage thoroughly each time, and rub in a mixture of 1 part each of turpentine and fluid extract of poke root and 6 parts of sweet oil or melted lard once or twice daily. This lotion may, if necessary, be increased in strength. It is also usual to start treatment by giving a pound dose of Epsom salts in warm water sweetened with molasses and following with half-ounce doses of powdered saltpeter and poke root twice daily until the attack subsides.

Heaves

I bought a mare out of the stockyards last fall and she is heavey or wind broke. Is there anything to be done to relieve her condition?

Festus, Mo. E. J. J.

Emphysema of the lungs (heaves) is incurable when established. Distress may be relieved by feeding wet oat straw in place of hay in winter and making the horse live on grass in summer. Oats, bran, and roots or silage may also be fed. Keep the bowels active. Do not feed any bulky roughage at noon if the mare has to work and do not work her immediately after a meal. If distress is great, give her half an ounce of Fowler's solution of arsenic night and morning until symptoms abate; then gradually discontinue the medicine, taking at least 10 days to the process.

Tuberculosis

I have a Jersey cow four years old that is so thin and weak she doesn't drink only very little water and won't eat. I try everything which I think she will eat. She has had a cough for over a year. She will cough for five minutes and her milk is blue.

Alexandria, So. Dak. A. K.

The cow apparently is in the last stages of tuberculosis and should be destroyed. A veterinarian should then make a post mortem examination and if the disease is found present test your other cattle with tuberculin. The milk of such a cow is dangerous to people and animals. The stable will have to be cleansed, disinfected, and whitewashed under direction of the veterinarian.

Supernumerary Teats

Kindly give me advice as to handling a six-teated heifer that has just come in with her first calf. While I milk four teats the two extra teats leak milk. They are about the same size as the other teats. Shall I milk all the teats or leave the two extra ones to dry up? I am now milking four teats but her udder is so hard that I am wondering if her udder will go down if I do not milk the extra teats.

Wayne, Ill. W. C. P.

The extra teats should have been amputated early in life and it may be possible for a veterinarian to do so when the heifer is dry. Meanwhile, try to dry off secretion in the rudimentary glands by twice daily rubbing in a mixture of equal quantities of fluid extract of belladonna and camphorated oil, gradually lengthening the time between milking and finally stopping the milking process.

This is a good time to plan crop rotations and to plot next summer's field work.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

Stop Losing Calves

Treat Your Own Herd as *Dr. David Roberts* Himself Would Treat Them. His Treatment Used Successfully for Past 30 Years.

Easy to Apply—Sure Results

Stamp Abortion Out OF YOUR HERD AND **Keep It Out**



ASK FOR "The Cattle Specialist"

Sent free on request. Answers every question pertaining to **Abortion in Cows.** Tells how to treat your own herd at small expense. Write

DR. DAVID ROBERTS VETERINARY CO., Inc.
638 Grand Ave., Waukesha, Wis.

A GUARANTEED REMEDY FOR CONTAGIOUS ABORTION



Save calf, cow and herd by the use of *Aborno.* Easily administered by hypodermic syringe. Kills abortion germs quickly without injuring cow. Write today for free booklet with letters from users and full details of our moneyback guarantee.

ABORNO LABORATORY
28 Jeff St. Lancaster, Wis.

Hood Farm Abortion Remedy
and
Hood Farm Breeding Powder
Will Check and Prevent
ABORTION

If you are having trouble from abortion, order these two Remedies at once, give them a thorough trial and we are sure that you will be pleased with the result.

Chemung, N. Y.

Gentlemen:—For the enclosed five dollars please send me the Abortion Remedy and Breeding Powder. Have had splendid success with your Remedies. No more abortion.

PHIL WYNKOOP.

PRICES: Abortion Remedy, prepaid, $1.25, $2.75 and $9. Breeding Powder, prepaid, $1.15, $2.75 and $5. Injection Tube, by mail, 90 cents. One medium Breeding Powder, one medium Abortion Remedy, one Tube, prepaid, $5.75. Please mention this paper.

C. I. HOOD CO., Lowell, Mass.

ABSORBINE
TRADE MARK REG. U.S. PAT. OFF.



will reduce inflamed, swollen Joints, Sprains, Bruises, Soft Bunches; Heals Boils, Poll Evil, Quittor, Fistula and infected sores quickly as it is a positive antiseptic and germicide. Pleasant to use; does not blister or remove the hair, and you can work the horse. $2.50 per bottle, delivered.
Book 7 R free.

ABSORBINE, JR...the antiseptic liniment for mankind, reduces Painful, Swollen Veins, Wens, Strains, Bruises; stops pain and inflammation. Price $1.25 per bottle at dealers or delivered. Will tell you more if you write. Liberal Trial Bottle for 10c in stamps.
W. F. YOUNG, INC., 254 Temple St., Springfield, Mass.

BICKMORE'S GALL CURE

ON COWS

Sore teats mean less milk. Rub ointment into teat and wipe away all excess with a cloth. Teats healed and softened over night. Excellent for caked udder, wire cuts, cracked hoof, etc. Write to The Bickmore Co., Box 83, Old Town, Me.





America's Pioneer Dog Medicines

BOOK ON
DOG DISEASES
And How to Feed
Mailed free to any address by the Author
H. CLAY GLOVER CO., Inc.,
118 West 31st Street, New York

How to Stop
Calf Scours

You can do it in a quick simple reliable way—costs little. One good calf saved will repay the expense of protecting your whole herd for a long time against this infectious disease.

Leading breeders and dairymen throughout the country say there is nothing like B-K. It contains no poison or acid—It is clear as water and safe to keep anywhere.

B-K acts as an anti acid and sweetner in stomach and also quickly kills the germs that cause scours or diarrhoea. It heals the inflamed membranes, relieves irritation and restores healthy action.

SAVE EVERY CALF

It's so simple to keep your barns sanitary and your animals in a healthy condition. B-K also prevents such germ diseases as Abortion, Retained Afterbirth, Barrenness, Calf Pneumonia, and you have this wonderful help all in one bottle—always ready.

Keep a supply of B-K handy for all the "little ills" of the barn—cuts, scratches, anything where infection can do harm.

GENERAL LABORATORIES
MADISON, WISCONSIN

We will send you on request a bulletin telling you "How to Save Every Calf."

B-K is a pure sodium hypochlorite — every scientific man knows the value.



B-K Bacillus

1 Gal. and 5 Gal Pkg.



HE WORKS or YOU LOSE

SAVE-THE-HORSE will save you loss by curing, *while he works,* Ringbone, Thoropin, **SPAVIN**—or Shoulder, Knee, Ankle, Hoof or Tendon Disease—even the old, so-called incurable cases. Over 300,000 satisfied users and 27 years of success testify to its positive dependability. Sold only under our signed MONEY-BACK Guarantee to cure—we take the risk. Use it once and you'll always depend upon **SAVE-THE-HORSE.** Saves many times its cost in the first emergency.

Write today for **FREE** sample of GUARANTEE and 96-page **BOOK** on how to locate, understand and treat all lameness; also expert veterinary advice, all **FREE.**

TROY CHEMICAL CO., 327 State St., Binghamton, N.Y.
Druggists everywhere sell SAVE-THE-HORSE with Signed Guarantee, or we send it direct by Parcel Post Prepaid.

ANTICAKE Trade Mark "Takes the cake" out of caked bag, quickly relieves inflammation, skin troubles, sores, cuts, chapped teats, etc. Money back guarantee. Price $1.25 prepaid for large box.
DAIRY SPECIALTY CO., Elyria, Ohio

Heaves Fleming's Tonic Heave Powders good for "Heavey," thin, run-down, hide-bound horses. $1.04 a package postpaid. Money back if they fail. Send for FREE Vest Pocket Veterinary Adviser. Describes Heaves and 200 other Horse and Cattle Diseases.
FLEMING BROTHERS, 255 Union Stock Yards, Chicago

"You'll Always Find"
says the Good Judge



That you get more genuine satisfaction at less cost when you use this class of tobacco.

A small chew lasts so much longer than a big chew of the ordinary kind. And the full, rich real tobacco taste gives a long lasting chewing satisfaction.

Any man who uses the Real Tobacco Chew will tell you that.

Put up in two styles

W-B CUT is a long fine-cut tobacco
RIGHT CUT is a short-cut tobacco

Weyman-Bruton Company, 107 Broadway, New York City

A Co-operative Creamery in Idaho

(Continued From page 260)

secures a good placing for "Sunshine Brand" in the annual Northwest Dairy Products Shows.

An interesting feature of the creamery's business has been the handling of a limited line of dairy equipment. An agency for two separators is held and the commissions on separator sales last year were sufficient to pay the salary of Mr. Brown. The creamery operates five motor trucks and a first-class automobile for the manager.

Homer Gregory of Payette has been president of the creamery since its organization and has presided at every meeting of the directors of stockholders with the exception of a single meeting since the date of organization and a large part of the success attained is credited to his interest and active assistance in the organization.

One of the first educational projects of the creamery was to co-operate with the farm bureau in the organization of a Jersey bull association in 1919. At that time there were very few pure-bred cows in the county and the average production of the type maintained was low. Four blocks were organized in the association, including fifty members owning 130 cows. Each cow is entered at ten dollars a share. The four bulls were purchased in Oregon and represented excellent breeding. All were from cows that had Register of Merit records of more than 500 pounds of butterfat at maturity.

This feature worked out successfully and so stimulated interest in a better type of dairy stock that last spring the Payette Jersey Cattle Purchasing Association was organized on a co-operative basis. Members borrowed $10,000 on their personal notes through arrangements with the Payette County banks and sent F. R. Cammack, field dairyman of the University of Idaho and a representative of the farm bureau, to Oregon to purchase foundation animals. Forty-three registered Jerseys were purchased. The shipment included bulls, cows, and young heifers and were sold at auction to twenty-two purchasers, practically all of whom were residents of Payette County. The forty-three animals averaged $336, the highest selling for $1,000.

The Purchasing Association found itself with a fund of about $3,000 on hand at the close of the sale, which was used to finance another shipment of pure-bred Jerseys in December. The entire herd of the Glendale Creamery Company, Washington, was purchased and sold at auction for an average of $218. Of the sixty-nine head, fifty-six remained in Payette County, fifty-four of them within a radius of five miles from the little town of Fruitland. In view of the tight financial conditions, the sale was regarded as very satisfactory.

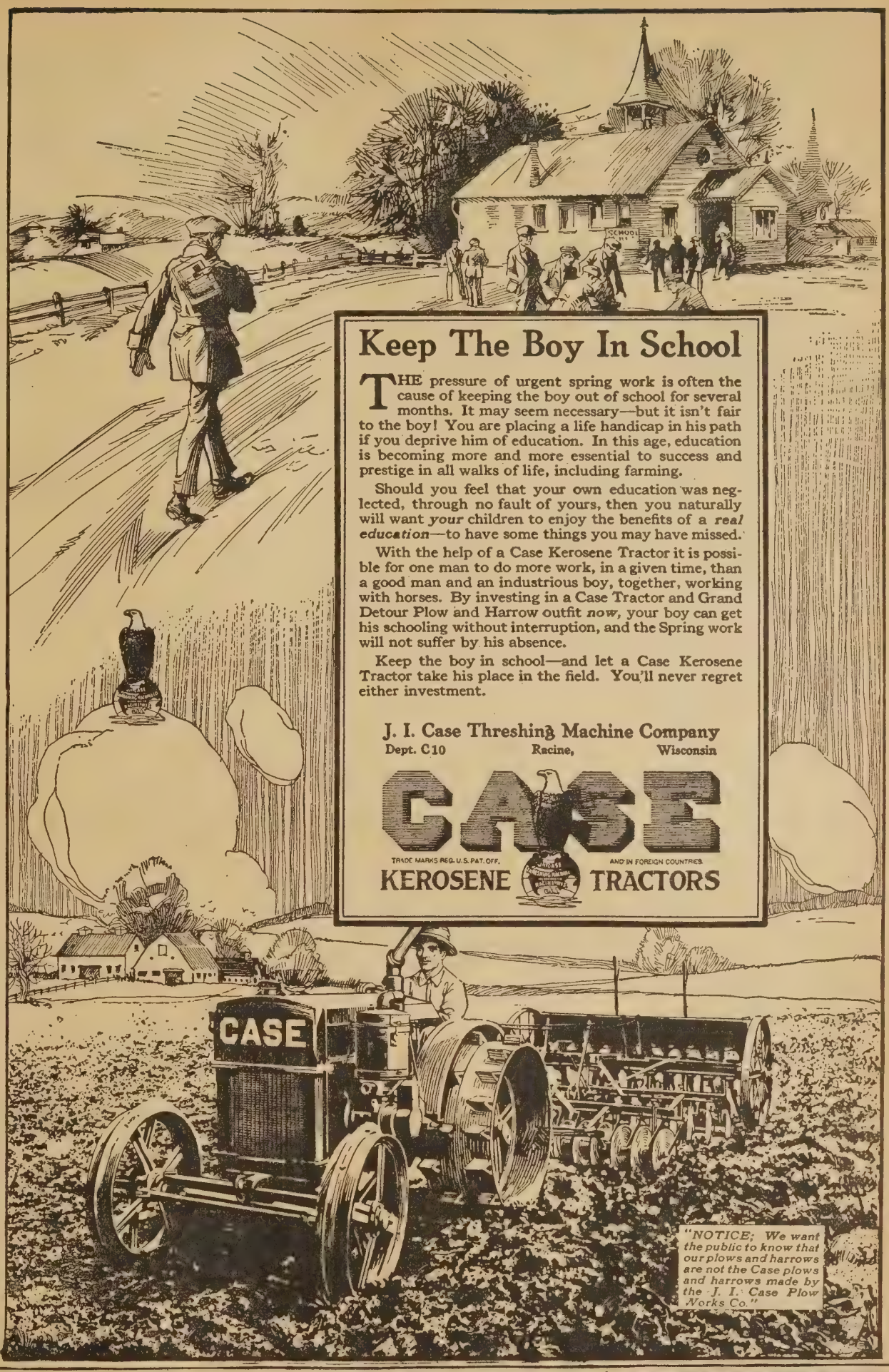
An interesting feature of the sale was the purchase of the Fruitland Bank Calf Club of nine of the best young stock in the sale. The bank loaned funds to boys of the club on renewable notes for one year at six per cent.

Milk Costs in New Jersey

Sussex County, New Jersey, furnishes some comparative figures on the cost of milk production which may be of value to other sections. It is estimated that the cost for keeping a cow for twelve months in 1914 was $146.45. In 1917 this total had increased to $207.47, while the cost in 1918 was $248.27. Subtracting the value of manure and the values of calves sold, these costs were $129.35, $186.37, and $220.58 respectively. In these three years the cost for producing a quart of milk was 4.28 cents, 6.17 cents, and 7.31 cents respectively. The market price in 1914 was 3⅓ cents, or a net loss of nearly one cent per quart. In 1917 the selling price was 4.4 cents, or a loss of nearly two cents, and in 1918 the price was 17.19 cents, or only .12 of a cent below the cost of production.

Nevada Holstein Breeders Meet

The Holstein breeders of Nevada completed a state association November 20th in an organization meeting held at the University at Reno. Eighteen members are enrolled and, according to Secretary V. E. Scott, there is enough interest shown to warrant the prediction that the association will number at least 30 members before another annual meeting.



Try Out This Handy Mixer for 10 Days

See how easy it is to do your own concrete work. One man can operate it. Easily moved. Simple; strong. Attaches to 1 or 1½ H. P. engine. Write.

BARREL MIXER CO.
640 Williamson St., Madison, Wis.

Wynn Barrel Concrete Mixer

"The 1-Man Mixer with the 6-Man Capacity"

CONE SHAPE GRINDERS

It PAYS to GRIND ALL GRAINS

Look to the Grinders. They do the work! Bowsher's Cone-Shape grinders are the correct principle in Feed Mill construction. They mean larger grinding surface close to center of Shaft; thus More Capacity, Lighter Draft, Longer Life.

"Desire to express my appreciation of the long-lasting, trouble-proof Bowsher. Have used a No. 4 ten years with less than One Dollar per year for repairs." R. W. Watt, Jacobsburg, O.

10 sizes; 2 to 25 H. P. Write for free catalogue.

N. P. D. BOWSHER CO., SOUTH BEND, IND.

Ear Tags FOR STOCK

Tag your stock—best and cheapest means of identification for Hogs, Sheep and Cattle. Name, address and number stamped on tags. Catalog mailed free on request.

F. S. Burch & Co. 156 W. Huron St. Chicago

THE GENUINE CHAMPION
Improves Milk Quality

This milk cooler halts bacterial growth, removes odors, insures uniform product. Saves its cost in one week. Recommended by leading producers. Write for special offer. Folder free.

CHAMPION MILK COOLER CO.
Dept. D, Cortland, N. Y.

BULL SALE

Winterthur Farms

Thursday, March 17th, 1921

42 REGISTERED HOLSTEIN BULLS

(From 3 to 17 Months Old)

13 Ready For Light Service

Will be sold at auction to the highest bidder. So come early and look them over before the sale starts.

YOU CAN BUY ONE AT YOUR OWN PRICE and will be able to choose him from among a large number of splendid individuals. Every bull in the sale was born and raised at Winterthur and the dam of nearly every one is now in our herd where she may be seen and inspected at any time.

These bulls are sons of our herd sires: King of the Ormsbys, Sir Inka Prilly Segis, Johanna King Segis, King of the Sadie Vales.

YEARLY RECORD DAMS

35 OF THEM ARE OUT OF DAMS THAT HAVE COMPLETED SEMI-OFFICIAL RECORDS, or that are now making such records. Four have dams with over 900 lbs. butter and 20,000 lbs. milk, two others with nearly 900 lbs. butter and over 24,000 lbs. milk, and seven others with over 700 lbs. butter and from 15,000 to 19,000 lbs. milk. The dams are from some of the best blood lines of the breed.

FEDERAL ACCREDITED HERD

This is an Accredited herd and every bull over six months old will have passed a Federal tuberculin test before date of sale, and will be sold subject to a 60-day retest.

APPROVED NOTES ACCEPTED

We will accept your note for any bull purchased if satisfactory arrangements are made beforehand.

LOCATION OF WINTERTHUR FARMS

The farms are located six miles north of Wilmington on the Kennett Pike. Automobiles will meet trains at Wilmington the morning of the sale.

Write for Catalog

Sale starts 12:30 P. M. **Lunch served 11:30 A. M.**

WINTERTHUR FARMS, - - Winterthur, Delaware

Canada's First National Ayrshire Sale

Under the Auspices of the

Canadian Ayrshire Breeders' Ass'n

Will be held at MacDonald College

St. Anne de Bellevue, Quebec

(20 miles west of Montreal on G. T. R. and C. P. R. lines)

Thursday, March 24th, 1921

At 1 O'Clock, P. M.

(The day following the Annual Meeting in Montreal)

About 40 Head of Choice Females and a Few Bulls Will be Offered

These range in age from ONE to EIGHT years.

A few of the cows will have freshened by sale time, but a number are due to freshen in April.

Every animal offered has been selected with a view to type and production and from the best herds in the Country.

A good opportunity to select foundation stock.

Sale catalogues will be ready about March 10th, and for same apply to:

Gilbert McMillan, Sales Mgr., R. 2, Huntingdon, Quebec

W. F. Stephen, Secretary, Huntingdon, Que.

Auctioneers:—L. E. Franklin, Toronto, Ont.; C. A. Gavin, Huntingdon, Que.

Lunch will be served in the Sales Arena at noon.

Dispersal Sale

100 HEAD

Registered Holstein-Friesian Cattle

Friday, March 18, 1921

At 10:00 A. M. Sharp.

Linside Farms and personal property are sold. This great herd must be disbanded after fifteen years of careful breeding with 30-lb. sires at head of herd.

Rag Apple Korndyke 20th 204631, sired by Rag Apple Korndyke with 51 A. R. O. daughters, one 37 lbs. and whose dam is Mutual De Kol, the 30-lb. show cow with 2 A. R. O. daughters is now in service. The whole breeding herd with A. R. O. records up to 27½ lbs. butter 7 days with a lot of two-year and yearling heifers by 30-lb. sires and bred to a 30-lb. bull with the 1920 crop of heifer calves and three young bulls from A. R. O. cows will form a wonderful opportunity for buyers to fill their needs. Herd Federal tested with 60-day retest privilege.

Farms one-half mile north Unionville, reached by stone roads and trolley; ample hotel accommodation in West Chester.

S. T. Wood, Sale Director, Syracuse, N. Y.

Kelly & Baxter, Auctioneers.

Send for Catalogs

W. B. WICKERSHAM,

Chester County, EMBREEVILLE, PA.

GUERNSEY SALE

West Salem, Wisconsin

Wednesday, March 30, '21

Fourth Annual Sale of the La Crosse County Guernsey Breeders.'

Catalog tells all about them. Send a card for it now.

H. W. Griswold, Sale Mgr., West Salem, Wis.

Guernsey Bulls For Sale

No. 1. Mimosa's Golden Butter Boy 48183. Born October 30th, 1917. *Sire,* Imp. Golden Noble II of the Briquet 40951. *Dam,* Imp. Mimosa III of Meadow Farm 68672.

No. 2. Raymond May Rose King 62800. Born October 29th, 1918. *Sire,* Raymond's Bequest of the Manor 33197. *Dam,* Imp. May Rose II of the Frie Baton 68669.

No. 3. Liseter Duke Raymond 58151. Born September 25th, 1918. *Sire,* Raymond's Bequest of the Manor 33197. *Dam,* Imp. Fairy Duchess III of Frie Baton 68690.

These Bulls are well grown, nice individuals, bred in the purple and guaranteed breeders. For full particulars and prices apply

LISETER FARMS, -:- Newton Square, Penn.

A GRANDSON OF S. P. O. M.

And a ¾ Brother to the 36-lb. Daughter of "37th"

This youngster was a year old March 3rd. He's light in color, well grown and an excellent individual. His dam, a 24-lb. cow, is also the dam of the 36-lb. 4-year-old daughter of "37th." His sire, one of the good sons of S. P. O. M., is a brother to "37th." First check for $400 takes him. Write us.

SPRING BROOK FARM - - - - Burnett, Wis.

Herd under Federal Supervision.

HOLSTEIN HERD FOR SALE

We are overstocked and offer ten young heifers and cows, all of good breeding, sound in every way and tuberculin tested. It is our desire to move them quickly and have priced them accordingly.

Date Holstein Farms,

GRANT E. VOLLAND, Mgr. Baroda, Mich.

Hill Side Dairy Farm

OFFERS

Young Bulls For Sale

Bull No. 1. Evenly marked 8 months old and ready for light service. He is sired by Sir Pietertje Ormsby Bonheur, a 26-lb. sire. The dam has an A. R. O. record of 20.02 butter in 7 days. Price $150. crated.

Bull No. 2. Mostly white. Good individual. He is sired by Sir Aaltje Pontiac Hengerveld, a 33-lb. sire. Dam has an A. R. O. record of 21 lbs. as a senior 5-year-old. Price $200, crated.

THORE SEBION, Westby, Wisconsin

Ayrshire Secretary in Scotland

J. G. Watson, secretary of the Ayrshire Breeders' Association, sailed for Scotland January 22nd to attend the annual show of the Scotch Herd Book Society of Ayr and for a study of Ayrshire conditions in the breed's native country. Accompanying Mr. Watson are Mrs. Watson and a number of American and Canadian Ayrshire breeders including Gilbert McMillan, president, Canadian Ayrshire Breeders' Association; William Hunter of Alta Crest Farms, Massachusetts; and R. R. Ness, Quebec. John Lindsay of Wendover Farm, New Jersey, and John Cochrane of Barclay Farms, Pennsylvania, are also in attendance at the Scotch show.

1920 Farm Wages Highest

The highest farm labor wages ever paid were those recorded in 1920. According to the United States Department of Agriculture the average monthly wage for labor by the month was $46.89 with board and $64.95 without board. For daily labor at harvest, $3.60 with board was paid and $4.36 without board. The increase in farm wages began about 1895. At that time the average monthly wage was $17.69. In no other previous year, in records which extend back as far as 1866, is a lower rate than that recorded, except in 1879 when the average was $16.42. By 1902 the wage rate had increased to $22.14, by 1914 to $29.88, and in 1915 to $30.15. These increases came before the effect of the war. A rapid rise followed the beginning of the war, the average in 1916 being $32.83, which increased year by year to 1920, when the highest price in the farm history, $64.95, was reached.

Spray every fruit tree in 1921.

SWINE

Cedar Crest Farms
have never possessed a finer lot of
BERKSHIRES
than at present. Let us name you prices on fall and spring boars and young gilts.
J. K. Dering, Owner, Lake Villa, Ill.

BROWN SWISS



BETTY OF LAKE VIEW

Breed Brown Swiss Cattle

As producers they are worth every cent you pay for them. Cows are easily sold at reasonable prices. Their earning power has not been capitalized. Brown Swiss meet the ideals of working farmers.

BROWN SWISS CATTLE BREEDERS' ASS'N
IRA INMAN, Secretary, Beloit, Wis.
William B. Hale, Pres., Aqueduct Bldg., Rochester, N. Y.

Brown Swiss Cattle
Stock For Sale
Correspondence Solicited
HULL BROS., Painesville, Ohio

JUBILEE FARM
Brown Swiss Cattle
Young stock for sale. Individuals of Quality. The best producing blood lines of the breed.
BOX 747, PEORIA, ILL.

Fariview Dairy Farm
Brown Swiss Cattle
FOR SALE
Both Male and Female
F. P. MINNETTE & SON, Sauk Center, Minnesota

AYRSHIRES

Linndale Farm Ayrshires
"Are bred for Production"
Bull calves out of A. R. cows and sired by sons of World Record cows, for sale.
Our { Breeding, Conformation and Prices } are right.
See what we offer before you buy.
JOHN LINN & SONS,
Manhattan, Kansas.

Metropolitan Farm
For Sale—Bull calves from our best A. R. cows. These calves are from one month to one year old. Priced for quick sale.
Write for pedigrees and prices.
METROPOLITAN LIFE INS. CO.,
Neil J. Parker, Farm Supt.,
Wilton, New York.

Orchard Lodge AYRSHIRES
Stock for sale, all ages.
Both sexes, prices reasonable.
G. W. STOLLER, Johnstown, New York

BLACKBURN FARM
HOME OF
Addington's Champion
Grandfathers—Nox'emall and Finlayston
Father—Rena's Champion, 17 A. R. Daughters
Mother—Addington Queen 3d, two Mature Records each over 19,000 lbs.
For Sale —
4-year-old cow—Fresh Dec. 12, 1920
2-year-old heifer—Fresh Jan. 16, 1921
Also Young Stock
Tuberculin Free Herd
Sewickley, Pennsylvania

Bensalem Ayrshires
For Sale:—Bull Calves from our best A. R. Dams, and sired by "Queen's Favorite", whose Dam, "Bloomer's Queen", holds the World's Record as an Ayrshire Four-year-old with 21,820 lbs. milk, 1,009 lbs. butter. Grandam of Sire, Auchenbrain Brown Kate, Ex-world's Champion, 23,022 lbs. milk, 1,080 lbs. butter.
FRIENDS HOSPITAL, Frankford, Phila., Penn.

Ayrshire Stock
of all ages for sale. Satisfaction guaranteed
L. W. McCONNELL, Wellington, Ohio

Pure-bred Ayrshire Cattle For Sale
Best of breeding. Calves sired by a Grandson of Brown Kate, record 1,080 lbs. butter in year.
Wm. Nisbet & Sons, Richland Center, Wis.

OFFICIAL MILK AND FAT RECORDS COMPLETED IN 1920
Issued to Middlesex Meadows

Name	Class	Age	Milk	Fat	%
Nancy Whitehall (Highest official record in 1920).	A	5 yrs. 335 days	22,075	858.77	3.89%
Freeda of Elmwood	A	8 yrs. 183 days	18,502	753.45	4.07%
Rosella Webb	A	6 yrs. 306 days	16,291	675.53	4.06%
Maple Leaf Jean	A	6 yrs. 223 days	16,271	614.69	3.78%
Lochfergus Soncie	A	9 yrs. 214 days	14,044	598.72	4.26%
(Average for 5 cows).			17,436	700.23	4.01%
Carrie McDonald	A	9 yrs. 334 days	13,631	563.74	4.14%
Henderson's Lassie	A	6 yrs. 9 days	13,568	602.61	4.44%
Lucy Webb	G	2 yrs. 140 days	13,524	568.47	4.20%
Silver Beauty of Ing.	A	6 yrs. 305 days	13,707	598.19	4.36%
Zula of Elmhurst	A	5 yrs. 299 days	12,474	505.45	4.05%
(Average for 10 cows).			15,308	633.96	4.12%
Amy of Beverly	A	7 yrs. 261 days	12,338	457.31	3.71%
Patricia's Snowflake	F	2 yrs. 191 days	11,965	503.45	4.21%
Berlin Bess	A	7 yrs. 303 days	11,340	480.37	4.25%
Barleith Right Kind	A	8 yrs. 203 days	10,487	424.80	4.05%
Calla Lily of M. B.	A	8 yrs. 185 days	10,272	423.23	4.12%
(Average for 15 cows).			13,966	575.25	4.10%
Lillian Martin	A	8 yrs. 97 days	10,166	362.73	3.57%
Sir Hugh's Fl. Star	F	2 yrs. 362 days	9,671	371.49	3.84%
Teaser of N. F.	D	3 yrs. 283 days	9,479	383.75	4.05%
White Heather of Highland	B	4 yrs. 279 days	9,924	412.81	4.16%
(Average for 19 cows).			13,090	534.71	4.06%

Several of these records were made under Roll of Honor conditions, and some of the cows have already freshened again, all others are re-bred and safe in calf. In addition to making these records, two of these cows **White Heather of Highland** and **Maple Leaf Jean** were on the show circuit both in 1919 and 1920, both won Grand Champion honors and stood second and third at this year's National Dairy Show, **Maple Leaf Jean** winning the A. R. class as well.
We have youngsters of both sexes by proven bulls out of the above cows for sale. Pick your own dam and write for a price on her produce, to

A. Henry Higginson
MIDDLESEX MEADOWS FARM
South Lincoln, Mass.



We Have For Sale
the well bred Ayrshire bull, Bargenoch "Drexel" (18474) Imported. Bred by John Logan, Bargenoch, Scotland. Born Feb. 2nd, 1919. Color white and red. Sire, Bargenoch Magnificent (9579). Sire of Bargenoch "Royal Champion" sold at Bargenoch sale, 1919, for $7,267.00.
Dam, Bargenoch Victoria (37003). Scotch record: 9,221 lbs. milk, 4.23% fat in 43 weeks; 11,070 lbs. milk, 4.50% fat in 47 weeks.
BARCLAY FARMS, John Cochrane, Manager, ROSEMONT, PENNSYLVANIA

Monstone Farm Ayrshires
"Production — Size — Individuality"
Bull calves out of dams with A. R. records of 10,000 lbs. (and better) of 4% milk—Winners in show ring—Sired by Lessnessock Gem's Good Gift Imp.—Winner in show ring and proven prepotent sire—Weight 2,250 lbs. in breeding condition—Whose dam made 8,930 lbs. milk, 4.05% fat, in *36 weeks* (Scotch record)—Sire's dam 10,342 lbs. milk 365 days (Scotch record)—Prices $100 to $1,000. If you want class and a square deal, correspond with us. We can supply your wants at your prices. Nothing but the best. Herd Federally tested.
MONSTONE FARM, John Chalmers, Manager, IPSWICH, MASSACHUSETTS

Delchester Farms Ayrshires
Tell us your wants and we can supply them at prices you can afford to pay.
Aged cows, bred to Glenury, an A. R. son of Finlayston.
Aged cows, bred to Rena's Baron of Highland, an outstanding son of Baron's Best of Bargenoch.
Heifers, bred to these two great sires.
Young heifers.
Bull calves.
All the above stock carries some of the best producing blood of the breed with A. R. ancestry on both sides.
Herd free from tuberculosis
DELCHESTER FARMS
Edgemont, Del. Co., Penn. - Thomas W. Clark, Supt.

Weymouth Farms
"Ayrshires of Quality"
All cows on Advanced Registry Test. Herd Tuberculin Tested.
We can supply you a herd sire of choicest breeding.
MARTIN A. TOWLE, Mgr.
NORTH WEYMOUTH, MASS.

South Farm
250 Registered Ayrshires
Stock of all ages for sale.
Write for prices.
George A. Cross, Mgr., Willoughby, Ohio.

ALTA CREST AYRSHIRES
Special Offering of
Ayrshire Bull Calves
Imported — Home Bred
which we believe to be the greatest lot of Ayrshire Youngsters ever offered by any breeding establishment in America.
Write for Sale List
Animals of all ages for sale. Over 200 head in the Herd. New Importation direct from Scotland to arrive August 1, 1920.
ALTA CREST FARMS,
Arthur H. Sagendorph William Hunter
SPENCER, MASSACHUSETTS

World's Champion Ayrshires
Fully Accredited Tuberculosis Free
— 200 Head in Herd



AUCHENBRAIN WHITE BEAUTY 2D
A. R. 14,721 lbs. milk, 4.33%
In 13 years, 112,486 lbs. milk and 13 calves
110 animals in herd are descended from this cow

The 1st, 2nd, 6th and 7th highest records were made here. Four cows average 22,823 lbs. milk, 1,046 lbs. butter. 100 A. R. records made here average 13,246 lbs. milk. Choice stock of all ages for sale at prewar prices. Special — Young bulls line bred to Auchenbrain White Beauty 2d.
PENSHURST FARM, Narberth, Pa.
(7 miles from Philadelphia)

Bulletins of the Week

First Aid to the Stockman, by B. A. Beach and F. B. Hadley. Circular 128, Extension Service of the College of Agriculture, Madison, Wis.

Principles of Live Stock Breeding, by S. Wright. Bulletin 905, U. S. Dept. of Agr., Washington, D. C.

Cheesemakers Save by Figuring Costs, by J. L. Sammis and O. A. Juve. Bulletin 321, Wisconsin Experiment Station, Madison, Wis.

Experience of Eastern Farmers with Motor Trucks, by H. R. Tolley and L. M. Church. Bulletin 910, U. S. Dept. of Agr., Washington, D. C.

Clear More Land, by John Swenehart. Bulletin 320, Wisconsin Experiment Station, Madison, Wis.

Spraying for the Alfalfa Weevil, by Geo. I. Reeves, T. R. Chamberlain, and K. M. Pack. Farmers' Bulletin 1185, U. S. Dept. of Agr., Washington, D. C.

Parasites and Parasitic Diseases of Sheep, by M. C. Hall. Farmers' Bulletin 1150, U. S. Dept. of Agr., Washington, D. C.

Substitutes for Sucrose in Curing Meats, by R. Hoagland. Bulletin 928, U. S. Dept. of Agr., Washington, D. C.

Clover Leaf Weevil, by D. G. Tower and F. A. Fenton. Bulletin 922, U. S. Dept. of Agr., Washington, D. C.

Selection and Preparation of Fowls for Exhibition, by J. W. Kinghorne. Farmers' Bulletin 1115, U. S. Dept. of Agr., Madison, Wis.

Marketing by Federations, by Theo. Macklin. Bulletin 322, Wisconsin Experiment Station, Madison, Wis.

Management of Growing Chicks, by J. W. Kinghorne. Farmers' Bulletin 1111, U. S. Dept. of Agriculture, Washington, D. C.

Feeding Cottonseed Products to Live Stock, by E. W. Sheets and E. H. Thompson. Farmers' Bulletin 1179, U. S. Dept. of Agriculture, Washington, D. C.

Growing and Utilizing Sorghums for Forage, by H. N. Vinall and R. E. Getty. Farmers' Bulletin 1158, U. S. Dept. of Agriculture, Washington, D. C.

642 Pounds Fat

is the average on the A. R. daughters of Bellfounder, the sire of Countess Prue, the World's Champion Guernsey and My Fancy, eighth in Class A.

We offer bull calves carrying 15%—50% of this consistently high producing blood.

Prices $225.00 to $600.00.

The demand is keen; write today.

FALCON'S FLIGHT FARMS,
Litchfield, Connecticut.

Guernsey Females

bred to an outstanding son of Ne Plus Ultra, one of the greatest sires of the breed. Fifty head from which to select.

MEADOWLAND FARM, Litchfield, Conn.

Sons of
Langwater Fisherman
Serviceable Age and Younger

Thev are from A. R. daughters of Yeoman's King of the Mav and of Langwater Demonstrator, with records from 500 to 700 lbs. fat. Strongly bred May Rose calves carrying 15% to 20% of the blood of May Rose 2nd. Priced from $150 to $500. Guaranteed to be as represented.

We will answer your inquiry promptly.

MIXTER FARMS,
J. S. Clark, Supt., Hardwick, Mass.
300 Guernsey Females

Green Meadow Farms
NOW THE HOME OF
Langwater Steadfast

We are now offering *a fine Yearling Bull* sired by *Langwater Renown* and out of a fine Imported Dam with a record of 16,510.90 milk, 717.79 fat. We offer with him *ten fine Imported heifers* old enough to be bred. Anyone wanting to start a small herd, this is a rare chance.

We also have *a few two-year-olds* of May Rose and Golden Secret breeding that will be fresh this coming spring. Also *four yearling bulls*, old enough for light service of the above breeding. Our herd is now in the third year Federal Accredited List. For price and particulars address

GREEN MEADOW FARMS
Walter Jauncey, Mgr., Williamstown, Mass.

GUERNSEYS

Major Oliver S. Johnson



The Dairy Auctioneer

Tipton, Ia.

Hillswold Farm
Shrewbury, Mass.

Registered Guernsey bull calves for sale. Dams in Advanced Registry and tuberculin tested. Prices right, and animals guaranteed to suit. **W. A. Cloues, Mgr.**

SAUGERTIES FARM GUERNSEYS

For Sale Bull Calves sired by Ultra May King, 27600. A. R. breeding. May Rose strain. Send for Sales List. Federal Accredited Herd No. 1511.

SAUGERTIES FARMS,
Saugerties, New York.

Herd Bull For Sale
Billy of Clover Lawn 44913

Sire—Gloriana's King Masher 27645. Four A. R. daughters and four others on test. Sire—King Masher 11084 A. R. Dam—Glendett's Dairymaid of C. L. 52237 A. R. Milk 9202.70 lbs.; butterfat, 444.67 lbs. Class D. On retest 85 days, about 146 lbs. fat. Sire. Glendett of Pinehurst 3rd 19208 A. R.

Lady Rose of C. L., 678 lbs. butterfat. Beauty of C. L. on test 62 days, 148 lbs. fat. Write for full particulars.

Elmer Wirt, Lewiston, Minn.

Harbor Hill Guernseys
Masher's Galore 8572 A. R.

Increased the Average Production Credit of 12 A. R. daughters out of A. R. dams by 181 lbs. We offer his double grandson out of another daughter also making a better record than her dam.

C. H. Hechler, Superintendent
Box 30, Roslyn New York

Forestdale Farm
3 Bully Baby Bulls 8 Handsome Healthy Heifers
— 2 to 18 months

from Superior Standard Sires, also a few A. R. matrons. May Rose Breeding. Tuberculin tested. $250 lowest price.

R. D. DeForest, Amsterdam, N. Y.

HONESTY PRIDE OF BIRCHFIELD 44580



Sire — Langwater Warrior 26509
Dam — Langwater Honesty 49479
10,536.9 lbs. milk, 517 lbs. fat, at 2 yrs. and 5 months

We are now offering a few splendid sons of Honesty Pride of Birchfield. From cows with A. R. records or now on test. Everyone is a straight backed, growthy, vigorous youngster. These young bulls will put type and production in your herd. Prices range from $150 to $300.

Quality Guernseys **HIGHLANDS** *Tuberculin Tested*

NYE H. FREEMAN, Herdsman, Linwood, New York

Elkhart County Guernsey Breeders'

Second Annual Consignment Sale

March 17

Goshen, Indiana

38 Registered Females
10 High Class Bulls

Including:

15 good cows, 23 bred and open heifers. These females are a choice lot backed by good A. R. ancestry. Many of them are by A. R. sires and from A. R. dams.

3 aged bulls, 2 young bulls ready for service and 5 younger bull calves. These bulls are sons and grandsons of such sires as May King's Vrangue of Ingleside, King of Chilmark and Glenwood Boy of Haddon. One is an A. R. bull, the others have good A. R. dams.

These animals would be a credit to any herd. The sale offers you an excellent opportunity to buy foundation females or a good herd sire. Every animal will be tuberculin tested and guaranteed a breeder. Write for catalog, look it over and come to the sale.

Elkhart County Guernsey Breeders' Association
C. M. ENDERS, Secretary
Wakarusa, - Indiana



"Get" of Pencoyd's Secret Marose

This bull won first prize, senior and grand championships at the New England Fair, Connecticut and New York State Fairs. His "get" (4-mo.-old calves) was first at The Eastern States Exposition and fourth at the National Dairy Show with thirteen "gets" shown. His heifer calf, Appletree Point's Dolly Dimple, was Junior Champion at New England Fair, first prize at Eastern States Exposition, and was Junior and Grand Champion female at Connecticut State Fair. His bull calf was unbeaten in all eastern shows and won at Waterloo and National Dairy Show. Write for prices on May Rose calves that combine type and production.

U. A. Woodbury, II Burlington, Vermont

For Sale—A Bull Calf of Real Merit

Dropped Aug. 28, 1920, and Sired by **Langwater Cavalier 21012,** whose daughters have put him to the front as one of the great bulls of the breed. His highest record daughter made 734 lbs. fat in F.

The dam of the **Bull Calf** is Georgette of Edgemoor, who is on test and is a daughter of Mildred II of Les Godaines (55120), who was the **Grand Champion** Cow at the **National.** Her record is 14,890.9 lbs. milk, 702 lbs. fat. Her daughter **Century Girl** was first prize two-year-old.

The **Bull Calf** is a fine individual and splendidly marked. Send for extended pedigree and full description.

A few choice females to offer.

Upland Farms, Inc., Ipswich, Mass.
F. P. Frazier & Son, Proprietors, W. K. Hepburn, Manager



Economy in Production ← GUERNSEYS → Quality of Products



A Washington herd of 20 Guernseys, which includes the state champion for the breed and four other cows that are among the highest producers in the Northwest are the daughters, granddaughters, and great-granddaughters of one cow purchased ten years ago. One Guernsey cow rapidly grows into a herd, but what is even more important, she transmits production. Send for free literature.

THE AMERICAN GUERNSEY CATTLE CLUB, Box H37, Peterboro, N. H.

Guernsey Bulls

Our last 9 official records average over 510 lbs. fat, including all ages. Our herd sire has 8 A. R. daughters, including one with 572 lbs. fat in Class GG. His three nearest dams average 822 lbs. fat. Send for pedigrees and prices on young bulls with this backing.

Folly Farm, Box 587, Libertyville, Ill.

Thorn Hill Farm Guernseys



Have several well bred young Guernsey bulls for sale at reasonable prices. All my own breeding. May Rose and Glenwoods, out of A. R. cows with records from 500 to 750 lbs. of fat. Write for sales list to

AUGUST ZIESING, Deerfield, Ill.

Do You Want A Guernsey Bull

Closely related to Pergue's Crescent A. R. with a record of 13,316.9 lbs. milk and over 582 lbs. fat in Class EE and dropping two calves within the year, entitling her to second place in her class? Some excellent young bulls closely related to Pergue's Crescent ready to head your herd. Write for descriptive circular, or come and see them.

Ernest W. Sass, Box H, Streator, La Salle County, Illinois.

Iowanola Guernseys

We are offering

A Very Fine Son

born July 25, 1920, out of Imp. Kitchener's Express 43926, his dam has 592 lbs. of fat, and out of Franseca of Homa Della who has 12,855.2 lbs. of milk and 640.09 lbs. of fat in Class D. This is a very typy calf and should appeal to any one in need of a bull. Correspondence solicited.

MOUNTAIN BROS.,
Carrier 403, Des Moines, Iowa.

Guernsey Bulls For Sale

Polly's Anchor No. 42845, born August 24, 1916, and Imp. Bluebird of Lakeside No. 45329, born June 15, 1917. Good, straight bulls, very gentle and sure breeders.

For Sale by

RADISSON FARM, ANOKA, MINN.

GRASSLAND FARMS GUERNSEYS

Choicely bred males and females for sale. (The natural increase of the herd.)

Herd federal tested for tuberculosis. Send for sales list. Satisfaction guaranteed.

Taconic, Conn., Litchfield Co., (C. N. E. R. R.)

Guernsey CATALOG Prices

These prices include compiling the pedigrees from one of the most up-to-date Guernsey files in America.

Our standard size catalog is 7x9 inches and is best adapted for printing four generation pedigrees. We can also make attractive prices on catalogs of larger size containing five and six generation pedigrees.

500 7x9 Catalogs - $3.75 per page
750 7x9 Catalogs - 4.38 per page
1000 7x9 Catalogs - 5.00 per page

Prices on Single Pedigree Orders

4 gen. typed in two colors—1 copy $1.00, 2 copies $1.25

4 gen. Mimeo—one color, 25 copies $2.00

4 gen. Mimeo—two cols. 25 copies $3.00

Prompt efficient service guaranteed

Guernsey Department of the Wisconsin Live Stock Advertising Company

Pioneer Bldg., Madison, Wis.

BARRON The Only COUNTY

in the world to complete **tuberculin test.** 68,000 head tested. Less than 1% reactors.

Guernseys For Sale

2 CARS GRADE HEIFERS
1 CAR GRADE COWS
30 PURE-BRED BULLS

Barron Co. Guernsey Breeders' Ass'n
FRANK D. OTIS, Secy. Barron, Wis.

May Rose Bull For Sale

VISCOUNT OF EDGEMOOR No. 49389

21.09% May Rose

Sire: Imp. Itchen May King 25174 Grand Champion N. D. S. 1920.

Dam: Manoa's May Rose 25269 545 lbs. fat.

Born February 1, 1918, well grown, very good type, and a sure breeder.

Also offer two younger bulls, one ready for light service and one September calf by above sire.

F. C. MEYER, Lancaster, Wisconsin

Koshkonong Place Guernseys

Herd Bull: ANTON'S KING CECIL
(6 May Rose crosses).

BULL CALVES 6 mos. to 1 yr. old from A. R. daughters of

Jury and Gilt-Edge of K. P.

Herd on Federal Accredited list.

A. R. HOARD, - Fort Atkinson, Wis.

MAPLE HILL FARMS

May Rose bulls for sale from 2 to 16 months old with A. R. backing.

Fruit Bros., - Waukesha, Wis.

Special Low Prices To Move

Guernsey bulls by Beauty Eagle's Bonny Boy 42893, he by Bonny Boy of Riverdale 29070 (noted show bull), and out of Beauty Eagle 18117, 846 lbs. fat, or a son of Glenwood's Champion 15639 (24 A. R. daughters) out of daughter of Langwater Demonstrator 16451. Splendid high producing dams. Send for sale list.

LA BELLE KNOLL FARM, Oconomowoc, Wis.

Fond du Lac County Guernseys

100 choice bull calves, by best sires of the breed out of dams with records up to 850 fat. 20 choice heifers, 6 months to 1 year old. Grade cows and heifers. Send for sale list.

B. F. SHERIDAN, Secy.,
Fond du Lac, Wisconsin.

Wern Farm Guernseys

I am offering for sale 20 head of choice Grade Guernsey springers coming with first and second calf. Also have two bulls highly bred along May Rose lines just ready for service, that I will sell. For full particulars, write, wire, or come and see the stock.

Wern Farm, Waukesha, Wis.

Homestead Farm

Offers for sale bulls from 11 to 13 months of age from A. R. dams. Also a few young bull calves of excellent breeding, and three A. R. cows. Write for sale list or come and see them.

JAMISON BROS., Appleton, Wis.

Guernseys

Best May Rose breeding. Both sexes and all ages from an Accredited Herd. Write your wants and send for lists.

E. S. Person, Minot, N. D.



CONTENT'S MERRY BOY OF PROSPECT 64022

Dropped Dec. 23, 1919

The above picture very poorly represents Merry Boy. He is a regular bull calf—full of life and vigor. His conformation is the kind that pleases a close observer. He is straight and wide. His barrel is of good length and his depth is especially noticeable. We know that his purchaser will be more than pleased with him.

He is sired by ANTON'S KING CONFIDENCE 43517, our senior herd sire who traces six times to May Rose 2nd. The dam of Anton's King Confidence has a record of 764.65 lbs. of fat as a junior 4-year-old.

His dam is Content of Prospect A. R. 5960. She is one of the most persistent producers we have in the herd. She easily made the A. R. and is the kind of a cow that always makes good money for her owner. If you want this bull calf write

Hoard's Dairyman Farm

Fort Atkinson - - Wisconsin

Waukesha — The Guernsey County

Nearly two hundred members in our Association. Many of the best sires of the breed are being used. We can supply your wants. Pure-breds or grades, male or female, all ages. Prices will interest you.

Come to the County or Write

Waukesha County Guernsey Breeders' Association
F. E. Fox, Secretary Waukesha, Wisconsin

MR. GUERNSEY BREEDER

we are offering bulls of May Rose, Glenwood and Yeksa breeding out of A. R. cows. Our records range from 450 lbs. to 864 lbs. of fat; ages from 2 months up to serviceable age for $100 and up.

Can spare a few fine females.

CORIUM FARM, F. J. Rueping, Owner, Fond du Lac, Wisconsin

CityViewFarm GUERNSEYS

FOR SALE: Typy May Rose bulls out of A. R. cows or cows on test with records up to 615 lbs. fat AA Sired by Bell Buoy of Linda Vista, 17 A. R. daughters, and Langwater Good News. Some of these bulls trace 18 times to May Rose II and are priced to sell.

O. R. SCHWALEN, Roberts, Wis.

Tilden Farms Guernseys

FOR SALE: Several typy, May Rose bulls out of A. R. cows and sired by Hope's May Rose of Maple Hill (35903), whose dam is a class leader with 776 pounds of butterfat at 3 years. Also several choice pure-bred females and a few excellent grade cows. Herd on Federal Accredited list.

TILDEN FARMS
James H. Murphy, Mgr. Delavan, Wisconsin

8 Registered Heifers FOR SALE

Five of them are from 18 to 20 months old and in calf to a good son of Langwater Cavalier. Of these, 3 are granddaughters of Langwater Hambro and of Bob Rilma's Monogram. They are well grown and good individuals. The other 3 are from 5 to 8 months old. Write or come and see them.

Ralph Tratt, Whitewater, Wis.

GORDONDALE

Guernsey bulls of serviceable age offered for sale, also younger ones. They carry May Rose breeding, are from A. R. dams and have splendid A. R. backing Ask us about them.

Herd under Federal Supervision.

L. E. GORDON, JR.,
Nelsonville, Portage Co., Wisconsin.

Young Bulls For Sale From A. R. Dams

I am offering several young sons of Golden Noble of Craigmoor A. R. He is a son of Langwater Raritan A. R. and from Imp. Daisy Moon 4th (639 lbs. fat).

These bulls are from A. R. dams with records up to 648 lbs. fat.

They are from 3 months to a year old. For prices and pedigrees call or write

Maple Heights Guernsey Farm

Frank E. Swan, Wauwatosa, Wis.

Federal Accredited Herd.

Here's Your Opportunity !

Good Grade Cows in car lots. Pure-bred Males, Females with type and good producing ability. Investigate.

Fox River Valley Guernsey Breeders' Association
Harry Leppla, Sec'y, Appleton, Wis.

New Jersey's Dairy Cattle

The annual report of the New Jersey Department of Agriculture gives some pertinent facts concerning the cow population of this state. The live stock census report indicates a very slight increase in the number of dairy cows in the state since 1912, when there were 150,000. During the three years following, there was reported to be 4,000 less while in 1917 there were 155,000. In 1921 there was estimated to be 151,000. The average value of the milk cows of New Jersey in 1912 was $53. There was a considerable increase year by year until 1920, when the average value was placed at $128. The figure given for 1921 is $110. The decrease in average price, when considered on the basis of total number of cows, is a difference between the valuation in 1920 of $19,328,000 and in 1921 of $16,610,000.

Agriculture is the greatest among arts, for it is first in supplying our necessities, it is the mother and nurse of all other arts; it favors and strengthens population, it creates and maintains manufacturers; gives employment to navigation and materials to commerce; it animates every species of industry, and opens to nations the surest channels of opulence. —MACNEVEN.

JERSEYS

Sophie 19th of Hood Farms

World's Champion Long Distance Dairy Cow

9 years R. O. M. records total 110,918.1 lbs. milk, 6,356 lbs. fat, 7,945 lbs. butter 80% fat. Now on tenth yearly test in sixteen-year-old form. Has made in four months 5,137 lbs. milk, 295 lbs. fat. We offer grandsons of this World's Champion cow. They will sire size, production, constitution, longevity. Write for description and pedigree of bulls and bull calves. Prices from $200.00 and up.

HOOD FARMS, Inc.
Lowell - - Mass.

N. B. Over a quarter century breeding Jerseys for large size, heavy production, strong constitution, longevity and profit, enables us to offer you a bull that will sire profitable producers. Our correspondence is very large, to save time and correspondence, we would appreciate your writing us priced bull you wish to purchase, and we will send full information on more than one for your consideration.

JIMMY DODGE, Mgr.

Jersey Cows For Sale

FROM FEDERAL ACCREDITED HERD

I have six cows for sale with Register of Merit records from 400 to 500 lbs. butterfat, age from 3 to 8 years. Prices from $250.00 up. One of these is a daughter of Noble's Fawn Prince, record 493 lbs. Five will freshen between January 5th and April 15th. These are all good individuals of right type.

P. G. WARMINGTON, Honey Creek, Wis.

HERE'S YOUR OPPORTUNITY

Bull calf born March 4, 1920, sired by a grandson of Majesty's Western King and out of a R. of M. daughter of Ibsen's Chief. For full pedigree and price write

E. E. HILL & SONS, Tomah, Wis.

Valley Farm is Offering

Several bulls, 6 to 12 months old, from R. M. cows. Sired by Golden Maid's Viscount and Kilda's Royal Majesty, two of the best Island bred bulls living. At prices to sell. Write

FRED STUBLEY, Black Earth, Wis.

JERSEYS—DUROCS

Just one bull old enough for service and a few young calves. Hood Farm breeding.

F. R. Constance & Sons, Waupaca, Wis.

Hillcrest Jerseys

Bull calf born March, 1920. Sired by Imp. grandson of Golden Fern's Noble. Priced right for quick sale. Write

ROLLIE VANDERVORT, TOMAH, WIS

For Better Jerseys

We do not retain in our herd any cow which under favorable conditions will not produce 500 lbs. of butterfat (600 lbs. butter) in 1 yr. on official test.

We have a few young bulls for sale.

THORNBURY FARM
LIBERTYVILLE, ILLINOIS
W. A. BREWERTON, Owner L. A. BENT, Mgr.

BELSWOOD FARM

Financial Bred Jerseys

We are offering for sale a splendid lot of bulls and bull calves out of R. of M. dams with records of 500 lbs. butter. Also several heifer calves. Send for illustrated catalog, containing pedigrees and delivered prices.

A. F. Block, Mgr., Norwood Park, Illinois.

JERSEY BULL

Ready For Service

Dropped July 25, 1919. Solid dark fawn, black tongue and switch. SIRE—Sigma's Raleigh Majesty 156131, by a R. of M. grandson of Royal Majesty, out of Raleigh's Sigma 241848, Champion Jersey butter cow of Iowa, in R. of M. 1,011 lbs. butter in 1 year—1,951 lbs. in 2 consecutive years, out of a daughter of Raleigh's Fairy Boy, by a son of Mabel's Raleigh. DAM—In R. of M. 448.35 lbs. butter at 3 years old. A prize-winning granddaughter of Oxford You'll Do, out of a cow of Champion Flying Fox and Golden Fern's Lad breeding.

Price $175.00 F. O. B. Forest Lake, Minn.

M. D. MUNN, ELMS JERSEY FARM
Forest Lake, Minnesota

We Will Sell You For $300 Jersey Bull, Tattoo 346

Dropped Aug. 30, 1919

SIRE—Sophie Gilsland Tormentor 123534. Sire of 2, others on test making from 450 to 500 lbs. fat as two-year-olds. His dam, Sophie's Adora is ex-champion Junior 4-year-old with 15,852 lbs. milk, 888 lbs. fat. DAM—Milicent of Highland 2d 350110. R. O. M. record as a 3-year-old 7,177.6 lbs. milk, 460.9 lbs. fat. The bull is solid light grey fawn, black points. Four generation pedigree on request.

AYREDALE STOCK FARM.
F. W. Ayer, P. O. Box 713, Bangor, Maine

Montpelier Jerseys

Three young bulls ready for service. Trace three times to Oxford Lad. Fine typy individuals. Right in every way.

Montpelier Manor Farms, Laurel, Md.

CLOVERDALE

Jersey Bulls For Sale

$125—Age 13 mo.—$125

No. 1. 829.6 lbs. butter average R. O. M. record for 2 grandams. Two grandsires of 2 nearest sires premium winners National Dairy Shows.
No. 2. Sire out of cow with 865 lbs. butter R. O. M. record. Grandson Noble of Oaklands. Dam's 2-year-old R. O. M. record 446 lbs. butter. Her sire's dam R. O. M. record 886 lbs. butter. Others $75.00 up.

E. O. ANDERSON, Shelby, Michigan

POLLED JERSEYS

Breeders' names and Spillman's "Inheritance of the Poll Character in Cattle" mailed free.

CHAS. S. HATFIELD, Secy, R4, Box 5, Springfield, Ohio.

JERSEY BULL—Dropped March 27, 1920

Sire is brother to 35 R. of M. cows. Dam's test 12,968 lbs. milk, 620 lbs. fat in 1 year. Bull dropped October 2, 1920, Majesty breeding. Dam's average test 7.23% fat. Two grandams with 555 lbs. butter in 1 year. A good tested cow for sale.

LEWIS F. MARTIN, Newtown, Ohio

Register Merit Jersey Herd

At Head, Mona's Jacoba Premier grandson: Pogis 99th of Hood Farm. Dam, Mona's Jacoba, record 806 lbs. butter: Granddaughter Jacoba Irene, young stock; St. Lambert breeding for sale. R. C. Green & Son, Albion, Wis.

GOLDEN MAID'S PRINCE BLOOD

Choice bull calves from dams in R. of M. or on test. Line bred to Golden Maid's Prince with outcrosses to Pedro, Hood Farm Torono, Loretta D, King Sappho King. Tuberculin tested herd free from contagious abortion. Address: J. Q. Emery & Son, Edgerton, Wis.

HOLSTEINS

Edinboro Lake Farm

Show Type **HOLSTEINS** Production

Six state yearly record champions 1918-19.

We offer bull calves by Sir Paul Veeman Hengerveld and Sir Ormsby Skylark Fredericka, out of yearly record dams with type.

Edinboro, Pa.

DISPERSAL SALE 45-Registered Holsteins-45

Two Herds—One an Accredited Herd, the other under State and Federal Supervision

Tuesday, March 15, 1921 at 1 o'clock, on my farm

Near York, Pa. also all horses, mules, hogs and farm implements. This is a grand lot of cows, heifers and young bulls. My herd sire a 32.48-lb. grandson of K. K. S. V. and Colie Charge. Sold on a 60-day guarantee retest. Send for catalog. Trolly cars run within 2 squares of the farm near the Lincoln Highway.

H. N. FORVEY, York, Pa.

SONS

of Sir Echo Sylvia Johanna —

⅞ Brother to the $106,000 Bull

From high bred fine individual A. R. O. cows up to 30 lbs. Several on test now. All good, straight individuals, backed by lots of milk and butter. Some are ready for service. Priced very low. Write for catalog.

(Herd Under Federal Supervision)

CHESTNUT HILL FARMS,
G. A. Burdick, Mgr., Gibsonia, Pa.

ORIGIN FARM

HORNLESS HOLSTEINS, Registered and A. R. O. Animals, all ages, for sale. Federally Tested.

GEO. E. STEVENSON, Scranton, Penna.

Public Sale

Registered Holstein-Friesians

Saturday, March 26, at 11 A.M.

At Wathens Riverview Farms, three miles east of Jeffersonville, Indiana. We will sell thirteen exceptionally well bred registered Holstein-Friesian heifers from six months to two years of age. Among the heifers is Model Segis Glista Fidelia, one of the best individuals of the herd. She was sired by Lakeside King Segis Alban De Koi No. 165457 and was dammed by Glista Fidelia 243260. We will also sell five equally well bred Holstein-Friesian bulls from eight to sixteen months of age. Transportation provided from office of agent.

VOIGT INSURANCE & REALTY CO.,
Jeffersonville, Indiana

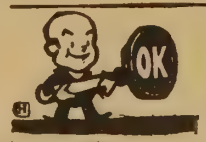
Sunshine Stock Farm

Offers several good sons of King Nudine Colantha No. 211378 (four nearest dams average 32.66 lbs. butter in 7 days) from high producing dams, some with A. R. O. records. Priced right. Write for description and pedigree.

MILLARD A. BOWERS, Moores Hill, Ind.

4 Holstein Bullsfor Sale

All by King Segis Pontiac Cor-Will, 190512, whose sire is King Segis Pontiac, 44444, and whose dam is an A. R. O. daughter of Pontiac Korndyke. Also two fine young registered cows, one a granddaughter of Pontiac Korndyke. Wm. N. Osborn, Wanatah, Ind.



Our Record Bears The Stamp of Approval

For over thirty years River Meadow Farms have supplied high producing cattle to discriminating buyers. Many of them are still regular purchasers. Courtesy and consideration for our customers' interests give us new friends daily.

We are able to offer very favorable prices on grade and pure-bred heifer calves for quick delivery, from high producing dams by sires bred for type and production. With the present shortage of dairy cattle, no investment will increase in value as rapidly and surely as these calves. If desired, we can supply a pure-bred bull calf to go with them. For an immediate reply, address

RIVER MEADOW FARMS, Portlandville, N. Y.

Holstein Service Bulls

sired by

King Bess Burke Ormsby

whose 5 nearest dams average 36.56 lbs. butter in 7 days, 1005 lbs. in 1 year.

PRICED TO SELL
TUBERCULIN TESTED

Milford Meadows Stock Farm
Lake Mills, Wisconsin

Sons of a 36-lb.—1315-lb. Sire

They are sons of Dutchland Creamelle Denver Prince. His sire is a 30-lb. 1,028-lb. grandson of Colantha Johanna Lad and his dam, the highest record daughter of the same sire, with 36 lbs. in 7 days, 1,315 lbs. in a year.

They are from tested (records up to 20 lbs.) and untested dams — Good producers rich in the blood of Mooie Mutual De Kol and King Segis Pontiac.

The calves are from 2 to 8 months old. Priced right.

Jefferson County Asylum, Jefferson, Wis.
W. E. Voigt, Supt.

Bull Ready For Service

Nicely marked and a good individual. Dam 20 lbs. butter at just 3 years. Next dam a 23-lb. 4-year-old. Two nearest dams of his sire average over 32 lbs. and ten nearest dams over 29 lbs. in 7 days Not a break in a three-generation pedigree. Priced to sell. Call or write

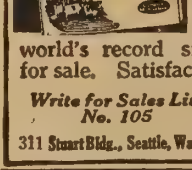
Halsey J. Sedgwick, Limeridge, Wis.

Grade Heifer Calves—$20

Good grade heifer calves by pure-bred sires $20 f. o. b. cars. Pure-bred bull calves $40 and up. Good, registered heifer calves at reasonable prices.

J. C. BOLGER. Waterloo, Wis.

REGISTERED HOLSTEINS



FEDERALLY tested herd of 800 selected Holstein cows headed by world's record sires. Young bulls, for sale. Satisfaction guaranteed.

Write for Sales List No. 105

311 Stuart Bldg., Seattle, Wash. Carnation Stock Farms

M. & P. Healthy Holsteins

A year ago we sold a bull calf to a Virginia breeder. The dam of that calf has just finished a year's record of 17,600 lbs. of milk, 800 lbs. of butter. Was he pleased? His letter states "The bull is growing nicely, and I am glad his dam made so good a year's record."

We supply this kind at moderate prices. Write

Markham & Puffer
Avon - New York

A GRANDSON OF KING LYONS

Ready For Service

His dam made 25.63 lbs. butter from 657.5 lbs. milk as a 4-year-old. He was born Jan. 24, 1920, is well grown and a first class individual. Tuberculin tested. A bargain at $175. First check takes him.

LORENDALE STOCK FARM, F. B. Loren, Central Square, Oswego Co., N. Y.

Yearling Bull

Ready For Service

Whose 5 tested dams average 28 lbs. His sire is by a son of "IT" out of a 29-lb. cow. His dam is a 21-lb. daughter of a 27-lb. cow. He is priced at a bargain.

G. G. Burlingame, Cazenovia, N. Y.

Holstein Bull

Tuberculin tested and ready for service. Sired by King of the Changelings, a 33-lb. son of King of the Pontiacs. Dam, a daughter of a 33-lb. sire and has an A. R. O. record of 15.57 lbs. butter in 7 days at two years of age, averaging almost 4%. He is well grown and a splendid individual. First check of $175 takes him.

HARRY W. PETZOLD, Owego, Tioga Co., N. Y.

$75—SERVICE BULLS—$150

Sire—Joh Segis. His 15 nearest dams average 30 lbs. Dams—A. R. O. cows up to 24 lbs. Where can you beat it for the money. Every one ready for service. One of them will put money in your pocket if you will let him. Herd Federally tested.

HENRY J. KARPINSKI, Route 7, Oswego, N. Y.

Visitors always welcome at the Oconto County home of Jerseys.

JERSEY CREST FARMS, OCONTO, FALLS, WIS.

We are offering an interest in our business by selling young Bulls sired by Sayda Rose's Jap, No. 166586, out of young cows now on Register of Merit test who will finish in AAA Class.

Jap-Sayda Blood Predominates

We are reasonable in our offerings. Herd tuberculosis free, under Federal supervision. Health—Beauty and Economic Production our watchword!
We are now able to supply breeders who have written us previously regarding Jap-Sayda calves, if interested.

LAKESIDE STOCK FARM

of SYRACUSE, N. Y

offers serviceable young bulls of the highest individuality, several of them by 30- to 40-lb. sires, and from 30- to 34-lb. dams, part of them State Fair prize winners. In individuality they can not be easily excelled. Lakeside also offers a very choice lot of yearling and two-year heifers and young cows.

E. A. POWELL, Prop.

Send For Our Bull Sales List

Three bulls of serviceable age—four others will be old enough for service in a month or two—others three months old and older. Almost all of them sired by SIR ORMSBY BEAUTY PONTIAC SEGIS, the son of a 37-lb., 1112-lb. three-year-old daughter of KING SEGIS PONTIAC COUNT.

If it will be of an accommodation to the purchaser, we will accept a six months' note in payment, WITHOUT INTEREST, or will accept payment on installment plan basis.

Pinehurst Farms Co., Sheboygan Falls, Wis.

Cows and Heifers
A Few Good Bulls

Because I am overstocked, I am offering some very good registered females for sale. They either have A. R. O. records or are from A. R. O. dams.

Can also offer some excellent young bulls by a 33-lb. sire and from A. R. O. dams with records up to 28 lbs.

Every animal sold is guaranteed to be as represented.

Write or come and see for yourself.

J. D. McDonald West Salem, Wis.

Serviceable Bulls For Sale

Sired by Pabst Pontiac Hengerveld, a son of King Pontiac Champion from Pabst Hengerveld Colanthus (31.5 lbs. butter in 7 days, 1,057 lbs. in a year.

These are nicely marked, well grown youngsters out of good producing dams. Several are ready for service, others are younger.

Write today.

John Alexander, Baraboo, Wis.

GREENBUSH FARM
REGISTERED HOLSTEINS

Offering a service son, by a 1225.67-lb. sire, from a 657.1-lb. senior 4-year-old dam. Good individual. Price $400. Several others at $150 and up. Herd under federal supervision. For complete information address

GREENBUSH FARM,

R. Turano, Herdsman, Glenbeulah, Wis.

Wayside Lawn Farms
offer
Young Bulls Ready for Service

sired by 31-lb. bull, Hengerveld Banostine Gudultje, whose two nearest dams average 30.65 lbs. butter in 7 days and 848 lbs. butter in one year. The bulls are from tested and untested dams. They are well grown and right in every way. Price $100.00 to $200.00. Herd Federally Accredited.

WALTER SORGE, Reedsburg, Wis.

$100 to $200 Buys A Bull From A Good Record Dam

Am offering several for those prices sired by a 26-lb. bull and from A. R. O. dams with records up to 25.46 lbs.

Write at once. They'll go fast.

H. W. Crawford, R. 5, Campbellsport, Wis.

A Fedral and State Accredited Herd Offers—

two serviceable sons of M. M. Rag Apple Oak Denver, a grandson of the 36-lb. cow, Dutchland Colantha Denver (1,315 lbs. butter, 25,431 lbs. milk in a year).

No. 1—Born Oct. 7, '19. Dam's record 16.04 lbs. as a heifer; second dam 24.79 lbs.; third dam 28.88 lbs. Bull mostly white, very good individual. Price $250.

No. 2—Born Nov. 5, '19. Dam's record 19.75 lbs.; second dam 18.75 lbs.; third dam 21.45 lbs. Half white. A show bull. Price $200.

For complete information and pedigree write

A. M. Anderson, Whitewater, Wis.

1000---HERD---1000
Quality Holsteins
GRADES AND PURE-BREDS

Just now we have a splendid lot of grade heifers. Write for our pure-bred bull list.

Jefferson County Holstein-Friesian Breeders' Association,
A. F. Gafke, Secretary, Jefferson, Wis.

A BULLY CHANCE

to get a serviceable sire—born March 15, 1919. A fine individual—well bred—well marked—well grown. Sire, a son of King Segis Pontiac out of a 26-lb. daughter of Juliana King of Rock. Dam, A 26-lb. daughter of King Korndyke Veeman Wayne, he out of a 31-lb. daughter of Sir Veeman Hengerveld. Will trade for pure-bred Holstein females, liberty bonds or cash. If you want a herd sire—what have you got that you don't want? Write or call for price, pedigree, photo. Also have some younger bulls. Herd tuberculin tested.

RIDGEHURST STOCK FARM.
Glen C. Ramsey, Ft. Atkinson, Wis.

5-10 WELL BRED HEIFERS
SEVERAL GOOD YOUNG BULLS

are what we are offering just now. The heifers are registered two-year-olds, bred to freshen this fall. The bulls, old enough for service, are from A. R. O. dams and by Sir Ormsby Homestead Butter Boy, a 35-lb. bull. One is by a 42-lb. grandson of S. P. O. M. Come and see them.

ANDREW FRANK, FOX LAKE, WIS.

First Annual Reducing Sale at
Elmwood Stock Farm, March 10—25 Head Females, 5 Bulls

All females in calf to Sir Fobes Ormsby Pietertje No. 248344—4 nearest dams average over 1,100 lbs. butter in year. There will be such females as Queen Johanna Alba Ormsby, a granddaughter of S. P. O. M. with 25 lbs. in 7 days going at 1,000 lbs. for year, Elmwood Korndyke Almeda going at a 1,000 gait.

J. C. KIEFFER, Auburndale, Wis.

For catalog write J. P. Heintz, Hewitt, or J. C. Kieffer, Auburndale, Wisconsin.

Bull For Sale — Born January 2, 1920

Dam:—A 22.62-lb. granddaughter of Johanna McKinley Segis. She has several good daughters in the herd with records up to 33.48 lbs. butter in 7 days and 112 lbs. milk in one day.

Sire:—A son of Molly Johanna Korndyke, former world's record 2-year-old with 30.62 lbs. butter in 7 days. Write for pedigree and price.

W. J. McROBERT, Waupun, Wis.

ORMSBY BULL - Born Feb. 28, 1919

Sire, King Ormsby Pontiac De Nijlander, whose two nearest dams average over 30 lbs.

Dam, Aaltje Hengerveld Tritomia Segis. A. R. O. 17 lbs. at 3 yrs., next dam 29.68 in 7 days. Color light, fine individual. Ready for service. Price $300.

Fairview Stock Farm Whitewater, Wis., W. G. Marshall, Prop.

The Second of A Noteworthy Series
— *Make Your Plans to Attend*

PABST SALE
SURPLUS ANIMALS
APRIL 2ND



Pabst King Pontiac Lad will be sold. He is one of our herd sires. He is a son of Pabst Hengerveld DeFreule that has just made over 39 lbs. in 7 days. He is a full brother to Pabst Champion DeFreule that has just made over 37 lbs. in 7 days and 151 lbs. in 30 days. We have 49 of his daughters in our herd and 30 cows safely in calf to him. He is the highest record son of King Pontiac Champion ever sold. His breeding and individuality should place him at the head of some great herd.

28 Young Bulls—15 Cows

Young in the sale will include some of the very best we have ever bred, including fifteen by Creator and nine by Pabst King Pontiac Lad. Practically all these bulls are from splendid record dams that will have greater opportunities. One son of Creator is from a 29-lb. and almost 900-lb. daughter of "Champion," another is from a 21-lb. 2-year-old daughter of Champion Dora Korndyke, champion Holstein cow for two consecutive years' production, another is from Pabst Ivy with 34.21 lbs. in 7 days and a good yearly record, another from Pabst Kinnickinnic with 35.50 lbs., twice over 34 lbs. and three times over 32 lbs.

29 bulls of this class will be sold.

The fifteen young cows and heifers in this sale will furnish an excellent opportunity to procure desirable foundation cows, in calf to good sires. Practically all of milking age have records, are from good record dams, by noted sires and in calf to one of our herd bulls. Seven of them are in calf to Creator. Never before have so many been offered in calf to this great sire. There will be daughters of Maplecrest King De Kol, Woodcrest Clyde, King Pontiac Champion, King Pietertje, Pabst Pontiac Hengerveld and Korndyke Segis Johanna.

Remember that Pabst Stock Farm won first place last year as breeder of prize winners. The animals it sells to others make good for them. In buying at this sale you buy the blood that is represented in many of the prominent herds.

Be sure to get your name on the catalog list now and send for full information on this sale. It is our second semi-annual.

PABST STOCK FARM, OCONOMOWOC, WIS.
Waukesha County.

A Son of This World Record
Three-year-old
For Sale



Oak Lodge Colantha Lady

Oak Lodge Colantha Lady, his dam, made over 18 lbs. butter as a senior yearling. As a junior 3-year-old she has just finished a world's record for 305 days with over 21,000 lbs. milk and 816 lbs. butter.

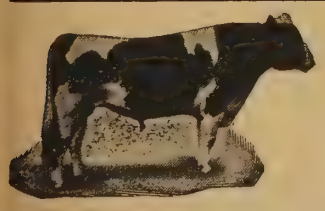
The sire of this youngster is King Pontiac Artis Sadie Vale, 34-lb. son of the great King Korndyke Sadie Vale.

The bull himself is light in color and very well grown. Come and see him or write us for complete information.

Gustave Pabst's Hollyhock Farms
Fred J. Southcott, Manager Dousman, Wisconsin

2 Serviceable Bulls
ALL SONS OF THE 1235-LB. YEARLY SIRE
Sir Korndyke Bess
The Dams' yearly records all over 800 lbs.

R. E. Benson - - Dousman, Wisconsin



Colantha Changeling Lad



Lawrence F. Murphy

Whose dam made 30 lbs. at 4 years, has daughters making up to 32 lbs. at 3 years old. On them a 30-lb. son of 37th whose daughters are now making 23 and 24 lbs. as 2-year-olds. On them we are using a 30-lb. son of 41st. We are clearing our stables at bargain prices on bulls up to serviceable age. Also a bunch of females for immediate sale. Bulls $150 up.

Badger Stock Farms, Hartford, Wis.

A Grandson of Piebe Laura Ollie Homestead King
READY FOR SERVICE—FOR $400

He was born March 19, '20, is very well grown and a splendid individual. His sire, King Homestead Veeman Pontiac is by "Piebe" and from a 32.48-lb. daughter of King Segis Pontiac Count, now doing very well on yearly test. His dam, a 19.78-lb. junior 2-year-old, is one of the best prospects in our herd. She is by a grandson of S. P. O. M. and Spring Brook Bess Burke. He is from a healthy herd and guaranteed healthy. Write today for photo and pedigree.

S. B. SIMONS, Sullivan, Wis.

HOLSTEIN BULLS AND HEIFERS ! !

To make room in our barn we offer a dozen or more heifers from 1 month to 3 years of age. They are backed by some of the best families of the breed. Also a few bulls sired by King Korndyke Veeman, whose two nearest dams average over 37 lbs. butter in 7 days. Come and see them or write to

WISCONSIN STAR STOCK FARM, ED. M. SCHULTZ. HARTFORD, WIS.

BUY DIRECT
Reasons for Buying Holstein Cattle in Waukesha County:

1. You can buy direct from the breeder through the breeders' association, organized by the breeders to promote the breeding of more and better Holstein cattle and to assist in a fair marketing of the same.
2. There are over 50 pure-bred Holstein sires in service in Waukesha County whose dams have records of over 30 lbs. butter in 7 days or 1,000 lbs. butter in a year.
3. There were 1,307 long-distance tests made on Holsteins in Waukesha County during the past year, which is more than the total in the next four leading counties in the state.
4. There are more tuberculin tested cattle in Waukesha than in any other county in the world.
5. The breeders' organization is in a position to put you in touch with "bred-for-production-stock" at reasonable prices.
6. When buying through the Association, you obtain the services of men who devote their entire time to the Holstein industry. It saves you time. You get more for your money.

Write or Wire for information

Waukesha County Holstein-Friesian Breeders' Association
254 Broadway, Waukesha, Wisconsin

Yearly Records
Choice Young Bulls



from one to fourteen months old for sale. Sired by Cloverlawn Johanna Piebe whose five nearest dams average 1,070 lbs. of butter, 23,809 lbs. of milk a year. Herd numbers 140 head, forty cows with yearly records. State exactly what you want.

JOHN PULS, - HARTFORD, WISCONSIN

A. R. O. BULLS—2 Weeks to a Year Old
At Bargain Prices

They are sons of Rag Apple Pontiac, a 30-lb. grandson of King of the Pontiacs, from well bred dams with records up to 27 lbs. in 7 days. Write today for prices and pedigrees. I'll answer your inquiry promptly.

W. W. Quackenbush, - West Salem, Wis.

Holsteins For Sale

PURE-BREDS	78 Cows 88 Heifers 18 Heifer Calves 250 Young Bulls	GRADES	67 Heifer Calves 112 Heifers 245 Cows

Other Live Stock: Breeders are listing with us other dairy cattle, beef cattle, horses, sheep, and swine. Write us if you want stock. We will answer promptly.

BANKER FARMER EXCHANGE
D. H. Otis, Director, 1822 Chadbourne, Ave., Madison, Wis.



HOLSTEIN CATTLE

R. M. Smith, Supt. Marinette County Asylum, Peshtigo, Wisconsin, writes:

"I am thoroughly convinced that the Holstein cow is the greatest Institution cow in the world. That is one place in particular where the Holstein cow is superior. She saved this Institution, saved my reputation as to judgment."

Send for Free Booklets

The Holstein-Friesian Association of America

101 American Building, Brattleboro, Vermont

How About This Son of King Pietertje Ormsby Piebe?

Four of his nearest dams average 34.7 lbs. butter in 7 days and 1,197.54 lbs. in a year from 25,424.6 lbs. milk. K. P. O. P. 27th individually is a dandy as he should be.

HIS DAM, *SUNNY LADY*, has a 32.88-lb. 7-day record with 883.9 lbs. in a year from over 19,000 lbs. milk Her dam is that wonderful 41-lb. cow, Lady Mutual Friend, with 1,281 lbs. butter in a year and the dam of some of our best producing females.

HIS SIRE IS *KING PIETERTJE ORMSBY PIEBE*. You know him.
We offer this fellow on easy terms of payment. Write today if you're interested.

Hargrove & Arnold Norwalk, Iowa

Herd Under Federal Supervision

SIR JOHANNA FAYNE



42147

now has 9 daughters 20,000 pounds or over. All of his yearly tested daughters, 3½ years old or over average 21,465.1 pounds milk and 831.45 pounds butter. 17 daughters average 20,000 pounds. A few young sons left at reasonable prices. Herd under Federal Supervision.

IOWANA FARMS
DAVENPORT, IOWA



SADIE CORNUCOPIA EIBERTJE

Her Son For Sale—

This cow was 2nd prize A. R. cow and 3rd prize 4-year-old at Dairy Congress, 1920. She is by the best son of the 1st 30-lb. cow and has a 20-lb. 2-year-old record with 510 lbs. butter in 345 days. Now on test as a 4-year-old with 400 lbs. butter in 1st 6 months. Her dam 530 lbs. butter in 10 months; next dam 516 lbs. butter 365 days at 2 years. Calf is by Wooderest Sir Clyde, who is from a 33-lb. and 970-lb. dam; born May, 1920. More black than white. Given a Federal Certificate of Health.

Write for photo and pedigree today.

W. B. BARNEY & SONS, - - - Chapin, Iowa

Registered Holstein Bulls

4 Yearlings, 7-4 to 6 months old
$100.00 and up if taken soon

All sired by 30-pound bulls. Out of A. R. O. dams with records made on the farm running from a 17-lb. two-year-old to 21-lb. two-year-old, and aged cows from 22 to 30 pounds. We have 13 granddaughters of King of the Pontiacs in our herd and one of his sons out of a 30-lb. dam. Also a grandson of Pontiac Korndyke out of 1,105-lb. dam, 30 pounds, 7 days.

C. A. PARKS, Mgr. Assumption, Ill.

BULL CALF FOR SALE

Sire is a 27-lb. son of Johanna McKinley Segis, the 40-lb. bull that sold for $25,000. Dam is a granddaughter of Pearl of the Dairy's Joe De Kol with 78 A. R. O. daughters. Marking ⅔ white.

Long Distance Phone 389.

DUETT ROBINSON, R. 3, Capron Ill.

Buffalo Creek Farm Holsteins

This yearly record bull calf for sale, born Nov. 28, 1919.
Name, King Lavera Ormsby No. 297926. Sire: King Pietertje Homestead Ormsby No. 221488. Dam: Lavera Hortensia Bawn 2d, No. 124734, with a record of 26,010.2 lbs. of milk and 1,050.55 lbs. of butter in a year. Write for price and pedigree. This calf won 5th premium at the Dairy Show.
Herd under Federal Supervision.

H. L. BINGHAM, Supt., Arlington Heights, Ill.

Whitehurst Farms

BULLS FOR SALE FROM SEMI-OFFICIAL DAMS. Priced Right.

A. F. Randolph, Prop., Canton, Ill.

THE TRAVERSE HERD

We have what you want in
BULL CALVES
the large, fine growthy type, guaranteed right in every way. They are from high producing A. R. O. ancestors. Dams' records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.

Traverse City State Hospital, - Traverse City, Michigan

The Pontiac Herd

"Where the Champions come from"

Offer Bull Calves sired by sons of *Pontiac Korndyke, Hengerveld De Kol, Pontiac Dutchland, or Admiral Walker Pietertje.*
Do you want a Pontiac in your herd?

PONTIAC STATE HOSPITAL, Pontiac, Mich.

HOLSTEINS LEAD

In Consistent Production

We offer a bull born July 29th, 1920, grandson of Sir Pietertje Ormsby Mercedes; dam a granddaughter of Colantha Johanna Lad. Mighty good individual, rugged with perfect top line. This calf will be a snap for somebody. Write for price and photo.

Cerro Gordo Farms, Mason City, Iowa.
Herd Under Federal Supervision

Bull Calves

One calf: Born October 5, 1920. Dam: 16.76 lbs. butter, 7 days. Sire: A grandson, Sir Piet. mostly white. Calf born November 20, 1920. Dam: a dam of a 35-lb. sire. Sire: a son of Miss Pietertje Alexina 2nd, 42.42 7 days, 1290 year and making 3rd yearly record.

Hubert Stuckart, Raymond, Iowa.

Yearling Bulls

From 21-lb dams. One has 662 lbs. butter, over 17,000 lbs. milk at three years. By proven bulls with daughters up to 30 lbs. Best of Ormsby and yearly record backing. Good size and type. Guaranteed to please and stand a 60-day retest. Priced to sell. Write

RIVAL STOCK FARM, Laurens, Iowa

A Son of LIEUTENANT RAG APPLE

from a 7/8ths sister to a 948-lb. junior two-year-old daughter of a 1,281-lb. cow. $100.00. Let us tell you about him. Serviceable.

BLUEBELL FARM, Riceville, Iowa

THE MARK OF QUALITY



A *Real* Herd Sire

This nine-month-old Bull, KING HENGERVELD KORNDYKE EUREKA, will fit someone's herd. He is the product of the most careful breeding.

The Sire, Sir Ormsby Hengerveld Korndyke, a 35-pound bull, grandson of the sensational Hengerveld De Kol with 116 A. R. O. daughters, has been carefully line bred in the Ormsby, Hengerveld, Pietertje lines with a sprinkling of De Kol.

The Dam, Eureka Melissa Segis, is by a full brother to King Segis Pontiac Count, sire of eight daughters with records over 1,000 lbs. Eureka Melissa Segis herself has a 7-day record of over 21 pounds as a two-year-old and is finishing up her year's record with over 750 lbs.

To some progressive breeder with the proper kind of herd we will sell this bull at a reasonable figure. Correspondence is welcome, but come to the farm at Blooming Prairie if you can and see him.

OAK DALE FARMS

INCORPORATED
BREEDERS of
HOLSTEIN FRIESIANS
Austin Minnesota

Fairhurst Herd

On the Accredited List

We offer young bulls, fine individuals and well grown. Sired by 33-lb. bull and from dams with records up to 30 lbs. Write for pedigree and price.

KITTLE BROS., Holland, Ohio.

ZEHRINGHURST HOLSTEIN FRIESIANS

A Few Splendid Young Bulls

for sale that have show ring type, that are backed by 7-day and yearly records and by the best productive breeding in Ohio. They are from an accredited herd, are guaranteed right and are priced to sell.

Zehringhurst Farm, Germantown, O. Oscar O. Zehring, Prop.

A 26-Pounder For Sale

A handsome, large, straight bull calf born Nov. 8, 1920. White in color except a few black spots. Sired by my De Kol Hengerveld Burke bull, and out of a very large, straight, square, handsome cow with a perfect udder and teats. This cow recently made in a 7-day official test 552.0 lbs. milk and 26.14 lbs. butter. Her sire is the best son of Pontiac De Nijlander, the champion butter cow of the state of Michigan. $300.00 will buy him.

A few others for less money out of cows with records up to 24 lbs.

I. M. SHORMAN, - - - - - Fowlerville, Michigan

Minnesota Holstein Breeders' Association

Be sure that you buy Minnesota Holsteins from state association members. They are responsible. For list of members and other information address

THE SECRETARY, 406 MARKET BANK BUILDING, MINNEAPOLIS, MINN.

This Week We Offer



Sir Bess Ormsby DeKol 297182

Born December 13, 1919

An Outstanding Individual—Ready for Heavy Service

He Traces Three Times to Sir Pietertje Ormsby Mercedes, the World's Greatest Long-Distance Sire

His Sire—*Sir Bess Ormsby Alice*

A coming young sire whose offspring are of real show type. His dam is Alice Tritomia Ormsby, 34.42 lbs. in 7 days and 1033.94 lbs. butter and 22,035.5 lbs. milk in a year. She is sired by Sir Pietertje Ormsby Mercedes 21st and from a 25-lb. granddaughter of Homestead Junior De Kol. The sire of Sir Bess Ormsby Alice is from Bess Pietertje Ormsby Mercedes, 33-lb. 1,235-lb. daughter of Sir Pietertje Ormsby Mercedes and Spring Brook Bess Burke.

His Dam—*Shady Netherland DeKol 4th*

She has just made 25.15 lbs. butter and 579.5 lbs. milk in 7 days at just 36 months of age. She is on yearly test and should make well over 800 lbs. She is a beautiful individual, sired by a son of Buffalo Maid 2d, junior champion at the National Dairy Show 1913. She is by Sir Pietertje Ormsby Mercedes and from Buffalo Maid, 30-lb. 900-lb. maternal sister to Pietertje Maid Ormsby. The dam of Shady 4th is a 20-lb. daughter of Sir Netherland De Kol de Freule.

PRICE $500.00

E. C. Schroeder Farms, Moorhead, Minn.

(Herd under Federal Supervision)

Minnesota Holsteins



Miss Korndyke Akkrummer Ormsby 30-lb. 4-year-old. 39.67 lbs. butter at full age. Owned and developed by J. B. Irwin.

For Your Next Herd Sire

get a son of Sir Ormsby Banostine Champion, son of Duchess Skylark Ormsby, world record cow. We have some good ones for sale from dams with good 7-day and year records.

Woodlake & Clover Farms,
John B. Irwin, Station F, Minneapolis, Minnesota.
"The Home of the Ormsbys."



Lola Segis Pontiac Homestead

the highest record bull in southern Minnesota, heads our herd. His sire, Piebe Laura Ollie Homestead King, has more daughters that as 2-yr.-olds have produced 20,000 lbs. milk in a year than any other. His dam, a 34-lb. 4-year-old daughter of King Segis Pontiac Count, has 3 records averaging 33 lbs. and has made over 1,000 lbs. in 1 year. We have a few serviceable bulls and younger from A. R. O. dams for sale.

Clover Lea Farm, W. W. Walker, Owner. Austin, Minnesota



Sir Walker Segis Homestead

The best show bull and son of the great bull, PIEBE LAURA OLLIE HOMESTEAD, out of a "COUNT" daughter, BEAUTY BEETS WALKER SEGIS, world's greatest heifer, with two yearly records over 25,000 lbs. milk and 1,000 lbs. butter in heifer form, and a seven-day record of 35.03 lbs. butter from 730 lbs. milk.

We offer several choice bulls, one month to a year old, out of high yearly record and A. R. O. cows, at very reasonable present day prices. Pedigrees and photos will be sent.

A. J. LASHBROOK, - - - Northfield, Minnesota

COME TO BISCAY

your next purchase of pure-bred or grade Holstein le, mature or young stock. Large selection, also a select male calves to offer. Located near station

KAY SALES CO., BISCAY, MINN.

Lake Shore Farm

Offers May 22nd, 1920, bull calf. 795 lbs. butter over 20,000 lbs. milk is his dam's yearly record. King Segis breeding, light color. Price for January $250.

E. J. OPPLIGER, Box 20, Forest Lake, Minn.

Sons of "COUNT"—

—"The Marvel of All Sires"

Whose daughters have broken more World's Records than the daughters of any other sire of the breed in both long and short time work. He has eight 1,000-lb. daughters.

Sons of "PIEBE" — "The Present Day Sensation"

The only bull in the world with five 20,000-lb. two-year-old daughters.

Sons of "COUNT" from daughters of "PIEBE"
Sons of "PIEBE" from daughters of "COUNT"

We have the finest line of young bulls we have ever raised at ARDEN FARMS, priced in accordance with present financial conditions. LIBERAL TERMS GIVEN IF DESIRED. Write me for particulars.

J. M. HACKNEY

602 Merchants Bank Building, - - - St. Paul, Minnesota

Bull Calves of Ormsby Breeding

from A. R. O. dams for sale, 2 to 8 months old. Prices $200 to $1,000. We can also offer several good, typy cows bred to a good Ormsby bull. Write or come and see us.

MINERAL SPRINGS STOCK FARM, - - SAVAGE, MINNESOTA

Stuart—McIntyre—Hansen, Owners.

Address correspondence to Axel Hansen, formerly with John B. Irwin.

Serviceable Sons of Dutchland Aaggie Tidy Prince

I have three of these youngsters for sale, all ready for service and from A. R. O. granddaughters of S. P. O. M. Their sire is from a sister to Tidy Abbekerk Prince and already has a good list of tested daughters, including one above 36 lbs.

Write today for complete information.

E. J. BROSIOUS, - - Stillwater, Minn.

Grandsons of Sir Pietertje Ormsby Mercedes

The sire is Sir Pietertje Ormsby Mercedes 22d a son of Minnesota's first 1000-lb. cow. These bulls are all nicely marked, straight top lines. Very good individuals from good A. R. O. dams.

For pedigrees and prices, write

O. J. GROVER, - - GLYNDON, MINN.

Grandsons of

Duchess Skylark Ormsby and of S. P. O. M. 38th.

for sale. These youngsters are from A. R. O. dams that are now making good yearly records. Write today for further information.

POPLAR HOLLOW STOCK FARM,
Bertram D. Scott, Prop., Richfield Station Minneapolis, Minn.

Bull Calf

advertised last week is sold. Here is another good one ready for light service. Sired by a 30-lb. bull. Dam a 14-lb. 2-year-old who will be tested again next spring. Priced so reasonable that you can't afford to be without him. $150.00 for immediate sale.

V. R. Holmes, Anoka, Minn.

WE HAVE

The Nicest Lot of Calves

By "Fayne Star" that we have ever had to offer. They are mostly white and are good individuals. We are pricing them worth the money. Get our bull circular. It is free.

Flecks Farm, Faribault, Minn.

Get A Calf

We have a grand bunch of youngsters on hand. Come and pick out a calf while you have a big choice. Grow him to suit you. Saves you money and we are selling them as cheaply as we can. Show calves that are backed by generations of official testing and careful breeding. Sons of DUTCHLAND CREAMELLE COLANTHA LAD No. 165049. His yearly daughters all average over 834 lbs. of butter at 26 months of age.

GRAHAMHOLM FARMS,
H. R. Searles, Mgr., Rochester, Minn.

Sir Korndyke Ormsby De Kol 15th—21 Months Old

His sire is a son of Sir Korndyke Hengerveld De Kol; 51 A. R. O. daughters, one of whom has a 7-day record of 39.56 lbs. and several above 1000 lbs.

His dam has a record of 23.778 lbs. and now on yearly test.

Geo. H. Elwell, - Minneapolis, Minn.

HOLSTEINS—Females

We offer some very choice females, all ages, priced very reasonable. Mostly bred to our 34-lb. bull, Piebe Count Corn. One or a carload.

BLACK AND WHITE STOCK FARM,
Route 3, Melrose, Minnesota

Holstein Bulls

At Farmers' Prices

We are not in the game to get rich but to help promote the breed by offering pure-bred bulls at the lowest prices, enough to cover raising. Write for prices and descriptive list. The Ormsby kind.

RAMSEY COUNTY HOME,
J. E. McMahon, Supt., North St. Paul, Minn.

Mankato Holstein Farms

Offer a Son of

King Colantha Ormsby Bess

A Sir Pietertje—Bess Burke combination. Nine dams average over 1,000 lbs. Dam is by a brother to Pietertje Maid Ormsby. 894 lbs. butter and 21,833 lbs. milk last year. Running at a world's record gait for the year. Over 400 lbs. butter and 10,000 lbs. milk first four months. Several bulls at prices warranting their use in grade herds.

Write or better still come and see them

(Herd under State and Federal Supervision)

Marlow & Randall, Mankato, Minn.

RICHLY BRED

HOLSTEIN BULL CALVES

out of A. R. dams and sired by our two richly bred herd sires — **King Piebe Ormsby Mercedes**, a 35-lb. son of Sir Korndyke Bess and every dam in pedigree over 22 lbs. and **King Pietertje Mercedes Ormsby**, a son of Sir Pietertje Ormsby Mercedes and out of a 19-lb. senior two-year-old dam.

Herd tuberculin tested. Write for information or visit herd.

P. FROST SPAULDING FARM CO.
C. L. Spaulding, Mgr., Warren, Minn.

Richly Bred Ormsby Bulls

From Yearly Record Dams—Age 1 to 14 Mos.

Six three-year-old heifers in my herd (under ordinary farm conditions) have just finished yearly records averaging 722 lbs. butter from 16,639 lbs. milk. To make room for calves now coming on, am offering at bargain prices three grand individual sons of above cows ready for service. Act quick. Herd under Federal Supervision.

F. A. STILLINGS, Frazee, Minn.

BULL CALF

Sire's dam, butter, 1 yr., 848 lbs.; her daughter, 1,055 lbs. Grandsire's dam, 987 lbs. at 11 yrs.; her full sister, 1,344 lbs.; another, same dam, 1,322 lbs. Dam, Miss Pietertje Alexina 3d, sister to Miss Pietertje Alexina 2d, 1,290.91 lbs. A dandy calf, priced right. Write quick to

McKAY BROS., - - CADDOA, COL.



Would you feed her a Feather Bed?

Why wouldn't feathers make a good concentrate? They contain as high as 85% protein!

YOU can't make milk out of feathers because the protein in them is practically all one kind, the same as that found in hair, horns and hoofs. Milk requires very little of such protein. As there are hundreds of different proteins, the selecting of the right kind is important.

Right Kind of Protein Added to Grains Makes Them Worth More

By adding Purina Cow Chow to your home-grown grains, you supply the proteins needed in milk. Without it, you will feed twice as much grain as your cows need, and still will not get all the milk they can produce. That is because grains are deficient in milk-making protein and why you will find feeding

Purina Cow Chow Pays Any Time

It's hard at a time like this to really make up your mind to feed as you know you should, but it pays. Getting more milk at less cost per pound and lengthening the lactation period by supplying milk-making protein, which would otherwise be drawn from the cow's system, are just two of the advantages of feeding Purina Cow Chow.

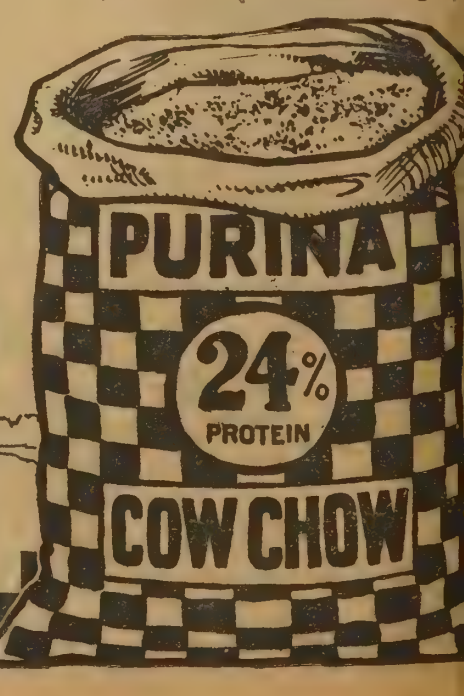
RALSTON PURINA COMPANY ST. LOUIS, MO.

Ft. Worth, Tex. Nashville, Tenn. Buffalo, N. Y.

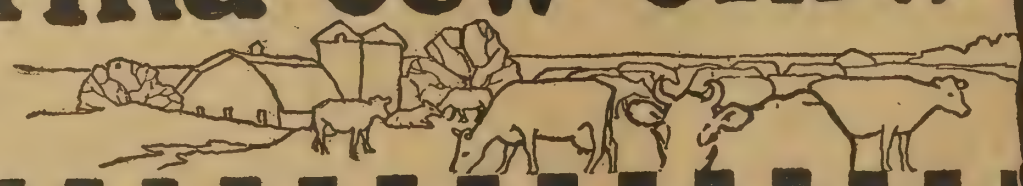
Write for
"A B C of Milk Making"

A free booklet showing how to balance home-grown rations. Ask your dealer for Purina Cow Chow, or write us.

Feed from the Checkerboard Bag



Purina Cow Chow



Agric.

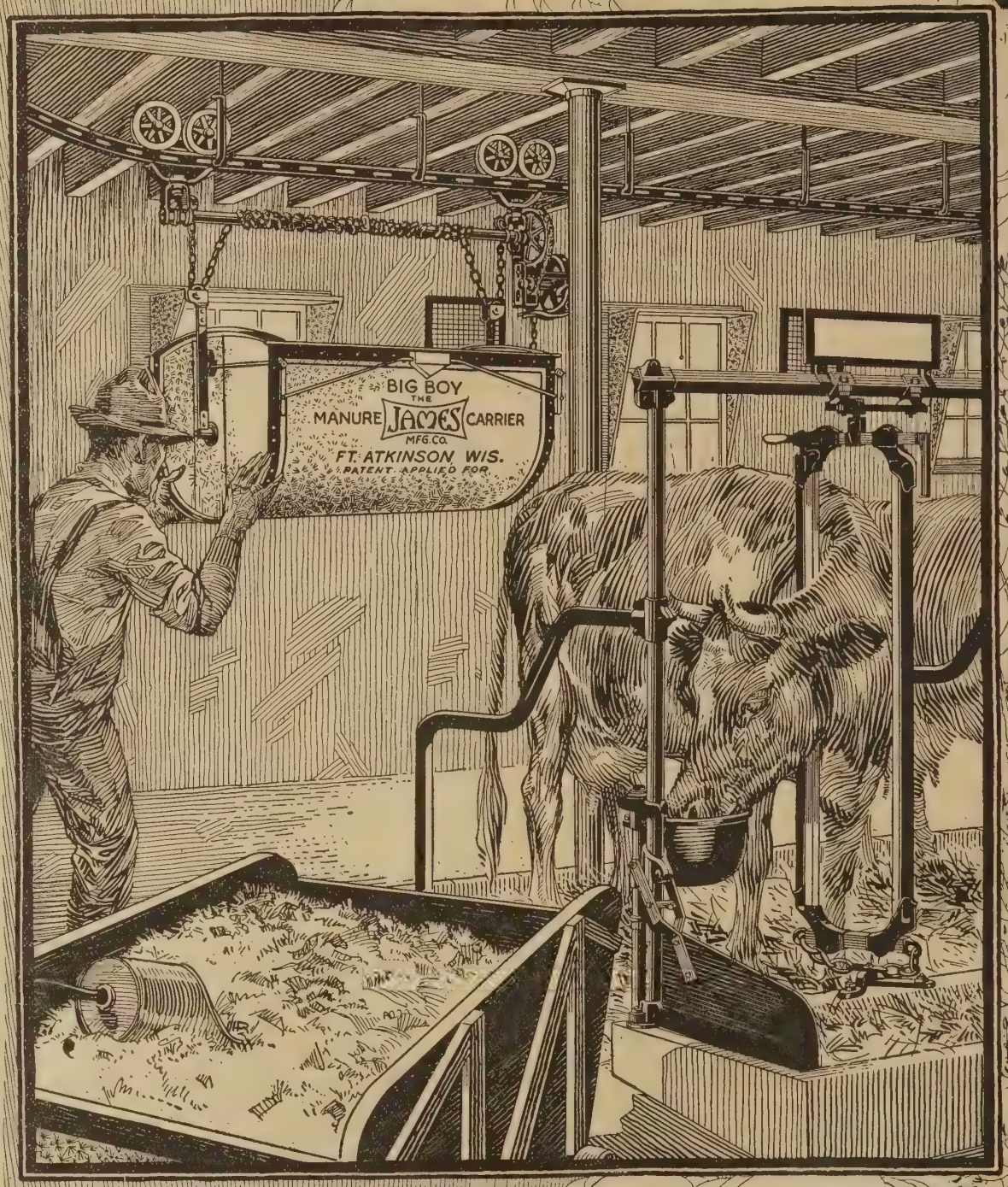
HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING



Fort Atkinson, Wisconsin Volume LXI, No. 8 March 11, 1921

James Equipment Makes Barn Work Easy



IN the barns that are James equipped, labor is not a problem; for James Equipment makes barn work easy. James Equipment not only cuts labor in two, but makes it possible for children to do work that without James labor-saving devices would require a man's strength; chore time becomes almost play time for boys who work in the barn.

Cleaning The Barn

The easy running James Carriers turn the disagreeable, dirty task of cleaning out the barn into a near-pleasure. They make a boy's job of what used to be shirked by all—and are an investment that pay profits of 25% or more a year in labor saved.

James Scrapers make quick work of cleaning cement floors; the James Stanchions, with the James Alignment Device, keep the stalls and cows clean, by aligning the cows at the rear, so that manure falls in the gutter and not on the platform.

Feeding The Cows

The easy way of feeding the cows is the Jamesway—the James Feed Truck or Feed Carrier, and James Feed Mangers. Rolling easily along the track or on the cement floor, the James Carrier or Truck make unnecessary the lifting of heavy baskets filled with feed. With their big, roomy tubs they save much walking to and from the feed rooms, and in a short time pay for themselves in labor saved.

Watering The Cows

Water — the simplest means of increasing milk yields — is often disregarded by dairymen. Those who realize how greatly milk flow is increased by James Cups are reaping huge profits on their investment.

Reports based on milk records of 28 herds (739 cows) for instance, show an average increase per cow per day of 2.45 lbs. This is 490 lbs. in 200 days, which at $3.00 per cwt. totals $14.70; with a saving of $2.50 per cow in labor and 55c in fuel. That's a profit of 400% the first year.

Other reports and other investigations confirm these figures. Ask us for the proof. Then get James Cups busy right away making these big profits for YOU.

Free Dairy Barn Book

The 320-page book—"The Jamesway"—tells all about the James inventions that save so much of labor, prevent spread of disease, promote better cow health, protect against dangerous bulls, make simpler the care of calves and sick cows, and increase milk yields.

Jamesway Barn Plan Service

What a barn costs depends in no small degree on the care with which it is planned in advance.

The man who has plans completely worked out and blue printed, can submit them to several contractors, accepting in safety the lowest bid because all are bidding on exactly the same proposition.

Contractors and those supplying materials are held to exact requirements; substitution of inferior materials or workmanship is prevented; wastes and expensive "extras" are avoided; misunderstandings are unlikely.

In the James organization are scores of Barn Planning Experts, whose experience and help are yours for the asking.

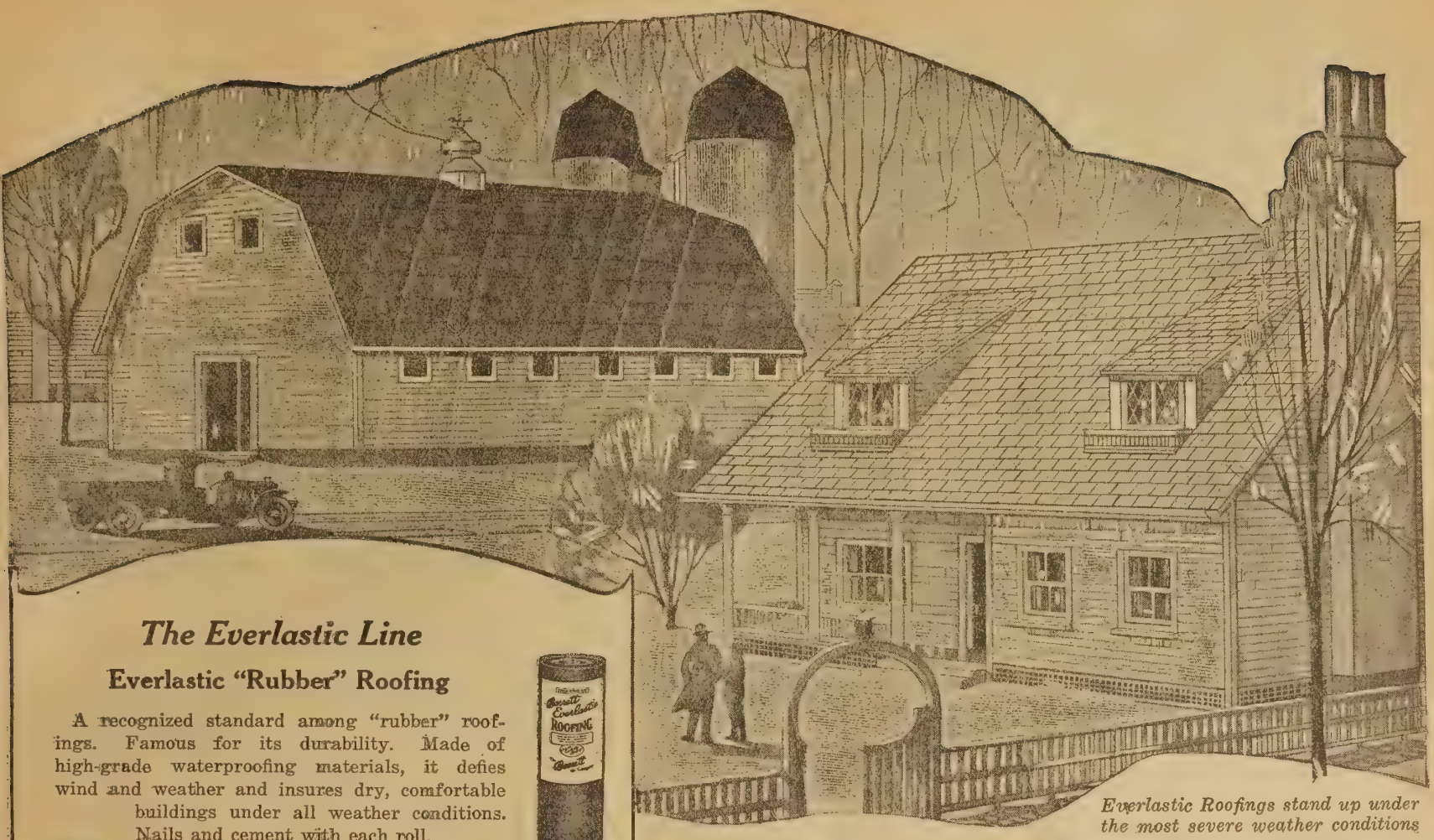
The best of their ideas are in a 320-page book on barn building, remodeling, ventilation and equipment; this book sent free.

Write us now. Tell whether you expect to build or remodel this year; say what barn problems are bothering you. Perhaps we can help you solve them.

If you want the book, ask for *"The Jamesway Book, No. 23."*

James Manufacturing Company

Fort Atkinson, Wis. Elmira, N. Y. Minneapolis, Minn.



Everlastic Roofings stand up under the most severe weather conditions

The Everlastic Line

Everlastic "Rubber" Roofing



A recognized standard among "rubber" roofings. Famous for its durability. Made of high-grade waterproofing materials, it defies wind and weather and insures dry, comfortable buildings under all weather conditions. Nails and cement with each roll.



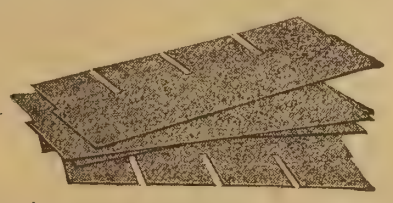
Everlastic Slate-Surfaced Roofing

A high-grade roll roofing, *surfaced with genuine crushed slate*, in two natural shades, red or green. Needs no painting. Handsome enough for a home, economical enough for a barn or garage. Combines real protection against fire with beauty. Nails and cement with each roll.

Everlastic Multi-Shingles

(*Four-Shingles-in-One*)

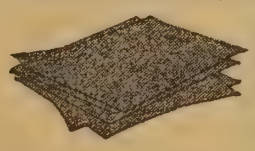
Made of high-grade thoroughly waterproofed felt and *surfaced with crushed slate* in beautiful natural slate colors, either red or green. Laid in strips of



four shingles in one at far less cost in labor and time than for wooden shingles. Give you a roof of artistic beauty worthy of the finest buildings, and one that resists fire and weather. Need no painting.

Everlastic Single Shingles

Made of the same durable slate-surfaced (red or green) material as the Multi-Shingles, but cut into individual shingles, 8 x 12¾ inches. Laid like wooden shingles but cost less per year of service. Need no painting.



Two Ways to Know Good Roofing—

You can find all sorts of plain-surfaced "rubber" roofing on the market. Some are good, some fair, and some practically worthless. All look alike when new.

But you have two ways of telling whether roofing is good.

One way is to put it on your building and see how it wears. But that's *hindsight*—a costly method, if the roofing *isn't* good.

The second way is the simplest and the safest. *Be sure that the label bears the name "Barrett Everlastic."* That's *foresight*—proof-positive of a moderate-priced roofing, good for many years of satisfactory, economical service.

For behind every Barrett Everlastic roof stands the reputation for dependability cherished by The Barrett Company for over fifty years.

There's a style of Everlastic for each one of your farm buildings. Roll roofing, plain surfaced, or covered with red or green crushed slate. Shingles—single or in strips of four—and slate-surfaced in red or green.

Illustrated booklets describing each style free on request.

The Barrett Company

New York	Chicago	Philadelphia	Boston	St. Louis	Cleveland
Cincinnati	Pittsburgh	Detroit	New Orleans	Birmingham	Kansas City
Minneapolis	Dallas	Nashville	Syracuse	Seattle	Peoria
Atlanta	Duluth	Salt Lake City	Bangor	Washington	Johnstown
Youngstown	Milwaukee	Toledo	Columbus	Richmond	Latrobe
Elizabeth	Buffalo	Baltimore	Omaha	Houston	Denver

Lebanon
Bethlehem
Jacksonville

THE BARRETT COMPANY, Limited

Montreal Toronto Winnipeg Vancouver St. John, N. B. Halifax, N. S.

Barrett Everlastic Roofings



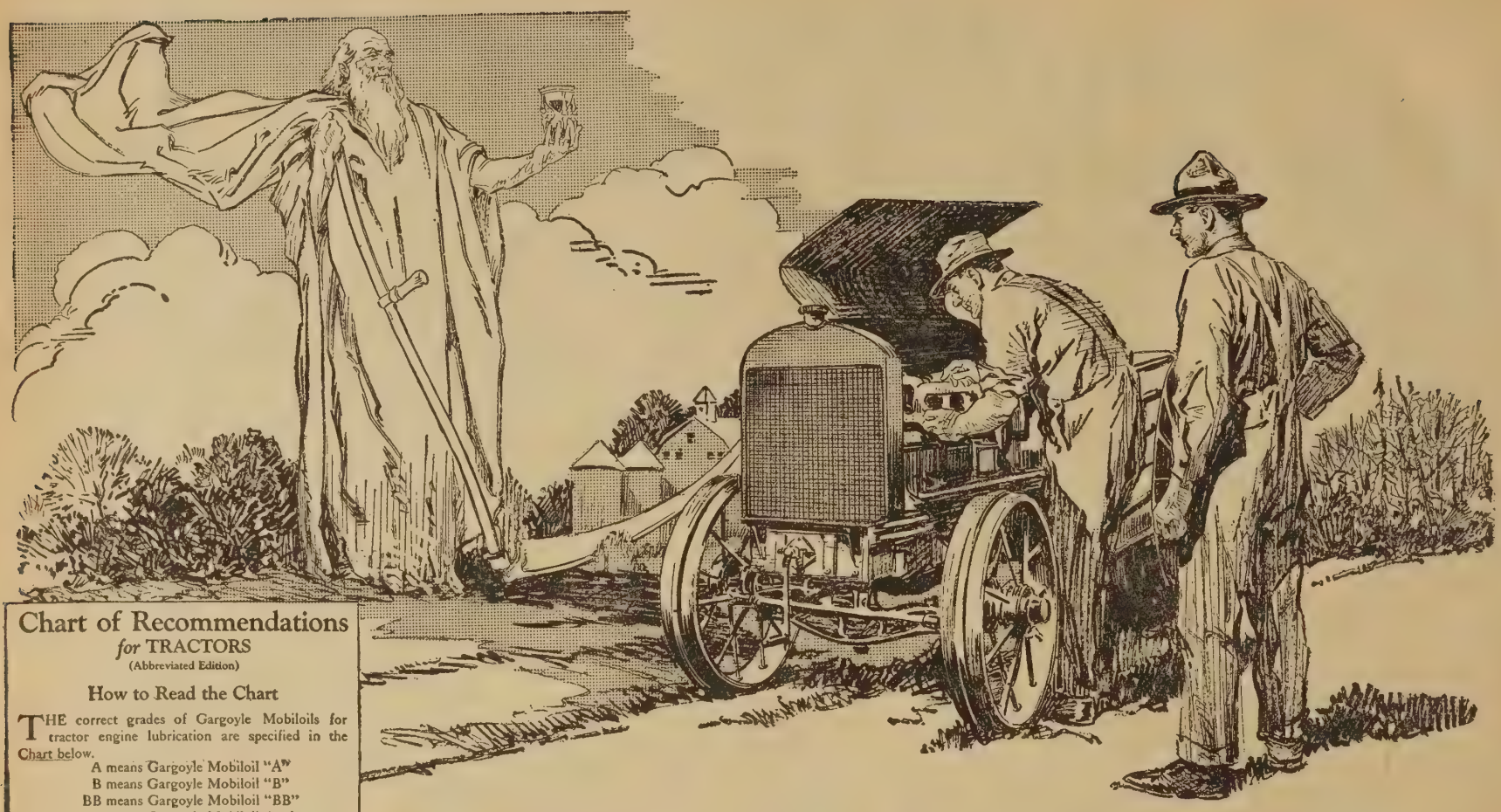


Chart of Recommendations *for* TRACTORS

(Abbreviated Edition)

How to Read the Chart

THE correct grades of Gargoyle Mobiloils for tractor engine lubrication are specified in the Chart below.

A means Gargoyle Mobiloil "A"
B means Gargoyle Mobiloil "B"
BB means Gargoyle Mobiloil "BB"
Arc means Gargoyle Mobiloil Arctic

These recommendations cover all models of tractors unless otherwise specified.

Where different grades of Gargoyle Mobiloils are recommended for summer and winter use, the winter recommendations should be followed during the entire period when freezing temperatures may be experienced.

This Chart is compiled by the Vacuum Oil Company's Board of Automotive Engineers, and constitutes a scientific guide to Correct Tractor Lubrication.

If your tractor is not listed in this partial chart, consult the Chart of Recommendations at your dealer's, or send for booklet, "Correct Lubrication for Tractors," which lists the Correct Grades for *all* Tractors.

NAMES OF TRACTORS	1920		1919		1918		1917		1916	
	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
Allis-Chalmers (General Purpose)	A	A	A	A	A	A	BB	A	A	...
" " All Other Models	BB	A	BB	A	BB	A	B	A	B	A
All Work	B	A	B	A	B	A	BB	A	B	A
Appleton	BB	A	BB	A	BB	A	BB	A	...	...
Aultman-Taylor (18–36)	...	...	...	...	BB	A	BB	A	A	A
" " (22–45)	BB	A	BB	A	...	...	...	...	...	...
" " (15–30) (Waukesha Eng.)	BB	A	BB	A	...	...	...	...	...	...
" " All Other Models	B	A	B	A	B	A	B	A	A	A
Avery (5–10)	A	A	A	A	...	...	B	A	A	Arc.
" Motor Cultivator & Planter	A	Arc.	...	...	...	...	...	...	...	...
" All Other Models	B	A	B	A	B	A	B	A	B	A
Bates Steel Mule	B	A	B	A	B	A	B	A	...	...
Bean-Track-Pull	B	A	B	A	B	A	B	A	B	A
Big Bull	...	...	B	A	B	A	B	A	...	...
Buckeye (Findlay, Ohio)	B	A	B	B	B	A	B	A	A	A
Case (9–18)	...	...	...	...	A	A	A	A	...	...
" (10–18)	...	...	BB	A	...	...	...	...	...	...
" (10–20)	...	...	...	...	A	A	A	A	A	A
" (12–25 & 20–40)	...	...	...	...	BB	A	BB	A	B	A
" (1920–27)	BB	A	BB	A	...	...	...	...	...	...
" All Other Models	B	A	B	A	...	...	B	A	B	A
Cletrac	BB	A	...	...	...	...	...	...	...	...
Cleveland	...	...	BB	A	BB	A	BB	A	...	...
Coleman	B	A	B	A	B	A	B	A	A	A
Common Sense	BB	A	BB	A	BB	A	BB	A	A	Arc.
C. O. D.	...	...	BB	A	BB	A	...	...	...	...
Craig	BB	A	BB	A	...	...	BB	A	B	A
Creeping Grip	...	...	B	A	BB	A	...	...	...	...
E. B. (9–16)	...	...	B	A	B	A	B	A	A	A
" (Reeves)	B	A	B	A	B	A	B	A	A	Arc.
" All Other Models	A	A	A	A	A	A	A	A	A	Arc.
Flour City (20–35)	B	A	B	A	B	A	B	A	A	A
" " All Other Models	B	A	B	A	B	A	B	A	B	A
Fordson	BB	A	BB	A	BB	A	...	...	...	...
Gas Pull	...	...	...	...	B	A	...	...	B	A
Grain Belt	BB	A	BB	A	BB	A	BB	A	...	...
Happy Farmer	...	...	...	...	B	A	B	A	B	A
Hart Parr	B	A	B	A	B	A	B	A	B	A
Heider	BB	A	BB	A	BB	A	BB	A	B	A
Hesston	...	...	B	A	...	...	...	...	...	...
Hollis	...	...	BB	A	...	...	...	...	...	...
Holt Caterpillar (Model 18)	...	...	...	...	...	...	BB	A	...	...
" " (Model 45)	BB	A	BB	A	BB	A	BB	A	BB	A
" " All Other Models	B	A	B	A	B	A	B	A	B	A
Huber	BB	A	BB	A	BB	A	BB	A	B	A
Illinois	B	A	B	A	B	A	A	A	...	...
Indiana	A	A	A	A	...	...	...	...	...	...
K. C. Prairie Dog	BB	A	BB	A	BB	A	BB	A	B	A
La Crosse	B	A	B	A	...	...	...	...	...	...
Liberty	B	A	B	A	B	A	...	...	...	...
Lightfoot	...	...	BB	A	BB	A	...	...	...	...
Minneapolis	B	A	B	A	B	A	B	A	B	A
Mogul (8–16)	...	...	...	...	A	A	A	A	A	A
" All Other Models	...	...	BB	A	BB	A	BB	A	BB	A
Moline Universal	BB	A	BB	A	BB	A	BB	A	BB	A
Monarch	BB	A	...	...	...	...	...	...	...	...
National	...	...	BB	A	BB	A	A	A	...	...
Neverslip (20–12)	...	...	B	A	B	A	BB	A	...	...
" (10–18, 10–6)	...	...	BB	A	BB	A	...	...	...	...
" All Other Models	...	...	...	...	B	A	...	...	...	...
New Age	...	...	BB	A	BB	A	BB	A	...	...
Nilson	BB	A	BB	A	BB	A	BB	A	B	A
Oil Pull (14–28, 10–20)	...	...	...	...	BB	A	...	...	...	...
" " (12–20, 16–30)	B	A	BB	A	...	...	...	...	...	...
" " (20–40)	B	A	BB	A	BB	A	...	...	...	...
" " All Other Models	B	A	B	A	B	A	B	A	B	A
Parrett	B	A	BB	A	BB	A	BB	A	A	A
Pioneer	B	A	B	A	B	A	B	A	B	A
Royer	B	A	B	A	B	A	...	...	...	...
Rumely (8–16)	...	...	...	...	BB	A	BB	A	BB	A
" (12–24)	...	...	...	...	B	A	B	A	A	A
Russell (Giant)	B	A	B	A	B	A	B	A	A	Arc.
" All Other Models	BB	A	BB	A	BB	A	BB	A	A	Arc.
Sandusky	BB	A	BB	A	BB	A	BB	A	A	A
Square Turn (15–30)	...	...	...	...	BB	A	...	...	...	...
" " (18–35)	B	A	B	A	B	A	...	...	...	...
Titan	BB	A	BB	A	BB	A	BB	A	BB	A
To-Ro	A	A	A	A	...	...	...	...	...	...
Townsend	B	A	B	A	...	...	...	...	...	...
Trundaar	BB	A	BB	A	BB	A	...	...	...	...
Turner Simplicity	BB	A	BB	A	BB	A	BB	A	...	...
Twin City (Model 15)	...	...	...	...	...	...	...	...	A	A
" " (Model 16)	...	...	BB	A	BB	A	...	...	...	...
" " (Model 12–20)	BB	A	BB	A	...	...	...	...	...	...
" " (Model 20–35)	BB	A	...	...	...	...	...	...	...	...
" " All Other Models	B	A	B	A	B	A	B	A	B	A
Velie	...	...	B	A	...	...	...	...	...	...
Wallis	BB	A	...	...	...	...	...	...	...	...
" Cub	...	...	...	...	B	BB	B	BB	A	Arc.
" " (Junior)	...	...	BB	A	BB	A	...	...	...	...
Waterloo Boy	A	A	A	A	A	A	A	A	B	A
Wheat	...	...	B	A	...	...	...	...	...	...
Whitney	BB	A	BB	A	BB	A	A	A	...	...
Wisconsin	B	A	B	A	B	A	BB	A	...	...

The Decisive Year

Utmost economy will help you over it

IN answer to the universal cry for production, most American farmers invested their profits to render their farms more efficient. Many of them drew heavily on future profits.

Today prices have dropped. Bankers are calling loans and restricting credit. Many farmers view the future with anxiety.

These conditions are temporary. Food is a prime necessity. Authorities state that it is a question of weathering safely the next year.

This can be done by the utmost economy.

Soon the plowing will begin. Your tractor will daily need gallons of fuel and its ration of oil. Gargoyle Mobiloils when used as specified in our Chart of Recommendations mean dollars and cents saved because they mean gallons of fuel and oil saved. At the height of the season, time is of utmost value. The tractor which unexpectedly breaks down eats up money. Men lose time. Repairs and parts must be paid for. The delay itself often affects crops. The correct grade of Gargoyle Mobiloils helps your tractor to stay in harness when you most need it.

Cheap oils are a waste of money. True, they cost less. But the poor lubrication they supply is often a vital factor in shortening the life of machinery. Cheap oils steal the power your tractor needs for pulling. They cause mostly breakdowns and excessive repair bills.

In hundreds of public and private tests Gargoyle Mobiloils have shown a saving of oil from 50% to 70% and a fuel economy from 17% to 25%. The Vacuum Oil Company was the first to supply petroleum lubricants to automobiles and has ever since been recognized as the leaders in the science of lubrication throughout the world.

Gargoyle Mobiloils will give you utmost economy in the lubrication of your most valuable equipment—tractors, trucks and automobiles.

At the end of the year this means a tidy sum of dollars and cents saved.

The chart shown here indicates exactly what grade of Gargoyle Mobiloils will give you best engine results from your tractor.



Mobiloils

A grade for each type of motor

In buying Gargoyle Mobiloils from your dealer, it is safest to purchase in original packages. Look for the red Gargoyle on the container.

DOMESTIC BRANCHES: New York, Boston, Philadelphia, Pittsburgh, Detroit, Chicago, Minneapolis, Indianapolis, Kansas City, Kan., Des Moines

VACUUM OIL COMPANY — *Specialists in the manufacture of high-grade lubricants for every class of machinery Obtainable everywhere in the world.* — NEW YORK, U.S.A.

HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING

Volume LXI — FORT ATKINSON, WIS., MARCH 11, 1921 — Number 8

The 20th Amendment

HELEN S. K. WILLCOX, NEW YORK

"THE 20th amendment! No, it wouldn't be Blue Sunday or abolishing cigarettes or the movies or taking a whack at the too-low cost of 1921 living or anything like that," said a well known dairy farmer bitterly the other day. "I'll let the real dyed-in-the-wool reformers put these things across if Congress is so minded, but if I were the honorable law makers of this country, I'd sure do my dumdest to pass a 20th amendment prohibiting my dairy brethren from buying and using oleo on their own tables. If I were Congress, I'd do that, by gum."

"Got a little grouch, ain't you, John?" slyly inquired another in the group. "Who's gone and got your butter-goat this morning?"

"Goat is right," retorted John grimly, "and I don't ever expect to recover mine until the cocoanut cow has ceased to be worshipped by two or three million fool farmers who prate about 'their rights to use oleo' and such knock-kneed arguments. Honestly, their pious reasons for undermining their own industry while taking the part of the poor and maligned oleo fellows is enough to make a self-respecting dairyman see red. It ain't natural, nor right, nor anything else human. What ails such flesh and blood folks, anyhow?"

"Well, one man says the butter he buys is so poor and the oleo his wife mixes up with some orange dye is so good that he can't bring himself to go back to Number 1 after sampling Number 2. That reason will hold water, won't it, John?"

"All bunk!" returns John briefly, "although it's a fact we can't disprove that American butter is not what it might be. But you'd see quick enough that if oleo cost what butter does and was made of the same decent ingredients that butter is, so that its cost would necessarily have to compete with butter, you'd see, I say, that this loud chatter about poor butter and good oleo would die out over night. You know how these oleo eaters work. There are at least 57 brands on the market, some specializing in various nut oils and others in more or less doubtful animal oils and left-overs, and the oleo enthusiast has the time of his life shopping round among em all, seeing which he likes the best including both price and flavor. He can't do that where butter is concerned, because butter is all made more or less alike, complying with the same standards, made from the same wholesome fat-o'-the-cow and in most other respects being just what it seems—which oleo ain't by a long shot. The oleo eater thinks it's great fun to try out the 57 brands and so he buys every new brand he hears of and helps the good work along amazingly. He enjoys making up his mind and that of his family as to whether they prefer grease made of cocoanut oil, or cottonseed oil, or peanut oil, or palm oil, or some dozen other varieties of tropical oils gathered by the heathen coolies and sent up here to the United States in a magnanimous endeavor to drive prosperity away for all time from the old farm. Yes, sir! these farseeing farmer-consumers of imitation butter smack their lips with gusto over the sweet taste of their precious pet, then go out and bed down the poor old scrubs, take the stuffin' out of the wife because she wants another quarter to keep house on for the next year, and holler and take on because milk ain't worth a tinker's dam lately and the dum distributors and condenseries and so on are stuffing us about a surplus. Say, friends, know such a feller?"

"Yes, you've said something, John," responds a third with some heat, "and your human example will do to shake up in the same basket with our dairyman-friend who doesn't give a continental about the flavor, but who looks at the price tag on a pound of "oly" and sees that it cuts butter by practically half and sometimes even two-thirds. This old fox figures in his dark, two-by-four mind that there's some difference between butter at 56 cents a pound and oleo at 34 cents. Therefore him for the latter—every time. He's the kind of leading citizen that sets his barns and stock on fire in order to draw down a good insurance wad. He's meaner and tighter with his wife and kids than the tightest bark that ever grew on earthly tree, and if he knew that by abstaining just one day from oleo and buying a pound of butter to eat in its stead he would thereby save the entire dairy industry, he'd just gloat in refusing to do it, and would go down to ruin himself before he'd see right or reason. Yes, sir! There's more such mean men than you'd think for, and the more you argue with 'em, the less they will care or be convinced. Such benighted brethren ought to move bag and baggage to the South Sea Islands and get oleo for nothing at its source. They're a menace and a pest to the whole dairy world."

"Well, now, you'd think that owners and breeders of registered stock would be above boosting the other fellow's product, wouldn't you?" interrupted a listener at this point, "but I've had the supervisors of tests tell me that more than once they've sat down at some big breeder's table on which queened the omnipotent oleo. Must be such fellows come in the same category as the class you would consign to the South Sea Islands, or was it a hotter place?"

"Say, but I'd hate to have a tester spread such news about me," John broke in with a grin. "Bet it would hurt me a thousand times more than the few cents they kid themselves they save on a pound. And, speaking about saving when a farmer uses oleo, I wonder if such reasoners have brains enough to absorb about now that the low price of milk is very directly traceable to their oleo adherences. If oleo were only used by the poorest classes in the cities, for which it was first designed, and if the farmers hadn't gone over to it along with a goodly number of regular butter consumers, it's as plain as the nose on your face that butter and not oleo would be enjoying life just at present and that it could easily take care of any milk surplus now existing. In other words, if three-quarters of us Americans ate butter exclusively, we dairymen would have to hump some to make the milk to keep it coming. But, seeing as conditions are exactly reversed, we are dumping our milk on the ground or in the brook or feeding it to the hens and cursing the Dairymen's League and the various milk associations for not selling it all at $3 and up per hundred. Oh, we're a consistent lot of intelligent reasoners, we are! Can you blame me for wishing I were in Congress for about two minutes—just long enough to do to oleo what they're going to do to home brew some day?"

"It's enough to make a minister swear," agreed one and all gloomily. "Yes, and don't criticize the anxious consumer and the moat in his eye untill we have removed the beam in our own," advised a fourth farmer with deep disgust. And that last statement is one to ponder well.

They say that in New York State, in a little village with a population of 700, there is, in its near vicinity, more pure-bred Holsteins kept than in any corresponding section in the United States. Down there they breathe, eat, sleep, and think dairying. A certain butter investigator entered a store in this village one day and noticed a farmer carrying out several packages of oleo with his usual purchases. The store keeper was thereupon asked how much of the stuff he sold annually, to which he replied, "It's a trade secret, but we don't make any effort to sell it. We try to sell butter."

"Well, how much

(Continued on page 342)



International Film Service

THE SWISS COW IN ITS NATIVE LAND

Simple Ways of Feeding Dairy Cows

H. P. DAVIS, IDAHO

DAIRY cows, like human beings, must be properly fed and cared for to always be in good humor and good health. Satisfactory living conditions and proper handling play no small part in keeping dairy cows feeling fit. Even more important in obtaining profitable production is satisfactory feeding; satisfactory in that the greatest production is obtained at the least cost without impairing the future usefulness of the animal. Feeding is both an art and a science. Present day practices are based upon fundamental research in chemistry and physiology, modified by the careful observation of thousands of feeders during many decades. Attempts have been made to reduce the science of feeding to a few absolute rules, but these have met with failure. Rules are very useful guides, but the feeder must constantly observe his cows and study their likes and responses if he is to obtain any considerable measure of success.

Liberal Feeding Necessary

Successful feeding is also economical feeding. Never must the cow be "stinted". She should be provided with an abundance of palatable and nutritious feed. There is no greater false economy than limiting production through failure to supply the cow with plenty. Liberality in feeding is economy. It is not meant that cows cannot be overfed but that they should be so fed that they produce with the greatest economy.

Cows frequently are likened to various machines and the comparison is applicable. Take the gasoline automobile, a certain amount of gasoline or fuel is needed to keep the engine running even when the machine is standing still doing no work. If only enough fuel is supplied to keep the engine going, the automobile will not move. Only when gasoline is furnished above the quantity required to move the engine, is the automobile useful. Just so, a certain amount of feed is necessary to keep the cow's body operating. This is called maintenance. Until this quantity is supplied, the cow cannot be expected to perform useful work in the form of producing milk. It is true that the specialized dairy cow will often produce milk when fed below her maintenance requirements, but she does it at the expense of her body. The feed supplied above the requirements of maintenance is that used for milk production. The average cow uses about sixty per cent of the feed for maintenance, while the high producer uses a very much smaller proportion. Maintenance seems to be directly proportional to size. That means that the maintenance requirements for two cows of the same weight are equal. The economy of the large producing cow is therefore very apparent.

Type of Dairying Influences Feeding

Much depends upon the kind of dairying carried on as to the feeding to be employed. There are two main types with various intermediate stages between the two. They may be designated as summer dairying and winter dairying. In summer dairying the cows freshen in the spring, and throughout the summer until late fall are on pasture. By winter the larger part of the milking period is past and the cow is given a little hay, but soon turned dry. In winter dairying cows freshen in the fall and, for a goodly share of the lactation period, are fed in the barn, although perhaps turned out to pasture in the spring or summer. In summer dairying pasture grasses supply most of the feed while in winter dairying they play but a small part.

Summer Feeding

Usually feeding in summer consists of the use of pastures although soiling crops are gaining favor in certain localities. Oftentimes it is desirable or necessary to supplement such feeds. Occasionally it is not possible to have pasture which will furnish any appreciable part of the ration and, in such cases, summer feeding does not differ materially from winter feeding.

In many ways, the common pasture grasses are the best and most satisfactory feed for the dairy cow. They are succulent, juicy, and contain the necessary food material for carrying on the body functions and producing milk. The experience of dairymen has always been that good, plenteous pasture was a ration from which the best results were obtained at the pail. For the ordinary cow, say one that produces annually up to 250 or even 300 pounds of butterfat, good pasture supplies a complete and satisfactory ration. Of course there is a great difference in pastures. They range from the rather poor, rocky ones, that are found in some places in New England, to the rich, irrigated ones of the western states. On the former it may take from two to ten acres to the cow, and on the latter three and even four cows have been carried on each acre. It is very difficult to give any rule by which to judge pastures. As good a guide as any is to observe how long it takes an average cow to eat her fill before lying down to chew her cud. On a good pasture, a cow should be able to satisfy her appetite in about three or four hours of grazing night and morning. If she has to graze all day to satisfy her craving for food, it is a pretty good indication that she is not getting enough to eat. There are two things that indicate lack of feed readily; namely, the milk flow and the body weight. A decrease in either is significant and the careful feeder watches with the greatest care for any indication of lack of feed.

Pasture can be and often is supplemented with other feeds. This may be either roughage, which includes soiling crops, silage, fodder, straw, or hay, or grain or combination of them. Soiling crops as a supplement for pasture in the early spring and late fall are particularly useful since at those times pasture is frequently lacking in food material. The crop used depends upon the locality and the season of year in which it is to be used. Hay and silage are also used to supplement pasture especially in the late summer. The quantities of the various roughages needed depend largely on the cow and her appetite will serve as the best guide. If she is fed all she will eat up clean, she will usually be fed to her maximum capacity.

Grain Feeding on Pasture

When grain is fed as a supplement to pasture the amount and quantity will be gauged by the kind and extent of the pasture, and the size and breed of the cows. For average conditions a slight modification of the rule formulated by Dr. C. H. Eckles of the University of Minnesota is suggested as follows:

Jersey or Guernsey cows producing the quantities of milk indicated below, should receive for each 100 pounds of live weight:

20 pounds of milk daily.....	.35 pound grain
25 pounds of milk daily.....	.45 pound grain
30 pounds of milk daily.....	.6 pound grain
35 pounds of milk daily.....	.8 pound grain
40 pounds of milk daily.....	1.0 pound grain

For production above 40 pounds, one pound of grain should be furnished for each 4 pounds of milk produced. This rule is planned for cows that test approximately five per cent butterfat. Those producing milk that is much richer should be fed somewhat more liberally.

For Ayrshire, Brown Swiss, or Holstein cows for each 100 pounds of live weight:

25 pounds of milk daily.....	.3 pound grain
30 pounds of milk daily.....	.5 pound grain
35 pounds of milk daily.....	.7 pound grain
40 pounds of milk daily.....	.8 pound grain
45 pounds of milk daily.....	.9 pound grain
50 pounds of milk daily.....	1.0 pound grain

For production above 50 pounds, one pound of grain should be given for each 5 pounds of milk produced. When cows produce milk testing more than four per cent the quantities of grain should be slightly increased. When the milk tests below three per cent, the quantity of grain may be slightly decreased.

Soiling Crops

In localities where the land is very expensive and only fair pasture can be obtained, forage crops planted to mature for feeding in succession throughout the summer are frequently used. There is no question but that a greater quantity of feed can be raised per acre under such a system and this is an especial advantage for the dairyman with limited acreage. There is the added advantage that no feed is wasted by being tramped upon. In feeding such forage it is cut, removed from the field, and fed to the cows in a lot or in the barn. In general there are two disadvantages to soiling crops: (1) that considerable labor is required to cut, haul, and feed the forage, and (2) it is difficult to arrange a succession of crops that are ready at the right time during all seasons. Where used properly, the soiling system equals if not surpasses pasturing at its best. Primarily soiling is intensive and best suited to conditions where intensive cropping is desirable or necessary.

Summer Silo

More and more, in the dairy sections of this country, a small silo designed for summer feeding is taking its place with the essentials of a dairy farm. Designed at first to supplement pasture, in many instances it has entirely supplanted pasture. A silo of small diameter, so that at least four inches of silage may be fed daily to prevent undue spoilage, is the chief necessity. The summer silo has most of the advantages of the soiling system without its chief disadvantage, namely the necessity of using so much labor to get the material to the cows each day. The feed is stored in a convenient place and can be fed with the minimum of trouble.



ON THE DAIRY FARM OF G. A. WEED AND E. W. RUEHS, MICHIGAN

Winter or Stable Feeding

In most cases, summer feeding is comparatively simple and easy to handle for most farmers. Winter feeding, except in sections of the South or on the Pacific Coast where milk conditions prevail, is largely a problem of stable feeding.

The feeds which can be used may be divided roughly into three classes:—dry roughage such as the hays, straws, corn fodder, etc.; succulent roughage such as silage, moist pulps, and roots; and grains or concentrates. It is desirable that as large a part of the feed as possible should be grown on the farm. A common plan is to grow the roughage, both dry and succulent, and then as much as possible of the concentrated part of the ration, the grain. The problem of feeding therefore usually becomes one of figuring the most economical ration, using the roughages and grains available, and only purchasing needed concentrates such as bran, oil meal, etc., that are needed to effect the proper balance. This means that concentrated rather than bulky feeds will be purchased and thus the freight on bulky feeds saved.

Dry Roughage

Dry roughage includes all the hays, straws, and fodders that are fed to dairy cattle. Of the straws of the cereal grains little will be said because as a class they are not well adapted for dairy cattle feeding. By this is not meant that they have no feeding value, but that the nourishment which they contain is in a form which requires too much of the cow's energy in chewing and digesting the feed. For milk production, the cereal straws are also undesirable since they tend to dry off the animals. However, a straw stack to which the cows have access in addition to other

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MILK CAMPAIGN WORK IN KANSAS

RENA FAUBION, KANSAS

JUST one year ago the milk campaign work began in Kansas. Since that time it has been conducted in various ways as city-wide campaigns, county-wide campaigns, and state-wide campaigns, all with equally good results.

A very definite and accurate health survey was conducted in Marion County, Kansas, by the county health officer and public health nurse. In this survey every school child in the county was weighed, measured, and physically examined. Then these weights and measures were compared with the standard chart of weights and measures prepared by the Department of Interior Bureau of Education, Washington, D. C., and it was discovered that out of the 3,704 children examined, 69% were 2% or more under standard weight according to their height and age, 34% or just about one-half of the number of children who were underweight were 8% or more below standard, 19% of the children were overweight and only 12% of the entire number examined were of standard weight.

With all of the evident proof of the past few years that milk is our best food and knowing that much of this underweight condition of children was due to undernourishment, the milk utilization specialist made plans for conducting milk demonstrations in rural and small town schools. This was the simple addition of a pint of milk a day at school for each child, otherwise their diet remained the same. Milk demonstrations were started in five schools in Marion County, four were rural schools and one a small town school.

In each school the children were weighed and measured at the beginning of the demonstration and at the end of each month during the demonstration. In the rural districts the children carried the milk from home in two one-half pint bottles; in the small town school the supply of milk was furnished by the school board. That the physical condition of the children could be greatly improved by good nourishing food was well proven in as short a time as ten weeks. In the primary room of the Lost Springs school there were sixteen children, two were 11 and 9% underweight, five were of standard weight, while the remaining nine were from 2 to 12% underweight. Five of these children were 10% or more underweight.

Children Gain in Weight

The entire number were given a pint of milk a day at school, taking one-half pint at the morning recess and the other half pint at the afternoon recess. The milk was served to the children in cups by the teacher who was assisted by the seventh and eighth grade children. This demonstration was continued through a period of ten weeks. The two children who were 11 and 9% underweight had reduced to 10 and 8% respectively and there was not a single child left in the 10% or more underweight class. Some of the children were still underweight but none of them more than 8% underweight. The average gain for these children was 1½ lbs., though some gained as much as 3 lbs. The normal gain for this length of time is one pound.

In another school where the demonstration was continued through a period of three and one-half months the following changes were noted: In the beginning 8 children were overweight varying from 3 to 42%, 2 children were of standard weight and fourteen children were underweight, three of which were 10% or more.

At the close of the demonstration 10 children were overweight with a somewhat increased percentage, eleven children were of standard weight and only two were underweight. One girl who was 17% underweight gained 11½ lbs. during this period of time and was one of those who attained standard weight. In addition to the physical improvement teachers reported an improvement in studies and conduct as well. They also said it had a tendency to do away with piecing between meals, so taking the results as a whole they were most satisfactory and milk was proven to be quite as good for Kansas children as for rats in the laboratories.

It was discovered early in the year that the reason many people did not use more milk in their diet was because they did not know of its food value or the importance in the diet. So educational campaigns of city, county, and state-wide scope were launched.

In these campaigns it has been our aim to secure local co-operation and to give out only true facts in regard to the food value of milk and its products. Some of the leading ways in which this material has been placed before the people have been newspaper publicity which consisted of paid advertisements and feature stories, window exhibits featuring milk as a food, its use and care; the use of milk posters displayed in prominent places, short talks made before school children, and organized meetings. Milk literature has been widely distributed and when given to children they were urged to carry it home to their mothers. Another effective way of teaching the milk lesson is through the "Milk Fairies" playlet. This is a very entertaining as well as instructive little play and children who see or have a part in it cannot help but know what milk can do for them. This play has been put on in several different communities in Kansas during the past year.

Increased Sales Follow

It is advisable to precede a milk campaign with a milk and health survey in order to know what local conditions are. From a survey in cer-

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WINDOW EXHIBIT FEATURING MILK AS A FOOD FOR CHILDREN



LEADING CHARACTERS IN "MILK FAIRIES" PLAYLET

Human Side of Cow Testing

Horace Evans, Tester for the Plainfield Association, Tells His Former College Roommate How He Got Andy McRae "to Spend Some Siller" and Wm. Kent's Faith in Young Men

JULY 7.

DEAR Mike: Andrew McRae is undoubtedly the most picturesque member of the Plainfield Cow Testing Association. Andrew is all that the term "canny Scot" implies. He has not been too wise, however, not to profit by the work of the association, and there is a good lesson in his experience.

My acquaintance with Andrew began near the end of my first month's testing. After finishing my day's work for the preceding member on the route, I was taken on a long ride into the heart of a hilly backwoods district. At last, at a neat home situated on a knoll and entirely surrounded by a range of higher, tree-covered hills, I was met by this sturdy, middle-aged Scotchman.

With such a proprietor and in such a setting I half expected, before going to the barn, to find there a herd of the beautiful Ayrshires. In this I was not disappointed. Mr. McRae did have a remarkably uniform herd of these hardy, straight-backed cattle. Every animal was of the type and quality usually associated with large production. I was greatly surprised, however, to learn that their owner was profiting by these excellent purebreds practically no more than as if they had been only moderately good grades. This was because he did not realize their worth as breeding stock, and was not utilizing his opportunity to sell them for this purpose. Like his neighbors, he was selling milk to the condensery, this being about the only source of his dairy income. That he has finally come to see his opportunity and is now cashing in on both lines of his business I consider one of the best results of my year's work.

The trouble with Andy was that he and his herd were practically unknown beyond his immediate locality. Needing a bull for his herd of scrubs or grades, a neighbor would occasionally buy one of Andy, perhaps as often getting a scrub sire from another neighbor. In either case the price was always about the same, as McRae's neighbors did not know the value of a good sire, while he did not know that there was a better market for his stock. Once in a while a discerning breeder, happening to make his way into this remote district, would buy a few head of Andrew's cattle. These were also sold at bargain rates, just because he did not know their value and was taking no steps to attract buyers from a distance.

Andy was a very good feeder and an excellent breeder. He started many years ago with a few choice foundation animals, blood of which is found in nearly every member of his present herd. Being a master of the breeding art, he has been able to practice inbreeding with safety. Consequently he has found it necessary to introduce but little new blood into his herd, though when buying a bull it was always selected with great care. Fortunately he kept up the registration of his animals, but as his transfers to other breeders were few and he made no official records, the public heard nothing of him. He was a good example of the thrifty, satisfied Scot, deeply attached to his home and cattle, but not greatly interested in broadening the scope of his business.

While seeing the situation at once, I said nothing to Andy about it on my first trip. The next month, however, I began to try to get him interested in having some official records made, pointing out that they would help to increase the value of his animals. From the unofficial records which some of his cows were making in the cow testing association, I felt certain that they would have no difficulty in getting into the Advanced Registry and, as I could supervise the official testing in addition to my regular duties, the additional expense would be light.

I believed that Andy would also need some advertising, but refrained

(Continued on page 310)

Farmers' Week at Cornell

H. H. LYON, NEW YORK

CORNELL is again running normally this year, recovering from war effects. It is a great institution and its agricultural department is cramped for room. Plans are being perfected for additional buildings. Farmers' Week has been observed now for several years and with large numbers of farmer visitors. The most crowded lectures were those relating to farm management by Dr. Warren and those relating to milk problems and League activities, both from the dealer and the producer side.

The Price of Milk

Two consecutive addresses were given on the price of milk, the first one by F. A. Pearson. There are several methods of determining the price of milk. There was the old one where the dealers set the price at which they believed they might get a supply. There is the butter price and the cheese price, both of which are very similar. Then comes the surplus method and the cost of production plan. Finally, there follows the supply and demand and the index number idea. The first two, butter and cheese, are not very accurate because the conditions of production are different in these regions from that near the great cities and because milk is bulky and perishable and cannot be held. The surplus idea is difficult to control as sellers and buyers do not figure amount of surplus the same. Cost of production is fundamentally right, but other factors will cause sales at times below this and at others above.

Supply and demand are terms to be conjured with. Supply, within limits, will depend upon cost of production, but apparent demand depends upon various factors. The nearest one can come to it is the price level of all commodities. This last factor seems to be the index number. As a loose proposition supply and demand can be made to hide about as much truth as any two words are capable of doing.

Dr. Warren Speaks

Dr. Warren followed with a considerable number of charts. He commenced by considering the "size of a dollar". A changing dollar such as we have had for five years upsets all calculations. As prices have advanced, wages in general have not kept pace. In 1917 wages were too low, In a few lines they were too high, but others were entirely too low. Milk has not kept pace with the general level of prices except at short intervals, but it should stay up now as compared with other things.

One cause affecting the price of milk is that of production per cow which has more than doubled since 1855. It is now something over 5,000 pounds for New York State. Some say that no cow producing under 5,000 pounds should be kept, but if not there would be an enormous shortage of milk.

There is never any danger of an organization of farmers controlling prices unfairly, but the city man thinks there is. A city manufacturing concern can close down and compel an upward tendency of prices, but you can't put cows in cold storage to await higher prices. Low prices at the farm are more dangerous for the consumer than the producer. It is a good time now to get rid of the lowest producing cows in every dairy. There is no more sense in fixing the price of milk on the surplus than of fixing the price of beef on the worth of surplus for fertilizer. Get people interested in using more milk and use cost as a basis in determining the price.

Milk Distribution in New York

The secretary of the New York milk conference board gave some statements in relation to the distribution of milk. He seems to have revised his attitude as shown at the Watertown meeting somewhat. His topic, however, was a little different as he dealt with milk distribution mainly. He calls attention that the New York distributors serve almost one-tenth of the people of the country, namely, about 10,000,000 people, residing within a radius of about thirty miles. He asserts that in this area the milk has to be carried by trucks from the cars across the river, and for Brooklyn, across two rivers and much territory. In other cities of the country this is not true, many of them being able to place the cars right up to the milk stations. Housing systems in the New York territory are peculiar and make milk distribution costly. The racial and educational conditions and the diversity of habits and customs renders business difficult. Some have prejudices against certain classes of people and special men must be engaged to serve them. Union labor has made economical service difficult. Mr. Nathans contends that the sale of bottled and loose milk in stores causes higher cost to other distributors. The fact that Philadelphia and some other cities are able to send out wagons with 400 to 500 quarts while New York has only 220 to 280 per man, makes a difference. In the latter city as much milk is sold through the stores as by the delivery wagons of the dealers.

Mr. Nathans criticized the League for underselling the established dealers, calling it unfair practice. He also stated that the pooling plan would foster the production of poor milk and discourage good milk. When he got to these questions he seemed to forget his former fairness of statement; but these points were well answered by Mr. Miller of the League later in the day.

Condensery Representative Hits the League

H. M. Rowe, New York City, presented the Nestle's Food angle of the milk question. The dairy industry is sick, he said, and he is one of the physicians in consultation on the case. He contends that he is not opposed to co-operation when it is for the public good, but he contends that the present League co-operative plan is monopolistic and would be bad if it could succeed. This success he believes impossible and it is therefore a foolish scheme. It requires labor, capital, and business ability to make an enterprise successful, and he appeared to hold that the League lacks the qualifications of business ability. The condensers can buy milk and will be glad to do so pretty soon, as I understood his intimation, if it can be brought on a butter basis or a trifle above. We should come down to the Chicago price, which he figured at $1.935 for three per cent milk. His evident contention is that the present large concerns in the milk business are about the only ones that are worthy of success or can handle the business with efficiency. Anything which interferes with their activities he seems to think is an unnecessary hindrance.

Miller Replies for the League

The writer is a League member and a supporter of the pooling plan. Possibly for these reasons he sees more logic in the address by Mr. Miller than in those of Mr. Nathans and Mr. Rowe, so far as these gentlemen had to do with the League and with pooling. League territory, said Mr. Miller, is that which is engaged in

(Continued on page 335)

Canadian Dairy Notes

F. E. ELLIS, CANADA

PERUSING Hoard's Dairyman in recent months, has led me more than ever to the conclusion that there is a strong community of interest between the dairymen of Canada and the United States. Our problems of production are similar. The market problem is going through the same process of evolution on both sides of the border. Just at present the great problem facing milk producers is some method whereby we can exercise greater control over the sale of our products. Hitherto the city milk shippers have been fairly well organized and have been almost uniformly successful in getting their price. Aside from some interference from our Board of Commerce, all went well until the condenseries and powder milk factories ceased or partly ceased operations last fall. The executives of the milk shippers' associations were wise enough to see that they could not maintain the winter price agreed upon with so much milk being thrown back on the producers' hands. A general meeting was called of the Toronto producers who voluntarily made a reduction of the winter prices already agreed upon, but even at the lower levels it has been difficult to maintain the price and much milk is going into Toronto at less than contract figures.

Ontario Milk Prices

At present Toronto distributors are paying $2.90 per 80-pound can delivered, as compared with $3.25 in September and October. The present price is the equivalent of $3.30 a hundredweight at the farm. The few powder milk factories, that are again making powder, are paying $2.30 a hundredweight for 3.5% milk delivered at the plants, with 3 cents up or down for each point of fat. Condenseries are paying $2.25 for 3.5% milk. Creamery returns are about the same as condensery returns and cheese factories, when they open up, will probably pay somewhat less. Here we have a difference of about $1 a cwt. in the prices being received by the different classes of producers and the difficulty of maintaining such a difference is self-evident. Many producers in Ontario are coming to believe that the pooling system will supply the answer.



INGLESIDE PRETORIA VRANGUE

A Guernsey cow owned by Mountain Brothers, Iowa, which has completed a record of 10,894.4 pounds milk, 587.09 pound fat, in the double letter class of the Advanced Register. This record was begun when the cow was three years and seventy-two days of age and qualifies her for third place in class EE. The new class leader has been shown at several 1920 fairs in the middle western states and has won several first prizes as well as a number of grand championships. She was sired by Pretoria's King of Midlothian, a grandson of Imp. King of the May.

The Iowanola Guernsey herd, owned by Mountain Brothers, is one of the newer herds in the Central West. It has been developed from a practical foundation to a position in which it commands respect from all breeders.—AMERICAN GUERNSEY CATTLE CLUB.

Ontario producers have been watching the New York situation with the keenest interest and the successful launching of a pooling plan by the New York Dairymen's League will give a great impetus to the propaganda now being carried on for the introduction of a similar system in Ontario. We recognize that such a system would be much more difficult to inaugurate here as the greater part of the milk goes to the low priced markets—that is, to the cheese factories and creameries.

Mr. E. H. Stonehouse, the president of the Provincial Association, is confident that there are no difficulties that cannot be surmounted, and the "broadening out" policy, adopted at the recent meeting of the Ontario Milk and Cream Producers' Association, is the first step in that direction. Heretofore that association has limited its membership to city milk and cream producers. Hereafter it will include producers of milk, no matter what their market may be. The educational work of this and other dairy associations hereafter will be financed by a one per cent reduction from one monthly milk check, the amount being collected through the distributor or factory man. This will provide more ample funds to carry on a pooling propaganda. In the meantime it becomes increasingly evident that, short of monopolistic control of all milk produced, the city price cannot be based on cost of production but must be related to the selling price of other manufactured dairy products. The law of supply and demand makes this

necessary. The writer is one of those who is inclined to question if absolute monopoly is safe, even in the hands of honest, hard working dairy farmers.

Mr. J. A. Ruddick, Dominion Dairy Commissioner, has a suggestion for producers that may be adopted with little delay. He strongly advocates the establishment of co-operatively owned milk shipping plants, equipped to manufacture butter and cheese or ship milk and cream. His department has afforded an example of the advantage of such a station. Right in the heart of one of the cheese districts of Eastern Ontario is the Finch Dairy Station owned by the Dominion Department of Agriculture. This station makes cheese and butter or ships milk and cream as market wisdom dictates and last year was able to pay its patrons $2.67 per cwt. for their milk while cheese factory patrons in the same vicinity realized only $2.20.

Public Dairy Tests

Our winter fairs have come and gone and with them the usual three-day public dairy tests. These tests were designed at first to emphasize the importance of production records. In this connection they have now served their purpose. Testing is general and there is more real value to the breeder and less expense by submitting his cow to an official test at home, than by taking her to the public tests at Guelph, Ottawa, or Amherst. There is something about these public tests, however, that appeals to the sporting instinct. It is like racing horses to assemble a big barnful of the choicest cows of all the dairy breeds and then have them compete in milk and fat production for three days. The sporting instinct, which is as strong among dairy cattle breeders as among any other class, would seem to insure the retainment of a dairy test as a permanent feature of our winter fairs.

There were fewer entries in the dairy test at Guelph this year than for many years past. As compared with over 80 cows on test in 1918 and 1919, there were only 28 at Guelph this year. The sweepstakes cow was a 10-year-old Holstein from the herd of J. G. Currie & Son, with a three-day production of 267.4 pounds of milk, testing 3.28% fat, and a score of 292.9. This cow has three records of over 28.5 pounds of butter in seven days, and perhaps the most noteworthy point of the win was that she was exhibited by a young chap in his early twenties, who has taken cows to Guelph half a dozen times, has come right close to the top on several occasions, and had his persistence awarded with the sweepstakes this year.

The result of the dairy test at the Ottawa Winter Fair resulted in a great deal of discussion of a question on which our breeders are anything but agreed. Should government institutions compete with private breeders? Last year the Experimental Farm at Ottawa made several entries in the dairy test but, as they did not make any sensational wins, little was said about the innovation. This year the sweepstakes cow, Grace Fayne Aaggie, a six-year-old Holstein, was from the government herd. She has an official 31-pound butter record and in the three days of the public test, she made 233 pounds of milk testing 3.89% fat. The outstanding record of the test, however, was that of a two-year-old Holstein heifer entered by J. B. Dowler, Ontario, that gave the sweepstakes cow a close run with 200.7 pounds of milk testing 3.841% fat. She is a beautiful heifer and would look well in any show ring.

The Atlantic provinces—Nova Scotia, New Brunswick, and Prince Edward Island—held their winter fair at Amherst, Nova Scotia. This year 53 cows competed, representing five breeds. The sweepstake cow was again a Holstein, Queen Abbekerk Rooker, exhibited by R. L. Hicks, New Brunswick, with 203.8 pounds of milk yielding 8.81 pounds of butterfat. It will be noticed that none of these records, if continued for the seven days, would be anything more than creditable. Practically all of the cows that win in these public dairy tests make considerable higher official records at home. This verifies the statement made above—that the dairy test is a sporting event, rather than a real measure of producing ability.

More Vitamines in Green Pasture Milk

There seems to be more of a nutritional value in milk which is produced on green pastures than in that which is produced when dry feeds are given the cows. At the Wisconsin Experiment Station tests have been conducted in the feeding of milk to prevent scurvy. It has been found that summer pasture milk is very much more effective than dry feed milk in this use. The question arises as to whether green pasture milk is different in its constitution and whether it contains certain properties which cannot be had when cows do not have green feeds available. It is recognized that the cow's udder cannot form the vitamines so necessary to proper nutrition but that these substances come into milk from being concentrated in the feeds supplied the cow.

In the tests which have been made, it is shown that 50 parts of summer pasture milk were fully as effective as 75 parts of dry feed milk in preventing the disease scurvy. It was indicated, however, that the milk produced by cows on dry rations was not altogether lacking in the qualities necessary in the treatment of this disease. Silage from corn which was well matured and partly dry before it was put into the silo did not improve the dry fed milk in this point, nor did the feeding of mangels make it more effective. Both silage and mangel milk was like the dry feed milk and unlike the summer pasture milk in its power to prevent scurvy.

"BALL BAND" TRADE Red Ball MARK



Look for the Red Ball

The one sure way to get strong, well-fitting, long-wearing Rubber Footwear is to look for the Red Ball Trade Mark when you buy.

This round Red Ball is on the knee of every "Ball-Band" Boot, on the heel or arch of every Arctic and Light-Weight Rubber.

More than ten million people look for the Red Ball—they know what it stands for. Sixty thousand stores sell "Ball-Band" Rubber Footwear.

Ask your dealer for our free illustrated booklet, "More Days Wear."

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Brings Electricity and Running Water

Why be without modern comforts? It's easy to modernize with a Kewanee System. One simple easily installed Combination Plant brings every comfort to your home for a lifetime. Kewanee Engineers help you plan your installation—see that out of more than 150 sizes and models of REAL PRIVATE UTILITY PLANTS you get the one THAT FITS YOUR NEEDS.

Before you modernize your home be sure you know Kewanee Systems. Write for the Kewanee Booklet illustrating and describing Kewanee Plants in detail. FREE to Home Owners.

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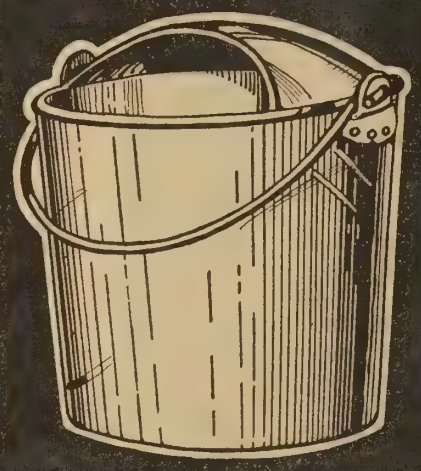


DURO SEAMLESS SANITARY MILKING PAIL

This durable, sanitary milking pail is made of heavy gauge steel double tinned, bottom and sides of one piece. The hood prevents dust and dirt falling into milk when pail is held at customary angle between milker's knees.

No seams, cracks nor crevices to harbor bacteria. No loose parts; hence no expense for supplies.

14 QT. SIZE
$2.25



14 qt. with hood $2.25 per dozen....$24.00

14 qt. without hood.....$2.00 per dozen....$21.00

Write for big, free Dairy Catalogue

The Creamery Package Mfg. Company
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A Dependable Shirt

Built big for working comfort. Triple stitched, reenforced, good looking, long wearing. Two pockets buttoned through. If your storekeeper does not carry Old Faithful write us and we will see that you are supplied.

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Before you buy your milking machine, be sure to read our free book that gives eight sure tests for quality and efficiency. You owe yourself this protection. Just send name, address and number of cows you milk. *The book is free.*

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Grown From Select Stock—None Better—50 years selling seeds. Prices below all others. Buy and test. If not O. K. return and I will refund. Extra packets sent free in all orders I fill. Send address for **Big Catalogue** illustrated with over 700 pictures of vegetables and flowers of every variety.

R. H. Shumway, Rockford, Ill.

Human Side of Cow Testing

(Continued From page 307)

from saying anything about that until he had started the official testing. Too many suggestions at once probably would have resulted in his doing nothing. Moreover, he needed the official records to back up any statements that he might make in print. But when he had gotten a half dozen yearly records nicely under way, I ventured to open the subject with him.

"You really ought to do some advertising, Mr. McRae," I said. "You have a fine bunch of young stuff here that would bring you good prices, if other breeders only knew that you had them. You see, you might have the best cows in the state, but if nobody knew it you would still have to sell them at the prices of grades, or for beef."

"Hoot, man," he replied quickly, "I dinna advertise. It costs."

"Sure it costs," I hastily agreed. "But the prices you will get for your cattle will more than justify all the extra expense. You seem well satisfied with your investment in the cow testing association as a milk producer. As a breeder of good Ayrshires you can well afford to invest in advertising in order to profit on them as breeding stock."

Always a man of few words, Andy made no promises as to what he would do in regard to advertising, but I could see that he was thinking about the matter. On my next stop at his place I had the pleasure of helping him in arranging a small advertisement of his cattle, which he had decided to place in a farm paper for several months. "It's an experiment tae see if the koo tester kens what he talks aboot," said Andrew with a twinkle in his eye, though I knew very well that this frugal Scotchman wasn't in the habit of spending his money for anything unless convinced that it was wise to do so.

The "experiment", however, is turning out well. Since the little advertisement began to appear, a number of breeders have visited Andrew, and their comments on the quality of his cattle have opened his eyes considerably. He has also made some excellent sales, especially for a breeder so little known. Breeders have taken some of his surplus stock, though his best trade is from beginners with purebreds and farmers looking for registered herd headers.

After being accustomed to sell his neighbors registered animals at grade prices, the prices which he has been getting lately have surprised him a good deal, but finding out what other raisers of pure-breds are doing has helped him to survive the shock. I have just made the final test for his first yearly record, the cow making a fine showing. A breeder, who happened to be at the farm when I added up the record, wanted to buy her on the spot. Andy refused to sell this cow, whereupon the visitor took two of her relatives and said that we could look for him again when more of the yearly records were complete.

"You're a' right, son," Andrew said after the breeder had left. "You made Andy spend some siller tae do it, but you showed him how to sell the Ayrshire kye."

Nothing that I have done at Plainfield gives me more pleasure than the help I have been able to give Andrew McRae. He was a good herdsman a year ago. Now he is a business man as well. The good dairyman has to be both, Mike. Don't forget that. As ever, HORACE.

AUGUST 31.

DEAR MIKE:—I have referred several times to William Kent, the up-to-date dairyman who is president of

BETTER SERVICE

from **Cream City** MILK CANS

Two Reasons Why

First—
The straight breast is stronger than the curved as it eliminates the weak points indicated by the dotted lines.

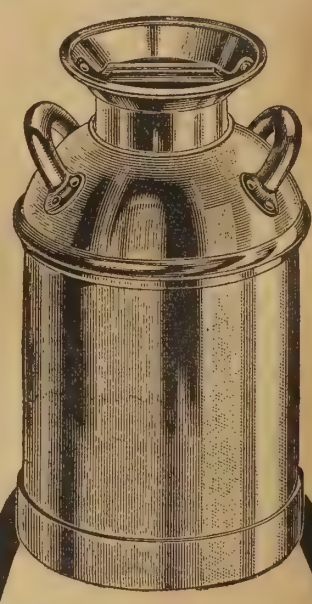
Second—
The breast covers the breast hoop leaving no crevice for water, dirt or milk to lodge and rust the can.

Eight Patterns to Choose From

Sanitary
Very Durable
Correct Capacity



INSIST ON GETTING **Cream City** CANS
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The Milk Can That Lasts

Made to stand abuse. Easy to clean and keep clean. Capacity guaranteed. See your dealer or write for Catalog No. 51.

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Sturges Milk Cans

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FREE CATALOG OF SPLENDID BARGAINS
R. B. CHAFFIN & CO., Inc., Richmond, V.

the Plainfield Cow Testing Association. It was from him, you may remember, that Stanley Miller, the former green city kid who is now making good, learned the dairy business. I, too, owe Mr. Kent a large debt of gratitude for the information that I have absorbed from him during the last fourteen months. When I started here he very kindly arranged my route so that I would spend the last few days of each month at his place. In this way I had an opportunity to see the intimate side of his life, as well as to study his dairy methods quite thoroughly.

I shall not say much about Bill's farming methods. Probably if I tried to describe them in full you would say that I was having another day dream and painting a beautiful picture of farm life. That, however, is just what Bill is doing—painting a beautiful picture of farm life. This is not to say that Bill's farm is cluttered with the knick knacks that millionaire farmers usually strew about their agricultural playthings. His is a 320-acre demonstration of modern, practical methods of dairying, the beauty being in the fact that he is doing every day the very things which his less progressive neighbors are saying "can't be done". If you care to know anything more about his methods, just apply those which the dairy "profs" handed out to you during your four years in college to a half-section of land and note the result. That will be Bill Kent's farm.

Kent, the man, interests me far more than his dairy practices. Considerably past middle age, he is of the kind of men that absorb a good deal of philosophy of life as they go along. He has lived a busy, rich, and successful life, but instead of retiring he has chosen to remain on the farm in his own community where his counsel and help are most useful. He is especially fond of seeing young fellows like you and me get the right start in life, and in helping deserving ones to do so. Several such young men in the association owe their farming start to Kent, and there are at least a dozen more farmers in this county who obtained their first pure-bred cattle from him. His Holsteins are the leading herd of the breed in Winton County, and good enough that the men who have obtained foundation stock of him may well consider themselves fortunate. Several very good herds have grown from the beginnings which Bill Kent helped to establish, and in their success he takes almost as much pride and interest as do the owners themselves.

It is not in Bill Kent's heart to take advantage of a beginning breeder just because his customer is new at the game, either. He always has seen to it that the beginner has gotten the best foundation animals that Bill could spare, and often he has let a heifer go that he would rather have kept in order to give some young chap a good start.

"I like to see the beginner with pure-breds start with as good cattle as he can possibly afford," he once said to me. "He is laying the foundation probably for a lifetime of breeding experience, and much of his future success will depend upon how well he builds at first. Nobody knows how far he will be able to go, nor how much credit he may bring to the man who sold him his first cattle. For this reason every breeder can afford to be particularly careful when selling a man his first pure-breds.

"Besides, it is good business. If the new breeder gets good animals and is satisfied, he and maybe his neighbors are likely to come back for more of my cattle. But if he is disappointed and goes about lamenting his purchases he becomes a wet blanket on the whole pure-bred business, and especially my share in it."

I like to hear a man who has been "through the mill" talk that way. It gives a young fellow a good deal of encouragement. It rather looks, too, as if William Kent is going to have an opportunity to help in starting one more youngster on the right path. You see, Mike, it's this way. When Stanley Miller married Bill's daughter, Marjorie, he didn't get his only daughter. Marilyn was left, and she has just decided to become Mrs. Evans.

For a while I thought that perhaps a course in matrimony, with Marilyn as rudder and a few of Mr. Kent's cows as an anchor, might take the place of that year in college that stands between me and my sheepskin; but Marilyn decided all that by insisting that she, too, was going back to finish school before any wedding bells rang for her. So, in a few more days I'll be back to the University for the rest of my course. After that Marilyn and I will also be ready to start out with some of the Kent Holsteins. As ever, HORACE EVANS.

[EDITOR'S NOTE:—These two letters conclude the series prepared by Frank M. Chase.]

Accredited Herds in North Carolina

The State College dairy herd of North Carolina has been placed on the accredited tuberculosis free list as having successfully passed tests for two years. There are now in North Carolina 176 accredited herds. There are in the state also 986 other herds which have been given one test.



Do You Want More Profit from Your Herd?

You can get more milk out of every cow you own—if—you'll put her in shape to give more.

Modern dairymen acknowledge that health and cleanliness—comfort always and water when she wants it—are the things that add extra quarts to milk production from any cow.

This is an old story to dairymen using Star Equipment, but it means more profit to the man whose barn is not as good as his herd.



1 Star Alignment Device
Instantly lines cow at gutter after she is in stall—keeps stall, bedding and cow clean.

2 Star Stanchion Adjustment
Narrows or widens stanchions to exactly fit cow's neck. Safety and comfort.

3—Star Curb Clamp
"Sets a stall in 60 seconds"—permits of concrete work being finished before stalls are set. Cuts time of installation in half.

4—Star Unit System Stall
Each stall assembled before shipment, ready to go in place the moment it arrives.

5—Star Wood Lining
Hard maple lining forced in U bar, anchored so it won't come out.

"STAR EQUIP" Your Barn

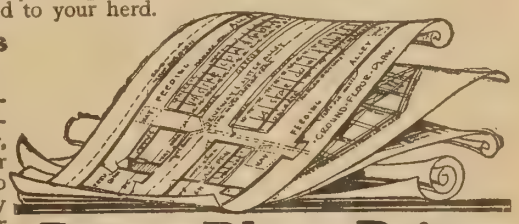
Easy to Install

When your barn is "Star Equipped" you can say so with pride, for money won't buy and factories can't build better stalls, stanchions, Litter and Feed Carriers than those that carry the STAR trademark.

Exclusive features, work savers and money makers, protected by U. S. patents, put Star Equipment in a class by itself. For instance, the STAR Unit System Stall enables you to put in as few or as many stalls as you need and add more as you add to your herd.

Star Equipment Makes Your Barn Modern

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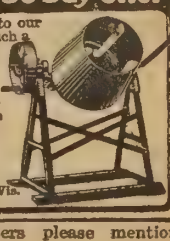
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Fort Atkinson, Wisconsin

Founded 1885 by W. D. HOARD

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Subscription in United States and Mexico $1.00 per year; 3 years, $2.00; Canada, $1.50 per year.

FOREIGN SUBSCRIPTIONS may be sent through news dealers and book sellers in all foreign countries.

All foreign countries in the Postal Union $2.50 a year; not in the Postal Union $3.00, including postage.

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Entered at Fort Atkinson, Wis., as second class matter.

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Coming Events

Farmers' Grain Dealers' Association meets at Sedalia, Mo., March 16 and 17. Secretary, John Sheay, Columbia, Mo.

May 23—Missouri State Holstein Association ——— Annual Show of Sale Cattle at Sedalia, Mo.

Wisconsin Butter Chief

Mr. John E. Boettcher has been appointed by Wisconsin's Dairy and Food Commissioner, J. Q. Emery, from the position of creamery and dairy and food inspector, to the position of "Chief of the Butter Division". This vacancy was made by the voluntary resignation last June of Mr. H. C. Larson, to assume the duties of State Secretary of the Wisconsin Buttermakers' Association.

Mr. Boettcher began his career while yet a boy by helping in the gathering of cream. At the age of sixteen he was a buttermaker in his father's creamery and for 20 consecutive years thereafter followed the occupation of buttermaker. In the meantime, he became the owner and operator of several creamery plants in Wisconsin. He graduated from a course in dairying in the College of Agriculture of the University of Wisconsin in the class of 1909. He has been with the Dairy and Food Commission for the past nine years.

Paid to Feed a Balanced Ration

HOARD'S DAIRYMAN:—Speaking before a meeting of Fulton County, Indiana, farmers recently, Hurley Rogers gave the folks some figures showing not only that it pays to feed a balanced ration to the dairy cows but that it also pays well to keep close to the recommendations of the dairy departments of the agricultural colleges.

"In common with many other dairymen," said Rogers, "I thought that cottonseed meal was too high priced to feed. My neighbors had told me that with corn and oats as low priced as they are this year, that corn and oats was plenty good enough and that it did not pay to purchase concentrate feeds. Many of the men who said this had been dairying much longer than I had and so I believed them. However, I did not get the results from my cows that I thought I should be getting although they were given the prescribed amounts of feed in proportion to the milk flow.

"Finally a neighbor of mine wrote to the dairy department of Purdue University, giving them the feeds already on his farm and asking them to recommend a balanced ration using the feeds already on hand and recommending such purchased feed as they thought economical. The authorities suggested that he give the cows silage and all the corn fodder they would clean up. In addition there was recommended a mixture of 400 lbs. of ground corn, 200 lbs. of ground oats, 200 lbs. of cottonseed meal, and 200 lbs. of linseed meal.

"I got a copy of this letter and thought I would try out the suggestions for myself for a few days on my 18 cows. I guessed off the 100 lbs. each of corn and oats, trying to get about equal parts but probably getting a little more corn than oats. I mixed in 100 lbs. of cottonseed meal and 100 lbs. of oil meal. The other 100 lbs. of cottonseed meal was fed extra to cows that had freshened in the fall or early winter. This 500 lbs. of mixture lasted six days and that was long enough to show me that it paid and paid well. Here are the results:

"For the first six days in February, I fed the old ration of silage, fodder, corn, and oats. The cows averaged 205 pounds of milk per day. The next six days, I fed the recommended ration and the average milk production was 290 pounds per day or an average gain of 85 pounds of milk. In the six days, the increased milk brought me $13.27. Now what did it cost me? I paid $2.35 a sack for the cottonseed meal and $2.50 for the oil meal so the two sacks of cottonseed meal and the one sack of oil meal cost me $7.20. Expressed in few words, I simply traded the cows $7.20 worth of concentrates and got back $13.27 worth of milk, or a gain over my old ration of $6.07; better than a dollar a day net profit as I did not feed the cows any more corn and oats than with the other ration. But that isn't all; after the second six days in February I kept right on with the balanced ration and I am not only getting increased milk flow but my cows are picking up, they act better, they look better, and they produce much better. The man who isn't cutting the corners in production by feeding his cows a balanced ration is losing some income that is easily within his reach."

Indiana. I. J. MATHEWS.



ATTRACTIVE CONCRETE BARNLOT AND YARD FENCE IN INDIANA

An Oregon "Pool Pound"

This is a term used by the Oregon Dairymen's League to express the factor which results when the weight of milk is multiplied by the test plus six-tenths. "Pool pounds" is a coined term. It occurs only in connection with the plus six-tenths method of making payment for milk. To each member's test is added six-tenths and this sum is multiplied by the weight to arrive at the number of pool pounds. The value of a pool pound is determined when the pool is closed, by placing the net sum received for all the milk in that pool and dividing it by the total number of pool pounds of all the members in that pool. The value of a pool pound is not the same each month.

Why do we use the plus six-tenths method? Because it is the most equitable basis of determining the value of milk of different tests. The test alone gives the amount of butterfat in milk but does not reveal the other solids which have a value that must be recognized. Tests can be made for other solids in milk but such tests are slow and expensive. They are not practical.

Other solids, usually called solids not fat, vary in about the same proportion as butterfat, but not in the same ratio. Milk that is rich in butterfat is also rich in casein, albumen, milk sugar, and lime, but these other solids do not increase in the same ratio as butterfat.

Actual trials over a period of years in the cheese sections of the United States have demonstrated that when six-tenths is added to the test of all milk it takes care of the inequalities of the solids not fat as compared with the fat and is just to milk from low testing herds, medium testing herds, or high testing herds.

League milk is tested the same as it always has been and six-tenths is added to the test before multiplying by the weight.

Statements accompanying the final check on the closing of any pool will hereafter show the weight, the test plus six-tenths the number of pool pounds, and the value of a pool pound for that month. Weight times test plus .6 times value of pool pound equals the gross sum due on the statement.

The plus six-tenths method is not used in calculating cream statements for the reason that butterfat is the only factor of value represented in the sale of cream, and the Babcock test shows the butterfat accurately.—Oregon League Dairyman.

Dodder Destroys Alfalfa

Dodder is a parasitic plant, infesting clover and alfalfa chiefly. It is a bad weed in Europe, though conditions in the United States are not as favorable as in Europe for damage by dodder; hence the appearance of the pest on the farm should not occasion undue alarm. Nevertheless, dodder may cause a great deal of damage, and it should not be allowed to grow unmolested.

Dodder is usually introduced on the farm by impure seed. Other means are infested hay; moving objects, such as animals and wagons; irrigation water carrying seeds and pieces of stem; and viable dodder seeds contained in stable manure.

Dodder seed, with the exception of that of large-seeded dodder, may be cleaned from impure clover and alfalfa seed by screening. It is practically impossible to remove large-seeded dodder by screening. The seeds of field fodder are also difficult to remove entirely from clover and alfalfa seed.

During the first season of infestation in clover or alfalfa, dodder usually occurs in small scattered areas. Such infested areas should be either mowed and removed before the dodder matures seed or else burned in the field. If seed has formed, burning is the only remedy, since it kills not only the plants but also the seeds of dodder which may be lying on the soil surface.

If the infestation is so great that patch treatment is impracticable, the crop may be either plowed under or utilized for hay and the aftermath closely grazed to prevent seed from forming. Sheep are especially useful in grazing dodder. If dodder seed has formed and the crop has been very seriously damaged, the safest method is to cut the crop, allow it to dry, and burn it in the field.

Dodder does not attack cereals; consequently oats, wheat, etc., should be incorporated in the rotation following the infestation of the soil with dodder seeds. A tilled crop, such as corn, will cleanse the soil of most of the dodder seeds. In place of clover or alfalfa, other legumes, such as soy beans, velvet beans, and cowpeas, may be grown, since dodder never damages any of these crops. The seeds of dodder in the soil may remain viable for a period of five years or longer.

A number of cultivated crops besides clover and alfalfa are subject to dodder infestation; the most important of these are sugar beets, onions, and flax.—Farmers' Bulletin 1161.

9,000 Signers Needed for League Pooling

H. H. LYON, NEW YORK

THE March milk price for New York has been announced at $2.10 a hundred for three per cent milk as a base price at 200 miles. This is not much over twenty per cent advance on the pre-war level, although feeds remain some seventy per cent higher, wages fully a hundred per cent, and the general price level according to authorities considerably more than a hundred. It looks as though all of our dairymen will sell again beginning in March. It has been a lonesome time for some fifteen to twenty thousand League members who have had to shift in all sorts of ways to dispose of milk.

One encouraging feature is that such concerns as the Nestles are to buy quite largely. The cut in price as I see it might have been avoided if we could have commenced to pool on the first of the month. There would have been a few cents reduction but no such cut as we have. Now we wonder what about April, for we no sooner get by one mark than we look for the next. There may be nine thousand signatures yet to secure before we are ready to commence business. It does not seem to me that we can be ready by April first. If not, I see no way but to stand another cut. It hurts to do this too, for it is hard after we go down a peg to get back where we should be. If the dealers would take hold and help put this deal over it would do more to bring friendship than anything else.

Those farmers who are hindering the pool are making losses for themselves as well as for the rest. We are going to pool and to delay now means only loss and nothing gained. When we get the fifty thousand there may not be a big demand for further signatures. Of what use can the others be to us? Perhaps we ought in duty to take care of those who have hindered all they can. Perhaps they ought to pay up a little for the fun they have had if they get in later. Isn't that justice? They have been invited and urged, even begged to sign. It is even now the eleventh hour. At that they have a chance. There is a story of a big boat that was ridiculed and its builder also. By and by there was a shower and then those who ridiculed wanted shelter. The eleventh hour had gone and they couldn't get in.

There are 90,000 members in the League. That is the book number, with seventy thousand or so active in dairying. It is astonishing how many in four or more years have gone out of business. There is a large number who produce milk for the interior cities and the villages in the state. When these have been eliminated from the pooling, there are about sixty thousand left that are affected by the pool. This is the best estimate that I have. After we get the fifty thousand and there are only ten thousand or a little more left and these are so badly scattered they cannot make us any considerable trouble by holding out.

When you come to analyze this we see that quite a number of those affected are poor men and somewhat ignorant. Many, I know, are well-to-do and are delaying to see how it works and then without taking a share in the risk and trouble they will coolly take the benefits. We have already had such experiences. Curiously enough the men who are holding back and refusing to sign are largely those who are intelligent enough to see the light.

In relation to the purchase of milk on the first of March there is at this moment one disconcerting feature. It is reported that that element among the dealers which has done its best to defeat the League for five months is unaware that it is beaten. Some if not all of those dealers are said to be prepared to disregard the League and will offer to buy direct of farmers at about League prices. Just how far this action extends does not appear today. One big concern has ordered local men to post $2.40 for four per cent milk where the League makes $2.05 for three per cent. This is five cents under the League price for both make four cents a point for fat test. It is the small boy who is determined to have his own way by making slight evasions as far as he dare. These concerns are not supposed to deal with the League at all.

It is somewhat of a question what local farmers will do under the circumstances. Shall they sell temporarily in this way until the pooling can be brought across or refuse as they have done for five months at a somewhat lower price? In certain cases they are attempting to start creameries of their own and if these have gone along far enough it might be thought best to continue with them even if lower prices came to them. There are places where farmers will stand back and demand buying of the League or not at all, no matter at what price. It is possible that some will decide to take the price temporarily if not necessary to bind themselves to remain any length of time. It may take several days to determine what farmers will do as a rule.

Farmers Urged to Treat Seed This Spring

In these days of labor that is hard to get and keep, high priced land and seed that is expensive, it is of the utmost importance to treat the seed and insure the crop against loss from smut.

Seed treatment is cheap. The cost should not exceed two cents a bushel for chemical. The treatment is not a cure-all for the many ills to which oats are subject. It, of course, cannot take the place of a high yielding variety, it cannot substitute for a thorough cleaning in a good fanning mill, and it will not insure a good crop on poor soil. Furthermore, treated grain takes up more space in the seeder and for this reason about three-fourths bushel more to the acre should be sown than where dry, untreated grain is used. Damp, treated grain should be kept away from frost or the ability to germinate will be destroyed.

Methods of Treatment

1. The use of a smut treating machine has been very successful among Wisconsin farmers. In the most popular machine the formaldehyde solution, one pint to about 35 gallons of water, is put in the pan at the bottom, the grain is dumped into a hopper that has a sloping bottom which ends in the solution pan. On the under side of the hopper is a worm elevator which takes the grain through the solution and out into a sack. The treated grain in the sacks should be covered with a blanket for a couple of hours after treatment; then the sacks should be untied and set up singly around the barn floor or wagon. If gunny sacks are used there is no need to empty the grain to dry it out. When tight woven grain sacks are used it may be necessary to empty the grain onto a barn floor or canvas to dry it out. Two men can handle about fifty bushels an hour with one of these machines, and have the grain all sacked ready to sow the next day.

2. The dipping or soaking method is probably the most efficient method that can be used. In this the solution is made up at the rate of one pint or pound of formaldehyde in about 35 gallons of water in a barrel or tank. The container should be half filled with solution; then take the grain in loosely filled gunny sacks and soak in the solution for five minutes. Drain on boards over the barrel and pile the grain on a clean floor or canvas where it can be covered with a blanket or canvas for two hours. This covering is important as it allows the formaldehyde to kill the spores. When the two hours is passed remove the cover, spread the grain out a few inches deep and shovel or rake it over occasionally so it will dry.

3. The sprinkling method of applying formaldehyde has been widely used, but there is usually some smut spores that are not killed in this treatment. Make up the solution the same as in the other methods. Put it in an ordinary garden sprinkling can and apply as the grain is being shoveled over from one pile to another. Use about a gallon to a bushel. After sprinkling, cover with a canvas or blankets and handle as in the dipping method.

RICHARD E. VAUGHN.
Wisconsin College of Agriculture.

The Attorney General's Ruling and Its Relation to Quality

HOARD'S DAIRYMAN:—Under an editorial in Hoard's Dairyman of Feb. 25th, entitled "Neutralizer and Adulterated Butter", the editor gets off on the wrong foot and temporizes with a question that must be met fair and square. During the past decade we have seen the butter substitutes forge to the front and take a market that should have been the dairyman's. Today in many country towns you can not buy butter. One of the reasons for this condition, and not the least, is the lack of quality in butter offered to the public.

Quality butter can only be made from good cream; but with hundreds of trade-marks, for as many different factories, the public had nothing as a guide in buying, and were just as liable to get poor as good; and consequently they turned to a well advertised and standardized product, oleo.

If it were impossible to make and deliver good cream, then would the attorney general's ruling be detrimental, but there is not a patron of a co-operative creamery anywhere who can not produce and keep his cream in such a condition that it will not need neutralizing; but if there is no incentive to produce good cream, a majority of dairymen will not endeavor to do so, and this works an injustice to those who try to make a high grade product. There are a number of creameries in the United States grading cream and rejecting all low grade stuff. Does it pay? Watch the quotations and you will find a spread of from 7-15 cents between 88 and 92 score butter.

Allowing poor cream to compete with good amounts to an unfair practice, and we today are suffering more from the competition of inefficient and careless dairymen than we are from Danish butter. The packing plants were forced to clean up. Why should butter manufacturers and cream producers not do the same?

Neutralized butter means butter made from cream not produced and kept under good sanitary conditions, and the ruling of the attorney general will do more to hasten the clean-up and force those who will not clean up out of business, than any action that has ever been taken. When the time comes that a united dairymen's association can put out a common trademark for a definite grade of goods, then we will have no need of a protective tariff.

Michigan. RAY BAKER.

New York Milk at $2.10

The New York Dairymen's League Board of Directors has voted to recommend to the members that League milk for March be sold at $2.10 per hundred in the 200—210 milk zone, with the usual differentials for freight and butterfat. The League price for February was $2.58 per hundred pounds, but at this price that portion of the milk which had been sold previous to October first to manufacturers was not sold. It is said that the price of $2.10 for March will move a large part of this milk.

This price has not been definitely accepted by the dealers, but the League has been definitely assured by several of the large manufacturing companies that they will open many of their plants on March first at the $2.10 price. The number of plants opened will depend on the ability of the companies to get the necessary help and organization together again after months of inactivity, and many of those plants which they are not able to open on the first of the month will be opened some time during the month.

Thousands of dollars have been spent by the milk companies upon propaganda calculated to destroy the confidence of members in their organization and to get the milk business back where the dealers could deal directly with individual dairymen. The determined refusal of the dairymen to sacrifice a principle even in the face of heavy continued loss for months, now seems likely to be rewarded by the sale of most of the milk in League territory for March through their organization, the Dairymen's League.

While the price of $2.10 is below the cost of production, yet it is better than farmers are receiving for most other kinds of farm products. Dairymen feel that with over 40,000 co-operative contracts signed, making the pooling of proceeds an assured fact within a very few weeks and with the organization again about to sell nearly all of the milk of its members for March, the milk situation on the whole looks more hopeful than it has in several months.—Dairymen's League News.

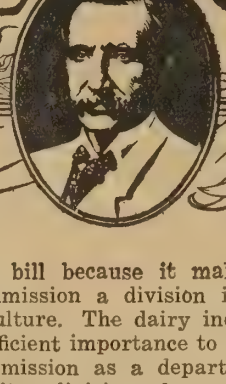
Near East Relief

HOARD'S DAIRYMAN:—The appointment of Milo D. Campbell, president of the National Milk Producers' Federation, to serve with Senator Capper on the Agricultural Committee for the Lenten Sacrifice appeal made by the Near East Relief in behalf of the Armenians, is one that should call the special attention of all dairymen in the country to this very worthy cause. The committee asks the men and women and children of America to make some sacrifice, at this Lenten season, consecrated to the memory of Christ's great sacrifice, for the men and women and children of Armenia who are hungry and naked and homeless, entirely dependent on American charity for their very existence.

Five dollars feeds an Armenian for a month and ten gives him both food and shelter. Contributions should be sent to state headquarters or to the national headquarters at 1 Madison Avenue, New York City.

New York. MARY L. WILSON.

EDITORIAL COMMENT



THE Chicago price for market milk testing 3.5%, for the month of March, is $2.35 per hundred. This price pays no premium for market milk. Butter scoring 92 or better is quoted on March first in Chicago at 54 to 56 cents a pound. If the prices of butter for the month of March are maintained at their present level, good creameries will pay at least 60 cents a pound for fat to their patrons. This will bring a return of $2.10 per hundred pounds of 3.5% milk and the patron will have 85 lbs. of skimmilk left for feeding young stock. The present price of hogs makes 85 lbs. of skimmilk worth 40 cents.

Those farmers enjoying a market of a good creamery or cheesery need not envy the producer who ships milk.

THE herd of Thomas J. Owens of Washington furnishes some valuable figures showing the strong influence of a Guernsey bull in increasing the production in a grade herd through his daughters. Mr. Owens brought together a herd of grade cows at prices ranging from $50 to $75. He states that these were considered by their sellers to be the culls from their herds. They have been kept under good conditions and fed well and as mature cows show an average production for a year of 9,072.6 lbs. of milk containing 354 lbs. of butterfat. They have been bred to a high class pure-bred Guernsey bull. The heifers resulting, at the average age of two years and seven months, made a production, the same year in which records on the dams were kept, of 7,361.2 lbs. of milk containing 306 lbs. of butterfat. This is an excellent showing for two-year-old heifers and indicates a very good increase over the productive capacity of their dams, due to the influence of a pure-bred sire. Allowing a minimum increase of twenty-five per cent for mature records over the production of these heifers as two-year-olds, their mature butterfat average should be at least 382 lbs. of fat, which, calculated on this minimum increase, is 28 lbs. more than their dams have made.

FARM LOAN ACT VALID

The United States Supreme Court has decided that the farm loan act is valid and that the exemption from taxation of the bonds of the federal farm loan banks and joint stock land banks is legal. Farm mortgage corporations desired a decision which would hold the farm loan act unconstitutional unless the bonds were taxed. Those who favored the farm loan act held to the opinion that the act was valid and that the final decision of the supreme court would be favorable.

The case has been pending for many months and this has been an inconvenience to many farmers who had planned to secure funds through the farm loan act. It is well for the farmer that the Supreme Court made a favorable decision regarding this law, for it provides a system of farm credit which is highly desirable. Applications from farmers for loans total $75,000,000, showing there is a large demand for funds for financing agriculture.

A POOR BILL

A bill has been introduced in the Wisconsin Assembly by Mr. Freehoff which assumes to correlate the Bureau of Markets, the Department of Agriculture, the Dairy and Food Commission, and the State Board of Health.

No arguments or evidence have been presented that would indicate a greater efficiency or less expense to the tax payers if Mr. Freehoff's proposed rearrangement of departments were carried into effect. We are opposed to his bill because the duties of the Dairy and Food Commission, the Department of Agriculture, the Bureau of Markets, and the Health Department are not mutual, and therefore cannot be correlated. We are opposed to Mr. Freehoff's bill because it makes the Dairy and Food Commission a division in the Department of Agriculture. The dairy industry of Wisconsin is of sufficient importance to keep the Dairy and Food Commission as a department by itself and not make it a division of some other department. Its importance to the people of the state entitles it to be responsible to the governor only as the appointing power and to the people as sovereign.

If the Freehoff bill were to become a law it would scatter the forces of dairy and food inspection. It would mean also a duplication of inspection which would be more expensive, less efficient, and wholly unnecessary. For example, a food inspector can discharge all the duties of inspection in a grocery store, from determining the proper labeling of foods to the sanitary condition of the store. A creamery or cheese factory inspector can inspect every phase of these institutions and there would be no reason for sending an inspector, for instance, from the Health Department to see that the buildings are in a sanitary condition. It is sheer nonsense for anyone to lay plans for duplication of inspection. The Dairy and Food Commission has a chemical laboratory and is in efficient hands. The passing of Mr. Freehoff's bill would mean that the Health Department would of necessity have to establish a chemical laboratory. Here again is a duplication of expense.

There may be some necessity for amending the laws of the Dairy and Food Commission, of the Health Department, or of the Marketing Commission, but Mr. Freehoff's bill accomplishes nothing except to increase expenses, to lessen the efficiency of the Dairy and Food Commissioner, to provide for duplication of work and to give opportunity for a laxity in the enforcement of our dairy and food laws. It destroys the Dairy and Food Commission.

THE NEUTRALIZED BUTTER RULING

Elsewhere in this issue we publish a short discussion of neutralized cream and quality butter, prepared by Mr. Ray Baker of Michigan. The purpose of the editorial to which Mr. Baker refers was to set forth what constitutes adulterated butter and to point out the erroneous interpretation of the adulterated butter law by Attorney General Palmer.

The adulterated butter law has to do with butterfat and butter and has nothing to do with the processing of milk and cream. Foreign material or too much water added to butter makes it adulterated. It is our contention that the attorney general had no power under the adulterated butter law to rule that butter made from neutralized cream—no matter what its condition might be—was adulterated butter.

We object to any official usurping power which is not extended to him by law. Congress is our law making body and if we are to have an orderly, stable, and sound government, the officials who have the enforcement of law in charge must abide by the law just as much as the persons for whom the law was enacted. It is not a question of whether neutralization is right or wrong. The question is, has the attorney general rightly interpreted the adulterated butter law when he holds that butter made from neutralized cream is adulterated butter? We can get no such meaning out of the law and the only way any one can make such interpretation of it is to hold that milk and cream, as Commissioner Williams has done, mean the same as butterfat and butter. This is absurd.

Mr. Baker says there is no incentive to produce good cream. This seems to be true in certain sections and in other sections it scarcely applies, as Mr. Baker points out that the spread in price between 88 and 92 scoring butter varies from 7 to 15c per pound. Every thinking man who is interested in the advancement of the dairy industry appreciates the injustice of not grading cream and not paying for it according to grade. Mr. Baker is in error when he says that neutralized butter means butter made from cream not produced and kept under good sanitary conditions. Cream may be sour and yet clean and wholesome.

If it were true that sour cream is unclean, then a law should be passed to prevent such cream from becoming a food product.

WHO SUFFERED MOST?

We have pointed out on several occasions that the dairy farmer has not suffered as large a decline in the price of his commodities as has the farmer engaged in the production of other farm products. The Iowa farmer finds his corn worth about 41c a bushel and, in order to get that, it must be shelled and marketed at considerable expense. Corn last June was selling in Iowa as high as $1.75 a bushel.

The cotton farmer, according to Mr. Howard, President of the American Farm Bureau Federation, has suffered more than the corn farmer and the wool producer more than any other farmer. It is in times like these that the dairy cow shows her stability and how she can be depended upon to carry her owner without severe losses.

Here and there in the dairy industry dairy farmers have met with rather severe losses, especially where condenseries have been closing, but dairying, as a whole, has not felt the decline in prices as much as have other branches of farming. The prices of feeds have declined more than the prices of dairy products, making it possible for the dairy farmer, in many cases, to receive a larger profit from his cows this winter than he did last.

The prices of the various farm products point out that the farmer who depends so largely upon any single crop, such as corn, cotton, and wheat, suffers larger declines in such periods as the present than the farmer who devotes his energies to the growing of several crops, and especially the farmer who keeps a good herd of dairy cows. It may be said that while corn is selling on the farm for 41c a bushel in Iowa, in Wisconsin—where the crop is very largely turned into milk—it sold in the market in January for 84c a bushel.

WHY NEUTRALIZE CREAM?

Much cream is produced in territories where there is not a sufficient quantity to permit the operation of a local creamery or to pay to gather the cream every day. Much of this cream is kept several days or until it is sour. In manufacturing this cream into butter, it has been found that neutralization permits the pasteurization of such cream without excessive loss of butterfat, improves the quality of butter, and makes it a more wholesome food product. This does not mean that butter should be made from unsanitary cream or that such butter should not be properly labeled.

Neutralization is a harmless process so far as the resulting butter is concerned and sour cream may be a clean and wholesome product. While this is all true, the whole story is not told.

Neutralization is a makeshift process in the manufacture of butter. Conditions which require cream to be neutralized are far from being ideal and they cannot be approved as being contributory to the production of a high quality of butter. Such conditions may be termed the drag of the dairy industry—the holding back of the dairy industry. Neutralization encourages the production of poor cream, and, insofar as it contributes to the production of poor grades of cream, it cannot be favored. To be sure, there was poor cream before neutralizer was used. Nevertheless, the neutralization process gives excuse for the continuance of poor methods of handling cream and these lead to the production of much cream that neutralization will not improve, cream that should not be made into butter.

Concerted effort should be made to do away with the necessity for neutralization. Local creameries

can provide methods for gathering cream frequently enough so it comes to the creamery in sweet condition and the patrons can be taught methods that will produce a high quality of cream. Many local creameries grade cream and refuse to take that which needs to be neutralized. The patron, however, who will not produce good cream, finds it easy to deliver or to ship to some centralizer or local creamery using neutralizers. Centralizers or creameries which accept such cream work injury not only to the creamery that grades its cream, but to the quality of butter and therefore to the entire dairy industry. Too many excuses are being offered for poor cream and too much of it is being produced. The losses incurred to the dairy industry through poor cream by depreciation of prices of butter and by lessened consumption are too great to be compensated by excuses or neutralization.

Permanent Pastures

I am planning on seeding down a field that I expect to use as a permanent pasture. What kind of a grass mixture would you recommend for this soil and climate? The soil is a heavy clay, and has been cropped several seasons to grain, peas, and lastly to corn, which was almost a complete failure.

Clear Lake, Wis. L. P. S.

In planning on laying down land into permanent pasture, there are several fundamental principles which must be observed if one expects to meet with success. First of all, the soil should be brought into proper condition to receive the grass seed mixture. If the field to which our reader refers has been fall plowed, it will be well to give it a good dressing of stable manure which can be worked into the soil during the preparation of the seed bed. This will insure a reasonable degree of fertility and consequently a better stand of the grasses. In this connection, we might add that it would be well to test the soil for an acid condition and, if found to be very sour, an application of from two to four tons of ground limestone per acre should be applied. If the soil needs lime, now is the best time to apply it, because after the sod is formed, a surface application to the grass will not be as effective, although it might be practiced. In establishing a permanent pasture, one should have in mind the productiveness of the pasture, and only a proper soil condition can make a pasture productive.

The grass mixture which will be used should consist of those grasses which will give the most immediate returns. Undoubtedly the best grasses to use for permanent pasture mixtures in this section of the country on such soils as described are blue grass, redtop, and white clover. But since it takes a relatively long time for these to become established as a turf, it is well to seed them in a mixture of more rapidly growing grasses and clovers in order to secure the greatest returns. We would suggest something like this: Timothy, 4 to 6 lbs.; red clover, 4 to 6 lbs.; alsike clover, 3 to 5 lbs.; blue grass, 10 lbs.; red top, 5 lbs.; white clover, 2 to 4 lbs. This amount to be used as an acre rate of seeding. The seeds should be thoroughly mixed and seeded in the spring with a spring sown grain as a nurse crop. Too much emphasis cannot be laid upon a thorough seed bed preparation. The mixture may be seeded with the grain drill grass seeder attachment, but care should be taken not to bury the seed too deep. A half an inch is sufficient. The seed might also be broadcasted by hand or with a grass seeder, and then the field harrowed lightly to cover the seed.

The year following the seeding, a hay crop, consisting of clover and timothy, may be taken from the field providing everything goes well. From that time on, the field may be pastured as heavily as conditions warrant. The clovers, excepting the white clover and the timothy, will disappear, and ultimately the timothy will go, leaving a pasture consisting quite largely of blue grass, red top, and white clover.

Maryland Ration

Please balance a ration from the following feeds: Corn and cob meal, ground oats, bran, a 16% protein dairy feed, linseed meal, cottonseed meal, and salt. Will soaking in molasses water add to its feeding value?

How much cream can be obtained from 100 lbs. of 4% milk, and how much butter can be obtained from the cream?

How much curd can be obtained from 100 lbs. of whole milk, from 100 lbs. of skimmilk, from 100 lbs. of buttermilk?

Ellicott City, Md. C. E. F.

If our correspondent can furnish his cows as much of legume hay as they will consume and supply silage at about the rate of 30 pounds per 1,000 pounds of live weight, he will secure good results from supplying in addition a concentrate mixture of 300 pounds of corn and cob meal, 200 pounds of bran or ground oats, 200 to 300 pounds of the commercial dairy feed, and 100 pounds of oil meal or cottonseed meal. He should feed this mixture to high testing cows at the rate of one pound for each three or three and one-half pounds of milk produced and to low testing cows at the rate of one pound for each three and one-half or four pounds of milk produced. He will benefit through using molasses in making coarse roughages more palatable, by sprinkling them with a dilution of molasses. Also molasses may be fed by mixing it with the concentrate mixture.

A choice should be made between oil meal and cottonseed meal on the basis of their local market values. Feed salt separately rather than including it in the grain mixture. Allow the cows as much or little of it as they will consume, using it in the form of bricks or placing it in boxes in the yard or other place where is it readily accessible. When fed on silage or grain, about one ounce of salt per cow is usually allowed.

One hundred pounds of four per cent milk contains four pounds of butterfat. Calculated on the 80 per cent basis, this butterfat is the equivalent of five pounds of butter. Curd varies so much in its moisture content that no exact figures can be given concerning it. Perhaps calculations can be made from the fact that whole milk averages to contain 13.6% dry matter, skimmilk 9.9% and buttermilk 9.4%.

Seeding Timothy on Alfalfa

May I express my appreciation of the article by John B. Abbott in your January 14th issue, entitled "Silage Corn a Good Nurse Crop for Alfalfa". It is something I have had in mind for some time and now I mean to try it out.

Some little time ago you spoke of sowing timothy with alfalfa. I wish I might be informed how much timothy to sow in a last year's alfalfa field in which the stand of alfalfa was not as thick or as good as it should be. Is it good practice to sow brome grass in a blue grass pasture in which the blue grass seed sown last year is slow in starting? Can I sow sweet clover on rather moist land and expect it to do well?

Allentown, Pa. C. S. B.

Owing to the fact that we do not know the thickness of the alfalfa stand to which our reader refers, we are unable to say just how much timothy seed he should use. However, we would judge that from 5 lbs. to 8 lbs. of seed should be used per acre. It is quite possible that after the timothy seed has been scattered, it would be beneficial to disk the field lightly in order to bury the seeds somewhat. This can be done without materially injuring the alfalfa plants.

Blue grass is naturally slow to establish itself. The thinness of stand may be due to an insufficient amount of seed used per acre or to a poor quality of seed. We would advise the use of additional blue grass seed, together with some red top, timothy, and white clover. This we would consider superior to an addition of brome grass.

Sweet clover has a wide range of soil adaptability. Although it prefers a well drained soil containing an abundance of lime, it will endure wet or poorly drained soils better than either alfalfa or red clover. It probably will do quite well on the soil to which our inquirer refers.

Treating Oats for Smut

Last year our oats had quite a little smut. What is the best method for dipping in formaldehyde? Is formaldehyde a good preventive for smut? We don't have much sun for drying around seeding time.

Hollywood, Wash. H. C. S.

It is advisable to run seed through a good fanning mill before any treatment is given. This will remove not only the blighted kernels and light seed but also take out the spore balls, many of the free smut spores, and considerable dirt and other foreign matter. The formaldehyde method will control oat smut satisfactorily.

In making the solution, use one pint of strong commercial formaldehyde (40 per cent) to 35 gallons of water in a barrel or tank. Dip about a bushel of the seed in loosely filled burlap or gunny sacks into the solution and soak for 5 minutes. Raise the bag from the solution and allow the surplus water to drain back into the tank. After draining, empty the oats on a clean floor or canvas and cover with wet sacks or canvas for two hours. This covering is important as it prevents too rapid evaporation of the formalin.

It is difficult to dry oats if a much longer treatment is applied than suggested. After the two hours are up, spread the oats out on a clean floor, stirring them occasionally with a rake or shovel. They will dry faster if the wind can blow over the wet grain, but it is not necessary or desirable to do this work out-of-doors, one of the best places being in the driveway of the barn if it is available for this kind of work.

The seed should preferably be sown as soon as it will run freely, or, if dried thoroughly, it may be stored in clean bags or bins until it is planted. Care should be exercised that freezing does not take place as it will either lower or destroy the germination. When seeding is done while the grain is still damp and swollen, the seeder or drill should be set to sow about three-fourths of a bushel more to the acre than the usual amount.

Barrels or tanks are not injured by the use of formalin and may be latter used for other purposes when properly rinsed and aired out.

A New Mexico Ration

I would appreciate your compounding a balanced ration for a cow from chopped alfalfa; wheat bran, $2.75 per cwt.; wheat shorts, $2.55; corn chop, $2.00; cottonseed meal, $2.75; ground oats, $2.35; and milk retailing at 15c per qt. or 60c per gallon. I can also get corn stover and sorghum cane.

At present I am feeding all the chopped alfalfa hay my cows will clean up for roughage, and equal parts ground oats, corn chop, wheat bran, and cottonseed for concentrate. One pound for each three pounds of milk, with an ounce of stock salt per cow per day, mixed in the grain.

Belen, N. Mex. W. D. C.

Alfalfa gives a good basis for a first class dairy ration. This excellent feed gives an advantage over feeders of dairy cows, in many sections, where this feed is not available. It should be fed in as large amounts as will be consumed. Corn stover and sorghum cane, if of good quality, may be fed in as large amounts as will be cleaned up; not to replace alfalfa but to add variety and as supplements.

A mixture which will be somewhat more satisfactory than the one which is being used may be made from 300 pounds of corn chop, 200 pounds of ground oats, and 100 pounds of cottonseed meal. This may be supplied at the rate of one pound for each three pounds of milk, if a cow is a high tester, or one pound for each four pounds of milk produced if a cow is a low tester.

Bran at $55 per ton is altogether too high priced. Oats at $47 is considerably cheaper. Neither would we recommend shorts at $51, the combination of cottonseed meal, corn chop, and oats being cheaper.

Our inquirer will do well to allow his cows to consume as much or as little salt as they choose, rather than including it in the grain mixture.

Sunflowers for Silage

Please tell me how and when you plant sunflowers, when you cut them for silage, and how far apart you put the seeds. Can they be put in with a grain drill?

Elmhurst, Ill. C. F.

Sunflowers for silage are planted in the same manner that corn is planted. The variety most generally recommended is the Mammoth or Giant Russian, although in North Dakota there is the recommendation that the Black Beauty and White Beauty are quite satisfactory.

The amount of seed required per acre will vary according to the closeness of the rows and the nearness of the plants in the rows. When used alone, it will take from 6 to 8 lbs. of seed per acre but when seeded with corn from 3 to 5 lbs. will be sufficient. The seed may be planted with the corn planter or with the regular drill with the spout stopped so as to seed in rows 36 to 42 inches apart. Where the ground is reasonably free of weeds, it will be found preferable to plant the sunflowers as closely together as when planting corn for silage. Under this system of planting, the stalks will not be inclined to grow so large or become quite so woody.

If sunflowers are to be harvested at the same time the corn is harvested, we would generally prefer to plant them two weeks later than corn. If it is expected to ensile them alone, without reference to the corn, then they may be planted at the usual time for corn. A discussion as to the time for cutting sunflowers for silage appeared in our issue of February 18th.

Neutralizer Hearing in Washington

[SPECIAL TO HOARD'S DAIRYMAN]

THE hearing given on February 25 and 26 by W. M. Williams, Commissioner of Internal Revenue, on the protest of butter manufacturers against the treasury ruling that certain use of neutralizer in the process of butter manufacture makes the products "adulterated butter", subject to the adulteratel butter law, attracted a big gathering of representatives of dairy production and dairy manufacturing interests. At times there were upward of one hundred persons in attendance.

The larger number were present to protest against the ruling. There was a smaller number of advocates of the ruling and a few representatives of the oleomargarine industry. Three-quarters of the time was taken by opponents of the ruling.

This controversy was precipitated by an announcement from the Treasury Department in January quoting verbatim a letter which had been written to Attorney General A. Mitchell Palmer by Secretary of the Treasury Houston relative to the use of neutralizer in the process of buttermaking, and the reply from the Attorney General in which he stated that the use of neutralizer "with cream which was decomposed or rancid" or with "cream high in acidity and of bad odor" resulted in butter which was adulterated under the Butter Act of 1902. The announcement, which was a "press release" for the use of newspapers and newspaper correspondents, added this comment at the end of this verbatim quotation of the letter of Attorney General Palmer, "This means that all butter made from cream which has been neutralized is adulterated within the meaning of the Act", and explained that this meant that not only must a tax of ten cents a pound be paid on such butter, but also that manufacturers and dealers in such butter must pay the license fees provided by the Act. At about this time the Commissioner of Internal Revenue also issued a formal treasury opinion, quoting the language of the attorney general's letter exactly, and instructing deputy collectors to impose licenses and collect the tax, as indicated by this opinion.

It now appears that there is a wide difference between the treasury ruling and the "press release" which came to the attention of the butter trade generally. This was brought out in a number of instances at the hearing, and Commissioner Williams specifically repudiated the "press release" saying it may have originated in his department, but that all he was standing on was the formal treasury ruling; that he, unless the ruling was withdrawn or modified as the result of hearing, proposed to tax butter made from "cream which was rancid or decomposed" or from "cream high in acidity and of a bad odor", provided a neutralizer was used in the process of making such cream into butter, and did not propose to tax "all butter" made from cream to which a neutralizer had been added.

This position, although greatly different from that understood from the original "press release" purporting to tell what the ruling meant, did not satisfy the butter manufacturers who came to protest. They protested that the law gave the Commissioner of Internal Revenue no jurisdiction over the use of a neutralizer in cream, that the law did not cover the specific cases mentioned, that cream which was rancid or decomposed is not made into butter, is subject to the prohibition of federal and state pure food laws, and its manufacture could not be permitted even under the tax and licensing provisions of the revenue laws, and, finally and most important, that the neutralizer process is not an adulteration and does not permit the use of cream not fit for food in the manufacture of butter.

The Commissioner opened the hearing by asking for a list of those present who wished to be heard. The protestants were represented by Attorney F. L. Jones of Washington, Judge Hainer of Omaha, and Judge White of Chicago. Minnesota dairy interests supporting the ruling were represented by Christ Heen, State Dairy and Food Commissioner; Julius Hortvet, state chemist; and James Sorenson, secretary of the Minnesota Creamery Operators' and Managers' Association. Dr. H. W. Wiley appeared for himself in support of the ruling. The milk producers of the country were represented by Milo D. Campbell and George W. Warber, president and secretary respectively of the National Federation of Milk Producers. Two interests attempted to get a hearing but were refused: Professor E. O. Fippin, representing the American Lime Association, and Dr. J. S. Abbott, representing the Institute of Independent Margarine Manufacturers.



THE UNLOADING PLATFORM AT WATERLOO CREAMERY CO., MINNESOTA

The Abbott incident was unusual. The "press release" announcing the hearing had stated that representatives of the manufacturers of pure butter, of adulterated butter, and of oleomargarine were invited to the hearing. Dr. Abbott stated that he represented the manufacturers of oleomargarine and came in response to the press announcement. Commissioner Williams stated that he had no knowledge of the press announcement and could not see where the oleomargarine people had any interest in this hearing which affected butter only. The oleomargarine representatives were interested listeners throughout the proceeding.

In opening the case, Attorney Jones raised the question of jurisdiction of the Internal Revenue Commissioner. He called attention to the wording of the law which provides that the addition of any "acid, alkali, chemical, or any substance whatever", to "parcels of melted or unmelted butter or butterfat"—the quotations being the exact language of the law—does not refer to or mean the addition of these substances to cream. He further attacked the correctness of the legal interpretation on the ground that the statute specifies the purpose or effect which must accompany the addition of the foreign substance in order to constitute an adulteration, as "deodorizing, or removing therefrom rancidity," and stated that the experts he would swear would prove that the purpose and effect of the neutralizer was not to "deodorize or remove rancidity" but to partially neutralize acid to put the cream in condition for effective and economic pasteurization, and that in fact to neutralize did not deodorize or remove rancidity. He further stated that the neutralizer process alone made possible the continuation of the great creamery and dairy interests of the prairie and western states, and that the economic effect of this ruling would be disastrous to this great industry.

On the legal aspects of the case, Attorney Jones introduced excerpts from the debates in Congress when the act was passed, showing that an amendment was proposed substituting a section specifically mentioning "cream" instead of "parcels melted and unmelted butter or butterfat", and that this was defeated. He also placed L. B. Kilbourne of Chicago on the witness stand who testified that he was a joint author of the section in question, when the bill was prepared and passed, and that he understood and had always believed that the wording was introduced for the sole purpose of controlling the handling and manipulation of "packing stock" or, what was common practice then, the buying of "parcels of butter or butterfat" which were sometimes rechurned, sometimes melted, or otherwise manipulated into "ladled" or into renovated butter. As to the fact and practice of the neutralizer process and its effects, Mr. Jones called H. J. Credicott, Professors Hunziker, Bouska, A. C. Anderson, and Frandsen. They all testified that neutralizer does not deodorize, does not overcome rancidity, and does not cover up defects in cream which make it objectionable or unfit for use.

The bulk of the witnesses and the statements presented for the record were on the economic effect of the ruling. On this point the Commissioner asked every witness if he based his opinion of the economic effect on the treasury decision or on the statement in the press release which he said he was not standing on. Every witness of this group protested that the interpretation as in the press release was absolutely ruinous to the industry. Most of the witnesses protested with equal vigor against the treasury decision, holding that the terms "high in acidity and of a bad odor" were so indefinite and subject to such variety of judgment and opinion that the mere enactment of such a ruling would subject the creamery industry to such an uncertainty that was equally destructive.

One of the most effective statements made was that of E. P. Rector of the Fairmount Creamery Co. He stated that his company operated with the neutralizer process, and that out of 27 million pounds of butter made last year, from cream collected in 17 states, 25 million pounds had graded and sold as No. 1 butter.

Before beginning the hearing of attorneys and witnesses, Commissioner Williams heard statements by a number of senators and representatives whose constituents had asked them to appear, all without exception asking for a modification or withdrawal of the ruling.

Coming, finally, late Saturday afternoon to the friends of the ruling, Commissioner Williams heard first a general statement by Christ Heen, State Dairy and Food Commissioner of Minnesota. He stressed in particular the fact that Minnesota by state law made the use of neutralizers unlawful, and stated that he would show by sworn evidence that the process was harmful, that it permitted cream to be used which should not be used, that it added foreign substances to the butter, that it harmed the dairy industry, and that the ruling was justified and should be enforced.

His first witness was James Sorenson, who presented a long and vigorous arraignment of the neutralizer process. Mr. Sorenson made some new points in his discussion, one that the use of neutralizer led the farmers to a lack of care of their cream because of the fact that if it were rejected by the local plant, it could be sent away to the centralizer plant, and that in his experience he had never known of a can of cream thus rejected at the local plant to be rejected at the neutralizer process plant. He also testified that the lime used as a neutralizer does pass into the butter. This was later corroborated by State Chemist Hortvet. He denied that lime is not a deodorizing agent, and swore that it does deodorize, and further that it makes it possible to pasteurize cream so that odors were driven off and that neutralization and pasteurization should be considered together in determining "purpose and effect". He declared that the worst result of the process was the effect on cream producers leading them to neglect to properly care for their cream so that cream and butter are constantly growing poorer instead of better. State Chemist Hortvet was the final witness for the Minnesota people and corroborated the statements of Mr. Sorenson and added expert testimony as to the effect of lime which he claimed did in fact deodorize and adulterate the butter made from poor cream.

Both Sorenson and Hortvet were subjected to cross examination, the former being signalled out for a grilling by Attorney Jones, but the Minnesota man proved to be both experienced and thoroughly posted on his subject and more than a match for the cross examiner. Dr. Wiley was not present on Saturday afternoon, and his expected statement was therefore not heard.

From the bulk of the testimony and documentary evidence, it is probable that it will take the best part of a week to get the transcript ready for the Commissioner and that therefore his decision as to a withdrawal, modification, or affirmation of the treas-

ury ruling will be considerably delayed. This will also be complicated by the question as to whether or not the new Republican secretary of the treasury will retain Commissioner Williams at the head of the Internal Revenue office. There will also be a new attorney general by the time this is printed. However, since this is the first time the entire "neutralizer controversy" has had a full presentation before any officer clothed with possible or probable authority to decide as to its merits and legality in whole or part, the case has been a most interesting and important one. Dairy interests need to be on guard in many ways as to the outcome and results of the whole controversy.

February Condensery Prices

[Report by U. S. Bureau of Markets.]

During the month of January prices of sweetened condensed whole milk in the United States showed very little change except in certain sections, the average price increasing from $9.39 per case to $9.41. Unsweetened evaporated whole milk, however, showed marked increase in price in several sections and very little change in others, with an average increase for the month of 9 cents per case.

Stocks in the hands of manufacturers on February 1 showed material reductions, particularly on case goods of both condensed and evaporated milk. Stocks of bulk condensed on February 1 showed reductions of approximately 40 per cent except at New York City where there was very little change.

Compared with last year there was a general increase in stocks of condensed milk ranging from 25% to over 900% while evaporated milk stocks of all classes showed 10 to 12 per cent reduction under those of last year with the exception of bulk of which the quantity is very limited and which showed an increase of 7 per cent. This condition of stocks indicates a rather healthy and improving condition in the evaporated milk market, which is further improved by an increase of exports of nearly 100 per cent over the exports of the previous month and of the corresponding month of last year.

Due to this general improved condition in the evaporated milk market, quite a number of factories making evaporated milk were reopened during the month of February.

Price paid to producers for milk for condensing purposes showed a reduction for the month of February as indicated in the accompanying table of prices in all sections except New England where prices were slightly higher.

With the general improvement in financial and industrial conditions throughout the country and an increasing demand for condensed and evaporated milk, especially evaporated, it would appear that the crisis which has existed in the condensed and evaporated industry during the past months, is rapidly clearing up and that conditions in general throughout the industry are much more favorable from the standpoint of milk producers and manufacturers of condensed and evaporated milk than they have been for the past six months or more.

Prices Paid Producers

Prices paid producers for 3.5% milk delivered at factories during February, as reported below, are based on reports made by condensed and evaporated milk firms operating approximately 50% of the total number of factories in the United States:

Geographic sections	Case and bulk goods: No. of factories	Case and bulk goods: Price per cwt.	Bulk goods: No. of factories	Bulk goods: Price per cwt.
New England	1	$2.41	3	$3.52
Middle Atlantic	16	2.63	23	2.57
South Atlantic	1	2.40	5	2.06
East No. Central	64	1.98	27	2.43
West No. Central	1	2.00		
South Central				
North Western	14	1.81	5	2.40
South Western	11	2.09		
United States	108	2.07	63	2.50

Manufacturers' Wholesale Selling Prices

The wholesale prices given below are based on reports made by manufacturers covering actual sales, during January, of condensed and evaporated milk delivered to jobbers, wholesale grocers, and similar buyers on basis of cash or short time credit. Foreign prices are given as f. o. b. or f. a. s. points of export in section in which sales were made:

Geographic sections	Sweetened condensed* Domestic	Sweetened condensed* Foreign	Unsweetened evaporated† Domestic	Unsweetened evaporated† Foreign	Sweetened condensed‡ Unskimmed	Sweetened condensed‡ Skimmed	Unsweetened evaporated‡ Unskimmed	Unsweetened evaporated‡ Skimmed
New England	$9.25	$10.25	$5.64	$5.75	$12.54	$6.55	$10.45	$5.14
Middle Atlantic	8.64	8.58	5.59	5.30	13.63	6.57	12.42	5.56
South Atlantic	9.43	8.88	5.71	5.75	12.72	6.93		3.63
East North Central	9.42	10.25	5.40	5.21	11.98	6.73	3.49	6.08
West North Central	9.70	10.25	5.60	5.75	12.54	7.55	9.06	10.56
South Central	9.36	10.25	5.75	5.75	12.54	7.54		4.50
North Western	10.25	10.25	5.60	5.63	12.83	8.34		6.55
South Western	10.25	10.25	5.61	5.75	12.72	7.57	13.00	
United States	9.41	9.55	5.60	5.60	12.61	7.01	10.72	5.84

*Case contains 48 14-ounce cans. †Case contains 48 16-ounce cans. ‡Bulk, per cwt.

Butter Prices for February

The butter market in February raised from 46c to 51c in Chicago, and from 49c to 53c in New York. Boston showed an increase of 3c and Philadelphia, 5½c.

From the daily quotations of the U. S. Bureau of Markets we have compiled the following table giving the monthly averages of the daily wholesale prices for February, 1920 and 1921, on 92-score butter (extras) in the four principal markets, together with the receipts of butter at these markets:

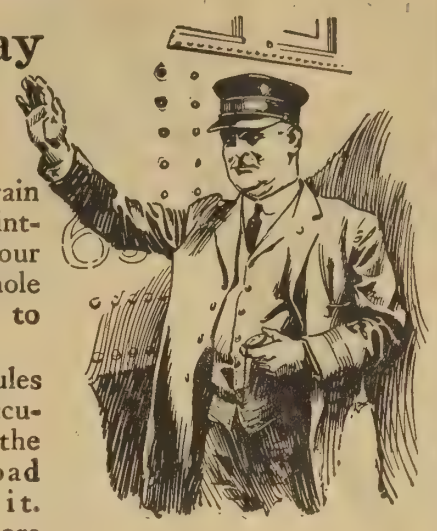
	Average price Feb. 1921	Average price Feb. 1920	Receipts Feb. 1921	Receipts Feb. 1920
	Cents	Cents	Tubs	Tubs
Chicago	46.75	62.50	132,106	125,945
New York	47.23	66.61	147,033	149,346
Boston	47.52	65.48	50,024	42,348
Philadelphia	47.80	67.36	37,565	46,937
Total receipts			366,728	364,576

Ninety-score butter averaged 43.87 cents for February on the Chicago market, with centralized butter at this market selling for 46.14 cents, or nearly as much as extras sold for.

Jobbers' prices on extras sold to retailers during February averaged 48 cents in Chicago and 50.23 cents in New York.

The executive committee of the Michigan State Farm Bureau Federation has appointed Mr. Clark L. Brody as secretary of that organization. He comes to this work with a successful record in organization work. He has had an unusual experience and success in rural development and has organized twenty-three marketing associations and four rural markets which take care of a large portion of the fruit, milk, eggs, and cream produced by the farmers in St. Clair County. We are informed that Michigan has 90,000 farm bureau members.

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When you miss a train or an important appointment, you know how your schedule for one whole day simply goes all to smash.

Keep to your schedules by a watch whose accuracy is proved by the thousands of railroad men who prefer it. Hamilton Watches are the timekeepers most popular with American railroad men.

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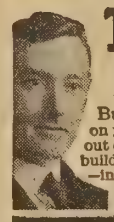


Conductor Dan Mandaville, shown above, has been in Erie service 45 years. His run is between Jersey City and Binghamton—out on No. 5, back on No. 6. He has been carrying for 14 years that Hamilton he holds in his hand.

A Hamilton costs no more than other watches and gives you accurate time in all going, rough or smooth.

Prices range from $40 to $200. Movements alone, $22 (in Canada, $25) and up. Send for "The Timekeeper," an interesting booklet about the manufacture and care of fine watches. The different Hamiltons are illustrated, and prices given.

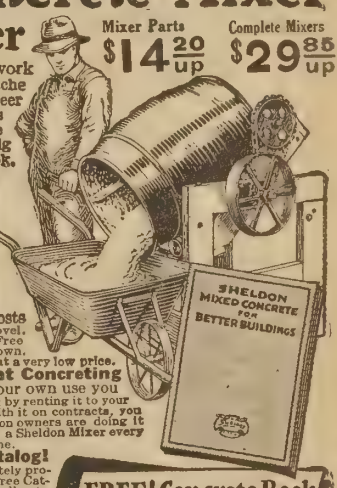
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It is the greatest labor saver I have on my farm. Two men can do ten times the amount of work in one day and do it ten times easier than the old way.—HARRY L. WALLACE, Jeromeville, O.

The machine I bought of you in 1916 has given continual service to date *without a single repair*, and at present needs only the small cast wheels that support the drum, and their supports.—ASA A. GOBLE, Huntington, Ind.

Owing to the scarcity of labor the machine is practically indispensable in making farm improvements with concrete.—J. McGRARY, Massena, N. Y.

I am more than busy with my Sheldon Mixer. I have more work than I can do. I get $10 a day when I work out.—JESSE L. WITTER, Wellsville, N. Y.

Last spring we purchased a set of castings to make a concrete mixer. It was constructed per the plans furnished and *it surely worked great.*—D. M. BRUBAKER, Freeport, Ill.

George Hank of Ackley, Ia., writes that he "put through" 106 yards of concrete in 21 hours. That's more than 40 cubic yards for an eight-hour day.

FREE PLANS

Make your own concrete mixer. Costs so little you can't afford to mix by shovel. With our iron and steel parts we send Free Plans and a permit for building your own. Or, we will sell you a built-up machine, at a very low price.

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Our special 30-Day Trial Privilege absolutely protects you. Write for details. Get our Free Catalog showing full line of mixers sold direct from factory on strong guarantee. No other like it. Two styles, hand and power. Mixes 8 cubic feet a minute. One man can operate it, but it will keep 2 to 6 men busy. Continuous chain drive. Tilting discharge. Easily and quickly moved. All parts guaranteed. Does work equal to $400 mixers. Get the catalog and full information. Write today.

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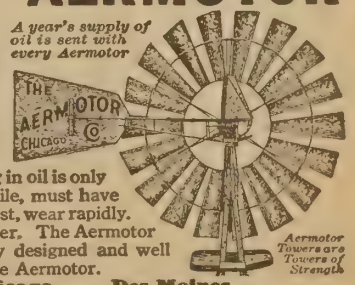
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Oil an Aermotor once a year and it is always oiled. Every moving part is completely and fully oiled. A constant stream of oil flows on every bearing. The shafts run in oil. The double gears run in oil in a tightly enclosed gear case. Friction and wear are practically eliminated.

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Any windmill which does not have the gears running in oil is only half oiled. A modern windmill, like a modern automobile, must have its gears enclosed and run in oil. Dry gears, exposed to dust, wear rapidly. Dry bearings and dry gears cause friction and loss of power. The Aermotor pumps in the lightest breeze because it is correctly designed and well oiled. To get everlasting windmill satisfaction, buy the Aermotor.

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Do you realize how much more work you can get out of your tractor by using the kind of lubricating oil that suits it best?

Texaco Tractol is made for just one use—tractor engines and bearings. It is the result of years of laboratory investigation and countless tests to find just the right oil that is needed for an engine that runs at full power for long periods of time.

Do not confuse Texaco Tractol and Texaco Motor Oil. If they were the same we would not make both. Texaco Motor Oil is intended for use in automobiles and motor trucks. Texaco Tractol meets the far different conditions of tractor operation.

Texaco Tractol is an oil that has great lasting qualities—it is an oil that maintains a complete lubricating film under heat that would break up a light oil—it is an oil that discourages carbon by keeping the cylinder walls *clean*.

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The uniform oil that keeps your motor active. It is a fine, lasting oil that completely retains its lubricating properties despite engine heat. It so perfectly seals the clearance between piston and cylinder, that no gasoline can leak into the crank case. Thus full compression is secured, and every last ounce of power used that the gas has to give. Be certain to get the can with the red Star and green T.

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Simple Ways of Feeding Dairy Cows

(Continued from page 306)

roughage frequently is very useful. If straw is fed, it should be chopped fine and preferably moistened with feeding molasses diluted with hot water. Pea straw, clover straw, cowpea straw, etc., are all used to some extent. Clover straw and several of the legume straws are fair feeds if they have been kept in good condition and are not too dry. At best, however, they are but a poor substitute for hay.

Dry corn fodder or, more exactly, corn stover, since the ears are usually removed, is a common roughage for cows throughout the corn belt. When kept in good condition and cut fine or shredded, corn stover is fairly satisfactory as a part of the roughage for dairy cattle. Fed whole, the cow does not get very great benefit from the stalks and resulting manure is very difficult to handle.

Hays may be divided roughly into two classes, the legumes and the non-legumes. To the latter class belong such ones as timothy, millet, prairie, and many others not so well known. Millet hay is perhaps the best of this group for dairy cattle feeding, since timothy and prairie hays do not tend to stimulate but rather tend to decrease milk production.

If possible, dairy cows in milk should be fed upon legume hay. This is desirable because of its protein and because it is palatable and stimulates milk production. The legume for use in any locality depends upon the climate and a number of other matters. In the West, alfalfa is the hay most largely raised, while through the East and Middle West red clover is the popular hay crop. Farther south are found cowpea, soy bean, and lespedeza or Japan clover hay. To say which is the best under all circumstances is impossible. Feeders of high producing cows, however, generally prefer red clover or alfalfa to the other legumes.

Succulent Roughage

For winter feeding succulent roughage in most northern sections of the United States means silage. Probably no single type of feed has done so much to increase milk production in the last few years as has this feed. Put up in the fall it furnishes a palatable succulent roughage throughout the year. The kind of silage depends upon the locality and the climate. For the great central section of country corn is the chief silage crop and science has yet to find a better. In other sections where corn cannot be grown or where other crops yield more abundantly, different crops are used. For many sections of the South, cowpeas or soybeans mixed with corn or sorghum makes the most satisfactory silage. In the dry southwest, sweet sorghum is a staple crop for silage. When the elevation gets too great or the growing season gets too short, sunflowers are used with success. Many other crops make good silage, and since silage is a necessity on any well regulated and economically operated dairy farm, some crop should be siloed.

In the vicinity of sugar beet factories it is frequently possible to obtain wet sugar beet pulp. When fed fresh in medium quantities, this makes a good succulent roughage. Care must be exercised to feed it fresh, since it spoils rapidly. Some cities have legislated against the use of moist pulp because so frequently the methods of feeding have caused insanitary conditions.

Perhaps the best substitute for succulent roughage is dried beet pulp. Soaked for several hours with about four times its own weight of water, it makes a juicy feed that is a very good substitute for silage.

Roots

Roots are in their general effect succulent roughage and serve the same purpose as silage. Because of the labor required in raising them, roots are comparatively little used for dairy cattle. They could well be used more widely, since in many respects they are superior to silage and are especially useful when large quantities of grain are fed.

The kind of roots varies with the region, mangels in general giving the largest yield. Red beets, half sugars, carrots, and turnips are also used with success. Turnips must be fed after milking and in medium quantities if the milk is not to be tainted.

Quantity of Roughage to Feed

The quantity of hay to feed is dependent upon the other feeds used. When it is fed alone, the cow should be given all that she will eat up clean. If silage and hay make up the ration the feeding may be as follows: Silage—from 3 to 5 pounds daily for every 100 pounds of live weight together with hay from 1.5 to 2.5

pounds per hundredweight. If grain is to be fed in proportion to production, along with silage and hay, the hay fed per hundredweight will vary from .6 to 1.5 pounds while the silage will range from 2 to 4 pounds daily per hundred pounds live weight. When fed with hay alone, the quantity of roots to be fed will vary from 4 to 6 pounds per hundredweight daily. If grain is added to the ration the quantity of roots is reduced to from 2 to 4 pounds daily per hundredweight.

These rules are not absolute, but merely guides for the inexperienced feeder while he is learning his cows and their capacities. Economic conditions also will influence the feeder to vary the relationship of succulent roughage to dry roughage. For example, if hay is expensive and silage cheap and abundant a larger proportion of silage may be fed.

Roughages Alone too Bulky

While it is true that a dairy cow has a digestive apparatus that is adapted for handling large quantities of bulky feed, there is a limit to the amount that she can handle advantageously. Since it is usually economical to feed the cow to the limit of her milk producing capacity the entire feed should not consist of roughage. Experience has shown that for maximum production a combination of roughage and grain is necessary. It therefore is the common practice to feed roughage in medium quantities and grain in addition in proportion to production.

[Mr. Davis concludes this practical feeding discussion in next week's issue of Hoard's Dairyman. He makes application of the information in this first article by examples of balancing rations and workable feeding rules.—EDITORS.]

Oregon Dairy Notes

HOARD'S DAIRYMAN:—Oregon dairymen continue to flock to the Oregon Dairymen's Co-operative League. The most recent additions to membership comprise the dairymen of the lower Columbia River country including particularly Clatsop county, a rapidly developing dairy district. The Clatsop County Dairymen's League as a body decided recently to affiliate with the state organization and turned over to its management their new cheese factory. Farmers interested in the Brownsmead Co-operative Creamery, also in Clatsop County, voted recently to affiliate and also turned their plant over to the League. This action places most of the Clatsop County dairymen in the ranks of the League.

In the Coos-Curry district marked progress in organization has recently been made, the local units having increased to fifteen. In Coos County the farm bureau is taking an active interest in the League and in some communities a part of the community program of work is the signing of a definite number of the neighborhood farmers to the League contract.

⚜

A. H. Lea has recently been appointed secretary of the State Fair for the fifth consecutive year. Mr. Lea recently resigned, but was persuaded to reconsider his decision. During his term of service, the state fair has greatly increased in scope and has been placed on an unusually sound basis.

⚜

The Northwest Ayrshire Breeders' Association has recently been organized with J. R. Mayben of Canary, Oregon, president and J. U. Smith of Newberg, secretary.

⚜

Richard G. Scott, for nearly three years the successful county agent in Clackamas County, has resigned to enter the employ of the Oregon Dairymen's Co-operative League as a field organizer. Mr. Scott is the second county agent from Oregon dairy counties to enter the employ of the League, the first being N. C. Jamison, formerly county agent in Washington.

⚜

W. D. Pine, instructor in dairying at the Oregon Agricultural College, has taken up work as county agent for Tillamook County, succeeding Roy C. Jones who held the position for six years resigning to become assistant professor of dairying at the college. Mr. Pine is a graduate of the dairy department of the Oregon Agricultural College and has had extensive experience in dairy production in Humboldt County, California.

⚜

The twenty-five cheese factories comprising the Tillamook Cheese Association used more milk last year and made more cheese than ever before. Out of 301,579 cheese manufactured there were but 2,444 seconds, also the best record in the history of the association.

Oregon. F. L. BALLARD.

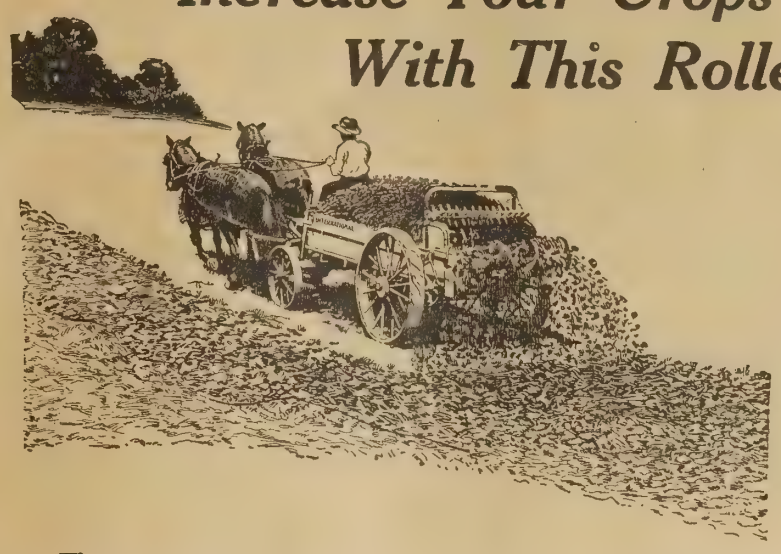
Three New Guernsey Records

Westbrook Ultra Rose, a daughter of the world's champion Guernsey cow in class BB, has qualified for fourth place in class GG. She is owned by G. W. Koser of Pennsylvania. Her production is 13,131.7 lbs. milk containing 621.99 lbs. fat. She and her dam are two of the first three cows tested in Mr. Koser's herd.

Two very creditable records have been completed by Guernseys on Kathergay Farms, New York. Enola's Edith has completed a record of 12,552.8 lbs. milk containing 659.43 lbs. of fat, in class BB, qualifying for seventh place.

Kathergay Rose now holds sixth place in class CC with a production of 12,217.9 lbs. milk containing 618.50 lbs. fat, her record being completed in the junior four-year-old division and a calf being carried 265 days of her testing period.

Increase Your Crops This Year With This Roller-Bearing Spreader



The year 1920 witnessed a most remarkable demand for International Roller-Bearing Manure Spreaders. The insistent call for them was far in excess of the supply; in many localities five could have been sold for every one available.

Popularity and fame like this can grow out of one thing only—and that is sheer merit. The record of the International Manure Spreader, in the improved type, promptly showed the farming public that here was a product of especial features and especial value. Factors that combine in creating that value are detailed on this page. These factors, from roller bearings on down, must be of practical interest to every man on a farm.

Months of effort, in material supply and manufacturing, have raised the production of these spreaders to a point where demands may be met. This is a year when you must go after increased crop yields with all tested methods—and the roller-bearing International is at your service. See the spreader at the International Dealer's or write the Chicago address for information.

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International Manure Spreaders

1. *Roller Bearings*—Roller bearings at 7 points—the only spreader so equipped.
2. *Double Ratchet Drive*—Walking beam transmission from main axle eccentric and extra large ratchet wheel give easy, strong, steady feed. Box tapered to eliminate friction on both sides. Six feed speeds.
3. *Oscillating Front Axle*—Auto-type, permitting short turn. No pole whipping.
4. *Power; Both Wheels*—Power is transmitted from both ends of the rear axle—beaters and wide-spread driven from one wheel and the manure feed from the other.
5. *Wheels Track*—Rear wheels track with the front wheels, lightening draft.
6. *Tight Bottom*—There is no clogging, jamming apron, because the spreader has a tight bottom. Spreads anything.
7. *Two Beaters*—Two all-steel beaters with chisel-pointed square teeth work from both top and bottom of the load.
8. *Wide-Spread*—The spiral behind the beaters gives the manure a third beating, and spreads it finely and uniformly beyond the wheels.
9. *All-Steel Main Frame*—Wood box sides hold only the load.

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Barn of Wm. T. Nolin stockman and breeder Stony Creek, Illinois

Fast becoming the standard barn roof—

Johns-Manville Asbestos Shingles laid the hexagonal method

TODAY there are so many barns and so many farm buildings roofed with Johns-Manville Asbestos Shingles, that farmers realize that more than style or newfangled notions lie behind the choice of this permanent stone roof.

Economy is the chief reason

Do you realize that Asbestos Roofing, either in shingle or roll form is the most economical of them all? Its first cost is slightly higher than short-lived materials but, over a long span of years, Johns-Manville Asbestos Roofing continues to serve as a weather-tight and wear-resisting roof covering, without the need of painting or other protection. It is hardly necessary to mention its fire-safety which is, of course, taken for granted with the word "asbestos." You can readily understand why these properties are present in Asbestos Roofing when you know that it is made of stone—asbestos rock.

Asbestos rock differs from other rock formations in that it can be split up into rock fibres—strong and silken. These rock fibres are felted together and water-proofed with natural asphalt, making an all-mineral roofing which from its very nature can neither decay nor disintegrate.



Lay them right over the old wooden shingles

JOHNS-MANVILLE Asbestos Shingles can be laid this way and we recommend it without reservation. It is not only the most economical way to re-roof, saving as it does the labor and expense of tearing off the old roof, but it is also the most practical, since you have in the old shingles that much additional insulation and protection.

But the booklet explains all this—and more. Write for it.

Because it is stone it is permanent

Absolutely impervious to rain, snow, sleet, winter cold or the rays of the hot sun, Asbestos Roofing shields your building from the elements year in and year out. There are Johns-Manville Asbestos Roofings everywhere that have seen service for decades and still the test is not long enough to decide definitely the average life of an Asbestos Roof.

Johns-Manville Roofings

Johns-Manville Asbestos Shingles, Colorblende Asbestos Shingles, Asbestos Built-Up Roofing for flat roofs, Asbestos Ready to Lay Roofing in roll form, Asbestos Corrugated Roofing. *All these Johns-Manville Roofings are approved by the Underwriters' Laboratories, Inc.*

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Northern Substitutes for Corn Ensilage

W. P. KIRKWOOD, MINNESOTA

SUNFLOWERS, potatoes, clover and timothy, millet, sorghum, and peas and oats have all been found useful as substitutes for corn silage, in the feeding of dairy cows at Minnesota's northeastern agricultural experiment station near Duluth. Sunflowers, however, seem to give the best results, according to the statement of M. J. Thompson, superintendent of the station, in summing up the results of certain feeding tests carried on in 1919 and 1920. This opinion is based on the facts that for the three seasons in which sunflowers have been grown at the station no damage from frosts has been experienced because the sunflowers have matured early enough to escape the severe fall frosts and they have been hardy enough to withstand the earlier frosts; that the sunflowers are rich in oil and fat content; that on silage made from them the milk flow is maintained at a high average. A man operating a dairy adjoining the station reports that the milk production of his herd of 150 cows increased by 40 gallons per day on sunflower silage. However, there are good things to be said also for potato silage, clover silage, millet silage, and the rest.

In preparing for tests with the various silages named, the crops at the Duluth station were planted and cared for in the usual manner and the silage was put up in the ordinary way. The feedings of these silages were begun in December. Rutabagas were fed as a check. The plan originally was to feed the cows for a 14-day period on each kind of silage, but because of some necessary readjustments it was found convenient to omit for the time the feeding of the sunflower silage. As the test was worked out, two cows were fed roots (rutabagas) as a check and silages made from sorghum, peas and oats, potatoes, and millet, each kind for 14 days, and two other cows were fed rutabagas as a check and clover silage. All of the cows were Guernseys. Here are the milk production figures in pounds:

Name of cow	Roots	Sorghum	Peas and oats	Potato	Millet	Clover
Mimosa	16.65	14.13	13.40	13.20	13.45	
Angeline	14.02	14.00	12.74	12.66	12.60	
Antona	19.38					18.90
Antonette	25.10					24.50

The acre yields of silage crops at the Duluth station for 1919 ran as follows:

Crop	Pounds
Siberian millet	10.818
Common millet	10,147
Golden millet	20,190
Hungarian millet	12,491
Peas and oats	9,528*
Sorghum	31,153
Sunflowers	36,666

*Peas and oats were sown about July 1 in dry weather, following another crop.

In the light of the facts shown by these tables and by subsequent tests as to the use of sunflower silage, the opinion at the station is, as already indicated, in favor of the sunflowers. However, some of the other silages are not to be ignored in the dairy or live stock ration in climates where corn cannot be depended on.

Perhaps special interest will attach to the attempts to use potatoes. It should be said that potato silage is made from refuse stock. The potatoes are run through a root-cutter and then put into the silage tank mixed with from 2 to 5 per cent corn meal in alternating layers. The cattle eat this readily and it maintains the milk flow at the normal rate. Smaller quantities of potato silage than of some of the others may be fed because it is so rich in food value. Feeding can be begun about three weeks after the silage is made. Mr. Thompson regards the use of potato silage as one of the most economical ways of disposing of what is often an almost waste product.

Clover and timothy silage, it is felt as a result of the tests, has a place in the northern grass country—the entire cut-over country of the lake states, because in September there is usually an aftergrowth of grass and clover. This is difficult to cure as hay at such a season but may be readily put into a silo, being all the better if it is put up in the rain. Although dark in color, little of it spoiled in the Duluth tests and the cattle developed a keen taste for it.

Possibly the disadvantages under which the peas and oats got their start may have had something to do with the low yield and with the feeding quality. The cattle did not take to peas and oats silage readily. While both elements of the combination do well in the region, the crop is often hard to handle and the harvest for it comes at an otherwise busy period. The crop must also have an ample rainfall.

Sorghum has some of the disadvantages of corn. For best results hot weather is needed. Yet it has a high food value and the cattle like it well, and on it they maintain production at a high average.

The millet silage seemed the least satisfactory of all, being rather coarse, dry, and woody, and consequently lacking in palatability. Still Mr. Thompson believes it may have a place in such regions as his both for hay and for silage, because of its rapid growth. It makes the best silage when cured before the stem grows woody.

All things considered, then, Mr. Thompson feels that northern substitutes for corn silage are a success. He emphasizes the point, too, that between the beginning and the end of the tests two and one-half months elapsed, and yet the average milk flow showed a level which was off the normal only about a quart and a half a day.

New York G. L. F. Exchange Meets

HOARD'S DAIRYMAN:—After the registration of members of the G. L. F. Exchange had been accomplished at the recent stockholders' meeting in Utica, the president read his address. This, he said, was simply a review of the year's work, although the Exchange has actually been in operation a shorter time than that. These, as he states, are difficult times. This is a non-profit organization and for the benefit of farmers. In its present form started last July, it has purchased a building in Syracuse and another in Buffalo. At the latter place there is a mill and storage and there they will soon be mixing their own feeds. They will also have a dry house where they can take dampness out of grains.

A subsidiary organization has been formed called the Producers' Warehouse Company with the same stockholders as the G. L. F. By means of this organization commodities can be stored, upon which ware-

house receipts may be issued for use as collateral at banks. This method is recommended by the bankers' association.

While the Grange Exchange operated for some time successfully in a small way, it was not until last October that the larger G. L. F. commenced to operate. The year, however, shows marked progress. It is now for local development and support to determine what the success shall be, but the prospect is encouraging.

The secretary, E. C. Wetherby, cleared up several matters. One million dollars was the goal of stock purchase. A little less than $700,000 has been subscribed to date, of which about $163,000 was in cash. Fifteen counties subscribed their quota or more. The others are in various stages of the work and it is estimated that by July first the whole will be raised. Twenty-four counties have agents completing arrangements for local action. This means the possession of locally controlled warehouses by the local people.

The treasurer, when called upon, announced that a certified accountant had been employed to go into the books and to appraise the property. The accountant gave a detailed report of his findings. Like all handlers of similar commodities the falling market has cost the Exchange something. This was read in the report at about ten thousand dollars. At the same time there has been $18,000 made on goods handled. Moreover, the appraisal value of the buildings owned exceeds the cost of the same by about $20,000.

The manager, Mr. Hall, gave a very interesting report. The sales for the year 1920 totaled $1,369,349. Nearly half of this has been in feeds. Binder twine also has been a very large item and, as many remember, the Exchange price on this commodity brought down the price of all dealers to aggregate a very large sum. The old Grange Exchange from the first of the year to June did somewhat less than a half million dollars' worth of business. The balance was done from June to December. There is also a very large volume of business booked but not shipped. The wool pool has at least $200,000 worth of wool stored in the Syracuse warehouse.

The State College of Agriculture has had a close relationship with the Exchange from its start. For a time at its beginning, Professor Wing was the president and Professor Savage has given much advice in relation to feeding formulas and feed questions. Professor Barron has been the authority on seed selection and Professor Warren has assisted in the way of administration, advice, and management.

New York. H. H. LYON.

Red River Valley Holstein Sale

One of the first Middle West Holstein sales of importance in 1921 was the Red River Valley Sale held at Crookston, Minn., Feb. 9, and, if we may judge coming sales by this one, Holstein breeders can expect a series of successful sales this spring.

The Red River Valley, it should be noted, is one of the coming Holstein districts of the Northwest, and that black and whites are in demand there is evidenced by the sale figures; 47 head sold for $20,513, an average of $436.

Six animals sold for $1,000 or more with $2,500 the top figure. C. L. Spaulding paid this for Edenvale Bertha Ormsby, one of O. J. Grover's consignment.

The sale was under the management of the Minnesota Holstein Breeders' Association.

Following is a list of those animals selling for $300 or more and buyers:

I. H. Sargent, Minnesota	
Miss Korndyke Pontiac Lass	$400
Grahamholm Colantha Elcey Aaggie	310
Geo. Peterson, Minnesota	
Laura Segis Ormsby	$305
Ed. Fleckenstein, Minnesota	
Lady Artis Snowball	$500
P. M. Cameron, Minnesota	
Miss Pietertje Hannah Beets	$350
C. L. Spaulding, Minnesota	
Edenvale Bertha Ormsby	$2,500
Laverta Ormsby Susie	800
J. M. Brodrick, Minnesota	
Dinah Bess Ormsby	$1,010
Bess Pietertje Ormsby 3rd	1,800
W. E. McKenzie, Minnesota	
Lady Spring Grove Clothilde	$325
Agnes Clothilde Queen Segis	300
H. L. Marsh, Minnesota	
Jennie Pietertje Ormsby	$300
J. E. McMahon, Minnesota	
Mustinka Johanna Pearl 2nd	$525
Mercedes De Kol Korndyke Lady	828
Bess Burke Colantha	1,025
E. C. Schroeder, Minnesota	
Eli Belle Vale	$300
T. E. Gullings, Minnesota	
Hacker Maplecrest Pontiac De Kol	$310
Maud Pontiac Silvercup	350
Bernice Pietertje De Kol Homestead	300
Reaction Queen Ontonagon Segis	325
A. R. Knutson, Minnesota	
Edenvale Chief Ormsby	$525
Sloan Bros., Minnesota	
Johanna Olathe Bonheur	$1,010
I. H. Ruetell, Minnesota	
Permelia Cornucopia 2nd	$375
Fish Lake Abbekerk Ormsby	350
Cecil E. Julian, Minnesota	
Snowflake Rose Clothilde	$400
Olson and Johnson, Minnesota	
Queen Colantha Zubrod	$310

Iowa State college claims most students in agriculture, giving second place to Cornell, and third to Oregon. The rest of the first ten in order are Wisconsin, Ohio, Illinois, Massachusetts, Michigan, Nebraska, Pennsylvania.



Dainty Desserts and Salads

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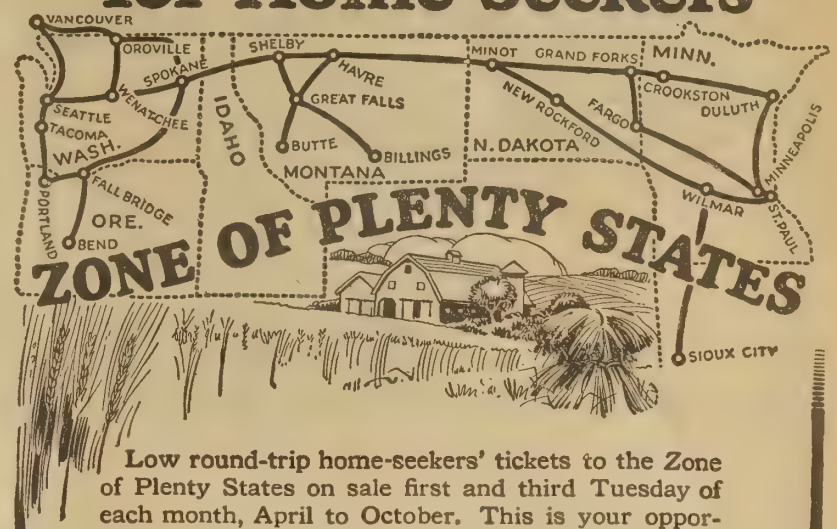
The flavors are: Strawberry, Raspberry, Lemon Orange, Cherry, Chocolate, 2 packages for 25 cents.

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Low round-trip home-seekers' tickets to the Zone of Plenty States on sale first and third Tuesday of each month, April to October. This is your opportunity to look over some *real* country, abounding in fertility and adapted to every phase of farming and stock raising. Middle Western renters, especially, will find in the Zone of Plenty States the home-farm so long desired.

Minnesota

Farming in Minnesota means good crops and low-priced lands. The cut-over lands in Central and Northeastern Minnesota offer great opportunities in diversified farming, grain growing, potatoes and dairying. Clover and cows will support the family while the land is being cleared. The prairie section of the Red River Valley of Western Minnesota contains vast areas of rich, black soil where all kinds of grain, corn, alfalfa, clover and live stock are produced successfully.

North Dakota

North Dakota has the largest body of rich, black, low-priced lands in the country. Smooth fields, easily farmed, well adapted to working tractors. Stock growing has opened a new era in North Dakota. Wheat, small grains, alfalfa, red and sweet clover all are money-making crops.

Montana

Montana has millions of acres of grain-growing lands at low prices on favorable terms. This state has exceptional stock-raising advantages combined with grain farming. Irrigated valleys insure big production. Dairying, diversified farming and fruit growing on cut-over Western Montana land. A substantial start can be made here on small capital.

Washington

Washington and Northern Idaho offer a wide range of farming activities. Good crops of grain, forage, vegetables on low-priced land. Also adapted to dairying and mixed farming. Building material and fuel cheap. Water abundant. Climate delightful. Commercial fruit production highly developed under irrigation.

Oregon

Oregon offers vast farming possibilities combined with attractive climate. Low-priced irrigated land east of mountains. Diversified farms, west of mountains, produce fruits, berries, mixed crops and dairy products.

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To help you to a new home in the land of proved opportunity, the Great Northern Railway maintains an Agricultural Department. Complete information furnished FREE. All you need to do is to ask and details of the Zone of Plenty States will be promptly forwarded without charge. Send for state bulletins.

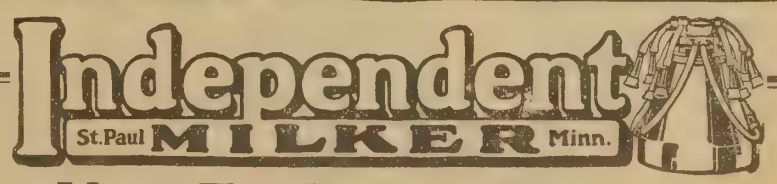
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Cow Testing Associations

RECORDS, PRICES OF FEEDS, FAT, AND MILK

Following is the summary of reports received during the week and up to the time of going to press of this issue:

State	Association	Tester	Month	No. of cows tested	No. of cows producing over 40 lbs. fat	Fat production of high cow	Owner
Pa.	So. Franklin Co.	H. M. Graff	Jan.	251	32	70.0	E. S. Grim
"	Canton	B. E. Whitney	"	405	101	85.2	Dent Hawthorne
"	Wyalusing	Glen Ruland	"	415	63	95.2	C. W. Newman
"	Towanda—Wilmot	Leslie Waren	"	285	28	62.9	H. Bartch
"	Rome	Frank Beebe	"	350	33	58.8	R. J. Taylor
N. H.	Merrimac Valley & Strafford Carroll	C. F. Emery	"	435	25	75.0	Baker Farm
Ohio	Ohio Valley	D. W. Harpley	"	214	22	62.6	D. B. Armstrong
"	Butler Road	F. L. Rostocil	"	230	50	88.3	A. A. McDonald
Ind.	Posey—Gibson	L. H. Russell	"	102	9	63.7	H. J. Rityert
Mich.	Emmet Co.	A. L. Hodges	"	120	10	71.9	Mrs. H. Anderson
Wis.	Rockfield	Wm. F. Liesner	"	285	52	98.9	Val Bast
"	Monticello	H. T. Albrecht	"	375	61	93.6	Pierce Bros.
"	Arkansaw	Leo M. Harder	"	279	19	69.5	W. V. Rice
Ia.	West Branch—Tri-County	R. B. Houser	"	218	20	67.4	R. W. Bronson
Cal.	Riverside Co.	E. Bahler	"	380	88	84.4	J. T. Crimmins
Wash.	Snohomish Valley	A. C. Sweet	"	310	50	82.0	Chas. Krassin
"	Stillaguamish	M. C. Hong	"	399	56	64.0	Z. Farrington
"	S. W. Washington	L. E. Mabon	"	203	26	80.0	A. L. Gile

Association Notes

Canton, Pennsylvania:—In spite of the uncertainty of the dairy industry, interest in the testing association remains as keen as ever in this locality. There are now 36 members in this association, 8 of which are new. Three per cent market milk in January sold for $3.08 per cwt. and 4c per point above. The creamery paid 66c per lb. for fat. Milk retails for 14c per quart and butter for 65c per lb. Feed prices: cottonseed meal, $45 per ton; oil meal, $50; gluten, $56; wheat bran, $43; corn meal, $38; corn and oat chop, $42; Unicorn Dairy Feed, $59.

Merrimac Valley and Strafford—Carroll, New Hampshire:—Several members have taken up feeding of balanced rations and large improvement in condition of the herds and milk flow is noted. This association has a very active grain organization which is doing considerable to help the dairymen. They buy and mix their own grain. Cows are doing remarkably well this winter, due, probably, to the mild weather. Market milk delivered to the Boston market sold for $4.19 per cwt., a test of 3.7% being required. The creamery paid 52c per lb. for fat. Milk retails for 15c per quart and butter for 60c per lb. Feed prices are: Bran, $42—$50; gluten, $58—$63; cottonseed meal, $46—$58; oil meal, $51—$70; ground oats, $43—$51; corn meal, $40—$45; hominy, $52; middlings, $40—$52; siage, $10; first quality hay, $25.

Butler Road, Ohio:—This association is doing official testing and is making some very fine records. January market milk testing 3.5% sold for 31½c per gallon. The condensery paid 52c per lb. for fat. Feed prices are: Bran, $30 per ton; corn, $18; oats, $35; oil meal, $42; cottonseed meal, $56.

Posey—Gibson, Indiana: — One member sold 26 unprofitable cows. Two herds are now on the federal accredited list. All but three herds have been tuberculin tested. Baby clinic milk is being supplied by one member at a premium. An A. R. record of 576 lbs. fat has just been completed. January market milk testing 3.5% sold for $3.20 per cwt. The creamery paid 47c per lb. for fat. Milk retails for 15c per quart, butter for 60c per lb., and cheese for 40c per lb. Feed prices: Corn and cob meal, $18 per ton; bran, $35; oats, $34; cottonseed meal, $40; oil meal, $42.

Richfield, Wisconsin:—This association has just finished its first year of testing. Of the 370 cows tested, only 265 finished the year's record, 35 having been sold as breeders, 43 as unprofitable, and 8 having died. The average for twenty-five herds was 7,479 lbs. of milk containing 269.2 lbs. of fat. Twenty cows qualified for the Register of Production. The high cow, a pure-bred Holstein owned by Ambros A. Wiedmeyer, produced 14,456 lbs. of milk containing 497.1 lbs. of fat, earning a profit above feed cost of $217.21. Fred Hembel's Guernsey cow produced 465.1 lbs. fat at a profit above feed cost of $228.66. The six high herds average $2.39 for every dollar invested in feed.

Ambros A. Wiedmeyer says: "I will gladly tell you just what benefit I received from the Richfield Cow Testing Association. It interested me more than any other organization. It made me take interest in my cows and made me feed better to get a higher production than my neighbors, and for that reason I received a larger profit for the feed consumed, as I am convinced that the last pound is the one that brings the most profit. I also found the good and bad cows in my herd, which gives me a chance to clear my barn of poor paying cows and to secure a better price for the good ones."

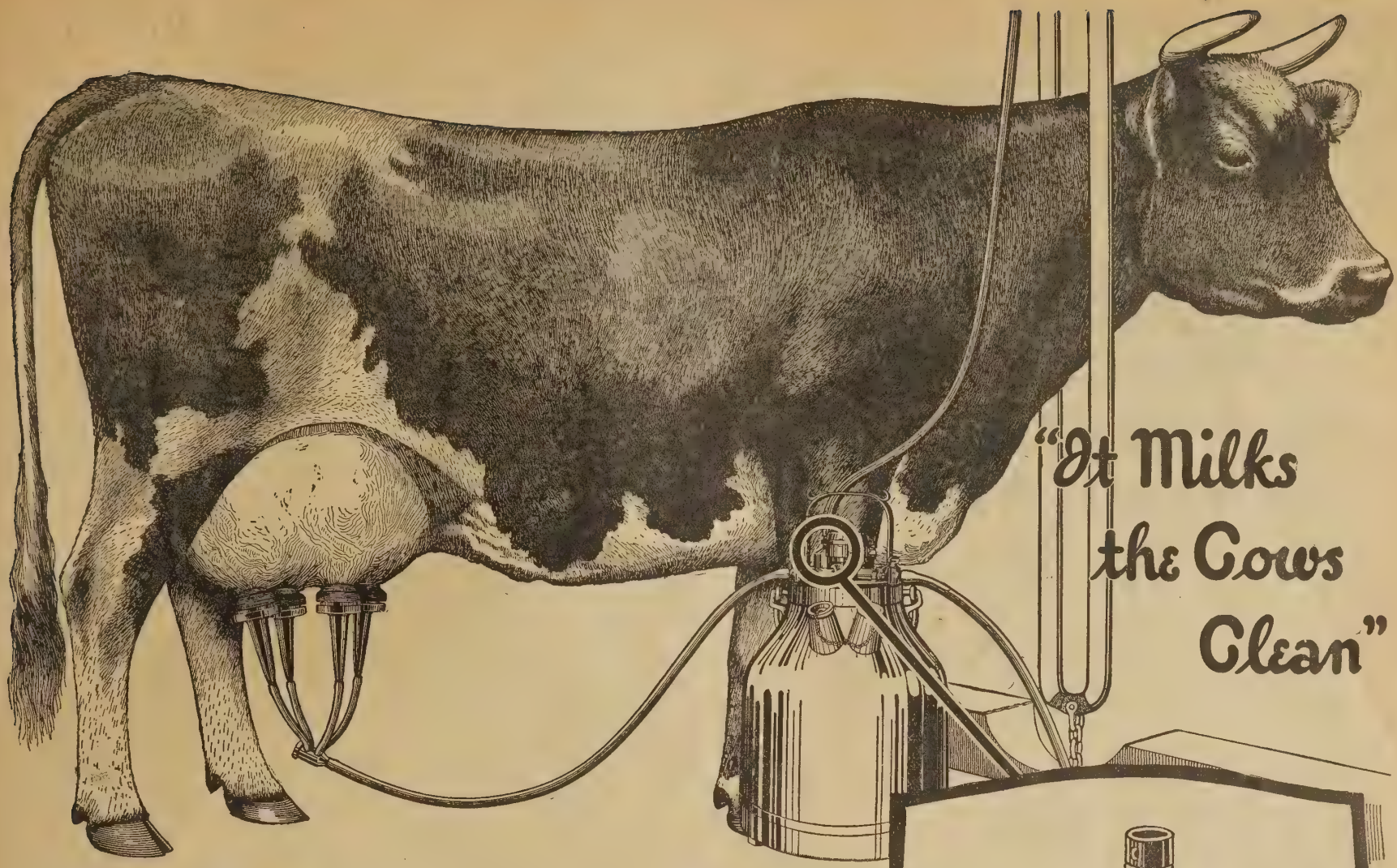
Monticello, Wisconsin:—One pure-bred Holstein bull was purchased during January. One member has increased the production of his herd by feeding a balanced ration instead of only oats. Feed is being bought by the carload through the association secretary. January market milk testing 3.7% sold for $2.20 per cwt. and 6c per point above. The condensery paid 45—48c per lb. for fat. Milk retails for 10c per quart and butter for 50c per lb. Feed prices: Oats, 50c per bushel; corn, 65c; alfalfa hay, $26——$30 per ton; bran, $28—$36; oil meal, $48; silage, $8.

Arkansaw, Wisconsin:—Two herds were tested for tuberculosis and others are awaiting the tester. Three cows were sold to the butcher. Most of the members are feeding balanced rations. Bran sells for $28 per ton; oil meal, $45; mixed and clover hay, $15; corn, 74c per bushel; oats, 42c.

Riverside County, California:—Eighteen cows have been culled from herds in the association during January. A dairy demonstration was held at the A. M. McKersie dairy, Hemet, with an attendance of 118. Dr. J. E. MacMillan of the California State Department of Agriculture spoke on "Dairy Diseases" and F. H. Scribner spoke on "Selecting a Dairy Cow". This is a fruit section but the dairy herd is becoming recognized as a means of supplyng fertilizer for the orchards.

Southwest Washington: — Three pure-bred cows replaced three scrubs, and a pure-bred bull with dam's rec-

(Continued on page 326)



"It Milks the Cows Clean"

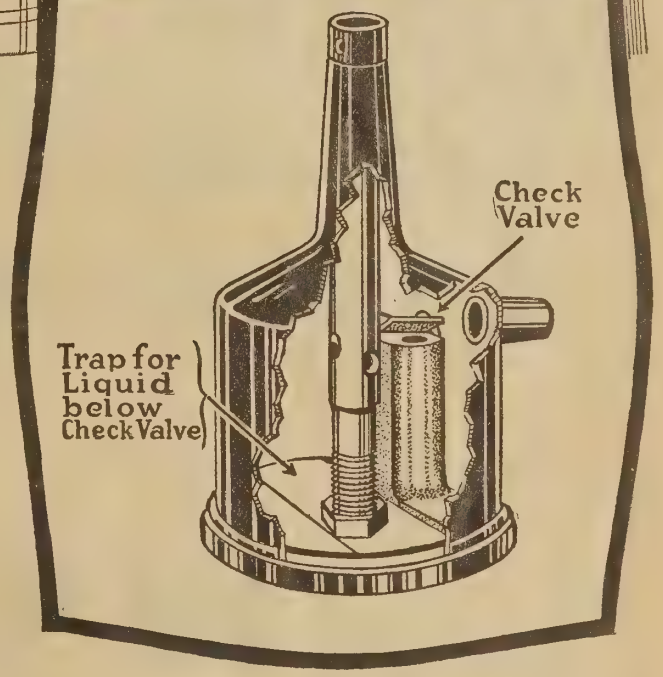
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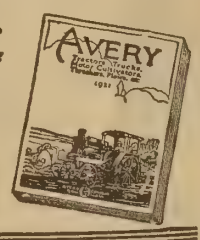
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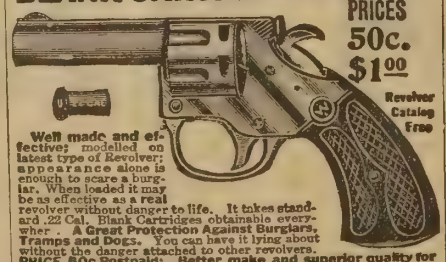
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Washington, D. C., Weekly News

[SPECIAL TO HOARD'S DAIRYMAN]

WASHINGTON, MARCH 3—A summary of the work of the sixty-sixth congress is not amiss. The summary, in so far as it has to record legislation of interest to agriculture, will not be a long one. One single bill asked for by agricultural interests, and not by all of these interests, is to be pointed out, the Joint Resolution under which the War Finance Corporation was revived and given authority to render assistance in financing foreign commerce.

The Packer bill was killed by differences between the Senate and House bills, and the activity of the packer lobby aided by the refusal of Republican leaders to permit a vote, The Cold Storage bill in its final form was found to include transportation in refrigerator cars as cold storage, and to fix a time limit of ten days after which commodities must be labeled "Cold Storage", which turned dairy, poultry, and packer interests against it. The final blow was delivered by the American Farm Bureau Federation voting to oppose it.

The proper labeling of commercial feeding stuffs never got beyond the informal discussion period.

The emergency tariff bill, carrying items for the protection of butter and other dairy interests, and placing a twenty-six-cent-a-gallon tax on the materials from which vegetable imitations of butter are made, passed, but was vetoed by President Wilson and failed to pass over the veto.

The Capper-Volstead bill, making clearly legal the co-operative organization of farmers to sell their own products, a bill of greater interest to dairymen's organizations than to any other except the Pacific coast fruit marketing organizations, and fought as far as it went by the representatives of the great dairy and milk producer organizations, died in conference committee because of the emasculating amendment added by the Senate which the farmers' representatives would not accept.

But there are some things on the other side of the ledger. The Agricultural Appropriation bill carries the needed items for dairy investigations and work, although not what was asked for for buildings and equipment at the Dairy Experiment Station at Beltsville, Md. There is a big appropriation for eradication of tuberculosis. There are good appropriations for dairy extension work.

Oleomargarine interests were turned down hard and cold when they tried to open up the oleo question and get a law which permits coloring.

The sales tax was not considered by the Congress, a tax which means a double burden to every farmer.

The Farm Settlement Act which would have caused hundreds of millions of dollars to be thrown away on unwise and uneconomic reclamation of lands to come into competition with the farms created by the toil and exertions of hard working farmers, was held in committee with never a chance of passing it.

Although the tariff bill containing the dairy items did not become law, the dairy interests by a concerted and united effort brought the need of the industry for protection from cheap ocean freight rates and cheap labor abroad to the attention of both House and Senate, and convinced a majority in both houses, as shown by several test votes, of the soundness of their request.

The House of Representatives on Monday afternoon approved the Senate amendment to the Agricultural Appropriation bill authorizing the holding of a world Dairy Congress next year, and the President to invite delegates from foreign countries. This amendment, under the present House rules, had to be submitted to a vote of the House and this was done, this time carrying without a vote against it. The authorization without which the Congress could not be held is now safe, unless the fight over the free seeds item, which is bitter as usual, holds up the final passage of the bill.

The National Grange in a statement signed by T. C. Atkeson, Washington Representative, denies with some vigor published statements that the investigation of farm organizations by the Banking and Currency Committee was caused by attacks on the American Farm Bureau Federation by The National Grange. "Members of Congress and members of the Washington staffs of the farmers' organizations" know that no attacks of this kind have been made, says the statement. The statement quotes Chairman McFadden who in one hearing told just how the investigation came about and says there is nothing to indicate that any organization was responsible or made any charges or attacks. It then quotes from various witnesses to show that all were under investigation, and all four which maintain offices here were compelled to tell how much money they spent, and where they got it.

Purdue Dairy Night

More than 2,500 students, townspeople of Lafayette and West Lafayette, and dairy producers and manufacturers from over Indiana attended the annual dairy demonstration night at Purdue University February 23, in the university creamery. Plans for the demonstration night were in charge of the students' dairy club and all the work was done by the students.

The creamery was operating at full capacity with all the butter, cheese, and ice cream machines in action. The public was shown all these departments and students in charge of various sections of the show explained how dairy products were handled.

One room was filled with nutrition products, showing samples of all the products of the Purdue creamery. Milk, cheese, and butter put to various uses were demonstrated, girls dressed in white showing how.

Another room was devoted to feeds for dairy cattle and in connection were shown miniature silos, dairy barns, and complete dairy farmsteads. A set of bacteriological surveys of milk were on display and proved of interest to the guests. Another room showed all the leading cream separators.

One of the rooms upstairs was fitted out in an attractive manner with furniture supplied by Lafayette business houses and an automatic lantern showed a set of interesting milk slides.

The demonstration is held annually and is designed to boost the dairy industry in Indiana.

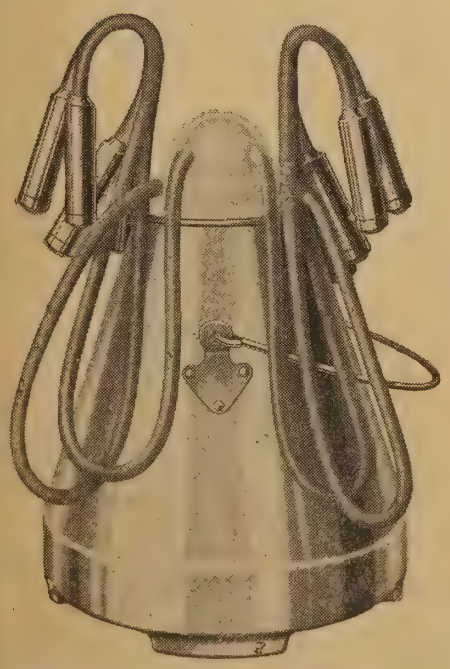
Indiana. J. C. ALLEN.



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DAIRYMEN who want the largest percentage of return from their investments are improving the quality of their herds.

These progressive dairymen also recognize the importance of cleanliness, which assures milk of first market quality. They take no chances, therefore, of the milk becoming contaminated through contact with the air or the milker's hands and clothing. They use milking machines—and to be sure of the utmost cleanliness, they see to it that their machines are equipped with



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"Wear-Ever"
Aluminum Milker Pails

"Wear-Ever" Milker Pails are made from solid sheet aluminum without joints or seams and are therefore easy to clean and keep clean. Light and easy to carry. *Cannot rust. Never need tinning.* Made of the same metal and with the same care as are **"Wear-Ever"** cooking utensils which are giving such thoroughly satisfactory service in homes everywhere.

The Aluminum Cooking Utensil Co., New Kensington, Pa.

In Canada, Northern Aluminum Company, Limited, Toronto.



Built for permanence and floored for comfort. A few of the stalls in the barn of Mr. Gustav Pabst, Dousman, Wis., where Circle A Cork Brick are laid in stalls and pens.

Permanence and Comfort in Stall Floors

ARE you one of those who think that a stall floor, to be durable and sanitary, must be made of some hard substance like concrete? A little investigation of other materials will soon convince you that it is not necessary to sacrifice comfort and safety to secure durability and cleanliness.

Ⓐ Circle A Cork Brick Ⓐ
FOR STALL FLOORS

for example, are almost as comfortable as the turf in the field. Easy and resilient underfoot and nonslippery, they eliminate all danger of stiff muscles, sore hoofs and bunchy joints and afford protection against injuries due to slips and falls. And yet a cork brick floor does not absorb moisture, hold dirt or retain odors. It is easily and quickly cleaned, conforms to every requirement of sanitation and lasts for years without appreciable wear or deterioration. Circle A Cork Brick combine in one material every essential of the ideal floor—safety, comfort, sanitation and durability.

These and other properties which distinguish Circle A Cork Brick as the modern floor for the modern barn are fully described in "Better Stall Floors," a 28-page book of unusual interest to breeders and dairymen, which will be sent free on request.

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112 Twenty-fourth Street, PITTSBURGH, PA.

19 ADJUSTABLE FITALL 20 21 HORSE COLLAR PATENTED 22

When Your Horses Get Thin

When your teams lose flesh after a few weeks of hard spring work and ordinary collars get loose, necks get sore and trouble begins. But this cannot happen if you use

FitZall Adjustable Collars

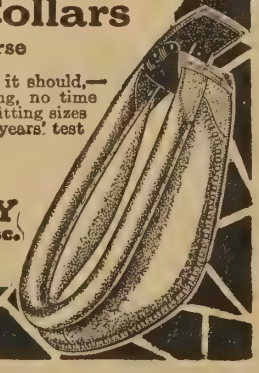
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As the horse loses flesh you shorten the collar and it fits as it should,—perfectly. No sweat pads needed, no sore necks, no doctoring, no time lost. No extra cost. Patented, guaranteed. Four perfect fitting sizes in each collar. Simple and Practical. Proven best by nine years' test on thousands of farms and in heavy industrial hauling.

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Association Notes

(Continued from page 322)

ord as two-year-old of 554 lbs. fat replaced a pure-bred scrub. One member who has started feeding to keep up winter production has increased 50% over last year with the same cows and with greater returns per dollar invested under grain feeding than ever before. January market milk testing 3.5% sold for 15c per quart. Milk retails for 16c per quart. The creamery paid 55c per lb. for butterfat.

Spread of Association Testing

HOARD'S DAIRYMAN:—From a modest organization of 31 members, owning 239 cows, in Newaygo County, Michigan, fifteen years ago, to 468 associations, composed of 11,948 herds representing 203,472 dairy cows, the progress of co-operative cow testing bespeaks the merits of the strict observance of performance at the pail of milk producers. Detecting unprofitable cows by accurately determining the relation between the feed bill and the milk yield as well as butterfat content has displaced the method of 20 years ago when the judgment of the milker was relied upon to distinguish between the "boarder" and profitable dairy animal. Memory, frequently tricky, emphasized the overflowing pail during the few brief weeks of the period of lactation while the judgment proved faulty in determining the year around yield.

Weighing of the feed dispensed to each animal, the determination of the milk yield, and analysis of the butterfat content are practices which have established the virtues of the co-operative cow testing association. The low producer is thus eliminated from the herd with unmistakable precision. From the single organization formed at Fremont, Michigan, in September, 1905, the movement has continued its forward march until 36 of the 48 states have acknowledged its possibilities by the formation of at least one cow testing association. Wisconsin, premier dairying state, is foremost in pledging strength to the movement, maintaining 115 associations, representing 3,429 herds and 52,879 cows. Pennsylvania, a state where boys' and girls' dairy clubs are strongly intrenched, has sustaining faith in the cow tester—having 64 units of organization, embracing 1,763 herds and 24,110 dairy animals.

Ohio fosters 41 cow testing associations, involving the supervision of 1,165 herds and unerring watchfulness of 11,806 cows as to their performances at the pail. New York, Illinois, Minnesota, California, and Vermont are credited with 28, 23, 19, 18, 18, organizations, respectively. Iowa, Michigan, New Jersey, Kansas, and New Hampshire, maintain ten or more units of mutual helpfulness where the Babcock tester, a shotgun can, and a spring balance are implements insuring efficiency in dairying. Virginia, Washington, Tennessee, Rhode Island, Oregon, North Carolina, Missouri, Maryland, Kentucky, Indiana, Idaho, Colorado, West Virginia, and Alabama maintain two or more cow testing associations. Arkansas, Connecticut, Delaware, Louisiana, Massachusetts, North Dakota, Oklahoma, South Carolina, and Utah subscribe to the employment of a cow tester to the limited extent of supporting a single association each.

The Dairy Division of the United States Department inquires: "Is cow testing worth while?" The question is first addressed to a fresh recruit of a cow testing association, whose infrequency in answering in the negative emboldens the dairy husbandman to propound the question to the dairyman who has realized the doubling of his profits by reason of his identity with the co-operative organization where knowledge is capitalized. His invariable reply is in the affirmative, emphasizing the merits of the cow tester. The breeder of pure-bred dairy cows, whose sale of a bull calf from a record cow for $1,000 is of recent moment, is as equally emphatic in proclaiming the benefits of scientific knowledge and mutual helpfulness. The conclusion of the Dairy Division, then, is:

"Cow testing is not worth while to the dairyman who makes no use of the records and who continues the doubtful practices of former years, but cow testing is worth while to the dairyman who desires to feed and breed according to known production. In dairy herd improvement knowledge alone is nothing, but knowledge followed by intelligent action is everything. To the man who belongs to a cow testing association, who studies the individual records of his dairy cows, and who selects feeds and breeds according to those records, cow testing is and always will be well worth while."

Washington, D. C. S. R. WINTERS.

What It Has Done for Me

The folllowing story of cow testing is told by Herman Kletzien, a member of the St. Nazianz, Wisconsin. Cow Testing Association:

"Two years ago a cow testing association was organized in this community and I joined to find out what my cows were doing. My herd of cows consisted of thirteen grade Holstein and Guernseys. They were just ordinary cows, giving a fair amount of milk and I was satisfied with them, but by their looks I hardly think they were satisfied with me. Their daily ration consisted of about 25 lbs. corn silage and 3 lbs. clover straw. I fed about 4 or 5 pounds of a mixture of ground corn and cob meal, ground oats and a little bran during three or four months of winter. Their milk flow was fair but there was no danger of their udders bursting.

"Here is an example of what one of my cows produced, a grade Guernsey weighing about 850 pounds. I looked upon her as being one of my poorest cows. The first year she produced 3,873 pounds of milk containing 216 pounds of butterfat. The next year we tested her again and this time she was fed according to what the tester told me she ought to have. I fed her about 30 to 35 pounds of corn silage and all of the clover straw she would eat as I did not have any good hay. The first of June my cows were turned on pasture and were on pasture until October when I started to feed silage again. However, I was feeding Baby grain the year around excepting in June when pasture was at its best. Baby received 4 to 12 pounds of grain a day just according to her production. The grain mixture consisted of ground oats, bran, and gluten with enough oil meal to balance up the ration.

"Now you will say, 'did Baby increase in production?' Yes, she did, My herd book shows that in the eleven months of the second year she has produced 6,888 pounds of milk containing 401.2 pounds butterfat.

"This is not the only cow in my herd to increase her production, for my herd will average about 100 pounds more of butterfat this year than last year. I chose Baby because I thought she was one of my poorest cows. Did it pay me to take good care of her? Did it pay me to join a cow testing association? Have you any doubts? **I assure you that I haven't.**"

Columbia Grafonola



"Come On Over"

"The bunch is here. And we're simply dancing our heads off . . . What? . . . Didn't you know? We have a Columbia Grafonola."

Parties fairly give themselves when you have a Columbia Grafonola. There's never a pause in the merriment to rush over and stop the motor, because the Columbia Grafonola has the *exclusive Columbia Non Set Automatic Stop*. Nothing to move or set or measure. Never stops before it should. Always stops at the very end. You can dance to the very last note of every record.

On Columbia Records you'll always find the latest dance hits played by the best dance organizations, because the best in the country make records for Columbia *exclusively*.

Columbia Grafonolas: Standard Models from $30 up
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Prince's Dance Orchestra
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Sherbo's Orchestra
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Columbia Orchestra
Paul Biese's College Inn Orchestra
Paul Biese Trio

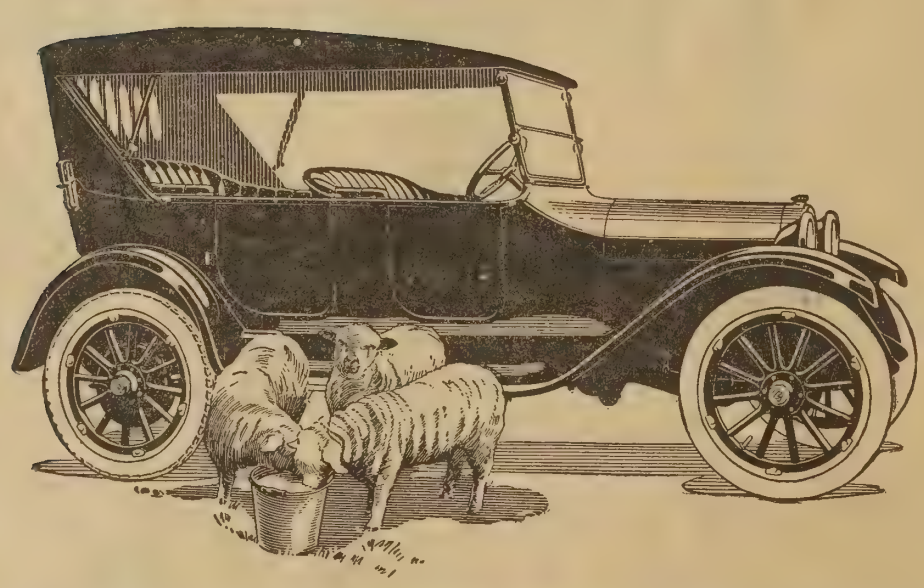
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The things which the average man wants most in a motor car are precisely the things for which Dodge Brothers Motor Car is celebrated everywhere

Wherever you go, owners will tell you that the qualities they most appreciate in Dodge Brothers Motor Car are the low cost of gasoline and oil, the high mileage they get out of tires, and the unvarying good service

People buy Dodge Brothers Motor Car because they know they can rely upon it

DODGE BROTHERS, DETROIT





CANAN, JERSEY FIELDMAN

R. D. Canan has been appointed fieldman for the Jersey clubs of Ohio, Indiana, and Illinois. He begins his work March 15th. Mr. Canan has previously been employed by Purdue University and has engaged in dairy extension work throughout Indiana.

He is a graduate of the Pennsylvania State College and of the University of Idaho. He has already appeared before the Jersey cattle clubs of Ohio and Indiana and has outlined such plans for the work of these clubs that he has been selected from a number of very capable applicants. He is well fitted for the activities which he now begins.

Milk Situation in Hawaii

HOARD'S DAIRYMAN:—The writer, having read of the milk situation in St. Louis, Chicago, and other cities where there is a big surplus of milk and where the dairies are working on an eight to ten cent margin for pasteurizing, bottling, and delivering, thinks the dairymen of the States may like to know what is happening in their sister state, Hawaii.

In the first place, the tables are turned when it comes to the supply of milk. Instead of the dairymen pouring their milk into the rivers, we in Hawaii are crying for more milk. The demand far exceeds the supply here during the "winter months".

The cause of this is fourfold, I believe: First, because of our warm climate cows imported from the States do not do as well as they did in their native states, such as Wisconsin; second, because of this fact the average production of dairy cows in Hawaii is only around seven quarts per day per cow; third, the lack of proper pasturage facilities, owing to our great sugar industry here very little land being available for grazing cattle; and, fourth, the necessity of feeding mostly all imported concentrates.

Because of these conditions the producer is paid a very high price for his milk as compared to that which is being paid in the States today.

We pay our producers, for milk testing 3.5 per cent fat, six dollars and forty-six cents per 100 lbs.; for milk testing 4.9 per cent, eight dollars and thirty-eight cents. This averages about fourteen and a half cents per quart. This at first may seem an exorbitant price but during the past year the dairymen, owing to the exceedingly high price of imported concentrates, have hardly been able to make ends meet. Now with the decline in feedstuffs he will be able to make a fair return on his investment which is certainly due him.

After reading this far you are no doubt pitying the poor consumer who, according to the time honored ratio of equal cost of production and distribution, would be paying about twenty-eight cents a quart. But this is not the case for the consumer is only paying nineteen cents per quart. Only four and one-half cent margin for pasteurizing, bottling, and delivering the milk to the consumer's door, while in most of the cities on the mainland the margin is from six to ten cents.—PAUL S. LOOMIS, Dairy Feed Expert, with Honolulu Dairymen's Association Ltd.

Cow Blankets

Here is the famous *Kant-Kom-Off* blanket endorsed by leading stockmen. Stays on ALWAYS. Can't be kicked off. Keeps cattle sleek, and a great fly protection. Write today for particulars. Ask about our FITS-ALL Show Halter. Address Dept. 96



Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

$7.50 After 30 Days FREE TRIAL

We will send you an Imported Belgium Melotte Cream Separator on a 30 day absolutely Free Trial. No deposits or promises. Use it—Test it. When convinced it is the best separator possible to buy send only $7.50 and small monthly payments of $7.50. Imported, Duty Free. Rock bottom price.

No Money Down

Don't pay one cent till you are convinced the Melotte Self-Balancing Bowl skims cleaner, turns easier, washes quicker, lasts longer than all others.

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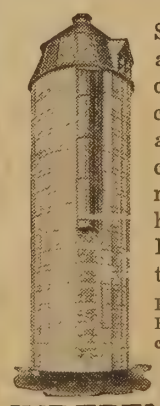
Send today for Free Separator Book containing full description of this wonderful separator and our 15-year guarantee.

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Independent Re-inforced Concrete Stave Silo



Staves, re-enforcing ribs and door frames made of poured concrete accurately weighed, mixed and formed. Steam-cured by special process, making them tough, hard and air-tight. Double-hooped from top to bottom.

Permanent and substantial. Beautiful in appearance—a credit to any farm.

Write for Our Circular and Prices Today.

INDEPENDENT SILO CO.
ST. PAUL, MINN.

Pooled Wool Moves

The importation of foreign wools has prevented any great activity in domestic sales but the American Farm Bureau Federation reports that 15 per cent of its pooled wools has been moved. There have been six million pounds sold from the farm bureau pools in the states of Ohio, Michigan, North Dakota, Iowa, Illinois, Wisconsin, Minnesota, South Dakota, Indiana, and Kansas.

The prices are about 40 per cent of last year's values. For quarter blood, the price per pound ranges from 20 to 28c, for three-eighths blood from 26 to 30c, for fine staple from 33 to 40c, and for low quarter from 20 to 23c. These prices are based largely upon what the same grades of foreign wool can be placed in the Boston market, for, under present conditions, the foreign wools very largely set the price.

Kansas State Dairymen's Association

The annual meeting of the Kansas State Dairymen's Association was held at Manhattan on February 8th in connection with the Farm and Home Week of the Kansas State Agricultural College. Both in point of attendance and interest this was the best meeting the Association has ever held. Subjects of vital importance were discussed by experts of national reputation.

F. L. Bouska of the American Creamery Butter Manufacturers' Association discussed the present butter situation and the relation of quality in cream to wholesale butter prices. He pointed out that in order that the producer shall receive a premium on cream of good quality, it will be necessary for local cream buyers to grade the cream at the time of delivery. The causes of poor cream and effective methods of prevention were discussed.

R. R. Graves of the U. S. Dairy Division spoke on "Prepotency of Dairy Sires" and emphasized the necessity for the selection of proven sires or of sires whose sires and dams in close up generations have proven themselves uniformly good producers or transmitters of producing ability.

A. J. Glover, editor of Hoard's Dairyman, discussed the future of the dairy industry. He believes the special adaptation of the dairy cow to economical production of the most essential of all human foods, and the fact that dairying fosters a system of diversified farming insures a continuance in the future of the prosperous conditions which have resulted in the past where dairying has been followed.

At a business session, P. W. Enns was elected president; R. C. Kreuger, vice-president; and W. T. Crandall, secretary-treasurer. The following resolutions were unanimously adopted:

Be it, Resolved that the State Dairymen's Association indorse the Accredited Herd Plan and urge that all agencies furthering that work be given hearty support. Further, that the association heartily indorse the bill now introduced in the legislature which requires that no milk or cream be sold for food purposes from cows not officially tested for tuberculosis unless the product is first pasteurized before being sold. Be it

Resolved that the State Dairymen's Association as a body and its members as individuals urge the various members of the state legislature to support the work of the Kansas State Agricultural College in general and of the live stock departments in particular with adequate appropriation for buildings, land, and other equipment. Be it

Resolved that the State Dairymen's Association is opposed to the placing of any tax on neutralized butter believing that such a tax will in the end be borne by the producers. Be it

Resolved that the State Dairymen's Association go on record as opposed to the removal of the office of State Dairy Commissioner from its present location, or if it is found that such a move is necessary that it be placed under supervision that is absolutely non-political. Be it

Resolved that the State Association indorse the bill governing the sale of oleomargarine within the state as introduced by the Kansas Creamery Improvement Association. Be it

Resolved that the State Dairymen's Association favor an adequate tariff on foreign dairy products and on imported vegetable oils as a protection for the home dairy industry.

Kansas. W. T. CRANDALL.

Western Electric Power & Light

Makes The Battery Last Longer



Running the milking machine—one of the many pieces of farm machinery you can operate from the pulley on the Western Electric Outfit.

Why you should buy *Western Electric* Power & Light

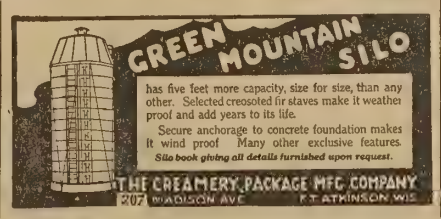
1. It is an extra powerful Outfit.
2. It has a pulley that enables you to use your outfit as a powerful engine, either separately or at the same time you charge the battery.
3. All parts are easy to get at.
4. The engine runs on kerosene.
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Ask a nearby Western Electric dealer about this dependable outfit

Plenty of Power and Light

Power to help in your work—saving you time, labor and money. Light to make the house cozier to live in and the outbuildings pleasanter to work in.

For information about the Western Electric Power and Light Outfit, write for Booklet HD-2, Western Electric Company, 500 So. Clinton St., Chicago, or 151 Fifth Ave., New York.





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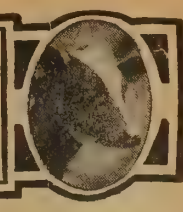
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HOARDS DAIRYMAN JUNIORS



A DEPARTMENT FOR THE DAIRY FARM BOY

Broadening Out

Another Letter to the Home Folks

DEAR HOME FOLKS:—I guess you must be about ready for another epistle from your prodigal son. And prodigal expresses it, too, at least that is the way I feel when I think of dad and Jerry hard at work on the old farm and here I am galavanting about when I should really be there, too. This trip will last me for some time, that is, one like this I should say, and although the worst of it is over, I wish that I was back on the job. Well, it isn't going to be long now before I will be with you all again for we are now as far north as Washington, D. C., interviewing the president. Ahem! Guess there is some class to your oldest son, eh, dad?

I just hate to write letters, ma, and, believe me, if I thought the other one I wrote was not appreciated, I'd stop right here like a balky horse. But I suppose it was, eh, ma, and you can certainly consider yourself favored for the only two letters which I have written since I've been gone are the two which you are receiving.

Well, as I said in the beginning, we are now in the city of Washington, and we think that it is a beautiful place to live in. I wonder if yours truly will ever have that opportunity. Bob says that I will. He thinks that I am a born politician, but I guess he's wrong in his judgment this time. Of course, you never can tell and my mind is still set on being a real business farmer and they always tell us that all of the big men who get into the senate are farm bred. I don't know whether that is a qualification or not, but if it is, I sure can qualify on those grounds. Training under you, dad, ought to qualify any fellow for almost any position. Now that's not original with me, either, for Bob made that statement not less than half an hour ago when we are talking about it. But anyway, thanks for the course, dad, it may be the makings of me. We'll give you the credit when the time comes.

Now naturally you will all be interested in our trip from Thomasville up here and it was not without interest, either, for we made a stop of about a week at Hendersonville, North Carolina. And what an experience we had, too, in reaching this place. They say history repeats itself. Well, that isn't the only thing that can claim that kind of credit. I'm here to say that mud and mountains can do about as good a job along that line, at least as far as autos are concerned. I think that we must have left Thomasville before my first letter reached you, ma. We travelled straight through Georgia and on into the Carolinas. The night before we started, we got engaged in a friendly game of cards and before we realized it, it was one o'clock in the morning of the day we had planned to start. I was dead tired and rolled in as soon as I could. But Bob tried to kid himself that he wasn't tired, that he wouldn't sleep if he did go to bed and in spite of all that I could do and say, that rascal sat up the rest of the night, doing what I don't know, excepting that when he woke me up at four, I found all of my clothes packed and a hot breakfast waiting for me. Sounds like him, doesn't it, Jerry? Gee! but I did hate to get out and think about the long ride ahead of me. And it was long, too, for we made 230 miles that day and all done in a tin Liz. The trip to the northern boundary of Georgia was not one of any exceptional interest. We came through the peach section but the peach harvest was all over a month before this. We saw orchards of acres and acres of peach trees, so we judged that this must be quite an industry for this section. A place called Fort Valley seems to be the center of the section. We didn't encounter much trouble until we neared Greenville, and then, oh then, the mud on freshly worked clay roads!

But we made it, though, and we reached Greenville somewhere along eleven o'clock that night. Tired? Oh no! I really believe that I could have slept on the top board of the old barnyard gate, Jerry, without any fear of rolling off! I was that tired. Well, as I said awhile back, we had planned a stop in Hendersonville and since the two towns are not very far apart, forty miles I guess, we did not plan on starting out very early



SOON BE TIME FOR THE CHICKS, JUNIORS

the next morning, and it was fully eight o'clock before we were ready to go. They told us in Greenville that the road was well nigh impassable and that we couldn't make it. But that didn't scare us in the least after what we had already experienced. We were going to Hendersonville and to Hendersonville we got after some little trouble. Took us half a day to make it, the slowest time we made on any part of the trip. We tore along at a good speed for about half the distance and just when we were wondering what the Greenvilleites meant about bad roads, we saw the mountains ahead of us and it didn't take long after that to realize what their advice was worth. Mud and stony hills! That's a fair description. But I forgot to mention the holes. Yes, mud, stony hills, and holes big enough to bury our big bull, Jerry. Talk about our back pasture being stony. I feel like starting right in when I get back and clearing the few stones off after this experience with rocks. The only way they can ever have a road through this stretch is to pave it and where they will get the wherewithal, is more than I am able to say. But this I know, we were mighty lucky to get through as well as we did. We had one funny experience which is still a mystery to me. But it fixed her up all right and the worst part of it all was that we couldn't blame the car any. Now you are all wondering what it was. Well, you couldn't guess it if I gave you the remainder of the night. I took the long handled wrench we carried to turn the pet cock for oil testing and to my surprise when it was opened up, a stream of oil shot out acting as though it was glad to get away. Well, I just let it run until I believe about a quart had been disposed of. Then we tried her out. Away she went, as if she had a new lease on life and after letting some more off she was better than ever. Too much oil! That was all. Well, I blamed Bob and he blamed me, but I still think I'm on the right side of the argument, for he filled it with oil that morning. Well, it is a small matter now, but we were mighty glad that it was not something more serious.

Hendersonville is situated in the mountains. It is a summer resort and the town was filled with tourists waiting to get out just as soon as they could drive their big cars over those roads. And from all I know, many of them are there still waiting, for it rained nearly every day we were there. There is one advantage in driving a Ford at least; you don't have to wait for the weather to clear up, and when we were ready to leave we just pulled out, notwithstanding the fact that it rained all the previous day. Of course, we had some more mud troubles, but we were accustomed to that. We headed straight for Lexington, Virginia, and after the first half day's travel from Hendersonville, we found pretty decent going. The roads in North Carolina were good and we made splendid time.

We decided to make Lexington, because we wanted to see the Natural Bridge of Virginia and also for the reason that we both know a fellow we met in college who is from this place. We went through Buchanan, the birthplace of President Buchanan, and if presidents come from towns like this, look out for me, dad. There's some hopes that the name of Greene will be spoken about the White House! Anyway, that surely is a sleepy looking town.

Natural Bridge is quite a sight, but like all of Nature's wonders some one has gobbled up the rights to charge to see them and to me that takes away some of the pleasure. Not that the small charge amounts to anything, but it just kind a leaves one with the impression that there is something about it that is man-made. One really does not know when he has arrived at the bridge for the road leads right over the top of it. But a little way beyond, you soon realize that you are there for there are signs enough to attract the attention of an army. Well, you pay your entrance fee and after a descent down a number of stony stairs you see it in all its glory. The whole thing is the work of running water, and it is only when one sees sights like this that he realizes the power of water. There is a rapidly flowing stream underneath that is still continuing to cut away. It was just about noon when we arrived so that we were anxious to get away and on to Lexington which was but a few miles away.

Lexington is an interesting place. This is where the Virginia Military Institute is located, also Washington-Lee University and the Lee Memorial Chapel in whose vault are buried the remains of all the famous Lees. We spent the afternoon and night there and started for Washington, D. C., the next morning. The Military Institute had just opened up that week and we had an opportunity to see the boys at drill. It made me think of last year when I was taking military tactics at Madison, except that here they made it a real business to emphasize the making of soldiers. I pitied the green recruits, rats they call them in their first year, as I watched them learning the fundamentals on the parade grounds. Believe me, those cadet officers did work their companies. But I guess that is the only way to get them into the real spirit of the game. It was all interesting, but give me the agricultural college at Madison for mine. I'm satisfied with the training that we get there, and besides I have no aspirations for being a soldier in times of peace, but let war break out and I'm as ready to lick the enemy as any one else.

We left Lexington the next morning and headed for Stanton where we learned we would strike a hard paved road all the way into Washington,

(Continued on page 334)



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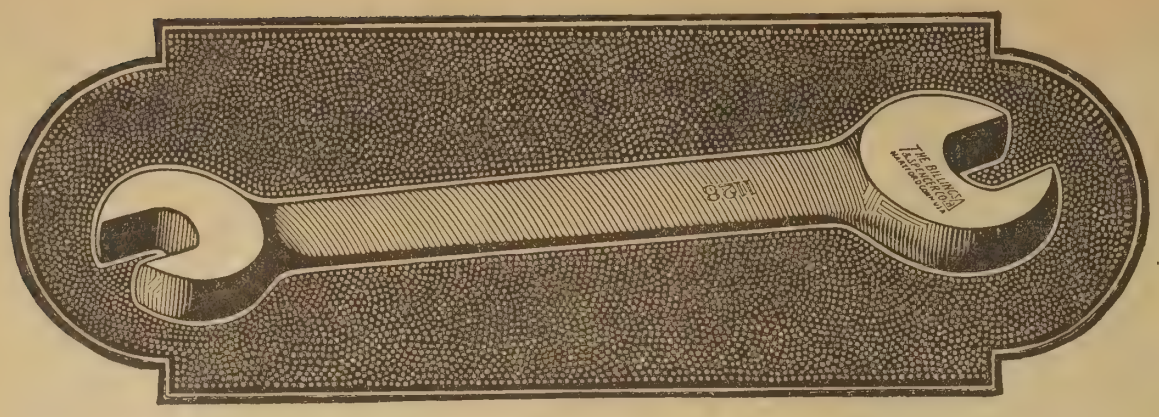
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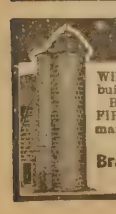
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More on Kudzu

HOARD'S DAIRYMAN:—I have read with interest the article in your paper on "Perpendicular Pastures", by Mr. Leach of Florida. I thought that I was enthusiastic, at times, over kudzu, but I take off my hat to Mr. Leach. I can appreciate what he says about the incredulous smiles of friends and I note that you throw a dash of cold water on the kudzu vine in your note, in which you issue the usual warning of editors, advising their readers against believing all they read in the prospectus, whether it be an oil stock, a new bean, or a new forage plant.

But I am interested in some of his suggestions, having had indifferent success in my attempts to grow the kudzu vine in various places and under various conditions. One is his suggestion of seven-foot fences, seven feet apart to make three acres of pasture on one acre of ground. I see no reason why it cannot be done, though I don't see why he builds the fences seven feet high. I don't know, of course, what kind of cattle they raise in Florida, but a cow that can eat vines off the top of a seven-foot fence is some cow. We haven't anything like it around here. The main point in his pasture scheme, I fear, will be the expense. He says to make the fence of woven wire, but from my observation it will take a mighty strong wire fence to withstand the pulling and hauling of a bunch of cows eating vines off each side of it. Nothing less than a good wire cattle fence would do it. To make a fence seven feet high would take two lines of 42-inch fencing, each twenty rods long, for his 330 feet mentioned, or forty rods of twenty rods each. This wire will cost, now, around $12.50 delivered anywhere in this part of the country. Five hundred dollars for wire. The 20 lines of fence will use up 600 fence posts, ten feet long and they must be good ones, costing forty or fifty cents each, say $250. The labor of building the fences will cost $150 and then will come the plants, care, etc., easily bringing the cost up to $1,000 for the acre, or, as he says, three acres of pasture. I don't wonder that you advise us to go slow and start on a small scale.

But that doesn't mean that the kudzu vine is not a wonderful plant. It is the first thing, of value, up in the spring and cattle and horses leave any other green vines for it when they have a chance at it. And grow? I guess it does. I have cut vines over forty feet long in the early summer, before the stuff had gotten half a start.

There is one suggestion of Mr. Leach that I can endorse, that is, kudzu as a cover crop for an orchard. A neighbor of mine planted, a few years ago, a few vines along a waste spot, where the vines could run over some wild persimmon trees and some other smaller scrub stuff and you ought to see that patch now. In the late summer and early fall it is a solid bank of vines about 100 feet long and 15 to 20 feet high, enveloping those trees in a mass of foliage about two or three feet thick until no sign of the original trees is visible from a short distance of twenty feet. Yes, sir, as a cover crop for an orchard it would be a success. I don't know of anything that would cover an orchard more completely nor do it quicker than a few kudzu vines well started on their mission. How one might go about the task of getting at the fruit, I am not prepared to say, but that is immaterial. This orchard proposition also offers another perpendicular pasture, though one might have to import a flock of camels or giraffes to utilize it to its fullest extent. But the fodder would be there for them all right.

Alabama. JOHN B. CHAPMAN.

Dairying Thirty Years Ago

Cows are selling in the dairy districts in New York for an average of $30.

⚜

Mrs. Rutledge, of Iowa, very wittily says that Rip Van Winkle left a large family of daughters and that they are scattered all over the country asleep like their father, churning with dash churns until both butter and back break, lifting heavy crocks of milk, feeding calves and pigs sour milk, swapping their poorly made butter at the country store for calico, codfish, and groceries.

⚜

An eastern paper says the East Monkton, (Vt.) Creamery closed the 15th of November. At that time in that state, milk was worth for butter, $1.29 per hundred. The action of the creamery in closing at that time was of course induced by the stopping of the milk supply from the farmers. The creamery will open business in the spring, and continue through the summer; when the average for milk will be about 70 cents. This illustrates the wrong of the exclusive summer dairying folly very clearly.

⚜

The Dairyman believes that the dairy farmer who exercises skill, brains, and perseverance to bring up a herd of cows to a profitable production is well and truly an artist. He has to exercise art as well as the painter or musician. Mr. Cau, of Boonville, N. Y., in a recent meeting gave the world the benefit of his thought and experience, as well as artistic ability. He says:

A farm well managed is profitable. I keep a dairy and forty-four cows, and can manufacture butter with profit at twenty cents. I made 285 pounds to a cow in 1889. I have set my mark at 300 pounds per cow, and expect to get the other 15 pounds. What the result will be this year I cannot tell until the first of January. The amount of money realized from each cow was $83.22 including the butter and the sale of pork, etc., fed on the skimmilk. I bought $1,126.49 worth of grain to feed the cows and hogs, an average of $25.60 per cow. This leaves a balance in favor of the cow of $55.62. The hay is not reckoned in. The beef I sold amounted to $667.50. My farm will average two and one-half tons of hay to the acre. Twenty years ago it would not raise one and one-half tons to the acre. I have 92 acres and hire as much more, with 10 acres of woodland.

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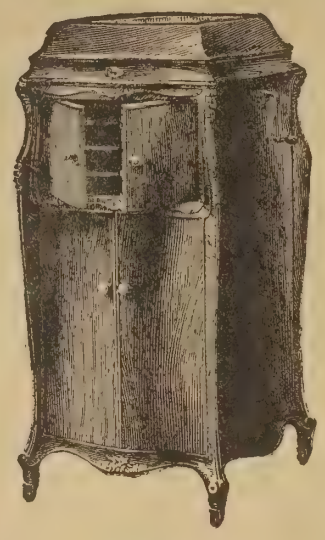
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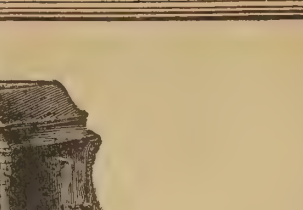


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Broadening Out

(Continued from page 330)

and although we had no idea that we would make Washington that night, we slept there just the same, but not without the usual amount of trouble afforded by a Lizzie. The paved highway referred to above is wonderful. It is called the Shenondoah Pike and it leads right through the heart of the valley by that name. I really began to think that I was getting near home again, the landscape surroundings and especially the farm buildings looked so much like those in the North.

It is really very picturesque. A range of mountains encloses the valley on either side, both plainly visible the entire stretch of the valley. In some places the valley seems to be but a few miles wide and again it widens out to a broad expanse of rich farming lands. The farmers here are evidently quite prosperous, judging from the farm buildings and appearances in general. I really believe that I could enjoy living down here.

About six o'clock that day we arrived at Hagerstown, Maryland, and after being routed out from one of the leading garages, we headed for Washington. We were thankful, indeed, for the paved highway on account of the hilliness of the country. We hadn't gone far when we discovered that the constant use of the brakes had burned out the brake linings, and there we were with night setting in and a lot of hilly country before us. We crept along as cautiously as we could until we reached a small town garage, where we were informed that nothing could be done for us that night. But the foreman of the garage told us not to let that stop us for he had driven the same road more than once without any brake linings by braking the car with the reverse and throwing the motor into low. And this we did, and thanks to good luck and Bob's careful driving, we arrived here at 11:30 that night. We passed through a place called Frederick and I felt certain that we were in the place that once harbored Whittier's Barbara Frietchie. Let's see, how does that go?

"Up from the meadows rich with corn,
Clear in the cool September morn,
The clustered spires of Frederick stand
Green walled by the hills of Maryland."

That's as far as I can go, but it makes me anxious to read that poem again. I was sorry that we did not see the town in daylight but it is quite possible that we will pass through it again on our way home. This is our second night here and we expect to start out early to-morrow morning on the last stretch. The car has been in the garage all day having some new brake linings put in. This put us to some inconvenience because we had to do the town on foot. We just got it out this afternoon about 5:30, after paying a bill of $13. Well, it had to be done no matter what the cost.

And now, since we have tickets for the show tonight, I must bring this letter to a close. Bob has been at me the last fifteen minutes trying to get me to stop and he has all but taken the paper I am writing on away from me. He gets so impatient when he wants to do a thing. This is the last letter that you can expect. I hope to be with you all by the end of next week if everything goes as we have planned. We will stop in Chicago a couple of days. I would rather come right on through, but Bob says he has to buy some clothes for school and several other things which he has failed to mention. Wish I could afford to have a new suit, too, but I guess I will have to practice Greene economy for another year. With much love to you all, I am

Your affectionate son,
JIMMY.

Junior Letters

Hoard's Dairyman Juniors:—My father takes Hoard's Dairyman and I read the Junior page every time the paper comes. I study how to raise and how to judge cattle. I raised a calf two years ago and it sure is a fine one. We had ten calves all at once that year and my father let me pick out the one I wanted. I judged my calf by what I had learned from the paper and books that I had read, and it is the best cow in the barn. I am 14 years old now and quite tall for my age.

Washington. Bernard G. Stensoa.

Hoard's Dairyman Juniors:—I am 10 years old and in the fourth grade. We live on an 80-acre farm and have 4 milk cows, 13 heifers, and a registered bull, all Jerseys. We have 4 horses and a Shetland pony and 11 Lincoln sheep. My pony's name is Dolly.

I have three sisters. Dorothy is eight years old and goes to school with me; she is in the third grade. Maxine is four years and Marjorie is two years. I have some pet rabbits and Dorothy has some pet Bantam chickens.

I wish some of the juniors would write to me. My address is R. R. 3, Palouse, Wash.

Harold C. Blood.

Hoard's Dairyman Juniors:—This is my first letter to the juniors. I am thirteen years old and will go into high school to-morrow, as we have examinations twice a year.

I live on a 125-acre farm 4 miles south of Medina. We have a herd of registered Jersey cattle of the Owl Interest blood. The herd now numbers thirty. I own a pure-bred heifer nine months old which I think a great deal of.

We have ten pigs we are raising to sell for meat and two brood sows. One of the sows is a pure-bred Poland China.

We have a tractor, a truck, and a Ford car. We used the tractor for making hay last summer and I run it. We like the tractor very much. I can also run the truck and car. We keep only two horses and they are not busy much of the time.

We also have an electric light system and a water system. We would not do without them. We have them in both house and barn. We run the corn sheller and churn with electricity. We also have a milking machine which is a great help.

I have been trapping some this year and have caught 15 muskrats, 1 skunk, and 1 rabbit. I have not sold them yet.

I guess I have written enough this time and wish good luck to the juniors. I hope some of you will write to me. My address is R. F. D. No. 1, Chippewa Lake, Ohio.

Maynard Abbott.

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Farmers' Week at Cornell

(Continued from page 308)

supplying milk primarily for city consumption. The state may put 47 per cent of its production into the city fluid markets, but League areas put 75 per cent or more there. The consumption in cities is not uniform for a variety of reasons, therefore it is necessary to maintain some surplus all the time. If the price of milk were put upon a butter basis farmers would change to summer dairying and omit the rigid sanitary restrictions of League milk. It is not logical that all milk should sell on a surplus basis. Clothing is sold on a cost plus basis, not on the price at which surplus is occasionally dumped onto the auction stores.

Previous speakers had made it appear that the League charged the dealers one price for milk and then went into competition, selling milk so low that it netted the farmers less than the milk sold to the dealers netted them. Mr. Miller branded this as untrue. Only a very small amount of milk is thus sold by the League, and that at a price that would net the farmers more than the dealers paid for milk bought of the League. The question of poor milk or good milk is not particularly encouraged by the co-operative plan further than to pay a higher price for A milk than for B just as at present, and less for C than for B.

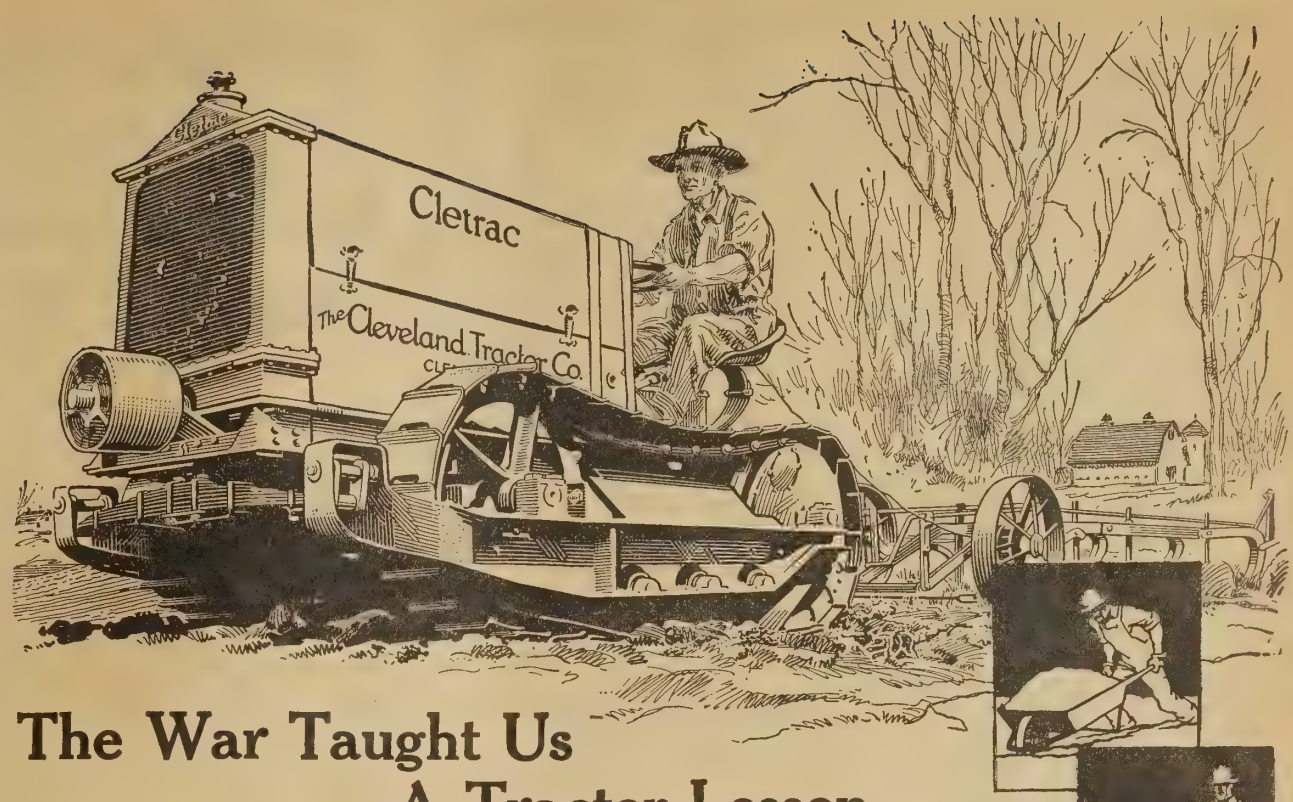
A monopoly in the milk business, stated Mr. Miller, is an impossibility. If there should be six-dollar milk, as one speaker tried to contend, or even four-dollar milk, with 20 to 25 cents to the consumer, as he suggested, there would at once be a stampede in the fruit and vegetable growing sections towards dairying and the dairy sections could shortly double their output.

The milk companies, announced Mr. Miller, "admit" that they are efficient. At the same time the Federal Milk Commission stated that the system of distribution is crude, inefficient, and expensive, and Mr. Hoover at the Milk Show in 1918 made the same assertion. With farmers selling milk in February, 1921, at six cents a quart and consumers paying sixteen cents there would seem to be inefficiency or extravagance somewhere.

Cook Supports Co-operation

It was not so long, however, before H. E. Cook came on with his homely common sense and his jokes relating to dairying conditions. Co-operation is the big job now, announced Mr. Cook. I have known men to quote him in an attempt to down pooling in the League, but he stands solidly and emphatically for it. Every dairyman is for it if he knows his business, and the dealers should be. Let all get together and put the proposition through at the earliest possible moment. Another thought was that of keeping every cow and every acre hard at work for profit. Then keep your credit good at the bank.

Mr. H. E. Cook always captivates his audience whether they fully agree with him or not. He asserts that, generally speaking, the good dairyman is a poor farmer. Then he says that if we would quit producing milk on the grain grown in the West we wouldn't have milk enough to give us a chance to talk surplus. To take the place of western grain he would grow clover, perhaps a little alfalfa sometimes, would have an abundance of timothy, although it is not nearly so valuable as the same amount of clover, and good corn silage, not cornstalks for silage. His grain would be a mixture of barley and oats, and I strongly suspect he might continue to purchase a little cottonseed or oil meal or some high protein feed.



The War Taught Us A Tractor Lesson

WHEN power is needed over soft, wet or rough ground—on the battlefield or on the farm—only the tank-type tractor can "deliver the goods." The Allied Armies learned that lesson well in France and tens of thousands of farmers the world over have taken it to heart.

Take early spring plowing or discing. Cletrac's two broad tank-type tracks get a firm grip on footing where ordinary tractors would "mire in." Cletrac goes right ahead and gets the plowing or discing done and out of the way when the ground is almost too soft for horses.

The Cletrac farmer keeps ahead of the game right through the year. His fast-working Cletrac makes the most of every minute of good weather. He gets bigger and better crops at a lower cost per bushel.

You'll find it worth-while to read *"Selecting Your Tractor"*—that interesting booklet on power farming. Send for your free copy and see the Cletrac dealer near you.

SPECIFICATIONS

Horsepower: 12 at drawbar, 20 at belt pulley.
Length: 96 inches.
Width: 50 inches.
Height: 52 inches.
Weight: 3420 pounds.
Turning Circle: 12 feet.
Traction Surface: About 800 sq. in.
Center to Center of Tracks: 38 in.
Belt Pulley: Dia. 8 in., face 6 in.

THE CLEVELAND TRACTOR CO.

"Largest Producers of Tank-Type Tractors in the World"

19005 Euclid Avenue Cleveland, Ohio

Cletrac TANK-TYPE TRACTOR

GOPHERS and CROWS HATE IT

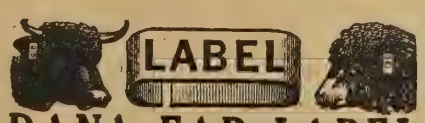


Gophers, prairie dogs, squirrels, crows and other birds won't touch seed corn treated with "Stanley's Crow Repellent." Saves Re-planting-Non Poisonous-Ready for use. No tar, lime or plaster required. Will not clog your planter. In successful use for ten years. Large can—enough for two bushels of seed corn, $1.50. Small can—enough for one bushel, $1.00. From your dealer or by mail from us. Write for circular.



CEDAR HILL FORMULAE COMPANY
P. O. Box L
New Britain, Conn.

Stanley's CROW REPELLENT



DANA EAR LABEL

Stamped with owner's name or address and serial numbers. Send for free samples.
C. H. Dana Co., 55 Main St., W. Lebanon, N. H.

A FARM and HOME in HAPPYLAND

OWN A FARM
We Make It Easy
-This Free Book Tells How

You Will Prosper in Upper Wisconsin — America's Cloverland

Here is a wonderful dairy country. Crops are always big. Abundant rainfall. Lakes and rivers everywhere. Seasonable hunting and fishing. Schools, societies and churches. Money is easily made in this fertile land. Every season offers special opportunities.
Every farm on a fine highway. Payments easy—small amount down—balance spread out in a ten-year period. We help you locate and show you how to build and clear land. This is a real opportunity—hundreds are happy in this Happyland.
Write for Booklet Today. Tells About Crops, Soil, Rainfall and Climate

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Finely Ground

Raw Rock Phosphate

increases the fertilizing value of manure 60%.

Dairy Farmers

get particularly good returns from money invested in **rock phosphate.**

The car supply is much improved and we can now make immediate shipment. Write for our prices and free booklets.

ROBIN JONES PHOSPHATE COMPANY,
212 Steger Building, Nashville, Tennessee.



PAT. 7-2-07 & 9-10-18
ANTI-COW-KICKER

Save your temper, your cows, your milk. Does not excite the cow, nor disturb the flow of milk. Indispensible for breaking heifers, cows with sore teats, or vicious kickers. Cannot wear out. Put on or off in 15 seconds. Guaranteed to be an absolutely perfect anti-kicker, or put on loosely as hobble for cow, horse or mule. Price $1.15 Postage extra. Weight 2 lbs. Send for it **today**, when you need it you won't have time.

DAIRY EQUIPMENT CO.
Dept. H. Topeka, Kansas

FREE

If you are a farm owner, get your free copy of Ropp's Calculator today. The handiest book on the farm—chock full of facts and figures. We send it free and postpaid with our catalog on

Square Deal Fence

The most serviceable farm fence on the market. Built to outlast all others. Write for our fence book now and you'll get the Calculator too.



KEYSTONE STEEL & WIRE CO.
7079 Industrial Street
Peoria, Ill.

New Illinois Chanpion

Beaucoup Beulah Sidsegis Walker is a new state champion among the Holsteins of Illinois. She is credited with a 7-day milk production of 784.3 lbs. Her average daily milk credit for February was 104 lbs. She is a granddaughter of King Segis and owned by Wilco Farms.

HERE IS YOUR CHANCE

Bull calf born Aug. 17, 1920. Mostly white and a good individual. His sire is a 32.7-lb. grandson of King of the Pontiacs. Calf's dam has a 20-lb. record and his 3 nearest dams average 28.47 lbs. A bargain at $200. Send for pedigree and photo.
Have 2 other bulls for sale that are ready for heavy use from a 25.63-lb. sire. They are priced exceedingly low. Females for sale, all ages. Herd under Federal supervision. Write your wants.

UTOPIA DAIRY FARMS
C. I. Reamer, Prop. North Liberty, Ind.

WANTED
Registered Holstein Bull

Very highest grade, old enough for immediate service, delivered to Williams Bay, Wis. Kindly give full particulars, including markings.

S. T. COOPER,
Conway Bldg., Chicago.

WORLD'S RECORD STOCK

Two bull calves born November 19, 1920, sired by Carnation Denver Segis, an oustanding son of Matador Segis Walker, sire of three world's record daughters and half-brother to the world's record cow—Segis Pertiertje Prospect.

Fredmar Matador Colombo De Kol, evenly marked, out of Nezi Pontiac Rose Beets, a three-year-old on yearly test, milking over a ton a month and getting better each month. Price—$150.00.

Fredmar Matador Canary Paul, seven-eighths white, out of Francis Burke Homestead, a six-year-old on her first test, but milking over 2,100 lbs. a month, ranked 4th in over 300 Missouri Dairy Cows last month, this month she increased milk nearly 200 lbs. over last month and is getting better every day. Price—$200.00.

Both calves are sturdy, vigorous, healthy and will make splendid sires, growing in value every day on account wonderful records being made by Matador's sons and daughters.

Two Other Good Ones

Sir Fredmar Ormsby Rag Apple, born Oct. 21, 1920, sired by Sir Ormsby Akkrummer Hengerveld, grandson of the only 1,500-lb. cow. Dam, a show heifer of great size and splendid conformation, will be shown at State Fairs and National Show this year. She is on yearly test. This bull is a beauty, fit to show in any company. Price—$250.00.

Fredmar Calamo Hengerveld, son of the famous show bull, Joe Calamo Hengerveld, born Dec. 9, 1920, out of a two-year-old daughter of King Segis Pontiac, the famous bull with hundreds of famous sons and daughters. This heifer was first prize winner at New York and Ohio State Fairs in 1919 and her son will repeat as he is beautifully marked.
Will ship any of the above, carefully crated on receipt of check. Fuller details cheerfully furnished on request.

FREDMAR FARMS
City Office—3556 Lindell Ave.
ST. LOUIS, MISSOURI

ECHOLAND FARMS
Have For Sale
A Few Good Registered Cows and Heifers

We are somewhat overstocked at present so are offering a few good Minnesota bred females for sale. They are bred to King Pietertje Ormsby Pledge one of the good sons of King Pietertje Ormsby Piebe.
Our prices are reasonable. The females are guaranteed to be as represented. Write or come and see them.

EGIL BOECKMANN, White Bear Lake, Minn.

Bulls That Will Build The Future —In The Pabst Sale

PABST SALE
SURPLUS ANIMALS
APRIL 2d

Settle your herd sire problem at our second semi-annual sale at the farm April 2d. We will then sell 29 young bulls as good as we have ever raised, including fifteen sons of Creator and sixteen sons of yearly record dams. In our last sale 37 bulls all went to head different herds. Breeders appreciate the value of a Pabst Stock Farm bull at the head of their herd.

Look over this partial list, and send for sale list, which is now ready. It gives complete information on all of them.

1—PABST KORNDYKE CREATOR, a Creator son from a 25-lb. sister to a 35-lb. cow. This dam has produced a 29-lb. daughter and her own dam has 26 lbs.

2—PABST PONTIAC CREATOR, a Creator son from a 22-lb. junior 3-year-old daughter of King Pontiac Champion. Her dam is a half sister to a 39-lb. cow.

3—PABST CREATOR ACHILLES, a Creator son from a 29-lb. and yearly record daughter of King Pontiac Champion. Dam has 898 lbs. butter from over 20,000 lbs. milk. Her dam also has a yearly record of over 800 lbs. Third dam has a yearly record of almost 900 lbs. His five nearest dams average over 1,000 lbs. butter. A great bull.

4—PABST CREATOR MODEL, a Creater son from a sister to three cows with records of 1,000 to 1,200 lbs. in a year. Dam has 600 lbs. milk and 27 lbs. butter and also has a splendid ten-month record.

5—PABST CREATOR ELDER, a Creator son from a 29-lb. Champion dam. Her dam has 31 lbs. in 7 days and 1,050 lbs. in a year. A splendid calf.

6—PABST KING PONTIAC LAD 43D, a grandson of King Pontiac Champion and a 39-lb. cow. Dam is a sister to Pabst Korndyke Cornflower, a 38-lb. 3-year-old that sold for $30,000. Second dam is a 35-lb. daughter of Champion, third dam a 29-lb. 3-year-old.

7—PABST CREATOR DUKE, a Creator son from a junior 3-year-old with 21 lbs., she a full sister to a 29-lb. cow with almost 900 lbs. in a year. Second and third dams have 800 lbs. butter in a year and 27 lbs. in 7 days. His own dam is on yearly test and doing well.

8—PABST CREATOR CYNTHIA, a Creator son from a 23-lb. junior 4-year-old, her dam the highest record daughter of King Pontiac Champion with 38 lbs., third dam a 29-lb. cow. A calf of rare breeding.

9—BORN DECEMBER 16, 1920, a Creator son from Pabst Champion Dora Korndyke. This means the two grandams of this bull are Champion Dora Korndyke and Spring Brook Bess Burke 2d that together have seven 1,000-lb. yearly records. The dam has just made 21.88 lbs. butter as a 2-year-old and is on yearly test. This bull comes from one of the best combinations of breeding and high records in our herd. He is an exceptional calf.

10—PABST CREATOR IVY, a Creator son from a 34-lb. dam with a ten-month record of over 80 lbs. butter. She has produced a 32-lb. daughter and is a maternal sister to a 1,100-lb. cow with almost 26,000 lbs. milk.

11—BORN DECEMBER 25, 1920, a Creator son from Pabst Kinnickinnic with three records above 32 lbs., one above 35 lbs. A sure 1,000-lb. prospect. The two nearest dams of this calf now average over 1,100 lbs. with the dam's record at ten months.

Also Selling Fifteen Young Cows

There are some very good young cows in this offering, seven of them in calf to Creator. There are a number of daughters of King Pontiac Champion included. There is a granddaughter of a 33-lb. cow from a 29-lb. Champion dam, the next dam a 31-lb. cow with over 1,000 lbs. in a year. She is bred to Creator. Another is by King Pontiac Champion from a 24-lb. dam, third dam a 25-lb. cow, also in calf to Creator. A 23-lb. daughter of King Peter. A daughter of Champion from a 22-lb. dam. A full sister to a 26-lb. cow in calf to a son of Korndyke Segis Johanna. A daughter of Maplecrest King DeKol from a 30-lb. daughter of Champion. This cow now has a yearly record of 864 lbs. and is a large, handsome animal. In calf to a brother of Pabst Korndyke Cornflower. A daughter of Korndyke Segis Johanna from a 19-lb. cow, also in calf to Creator. A daughter of King Pontiac Champion from a 21-lb. daughter of King Ormsby. A daughter of Pabst Pontiac Hengerveld from a 26-lb. 4-year-old daughter of King Pontiac Champion. This heifer has a good record and is now making a good yearly record. She is also in calf to Creator.

Send Today for Advance Sale List.

PABST STOCK FARM, OCONOMOWOC, WISC.
Waukesha County

That there may be no misunderstanding we announce that Pabst King Pontiac Lad previously advertised has been withdrawn from this sale.

49 REGISTERED HOLSTEINS

Will be Sold at the
Blue Earth County Breeders' Sale
March 22, Mankato, Minn.
Sale Held in the New Sales Pavilion

The Holstein Breeders of Blue Earth county are making this one of the best county Sales of 1921 from the standpoint of the cattle that will be offered.

They will sell a splendid lot of Ormsby heifers—typy ones—many of them bred to a son of Ormsby Korndyke Lad from a 1000-lb. 2-year-old dam.

Among the good A. R. O. cows and heifers to be sold is a sister to Duchess Skylark Ormsby.

There will be several mighty good bulls—some of serviceable age—from record dams.

The Sale is under the management of the State Association— a guarantee that it will be conducted right.

Liberal terms of payment are offered—time given on approved notes.

Send for your Catalog today.



Minnesota Holstein-Friesian Breeders' Association

406 Market Bank Bldg., MINNEAPOLIS, MINN.

Iowa Holstein Breeders'
2d Annual Guaranty Sale
March 28, Waterloo, Ia.
65 Head of Iowa's Best Holsteins

Including:

A splendid 4-year-old with an 850-lb. yearly record.

An 800-lb. cow.

A 28-lb. cow, 2 of her daughters and one granddaughter, two of them bred to King Piebe, one of the best sons of King Pietertje Ormsby Piebe.

A 20-lb. yearling heifer.

Five yearling daughters of a 1,290-lb. sire.

Three daughters of a 35-lb. sire that now has a 1,080-lb. 4-year-old daughter and 8 others doing remarkably well on yearly test.

Three daughters—just fresh—of King Segis Pontiac.

Several cows with 23-lb. three-year-old records.

Two bred to a son of Creator from a dam that produced 925 lbs. in 305 days.

Six cows bred to a 7/8 brother of Segis Pietertje Prospect, world record milk producer.

Seven females bred to a 1,000-lb. son of K. P. O. P.

Several excellent young bulls. Among them an 1,100-lb. 2-year-old son of K. P. O. P., a 24-lb. 3-year-old son of Woodcrest Sir Clyde, and a son of a 20-lb. 2-year-old sired by a son of a 37-lb. 3-year-old that produced almost 1,200 lbs. butter in a year.

Every animal guaranteed.

Write Sec. Jenness for your Catalog.

Auctioneers: Mack & Krause. B. D. Scott in the Box.

Iowa Holstein-Friesian Breeders' Association
C. F. Jenness, Secretary, Waterloo, Iowa

New York Butter Market

NEW YORK CITY, MARCH 1:—Discouraged dairymen must view with considerable satisfaction the change in the general conditions of late affecting their industry. But three short weeks ago it seemed that the bottom had dropped out of the markets for all dairy products and that pre-war prices would be established before the beginning of the flush season of production. The fact that consumption has greatly increased of late is responsible to a great degree for the decided price advances of dairy products which have materialized recently. That applies not only to butter, but to cheese, condensed milk, etc. Because of the awakened activity in the condensed milk industry, which is responsible for the re-opening of many of the factories that were closed, less milk is being converted into butter and cheese which is causing a curtailment of production of those products. In consequence, receipts of butter and cheese in the large markets are comparatively light, while demand is heavy, the result being sharp advances in the prices of those commodities. The recent developments convince handlers of dairy products that there will be greater activity in those commodities this summer than was anticipated earlier and that values will be higher than thought possible during January and February.

At the present time, there seems to be an inclination on part of butter receivers to purchase less Danish butter. During the past week, only 1,400 casks of that butter have been unloaded in this port. It is reported that a vessel left Copenhagen on February 25 carrying a cargo of about 11,200 casks of Danish butter which will arrive here about March 10. It is thought that no other Danish butter will arrive before that time. Receivers who purchased the butter which arrived recently from Denmark are realizing large profits at present as the butter cost them about 42c per pound, duty and transportation paid, and they are now selling it at prices of 53@54½c. However, on earlier shipments great losses were experienced as a result of the slump in prices during January and the first half of February. Receivers now feel that prices can go but little higher and that declines must materialize during the early spring months, hence they hesitate to contract for shipments, which will not arrive for several weeks, at prices which prevail today.

A very noticeable feature of the market at the present time is the less critical attitude of butter buyers. For several months, the demand has been for nothing but butter of extremely high quality. As a result, there has been an accumulation, at times, of millions of pounds of highly edible butter, but which could not be classed as fancy, because of the critical attitude of buyers. Butter is now so scarce that good firsts are moving at prices very close to the quotation on extras. Minor considerations, such as slight variations in color, quantity of salt, etc., are now given but little thought. Practically all the fresh butter that is received is moved as quickly as it is delivered to the receiver's store. There is also a strong movement of storage butter, the warehouse holdings in this city being now but 6½ million pounds. Accumulated supplies of Argentine and other foreign butter are also clearing up well and at satisfactory prices.

During the past week, the price tendency has been decidedly upward. That has been due entirely to the stimulated demand and to the fact that current arrivals have been small. The past week opened with the quotation on extras at 49c. That quotation remained unchanged on Monday and Wednesday, Tuesday being a holiday, but on Thursday the price advanced 1c. That was followed by successive advances of 1½c on Friday, 1c on Saturday, 1c on Monday of this week, and 1c today. The feeling now obtains quite generally that the top has been reached and that declines may be expected soon. Established quotations today are: Extras, 54½c; higher scoring than extras 55@55½c; firsts (90-91 score), 52@54c; firsts (88-89 score), 49@51c; and seconds, 39@47c.

W. B. LIVERANCE.

Michigan Dairy Interests Convention

The annual convention of the Michigan Allied Dairy Association held in Grand Rapids, February 15, 16, and 17, embracing all phases of the dairy industry in Michigan, was voted a success, although the attendance was not quite up to expectations.

The annual address of the president of the Association, Glen Overton, was received with keen interest.

All of the old directors were elected to succeed themselves as follows: Glen Overton, representing the butter interests; N. P. Hull, representing the interests of the producers; C. H. Parker, representing the market milk distributors; E. G. Pray, representing the condensed milk and milk powder manufacturers; N. J. Dessert, representing the ice cream manufacturers; and R. A. Page, representing the cheese manufacturers. Two new units were initiated into the organization: The Dairy Department of the Michigan Farm Bureau and the Dairy Equipment and Supplymen's Association of Michigan. M. L. Noon was elected to represent the former, and R. J. Ellwanger, the latter.

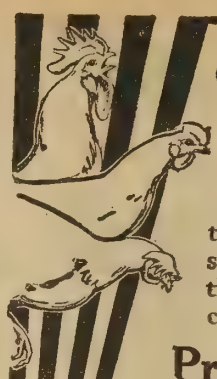
Mr. N. P. Hull acted as toastmaster at the banquet. Among those responding were Professor A. C. Anderson, Professor O. T. Goodwin, Michigan Agricultural College; Ed. K. Slater of the Olsen Dairy Publication; James Nicol, president of the Michigan State Farm Bureau; W. A. McDonald of the Connor Ice Cream Company; John W. Ladd of the John W. Ladd Company; Judge White of Chicago; and Dr. C. W. Larson, Washington, D. C.

The impression that prevailed on every hand was that the association has successfully weathered the first year of its existence, it is well out of its swaddling clothes, and is destined to become a potent factor in the development of the dairy industry in Michigan. The association has actively co-operating with it the dairy division of the State Farm Bureau, the Food and Drug Department, and the Dairy Department and Extension Division of the Michigan Agricultural College.

The educational exhibit under the auspices of the Michigan Agricultural College received much favorable comment as did the "Dairy Bar". "Give me a milk blossom". "Pass out two milk juleps, and make it snappy". "A buttermilk lemonade for mine, and don't strain your arm hoisting it". These and similar words of encouragement to the "bartender" floated out from the hotel bar room Tuesday, where in days of old the calls were for a "horse's" neck", a short beer, and other pre-Volstead beverages. The milk bar was doing business at the old stand.

Michigan. W. D. WENDT.

It will pay to feed the family as carefully as the pigs or the dairy cow. If there's something to balanced rations for live stock, it stands to reason "just food" isn't enough for the family.



Condition the Breeders- Get Big Hatches

Eggs that are highly fertile and hatch chicks that are strong and grow, come *only* from strong, healthy, vigorous breeding flocks. It's time now to get your birds in perfect breeding condition by giving them

Pratts Poultry Regulator

For nearly fifty years America's greatest poultry tonic and conditioner. When leading successful breeders like Mr. John S. Martin—and a host of others—use and endorse Pratts Poultry Regulator, you may be sure it does it's work well. It does make hens lay—it does improve fertility and hatchability. Try it this season—start now. And—

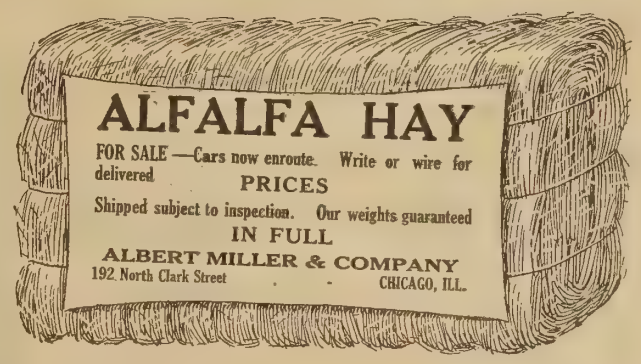
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The Prat. dealer near you repeats this guarantee Talk it over with him

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Pratts Reg. U.S. Pat. Off.



DAIRY FARM, In Hands of Assignee, FOR SALE

Wonderful opportunity for right parties. 680 acres all under irrigation; artesian well; eight-room brick house; finest dairy barn in the state; 130x36 concrete floor; stanchions for 60 cows; stocked with fine registered herd of Holstein-Friesian cattle; six miles from Helena, Montana. No trades or agents wanted. Direct sale only. Terms to good people.

For particulars, write

P. O. Box No. 156 HELENA, MONTANA

Prices Slashed! $2.00 DOWN



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Kirstin CREAM SEPARATOR

Easiest terms. Biggest discounts The easiest running, closest skimming, and longest lasting Separator ever produced. Gets *all* the cream. **Guaranteed for life.** Means bigger profits for you than ever before.

30 DAYS' FREE TRIAL

Sold on Free Trial. "Money Back If Not Satisfied" Guarantee. Write for particulars at once. Delay means loss to you. Write today.

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OH LOOK!

This high-grade IRONCLAD KHAKI UTILITY SUIT, only $2.15. Every garment absolutely guaranteed. Sizes 34 to 46. Postage prepaid.

Send no money. Simply pay postman on arrival. If not satisfactory return and money will be refunded.

Also overalls, work gloves, children's rompers, etc.

Send for complete price list.

Mail this clipping with your order today.

THE SPARTAN MFG. CO.,
Dept. B., Dayton, Ohio.

Agents: Write for attractive selling proposition.

Free

TWO WONDERFUL BOOKS ON DAIRY FARM POWER

Write for them TODAY. They show how you can run your milkers, litter carriers; pump water, separate cream, grind feed—how your entire dairy farm can be powerized and electric-lighted—all from one plant.

They tell how to save six hours every day and eliminate the extra hired man.

The most wonderful stories ever written for dairy farmers. Free. Mail postal TODAY.

PHELPS LIGHT & POWER CO.
622 First St., Rock Island, Ill.



When Writing to Advertisers, Mention Hoard's Dairyman

Better Home Heating at Less Cost

There is no reason why your house should not be as warm and comfortable as hundreds of others. Their owners have found that with less fuel than their stoves were burning, they could keep every room at a uniform temperature.

Now, instead of over-heated sitting or dining rooms and cold bedrooms and halls, all doors can be left open and in every room there is pl asant warmth.

You, too, can change to such warm comfort in a day and save many dollars yearly on your coal bill. A New Idea Pipeless Furnace will do this for you. Our money-back written guarantee protects you absolutely. A New Idea costs litte more than a good stove, for lower prices again prevail.

Ask the New Idea dealer near you to explain the many advantages of the New Idea Furnace. If you don't know him, write us, and we will send his name. Expert heating advice free to you.



Advantages of the New Idea

Frameless Feed Door Cup-Joint Construction.

Hot Blast Feed Door Gas and Dust-tight Radiator.

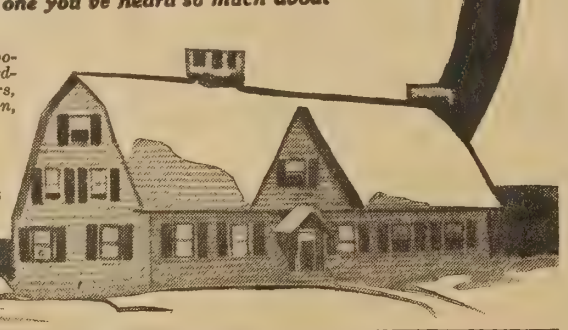
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Utica Heater Company
Box No. 60, Utica, N. Y.
Also manufacturers of "Superior" Pipe Furnaces and "Imperial" Steam and Hot Water Boilers.

NEW-IDEA Pipeless Furnace

("The one you've heard so much about")

Excellent proposition for hardware dealers, implement men, etc.



21-6

KEYSTONE COPPER STEEL

Apollo Roofing Products

Full weight— Galvanized—

In country or city—for farm buildings or residences, metal roofing is positively unequaled.

APOLLO-KEYSTONE Copper Steel Galvanized Sheets are the most durable, rust-resisting galvanized sheets manufactured. Actual weather tests have proved the superiority of this material for Roofing, Tanks, Culverts, etc. KEYSTONE COPPER STEEL is also unexcelled for Roofing Tin Plates. Look for the Keystone added below regular brands. Sold by leading dealers. Send for free "Better Buildings" booklet.

AMERICAN SHEET AND TIN PLATE COMPANY, Frick Bldg., Pittsburgh, Pa.



DRIED BEET PULP

Maintains Summer Milk Flow Through the Whole Year

ATTRACTIVE PRICE NOW IN EFFECT

Ask Your Feed Dealer

The Larrowe Milling Co.
Detroit, Mich.

When Writing to Advertisers, Mention Hoard's Dairyman

A Cow, a Sow, and Some Hens

"The war is on; the world needs cotton; prices are good; so we should worry about other crops,"—that was 1918 and 1919. How about the present? Last year many farmers in Oklahoma planted practically all of their tillable land in cotton and actually ridiculed the slow, hard working live stock farmer. We only need to read the market reports to see what happened to both class of farmers. Cotton prices slumped to such a low level that it hardly paid to gather the cotton and today there are thousands of acres of cotton that have not been gathered and will not be. The cotton farmer took a gambler's chance to either make or break. He broke!

The live stock farmer is doing well even though prices of all farm products have dropped. He can still market his corn, hay, etc., through his cows, hogs, and chickens, and make a profit. His grocery bill is much smaller as he has dairy products, pork, and poultry products a plenty for his own family and on top of all this his cows are giving him a monthly cream check that makes the banker say "Good morning" to him a little more cheerfully than he does the cotton farmer.

Realizing that these conditions existed along their lines in Southwestern Oklahoma, the Rock Island Railroad took steps toward bettering agricultural conditions in that section. Through their agricultural commissioner, Alexander Jackson, they arranged a campaign on dairy cattle, hogs, and poultry—the slogan of the campaign being "A cow, a sow, and some hens on every farm".

Mr. Jackson is very successful in advertising in a way that gets the farmers out. The Oklahoma Agricultural College co-operated with the railroad company by contributing the following speakers for the entire week: C. W. Radway, dairy specialist; R. W. Clark, swine specialist; and C. M. Smith, poultry specialist. Meetings were held at Carnegie, Mountain View, Gatebo, Hobert, Lone Wolf, Granite, and Mangum. Mr. Joel G. Winkjer of the U. S. Department of Agriculture, Dairy Division, and F. W. Atkeson, representing the American Jersey Cattle Club, were present and spoke at all of the meetings except the latter part of the week.

The message of better live stock was carried to about 1,800 people through this campaign and much interest was shown. There is some dairying in progress now and with further development it ought to help the Jersey business as the prevailing sympathy is with the Jersey and nearly all the grades of dairy type are Jerseys. Arrangements have been made with the county agent of Kiowa County for a pure-bred Jersey calf club early in March.

Missouri. F. W. ATKESON.

SALE ANNOUNCEMENTS

Mar. 15—Holsteins. H. N. Forvey and York Sanitary Milk Co., York, Pa.
Mar. 15-16—Holsteins. Fletcher Bros. Dispersion at Fond du Lac, Wis.
Mar. 15-16—Holsteins. Wisconsin Breeders' Sale at Fond du Lac, Wis. S. H. Bird, Mgr.
Mar. 17—Guernseys. Elkhart County Guernsey Breeders' Association Consignment. C. M. Enders, Secretary, Wakarusa, Ind.
Mar. 17—Holstein Bull Sale. Winterthur Farms, Winterthur, Dela.
Mar. 22—Holsteins. Blue Earth County Holstein Breeders' Consignment Sale, Mankato, Minn.
Mar. 22-23-24—Holsteins. Syracuse, N. Y. E. M. Hastings Co., Sale Mgrs., Pulaski, N. Y.
Mar. 23—Holsteins. Iowa Holstein Breeders' State Sale at Waterloo, Ia. C. F. Jenness, Sec.
Mar. 24—Ayrshires. Canadian Ayrshire Breeders' Ass'n., St. Anne de Bellevue, Quebec. Gilbert McMillen, Sale Manager, R. 2, Huntingdon, Quebec.
Mar. 28—Holsteins. Isaac DeMunck & Sons, Plymouth, Wis. I. DeMunck, Sale Mgr.
Mar. 28—Holsteins. W. B. Wickersham, Embreeville, Chester Co., Pa.
Mar. 29—Holsteins. Fred Gessert, Plymouth, Wis. Fred Gessert, Sale Mgr.
Mar. 29-30—Holsteins. Watertown Holstein Sales Co., Watertown, Wis. F. Darcey, Secy.
Mar. 29-30-31—Holsteins. Philadelphia, Pa. Second Brentwood National Sale.
Mar. 30—Guernseys. La Crosse Co. Guernsey Breeders, West Salem, Wis. H. W. Griswold, Mgr.
March 30—Holsteins. R. L. Goelzer Sale at Plymouth, Wis. R. L. Goelzer, Mgr.
Mar. 31-April 1—Holsteins. H. J. Goelzer's Sixth Sale at Plymouth, Wis. E. E. Goelzer, Mgr.
Mar. 31—Guernseys. First Consignment Sale of Calumet Co. Guernsey Breeders' Association at Chilton, Wis. F. E. Fox, Waukesha, Wis., Sales Manager.
April 1—Guernseys. First Consignment Sale of Registered males and grade females. Calumet Co. Guernsey Breeders' Association at Chilton, Wis. F. E. Fox, Waukesha, Wis., Sales Manager.
April 2—Holsteins. Pabst Stock Farm Second Semi-annual Sale at Oconomowoc, Wis.
April 7, 1921—Holsteins. Central Wisconsin Holstein Breeders' Ass'n. 13th Semi-annual Consignment Sale at Marshfield Sales Pavilion, Marshfield, Wis. R. A. Peterson, Wisconsin Rapids, Wis., Sale Mgr.
April 15—Holsteins. Virginia Holstein-Friesian Breeders' Club Sale, Richmond. W. L. Kirby, Manager.
April 19-20—Holsteins. Ohio Holstein Breeders' Association Second Annual Sale at Columbus, Ohio. H. C. Barker, Sec.
April 21—Holsteins. Eaton Co. Holstein Breeders' Second Consignment Sale at Charlotte, Mich.
April 21—Brown Swiss. Illinois Brown Swiss Breeders' Association Annual Spring Sale, Morton, Illinois. Chester G. Starr, Pekin.
April 23—Selected Guernseys from the Sunnybrook and Willowbrook Herds at Sunnybrook Farm, Eatontown, N. J. Leander F. Herrick, Sale Mgr.
April 25-26—Holsteins. Waukesha County Holstein-Friesian Association Sale at Waukesha, Wis. W. L. Baird, Sec'y.
May 2—Holsteins. Walworth County Holstein Breeders' Association Eighth Semi-annual Sale at Elkhorn, Wis. Ben Bachhuber, Mgr.
May 3—Holsteins. Clark County Quality Sale at Owen, Wis. J. Wuethrich, Sale Mgr.
May 4—Holsteins. Minnesota Holstein Breeders' Association Third Annual Sale at Faribault, Minn. B. D. Scott, Sec.
May 5—Jerseys. Wisconsin Jersey Breeders' Ass'n. Sale at Madison, Wis.
May 9—Holsteins. Brown County Holstein Breeders' Sale at De Pere, Wisconsin.
May 10—Guernseys. Dispersal Sale of Emmadine Farm Herd at Hopewell Jct., Dutchess Co., N. Y. Leander F. Herrick, Sale Mgr.
May 12—Guernseys. J. L. Hope's Annual Sale at Florham Farms, Madison, N. J. Leander F. Herrick, Sale Mgr.
May 12—Holsteins. Jefferson County Holstein-Friesian Breeders' Ass'n. second consignment sale. A. F. Gafke, Sec'y.
May 12—Holsteins. Marathon Co. Holstein Breeders' Association Sale at Wausau, Wis. Francis Darcey, Watertown, Wis., Mgr.
May 13—Holsteins. Chippewa Falls, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 13—Eastern Guernsey Breeders' Association Combination Sale at Devon, Pa. Leander F. Herrick, Sale Mgr.
May 17—Holsteins. State Fair Grounds, Milwaukee, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 18—Jerseys. Monroe County Jersey Breeders' Consignment Sale at Tomah, Wis.
May 18-19—Holsteins. Manitowoc County Holstein-Friesian Breeders' Association, Manitowoc, Wis. Chas. Hampke, Manager.
May 23-24—Holsteins. Missouri State Holstein Association Show and Sale at Sedalia, Mo.
May 24—Guernseys. Marathon Co. Guernsey Breeders' Ass'n. Second Annual Consignment Sale at Wausau, Wis. F. E. Fox, Waukesha, Wis., Sales Mgr.
May 25—Guernseys. Portage Co. Guernsey Breeders' Association Annual Consignment Sale of Registered Guernseys at Amherst, Wis. R. K. McDonald, Sec'y. F. E. Fox, Waukesha, Wis., Sale Manager.
May 26—Guernseys. Portage Co. Guernsey Breeders' Association Annual Consignment Sale of Registered Guernsey males and grade females at Amherst, Wis. R. K. McDonald, Sec'y. F. E. Fox, Waukesha, Wis., Sales Manager.
May 26—Holsteins. Marshfield, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 27—Holsteins. Outagamie County Holstein Breeders' Ass'n. Sale at Appleton, Wis. Edw. O. Mueller, Sec.
June 1—Holsteins. Dispersion of Fairview Stock Farm's Herd at Anderson, Ind. O. L. Janney, Owner.
June 9—Holsteins. First Annual Bred Heifer Sale, Thorp, Wisconsin. W. H. Krause.
June 9—Holsteins. First Annual Sale, Holstein-Friesian Co-operative Association of New Jersey, Trenton, New Jersey. J. W. Bartlett, Secretary, New Brunswick.
June 15—Guernseys. First Michigan State Sale at Lansing, Mich. F. E. Fox, Waukesha, Wis., Sales Manager.

Milk Campaign Work in Kansas

(Continued from page 307)

tain school districts in Topeka it was found that about one-third of the children were using no milk at all. A milk demonstration was placed in the State Street school for a period of five weeks only, but there was an average gain of 1 lb. per child during this time where 6 to 8 oz. is normal gain for that length of time. It was also noted that the children who are most underweight make the most rapid gains. The milkman in this district of Topeka reported a 100% increase in milk sales in this vicinity, due very largely to this milk demonstration at school.

The dairymen of Topeka reported a 25% increase in milk sales immediately following the city milk campaign in Topeka. The Beatrice Creamery of Topeka reported a 30% increase in butter sales compared with the same month of last year. Soda fountains have also reported 10 to 15% increase sales in milk drinks as a result of milk campaigns.

Small Towns Have Largest Number of Underweight Children

Surveys in rural districts have shown many interesting facts. In Shawnee County thirty school districts reported 689 children in all. Twenty-two per cent of the children were 10% or more below standard weight; 42% drank milk regularly; 21% drank coffee regularly.

Less than half the rural children are regular users of milk.

In Labette County a total of 543 children were weighed and measured. Out of this number 122 children were 10% or more below standard weight, or 22% of the whole. In connection with this survey it was found that the largest number of underweight children were in the small towns. In the small town of Mound Valley there were 161 children in the grades; 51 (32%) of the children were 10% or more underweight. In Altamont, another small town, 109 children in the grades; 27 (25%) of the children were 10% or more underweight. In Preston, another small town, 177 children examined, 74 (43%) were 10% or more underweight.

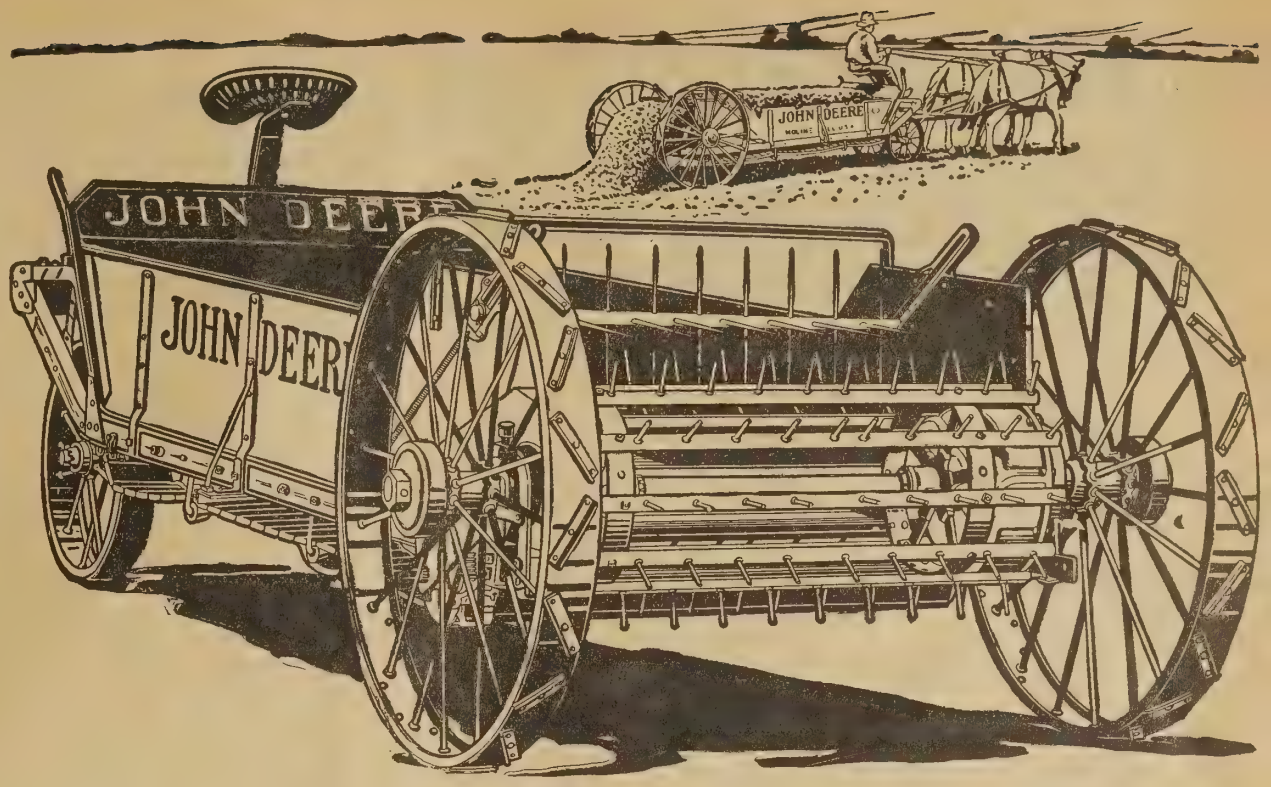
This fact can be attributed almost wholly to the fact that milk is not as plentiful as it should be around these places and many families are entirely dependent for their supply of milk on the neighbor's cow.

Essay and Poster Contests

In the state-wide campaign a milk essay contest was planned for the rural and small town schools in every county in Kansas. In farm bureau counties the local contest was under the direct supervision of the county agent or the home demonstration agent co-operating with their county superintendent. First, second, and third prizes were offered, which varied from $15, $10, and $5 to $3, $2, and $1. In non-farm bureau counties the essay contest was in charge of the Milk Utilization Specialist co-operating with the respective county superintendents. Cash prizes of $4.00, $2.50, and $1.00 were offered as county prizes in the non-farm bureau counties. The first prize essay in each county was entered in an All-State Contest where the prizes were $25, $15, and $10. Over 100,000 milk leaflets were distributed through the rural schools of Kansas and many interesting and instructive essays were the result. The children in forty-three counties in Kansas took an active part in this contest.

A milk poster contest was also opened to the art departments of the Kansas schools and many good posters were received. Out of this Kansas will probably have a milk poster of her own for future use. The newspapers of Kansas co-operated in a most satisfactory manner in publishing milk stories for Milk Week, which was October 11-16. The home economics teachers of Kansas co-operated by teaching milk lessons during that week. School superintendents and principals co-operated by giving milk talks to the school cihldren. As a result of this campaign many children are using more milk and many of them are carrying milk to school with their lunch. This was quite an unheard of event a year ago.

Of course the pure-bred sire is the first step, but there's no good argument against pure-bred females in live stock improvement.



The Simplest Manure Spreader Built

TAKE off the ordinary spreader about half the parts—all clutches, all chains and numerous castings. Only then will you begin to approach the simplicity of the John Deere Spreader. The John Deere has no chains to break, no clutches to wear and slip, no extra beaters to complicate it. So unusual is its design that practically you will have no adjustments to make.

This extreme simplicity, resulting in extra years of profitable service with minimum loss of time and repair expense, has been made possible only by mounting the beater of the John Deere Spreader on its axle—a patented feature.

Additional results from this special patented beater construction are:—

1. A spreader that is exceptionally easy to load. An average of only 36 inches from ground to the top of the box—about hip-high. The high lifting of manure—the hard part of loading—is done away with.

2. High drive wheels that furnish extra traction and lighten the draft. Remember, the drive wheels on the John Deere have not been cut down to lower the box.

3. All of the main working parts mounted on the axle—they can't get out of line to cause binding, heavy draft and breakage.

Another important feature is the patented revolving rake. Embedding itself into the manure and revolving as the load moves towards the beater, this rake prevents bunching and greatly assists in securing a fine, even spread without adding one extra pound to the draft.

You can get a straw spreading attachment for the John Deere Spreader that spreads all kinds of straw perfectly. This attachment makes a two-in-one machine at little more cost than for the spreader alone.

Don't forget there is no fertilizer so effective as barnyard manure. You can double its value by spreading it with a John Deere Spreader.

See your John Deere dealer. Put this profit maker to work this spring.



This Big Implement Book and Two Others —Free

"Better Farm Implements" contains 114 pages of valuable information on a full line of labor-saving farm implements. A book you will keep.

"Soil Fertilizers" tells all about barnyard manure, how to preserve it, when and how to use it. Written by an agricultural authority.

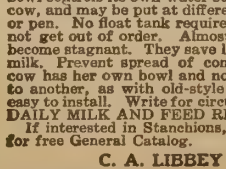
John Deere Spreader booklet fully illustrates and describes the best implement investment you can make.

To get these books free, drop a line to John Deere, Moline, Ill., and ask for Package S 614.

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Tag your stock—best and cheapest means of identification for Hogs, Sheep and Cattle. Name, address and number stamped on tags. Catalog mailed free on request.
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Cow Waters Herself

with this wonderful new Libbey Automatic Water Bowl. Animal moves lever, opening water valve, when it starts to drink. Lever swings back, closing valve, when animal stops drinking.
15% More Milk
Milk is 87% water, and cows cannot give their greatest yield unless they have plenty of water constantly within reach. Farmers who use Libbey Bowls report an increase of 15% to 20%, which soon pays for the bowls.
Libbey Automatic Water Bowls
are the most sanitary and successful ever invented. Each bowl controls its own water supply, operated entirely by cow, and may be put at different heights, or in any stall or pen. No float tank required. Cannot overflow; cannot get out of order. Almost no water left in bowl to become stagnant. They save labor and feed and increase milk. Prevent spread of contagious diseases, as each cow has her own bowl and no water can pass from one to another, as with old-style bowls. Very simple and easy to install. Write for circular and prices, also FREE DAILY MILK AND FEED RECORD.
If interested in Stanchions, Stalls, Carriers, etc., ask for free General Catalog.
C. A. LIBBEY COMPANY
195 Marion Street Oshkosh, Wisconsin



The rate for advertising in this department is 10 cents per word. Count address. Remit in advance. Copy must reach us 8 days ahead of date of issue. Farm labor advertising 7c per word.

STOCK FOR SALE

Holstein heifer and bull calves. Pure-bred, registered and high grade. Splendid individuals and breedings. Delivered to you, $25 and up. Your inquiry will be given our best attention. BROWNCROFT FARMS, McGraw, N. Y. 5*

I have usually 100 head of registered and high grade Holsteins on hand for sale. Also registered and imported Percheron and Belgian horses. RALPH HUDSON, Milton Junction, Wis. 12*

For Sale—At Elmwood Stock Farm, high grade Holstein cows, fresh and springers, by the carload. JOHN MURPHY, Mukwonago, Wis. 3*

"The Willows" offers fifty high grade Holstein cows for sale. S. D. SHAMBEAU, Waupaca, Wis. 12*

High Grade Holstein heifer calves, two to four weeks old, from tuberculin tested herds, $30 each, crated. Will ship C. O. D. WAUKESHA CO. HOLSTEIN-FRIESIAN BREEDERS' ASSOCIATION, Waukesha, Wis. 9*

High Grade Holstein and Guernsey calves. $25 crated. Safe delivery guaranteed. BROWN & COLLINS, Lima Center, Wis. 16*

Serviceable grandsons of Lola Segis Pontiac Homestead for sale, he a 34-lb., 1,000 lb. son of Piebe Laura Ollie Homestead King. Their dams are daughters of Joe Oak De Kol Fobes. Well grown, good individuals. Your choice, $150. R. W. MEAD, Stillwater, Minnesota. 10*

High Grade Holstein calves 6 to 8 weeks old, $30.00 each. We pay express and ship C. O. D. SPREADING OAK FARM, Whitewater, Wis. 11-tf.

For Sale—30 high grade Holstein milkers and springers. Will sell one or all. FRED JOHNSON, Waupaca, Wisconsin. 23*

Closing out herd of grade Holsteins, $100.00 each. H. A. KUHTZ, Waukesha, Wisconsin. 24*

For Sale—My entire herd of choice high grade Holsteins, mostly bred to and sired by thirty-pound bull. There is one full load of the best large heifers in southern Wisconsin, uniformly marked, about three-fourths white. C. L. SIMMONS, Belmont, Wis. 1*

Baby Bulls—Registered Holstein-Friesian by high class sires and heavy producing dams. Price is right. C. S. MULKS & SON, Whitewater, Wisconsin. 3-*

Holstein bull, ready for service, 2 dams averaged 106 lbs. milk 1 day, 40.67 lbs. butter 7 days, $200. Terms. ROY HARRIMAN, Appleton, Wisconsin. 5-6

Yearling bull for sale. From 19-lb. 3-year-old dam. Homestead Junior De Kol breeding. First check $150 takes him. ALBERT C. WOLLIN, Johnson Creek, Wisconsin. 5*

Good serviceable bulls, some good heifers at prices that are right. We are breeders, not dealers. We always satisfy. DATE HOLSTEIN FARMS, Baroda, Michigan. 5-4

Holstein bulls, 8 to 12 months from 30-lb. sire, King Korndyke breeding. Tuberculin tested. A. R. O. dams. $125.00 to $200.00. Also Waterloo Boy tractor, good as new, $625.00. G. A. UITDENBOGERD, Rosemount, Minnesota. 6-3

Holsteins—37-lb. herd sire, young bulls, cows, heifer calves. PHILIP LEHNER, Princeton, Wisconsin. 6*

Public Sale—March 26, 1921, at Frederick, Md. 35 registered Holsteins, horses, mules, registered hogs, farming implements. H. H. SWOMLEY. 6-3

Grade Holstein cows in carload lots and 4 registered bulls for sale. W. R. GATES, Fort Atkinson, Wisconsin. 6*

Registered and high grade Holsten calves, either sex, at farmers' prices. CITY LIMITS FARM, Watertown, Wisconsin. 6-4

I don't want your money until you see my calves. I offer beautifully marked, high grade Holstein heifer calves at almost veal price. Registered bull calves $35.00. I ship C. O. D. and if calves don't suit don't pay for them. Safe delivery guaranteed. J. M. McFARLAND, Watertown, Wisconsin. 6-4

Great Public dispersal of registered Holsteins on March 18, 1921. Linside herd, 100 head must be sold as the farms are sold and going out of business. Herd bred from 30-lb. sires and A. R. O. cows; wonderful individuals; great opportunity to get the best of fifteen years' careful breeding, Korndykes, Pontiacs, and Rag Apples. See large advertisement, page 350. Send for catalogue. W. B. WICKERSHAM, Embreeville, Pennsylvania. 6-3

For Sale—A fine lot of Holstein bull calves from two to six months old, from two sires, both of which are from world's record dams. All of these calves are from tested dams. From $150.00 to $600.00. Send for extended pedigrees. PAUL REED, Oconomowoc, Wisconsin. 7-3

For Sale—Two excellent bull calves, three months old, well marked, and good individuals. Sired by a grandson of King Korndyke Sadie Vale. Heavy producing dams. Pedigrees ready. Price $100.00. Under Federal and State supervision. HILLCREST FARM, Dicken & Son, Fostoria, Ohio. 7-2

High grade Holstein heifer calves, three weeks old, $18. We ship C. O. D. subject to inspection. YOHN FARM, Watertown, Wisconsin. 7-5

Registered Holstein heifers, summer and fall calves, $125.00. Young calves, $100.00. Liberty bonds or cash. E. A. FOTH, Sparta, Wisconsin. 7-2

A high class Holstein herd for sale. Rich in Ormsby blood. Seven-day and yearly records. Write BOX 674, care Hoard's Dairyman. 7-2

High grade Holstein calves, either sex, $20.00. Registered bulls, $35.00. Registered heifers priced to sell. Shipped C. O. D. safe delivery guaranteed. PAUL McFARLAND, Route 7, Watertown, Wisconsin. 7-4

If you want pure-bred Holsteins, write BOX 675, care Hoard's Dairyman. 7-2

If you want to buy a Federally tested pure-bred Holstein herd or part of a herd, write BOX 673, care Hoard's Dairyman. 7-2

A 30-lb. Holstein show bull ready for service. 33-lb. sire. Dam—a show cow, will be tested in March. A 1,000-lb. prospect. Price $1,200. Buy this bull before price increases. Write BOX 672, Hoard's Dairyman. 7-2

Registered Holstein bulls, old enough for service. Fine individuals. Best of breeding. $100.00. Also heifers at reasonable prices. DR. BLACKBURN, Cuba, Ohio. 8-5

$300.00 buys proven sire of King Segis blood. Dam's records at 4 years—19 lbs. butter, 408 lbs. milk, 604 lbs. butter, 16,000 lbs. milk. Sire is from 25-lb. dam. Guaranteed right. Other stock for sale. A. HOPSON, Girard, Illinois.

If you want to buy a pure-bred Holstein bull ready for service write for particulars on this one out of a 16-lb. junior two-year-old dam and out of a 29-lb. sire. $125. CATALPA GROVE STOCK FARM, Nashville, Illinois.

Colantha bull two months old, 20-lb. dam and 28-lb. sire, guaranteed right, for $100.00. JUDD & SON, Batavia, New York.

35 High Grade Holstein cows, springers and milkers. Carload lots a specialty. Also some heifer calves. EHNERD & BIEBAL, Wrightstown, Wis. 8-4

STOCK FOR SALE

For Sale—Carload young cows. 10 are from 34-lb. bull, several from tested dams, nearly all with A. R. O. grandams, and recently fresh; bred back to 27-lb. grandson King Segis and De Kol 2nd's Abano De Kol. He has 10 A. R. O. daughters, one testing 31.77 lbs. These are my own raising—am not a dealer. Must sell before March 20 or not at all, so don't write for information. Come see them. Tuberculin tested. R. P. CLEMENT, R. 8, Adrian, Mich.

For Sale—Three registered Holstein cows and two calves. NELSON PECK, Doylestown, Wis. 8-3

For Sale—Registered Guernsey bull, age 3 years. FRANK SKABROUD, Medford, Wis.

My entire herd of grade Guernseys for sale. Also a few choice heifer calves at $30.00 delivered. SHADY HILL FARM, Whitewater, Wis. 23*

Guernsey heifer calves. Can ship you 10 at once about 4 weeks old. Calves out of my own herd, so know what I am shipping. $30 each crated. F. O. B. Waukesha. WERN FARMS, Waukesha, Wis. 18*

Guernseys—All ages, both registered and grade. H. A. MAIN Sec'y, Jefferson Co. Guernsey Breeders' Association, Fort Atkinson, Wisconsin. 20*

Guernseys—High grade Guernsey calves, either sex, four to six weeks old, bred for production of milk and butter. Thirty dollars apiece delivered to any station, express charges paid here. Send orders or write. LAKE VIEW GUERNSEY PLACE, Whitewater, Wisconsin. 26-tf

For bargains on May Rose bulls with type and production, write KUHTZ BROS., Waukesha, Wis. 21*

For Sale—Registered Guernsey bull calves, good producing dams at farmers' price. OTTO KRUEGER, 427 East Broadway, Toledo, Ohio. 24*

Guernseys for Sale—From Federally Accredited herd. Bull calves, two bulls ready for service, sired by Clara's Sequel and out of high testing dams. Also ten pure-bred females. LLOYD RUNDELL, Roberts, St. Croix County, Wisconsin. 26*

Guernsey calves six weeks old, $20. F. O. B. Knapp. THOMAS HAGERTY, Knapp, Wisconsin. 2*

Bargains—Four highly bred registered Guernsey bulls. Ages about 3½ and 2½ years and 2 to 9 months. Herd tuberculin tested by Government. A. W. BROWN, Rhinelander, Wisconsin. 3*

Accredited Guernsey Bulls—Best breeding and records. Ask for sale list. GUERNFALFA FARMS, Peebles, Wisconsin. 4-5

For Sale—Two May Rose Guernsey bulls, age 4 months. Sired by Langwater Frenchman, a half brother Ne Plus Ultra. Dams' Advanced Registry records 710 and 660 lbs. fat. HOMER RUNDELL, Livingston, Wisconsin. 4*

Registered Guernsey bulls and heifers. FAIRVIEW FARMS, Brodhead, Green County, Wisconsin. 2-9

For Sale—Registered Guernseys. Both sexes. Herd under Federal Supervision and free from disease. CLOVERNOOK FARM, Whitefish Bay, Milwaukee County, Wisconsin. 6-10

Guernseys—Registered males and females, all ages. Breeding and type unexcelled. Grade cows, yearling heifers, heifer calves. No better quality anywhere. Tuberculin tested. Prices reasonable. Why not buy through an association and from breeders in the business to stay? Write your wants today. F. E. FOX, Secrtary Waukesha County Guernsey Breeders' Association. Waukesha, Wisconsin. 6*

3 Registered Guernsey heifers for sale, coming two years old. Daughters and granddaughters Imp. Clara's Sequel and from A. R. dams. Bred December to Langwater Frenchman. Federal Accredited herd. HOMER RUNDELL, Livingston, Wisconsin. 7*

For Sale—Good grade Guernsey calves up to 3 months old. MICHAEL RAPPOLD, Route 5, Whitewater, Wisconsin. 8-4

For Sale—Grade Guernsey cows and heifers. Write WILLIAM LONSDORF, Sec., Athens Guernsey Club, Athens, Wisconsin. 8-3

Two registered Guernsey bulls, 21 and 10 months old. HENRY IHLENFELD, R. 2, Luxembourg, Wisconsin. 8-2

Guernsey bulls—May Rose and Sequel breeding, of serviceable age. Prices very reasonable. Write for sale list. "State your wants." DALE E. RUNDELL, Ore Hill Farm, Livingston, Wis. 8-spl

Registered Guernsey bulls of Advanced Registry breeding, $100.00 and up. Herd federally inspected. HELENDALE FARM, Athens, Wis. 8-4

For Sale—Guernsey bull 4 years old, great grandson Dairymaid of Pinehurst. Priced right. O. E. WAIT, Perrysville, Ind.

Registered Guernsey bulls three to twenty months old. Sequel-Chene-May Rose breeding. HARRY HOUCK, Hannibal, Mo.

Ayrshire—Pure-bred bull, eighteen months old for sale. HENRY ENGEL, R. 11, Neenah, Wis.

Registered Ayrshire yearling bulls for sale; also bull calves. JOHN IHDE, Neenah, Wis.

For Sale—Several choice young pure-bred Ayrshire cows. DAVID W. WILLIAMS, Lake Forest, Ill. 7-4

Ayrshires—Yearling bull, grandson of Hobsland's Masterpiece Imported, Grand Champion Scotland, U. S. and Canada from dams imported from Canada, best breeding. BRACKENFELL FARM, Lombard, Illinois. 7-2

Brown Swiss calves for sale. E. H. EISELE, Manchester, Mich. 8-3

Brown Swiss bulls of serviceable age. A. C. BOODY, Hudson, Wisconsin. 4*

For Sale—Herd of nine grade Jersey cows and four heifers, one registered bull. Cows have been in test association past year. Five cows and four heifers, spring fresh. Price $1,200. Write for further description. EDW. H. CONROW, Flushing, Ohio. 7-2

Registered Jersey bulls, serviceable age. Close up in the blood of Edith Marigold, 819 lbs at 4 years, Eminence Bess 1,132 lbs. Jacoba Irene 1,128 lbs. King of Cloverland, Paradise Star's Emanon. You can't beat them in Jerseydom. $100.00 each. They would cost you from $250 to $500 elsewhere. R. D. ROBERTSON, Wheeler, Wisconsin.

A herd of pure-bred Holsteins, high class individuals with good udders, priced reasonably. Tuberculin tested and bought subject to 90-day retest. Write BOX 676, care Hoard's Dairyman. 7-2

DOGS

German Shepherd, airedales, collies, and old English Shepherd dogs. Brood matrons, puppies, farm helpers. 10 cents for instructive list. W. R. WATSON, Box 520, Oakland, Iowa. 20*

Shepherd Pups—Heel working parents. FAIR OAK FARM, Norwood, Minnesota. 5-6

SWINE

Duroc-bred gilts and boar. Prize winners. PHILLIP LEHNER, Princeton, Wisconsin. 5*

STOCK WANTED

Wanted—Carload bred Holstein heifers, registered and good grades. R. K. GERNERT, Cloud Chief, Okla.

Wanted—Pedigreed Holstein bull, bred heifer, Poland China gilts or Shropshiredowns in exchange for finest pedigreed Llewellin setters. BILLSTEN, 1433 Peoples' Gas Bldg., Chicago, Illinois.

Wanted—Lists of registered and grade Guernsey cows and heifers for sale. Report to any bank in Wisconsin or write to BANKER-FARMER EXCHANGE, 1822 Chadbourne Ave., Madison, Wis. 8-spl

Wanted—To buy for fall delivery, 25 heifer calves, 20 bred heifers and a few cows, all to be of the best registered Holstein strain that can be had. FRANK KOTE, care National Steam Laundry, Sherman, Tex. 8-6

STOCK BUYER

Registered dairy cattle bought and sold. EDWARD A. WALTER, 111 Monroe St., Chicago. 18*

Will buy for you, dairy cattle of any breed, grades or pure-bred. DAVID W. WILLIAMS, Lake Forest, Illinois. 6*

HORSES

For Sale—Belgium stallion bay 2,200-lb. 9-year-old or will trade for Guernsey or Holstein cows or heifers. W. C. WILLIAMS, Anderson, Indiana. 6-4

POULTRY

Baby chicks, quality first. Pure-bred, bred-to-lay from free range flocks. White Leghorns, Buff Leghorns, Barred Rocks, White Wyandottes. Send for catalog. WANDSCHNEIDER'S HATCHERIES, Box 1, Fort Atkinson, Wisconsin. 5-4

Highest prices paid for live and dressed poultry, pigeons, veal, hides, etc. Quick returns, fair treatment. C. E. McNEILL & CO., 325 W. So. Water Street, Chicago. 24*

Eggs $1 setting. Parcel post paid. Thoroughbreds. Barred Rocks, White Rocks, Buff Rocks, Anconas, White Wyandottes, Brown Leghorns, White Leghorns, Rhode Island Reds, Buff Orpingtons. PHILIP CONDON, West Chester, Ohio. 5-15

Bronze turkeys. MAC CRADIE BROTHERS, Hendrum, Minnesota. 5-4

For Sale—Van Liere's Partridge Wyandotte cockerels, $5.00. 15 eggs, $3.00; 30, $5.00. Satisfaction guaranteed. J. W. VAN LIERE, Salem, Wis. 5-4

Baby Chicks—Limited number S. C. W. Leghorns at twenty dollars a hundred. Prepaid. March delivery. PORTER FARMS, Lake Geneva, Wis. 6-3

Single Comb White Leghorn eggs from hens with egg records of 200 to 220 eggs in the pullet year. $2.00 per 15. RIVERSIDE FARM, Fort Atkinson, Wis. 8-4

Toulouse Ganders. ARNOTT McCRADIE, Hendrum, Minnesota. 8-2

Baby Chicks—Single Comb White Leghorns, Ferris 264-300 strain. Hogan tested. Write for catalog. R. A. ZIMMERMAN, Dept. H., Mayville, Wis.

Choice Bourbon toms—$10.00. MRS. WM. MULRY, Sechlerville, Wis.

SEEDS

Farmers, ranchmen and dairymen. Order your Grimm and Cossack alfalfa seed direct from the grower. All seed recleaned and guaranteed. Ask for samples. WM. H. K. WILLIAMS, Triangle Ranch, Cottonwood, South Dakota. 26*

Jacques' Seed Corn—Early maturity, high yield, perfect germination. Grown in Clark County, North Wisconsin twelve years. My Golden Glow ripens in 100 days, yields 60 bushels shelled corn per acre. My North Wisconsin Yellow Dent ripens in 90 days, yields 50 bushels shelled corn per acre. Picked before frost, thoroughly fire dried. Careful tests show 98% to 100% germination. Money refunded if corn is unsatisfactory. Write for folder and prices to WM. H. JACQUES, Neillsville, Wisconsin. 1-13

Grimm alfalfa, soy beans, clovers, grasses, Iowar and Iowa 103 oats, field seeds all kinds. Ask for price list. DAVIS SEED CO., Dept. H, St. Peter, Minnesota. 2-7

Send for attractive price list of our select home-grown seed corn. Finest quality, several varieties. Fully guaranteed. Largest trade in Northwest. JOHNSON & ARNESON, Dassel, Meeker County, Minnesota. 3*

Seed Peas—Buy Northern grown Canada field peas direct from the grower, cleaned ready for seeding, 1,000 bu. for sale, 1 bu. $3.00; 2½ bus. $7.00; 5 bus. $12.50; 10 bus. or more at $2.25 per bu. Sacks included. Send for sample or order direct from this ad. L. P. MARTINY, Chippewa Falls, Wis. 4*

New Advance Wisconsin Pedigree barley, Iowa and other leading oats. Pure seed. Write for circular. KRUEGER'S SEED FARM, Beaver Dam, Wis. 4-6

Clovers, alfalfa, free from weeds. Soy beans, kiln dried corn. Everything guaranteed. HENRY MICHELS, Fond du Lac, Wisconsin. 5-5

Sudan Seed—Re-cleaned, double sacked, $3 per hundred, f. o. b. Lubbock. JOHN F. TURNER, Lubbock, Texas. 5-4

New cold-resistant Early Golden Glow seed corn for the north and higher altitudes. Finest quality Wisconsin No. 7 and No. 1 oats. Medium Red and Mammoth clover. Genuine Grimm alfalfa. It will pay you to secure my samples and prices before buying. NOYES RAESSLER, Beloit, Wisconsin. 6*

For Sale—Seed corn La Crosse County grown. 10 ears took sweepstakes at the La Crosse grain show. Silver King and Golden Glow, $4.00 a bushel, bags free. Tests 98%. The corn for your silo. The Silver King is the best. JOHN BENDEL, JR., Stoddard, Wisconsin. 6-3

Sweet clover seed, North Dakota grown. White, scarified, $9.00 bushel, sacks extra. CAPENER & ARCHER, Erie, North Dakota. 6-3

State Fair. Sweepstakes clover seed, pedigreed barley, oats, corn, wheat, timothy, alsike, alfalfa, potatoes, flax, sweet clover, soy beans, peas. Write for prices. ARTHUR POPP, Jefferson, Wisconsin. 6-4

"Holco" ensilage seed corn, extra early, grows tall, leafy and full ear. Write for prices. HOLMES-LETHERMAN, Canton, Ohio. 7-3

Morse Soy Beans. 100 bushels good quality. ROY GUYER, Linneus, Missouri. 7-3

Golden Glow Seed corn—bred for southern Wisconsin. A. M. TEN EYCK, Brodhead, Wisconsin. 8-spl

Pure, scarified, white blossom sweet clover, $15.00 per cwt., sacks included. FRANK DOBMEIER, Grand Forks, North Dakota. 8-2

AGENTS WANTED

Yes Sir, we have a special opportunity for you during spare time, an opportunity to do some good work in your neighborhood, for the betterment of dairy farming, that will pay you in cash for the effort you put forth. Write for our "Special Opportunity Getting Together" folder. Address HOARD'S DAIRYMAN, Fort Atkinson, Wis. 2-tf

Salesmen wanted to sell well-known line of oils, paints, and roofing materials direct to farmers. Men average from $100 to $200 per week. Commisssions paid weekly. Bonuses paid monthly. Wengerd of Ohio made $430 in one week. Callahan of Pennsylvania made $3.000 first six months. Meyers of Minnesota took 102 orders first month. Fine opportunity for live-wire salesmen, steady demand at all times. Shipping points: Cleveland, Chicago, Kansas City, Minneapolis. For complete proposition write CENTRAL PETROLEUM CO., Cleveland, Ohio. 6-3

We pay $8 a day taking orders for Insyde Tyres. Guaranteed to prevent punctures and blowouts. Double tire mileage. Any tire. Tremendous demand. Low priced. Write quick for agency. AMERICAN ACCESSORIES CO., B-241, Cincinnati, Ohio.

FARMS FOR SALE

New Wisconsin Land Settlement Plan—House, barn, tools, seeds. 30 years' time. WIS. COLONIZATION CO., Box G, Ojibwa, Wis.

TOBACCO

Homespun Tobacco—10 pounds, $3.00; 20 pounds, $5.00; 100 pounds, $20.00. FARMERS' UNION, Mayfield, Kentucky. 6-4

FARMS FOR SALE

For Sale—Choice Ohio farms. All sizes and prices, some great bargains. Write for list. I. J. MILLER, JR., Conneaut, Ashtabula Co., Ohio. 22*

Farms, ask French if he has what you want. Write him and state your wants. Reference any bank here. J. R. FRENCH, Cortland, N. Y. 24-13

Landology special number just out, containing 1921 facts of clover land in Marinette County, Wisconsin. If for a home or as an investment you are thinking of buying good farm lands where farmers grow rich, send at once for this special number of Landology. It is free on request. Address SKIDMORE-RIEHLE LAND CO., 47 Skidmore-Riehl Bldg., Marinette, Wisconsin. 25-12

Rose Valley Farm—137 acres; 17 miles macadam roads to City Hall, Philadelphia; owner's residence, electric lights, hot water heat, open fireplaces; beautiful lawn and shade; extended view; large stable and carriage house; modern cow barn, 48 head; tenant houses; purest water in abundance; all necessary buildings; macadam roads each side and through farm; $50,000 less than cost of buildings. FARM 2024 N. 10TH ST., Philadelphia, Pa. 26*

Free Wisconsin Bulletins, soil, climate, crops. IMMIGRATION BUREAU, Wisconsin Dept. of Agriculture, Capitol Drawer 125, Madison, Wisconsin. 26-13

Hardwood cut-over land, silt loam, clay sub-soil. Neither sandy nor gravelly; close to town; good roads; good schools; in the heart of the dairy country. You deal directly with the owners. No agents and no commissions. Easy terms. Also improved farms. Write for map and Booklet No. 4. NORTH WESTERN LUMBER CO., Land Department, Stanley, Wisconsin. 1*

New York offers wonderful opportunities to farm buyers. Good farms, good markets, low taxes. Send for catalogue. THE HAZARD-RHODES CO., Salamanca, New York. 5-4

For Sale—165-acre farm, 30 cows, fine buildings; on macadam road, near city; $16,000, $2,000 cash, balance 5%. CHAS. PETERS, Castle Creek, N. Y. 5*

Riverside Stock Farm—160 acres, one hour to Milwaukee, ideal location, good buildings, deep rich soil, no obnoxious weeds. Owner's age reason for selling. Exceptional opportunity. Deal with owner. JOHN MUELLER, SR., Mukwonago, Wisconsin. 6-3

New York State dairy farms for sale. Fully stocked. Fully equipped. Catalogue free. HILLIS FARM AGENCY, Hobart, Delaware County, N. Y. 7-6

For Sale—200-acre well improved farm in finest location, full set of new buildings, all fenced, half in cultivation, 75 acres clover; stock, crop, good machinery, $24,500.00. Owner FRANK NOVACEK, Route 2, Wheeler, Wisconsin. 7-3

Farm for sale containing 145 acres. Good barn and other buildings, near Superior. For particulars write GEO. ESSON, Superior, Wisconsin. 7-2

160 acres 2 miles from Wisconsin town of 1,000 population. 80 acres cleared, part plowed; fine pasture, good heavy clay loam soil, no sand or pine, lot of maple timber; on state R. F. D. and telephone line; new buildings worth over $9,000.00. Will include 35 head high grade Holstein cattle, 14 cows, pure-bred bull, rest heifers up to 2 years old, good heavy team, all new machinery, 50 hens, tools, feed, etc., for $28,000. $5,00 cash, rest at 6% long time or take smaller farm, clear wild land, good income property, or pure-bred Holstein cattle as part payment. What have you? Address BOX 668, care Hoard's Dairyman. 7-3

Clover, alfalfa sugar beet prairie. Owner's price, easy terms. Submit trades. GESELL, Thief River Falls, Minnesota. 7-4

Southern Michigan—Sixty acres, 2 miles from town, fertile clay loam, never rented, 50 acres under plow, balance timber and pasture, fine orchard, good buildings. Every respect a good farm and a fine home. $7,500, $1,500 down. MICHIGAN FARMS AGENCY, Box 928, East Lansing. 26-spl

Modern dairy farm on good road in Waukesha County. 200 acres, comfortable brick dwelling, furnace heat, running water, horse barn, two large connected modern dairy barns, two silos, tile milk house. Complete breeding establishment. Convenient to Waukesha and Milwaukee. Price reasonable. R. E. BENSON, Dousman, Wisconsin. 26-spl

For cash rent, exceptional Holstein dairy farm 40 miles from New York City. Milk wholesaled 10c per quart. 115 acres, 75 fine grain, alfalfa hay land; balance pasture and wood. Good modern house and barns; improvements, silo, ice house, etc.; 1½ miles from fine town. Terms reasonable. JOHN REILLY, 157 W. 66th St., New York City. 7-2

Cloverland Bargain—Improved 154-acre farm for sale. 90 acres clear and under cultivation. The balance in pasture land, of which most can be cleared. Soil, clay loam mixed. Springs and running water on all land, also city water in all buildings. Electric lights in all buildings. Modern 10-room brick house, with all conveniences. Large cattle barn with 160-ton silo. Room for 50 head of cattle. New modern hog house, 30x60. Room for 100 head of hogs. Hay barn with basement, 30x40. Large repair shop. Garage. Poultry house. All of the above land is fenced and cross fenced, and is located just 1½ miles north of the city of Norway, Michigan, population about 5,000, and nine miles from Iron Mt., Michigan a city which is predicted to become the Detroit of Cloverland. Large Ford plant now under construction. This farm must be seen to be appreciated. Must sell as I cannot attend to same. Write U. F. ASSELIN, Norway, Michigan. 8*

For Sale—190 acres, 50 acres timber. Good location, well watered, 7 buildings. AGNES CHAPMAN, North Clymer, New York.

For Sale—1,000 acres improved in Virginia. 350 under cultivation, balance valuable timber. Fairly good buildings. 1½ miles frontage on Potomac River. Oyster Shore. Occupied by tenants. Would make fine stock farm or game reserve. Markets are Baltimore and Washington. Price $35,000. Terms. Might exchange for a good Wisconsin farm. H. E. TOWNS, 661 Third Street, Milwaukee, Wisconsin.

120 acres, $2,300; with horse, 4 cows and heifers, 4 hogs, wagons, sleighs, threshing machine, implements, vegetables, hay, wood, etc.; everything to quick buyer for $2,300, easy terms; edge town in famous farming section, heavy cropping fields; brook-watered pasture; large quantity wood, timber; maple-shaded 6-room house overlooking river; big barn, silo, garage, etc. Details Page 8 Strout's Spring Catalog; just out. STROUT AGENCY, 150 DL Nassau St., New York City.

For Sale—80 acres heavy black loam, a few acres gravel loam, 40 acres in woods, valuable; five-room house, fine 30x40 basement barn nearly new, silo, windmill. One-half mile to school, two miles to R. R. station and store. Twelve miles to Battle Creek. Price $5,500. $2,000 will handle it. For further particulars address GEORGE Q. EBY, 30 Oneida Street, Battle Creek, Michigan. 8-2

Death and taxes come slow and easy in wealthy Western New York. Good farms cheap. NEW YORK FARM AGENCY, Westfield. 1-spl

117 acres, 1½ miles from Dousman, Waukesha County, thirty miles from Milwaukee; good productive soil; seven-room house, barn, tool shed, hen house and granary, comparatively new. Price, $15,000, including all stock, hay, grain and machinery. GEO. W. ADAMS CO., 330 Caswell Block, Milwaukee, Wis.

South Dakota. Never again will there be such opportunities for purchasing cheap lands as are now offered in South Dakota. Every acre that is now selling for $25 to $50 per acre will soon sell for $100 to $200. Write for free bulletins. IMMIGRATION DEPARTMENT, Irwin D. Aldrich, Commissioner, Capitol F-15, Pierre, South Dakota.

Do it now. Send for our free list of Central Wisconsin farms. GRAHAM'S LAND OFFICE, Marshfield, Wisconsin.

For Sale—130-acre farm 1½ miles to town and New York Central depot. All state road, high school, churches and milk station. Soil gravel and sandy loam. Plenty of good water. Good house, barn and silo. Large maple orchard. Sightly place in Montgomery County, New York. Price $5,500. $1,000 down and the balance in mortgage. Address (Owner), A. W. SNELL, Syracuse, N Y. 8-3

MACHINERY

Want the cheapest, handiest belt power? Then ask me about my Little Twister Power Transmitter for Ford and Dodge cars. FRANK R. WEISGERBER, Salina, Kansas. 16*

For Sale Cheap—A small lot of standard make Swedish Cream Separators, 400 pounds capacity, $29.-00, 500 pounds capacity, $34.00, 700 pounds capacity, $39.00. These are all new machines, wonderful bargains. THOMAS TAFFEE, Box 355, Lansing, Mich. 18*

For Sale—Empire Milker. Factory rebuilt, double unit outfit in original boxes as returned to me from factory. Price $100. JOHN MARR, Lexington, Ky.

For Sale—Closing out stock brand new Empire Milker units and pumps; both double and single units. All goods in original cases and carry factory guarantee. 30% from original list price on limited stock on hand. STANDARD SUPPLY COMPANY, West Chester, Pa.

For Sale—Empire Milker, 2 double units and pump complete; in good condition; late equipment. $175.00. M. W. DURNALL, R. D., West Chester, Pa.

For Sale—3-unit Hinman milking machine complete with extra pail and teat cups. Used less than two weeks, in perfect condition. Price $175.00. E. G. SUTTLES, Route 3, Selma, Alabama.

For Sale—Or will trade for dairy cows—one two-cylinder forty H. P. Case tractor, eight roll McCormick shredder, fourteen-inch Climax silo filler. L. A. ABBOTT, Dover, Minn. 8-3

For Sale—Having dispersed nearly all my herd of Holsteins, I will sell two units of my Sharples Milker. They are in first class shape, used two years. $25.00 for each unit. Take one or both. CHAS. R. HEY, Polo, Ill.

HAY

Alfalfa and prairie hay for sale. Prompt shipments. Personally inspected loading. Wire or write GUNN HAY CO., Lexington, Nebr. Reference Lexington State Bank. 11*

Number one and choice alfalfa hay and seed ready for shipment. Address A. L. DAMON & COMPANY, Inc., Rapid City, South Dakota. 8*

Alfalfa Hay for Sale—Write or wire for delivered prices. ALBERT MILLER & COMPANY, 192 North Clark St., Chicago. 17*

Alfalfa. We handle nothing but the very best quality. Write or wire JAMES BROTHERS, Rapid City, S. D., for delivered prices. 5-4

Hay for Sale—Any kind in carloads. Can furnish choice alfalfa. GEO. L. FREDERICK, Beaver Dam, Wisconsin. 7-3

Alfalfa—Baled and ready for shipment. Write for bargain price delivered. MATH MICHELS, Fond du Lac, Wisconsin. 8-3

For Sale—Choice second and third crop alfalfa. CHARLES BEYER, Peebles, Wisconsin.

STANCHIONS

Crumb's Stanchions are guaranteed to please the purchaser. They are shipped subject to trial in the buyer's stable. They are right. Send for booklet. WALLACE B. CRUMB, Box H, Forestville, Conn. 2-10

TANNING

Let us tan your hide: Cow, horse, or calf skins for coat or robe. Catalog on request. THE CROSBY FRISIAN FUR CO., Rochester, N. Y. 1-52

EXCHANGE

Wanted—To exchange 50 acres river bottom alfalfa land in ideal fruit and dairy section of California at $10,600—3,000.00 down—for small farm in central states as second payment. R. W. SHARP, 601 N. Fourth St., Fresno, California. 2*

FEEDS

For Sale—Mangle cattle beets, carload lots. Ask for quotations. JOHN L. SCHULTZ SONS CO., INC., Syracuse, New York. 6-4

FEED BAGS

Bags—We buy second-hand bags; pay one-half freight on 200 or more. LINCOLN BAG CO., Springfield, Illinois. 5-spl

PRINTING

Hoard's Dairyman Art Department designs your letter head free. Just tell us your breeds of stock. Book of 5,000 Farm, Ranch and Cottage names 25 cents. Ask for samples of letter heads, envelopes, shipping tags, cards, milk tickets, etc. Poor stationery is more of a damage than a help. Be sure and give correct post office address, including state. Address HOARD'S DAIRYMAN, Art Dept., Fort Atkinson, Wisconsin. 8-tf

BUSINESS OPPORTUNITY

Business for sale suitable for retired farmer, or one whose time is not fully employed. Address FRANK J. GRADY, 2119 Corry Street, Madison, Wisconsin. 5-4

MISCELLANEOUS

Wanted—Railway mail clerks. $135—$195 month. List positions free. FRANKLIN INSTITUTE, Dept. J 115, Rochester, New York. 8-4



Advertising in this department is 7c per word. Remit in advance.

HELP WANTED

Farm Couple Wanted—Man and wife above 30 years (no children) to be fully responsible on a 200-acre publically located dairy farm, where home and every detail is now, and must be maintained first-class; dairy and other machinery modern and electrically equipped where practical; product wholesaled exclusively—everything furnished and supplied. This is a plain, practical gentleman's place, requring a conscientious, competent, dependable couple who want a permanent position, who can care for and handle the necessary help, and know how a first-class place should be conducted. Give experience, qualifications, ages and present employment. JOHN S. SELL, Greensburg, Westmoreland County, Pennsylvania. 2*

Wanted—Married man for small dairy farm and orchard at Bayfield, Wisconsin. Write J. DAVID SMITH, Albia, Iowa. 4*

Wanted—Single man to work on dairy farm by year. State experience and wages. F. C. SPELLMAN, Hollandale, Wisconsin. 6-3

Wanted—Dairyman for Holstein herd. References required. Single man preferred. 717 NORTH KENDRICK AVE., Glendive, Montana. 7-2

Wanted—Good calf raiser and feeder. Must thoroughly understand feeding calves. PAUL DAHLKE, Austin, Minnesota. 7-3

Wanted—Working herdsman and farm manager, sober, capable, and reliable, to take charge of dairy farm and registered Guernsey herd of forty animals, some on A. R. test. Must be married, wife willing to board some help, and both not afraid of long hours. Give full particulars including training, experience, age, habits, size of family, references and salary expected in first letter. No socialist or cigarette gentleman need apply. E. S. PERSON, Minot, N. D. 7-4

Wanted—Married man to work on farm by year. THOS. STEWART, Plainfield, Illinois.

HELP WANTED

Wanted—April 1st, a good single herdsman, one with experience in A. R. work to take charge of herd consisting of about 45 head registered Holsteins. Must have experience in milking test cows, balancing rations, be a good calf raiser and come well recommended. Best wages to right man who will have complete charge of herd. Address BOX 678, care Hoard's Dairyman. 7-4

Married man wanted April 1st on farm near Philadelphia. Must be first-class farmer, understand running of all farm machinery, tractor, etc., good caretaker of horses. Wife to board 3 to 4 men at $25.00 per month. $60.00 per month, house and usual privileges. References as to character and abilities. State number in family. Address BOX 667, care Hoard's Dairyman. 7-2

Manager—For institutional farm of 60 acres. One who has had experience and can make things go. A good proposition for the right man. MOUNT MARIE, Canton, Ohio. 7-2

Wanted Women—Become dress designers. $45 week. Learn while earning. Sample lessons free. FRANKLIN INSTITUTE, Dept. J982, Rochester, N. Y. 8-4

Wanted—Working dairy farm manager, preferably with own help. Must be expert in care and feeding pure-bred Holsteins for maximum milk production and raising heifer calves. Farming consists of cultivating necessary crops to feed herd. Acreage 225. Herd fifty to sixty head. Buildings and equipment modern and up-to-date. Near Chicago. Address C. E. DAVIS, 305 South State St., Chicago, Illinois.

Wanted—At once, maids at Wisconsin School for the Blind, Janesville, Wisconsin. 8-3

Wanted—A reliable man to take over our small heavy milking herd Holsteins. Pure-bred and grades headed by one of the best bulls in the state. Top notch herd big type Poland China hogs. Full equipment, new modern machinery. Small cash payment, balance long time. Farm has good buildings, new silo. Cheap rental. A real opportunity for the right man. Address BOX 681, care Hoard's Dairyman. 8-2

Wanted—Single, steady experienced man, no cigarettes. Good board, washing, separate room. Modern barn, milking machine. Southern Wisconsin. Must be neat, a gentleman and interested in the job. State wages, reference and full particulars. Address BOX 683, care Hoard's Dairyman.

Wanted—Single man for general farm work. Must be good milker. Registered Holsteins. State wages, experience, etc. One to drive Fordson preferred. LEON PECK, Spring Green, Wisconsin.

Wanted—A single man, experience in fitting and feeding for testing and also general farm work, on modern dairy farm. Good wages for right party. Start April 1st. R. V. HOYLE, Route 3, Mt. Pleasant, Michigan.

Wanted—Man or good strong boy for general farm work. State age, wages, experience. Steady position. RIVERVALE FARM, Nashotah, Wisconsin. 8-3

Wanted—Good Holstein herdsman to help build up our herd, test for records, good calf raiser, etc. We are a young deaf couple and want a man willing to work with us. Good comfortable home. Good wages to right man. Modern barn with James equipment, electric lights, water system, milking machine. Position open at once. State training, experience and reference. H. F. HANSMANN, R. 1, Knapp, Wis.

Wanted—Married herdsman for April 1st, experienced with Guernsey cows, good calf raiser and familiar with A. R. O. work. Permanent position. Exceptionally good location and excellent buildings. State full particulars, experience and salary expected. Give reference for prompt reply. HILLTOP FARM, Suffield, Conn.

Wanted—Single experienced man on Guernsey farm. Must be good milker. State wages and age. FRED SY, R. 4, Kiel, Wis.

Wanted—Married herdsman to take charge of small herd of Jerseys and Holsteins. Milking machine used. State experience, references and wages desired. RAY McCAULEY, Hicksville, Ohio. 8-2

Wanted—Experienced tenant for dairy and general farming. Small family. Willing to board single man. Single man wanted to assist in care Guernsey herd on A. R. test. State full particulars. LEWIS A. TOAN, Batavia, N. Y.

Wanted—Single, young man to work on Holstein farm. State experience, wages and references. No cigarettes. J. H. PESTER, Whitewater, Wis. 8-2

Wanted—At once, single man to work in pure-bred Holstein dairy and assist with general field work at times. Regular hours, modern machinery, Hinman Milker. Board and room. No one but honest, willing worker need apply. Send references in first letter. $45.00 per month. Will increase wages as worth is proven. L. W. HANNA, Garrison, Iowa.

POSITIONS WANTED

Farm Superintendent—Scientific, practical, energetic, desires position on large modern farm or estate and will put same on paying basis. Experienced in Advanced Registry, pure-bred stock, modern farming, tractors, orcharding, road and building construction. Married, no family. Excellent references. Address BOX 544, care Hoard's Dairyman. 4*

Superintendent, college graduate. Married. Open for position. Thoroughly experienced in constructive farming and stock raising, dairying, A. R. O. work. Only large proposition where results are appreciated. Address BOX 664, care Hoard's Dairyman. 7-3

Experienced man wants position immediately as Holstein herdsman. Address BOX 669, care Hoard's Dairyman. 7-2

Energetic married man wishes position as farm manager or herdsman. Experienced stockman; can operate tractors, etc. State best proposition in first letter. Illinois or Central States preferred. Address BOX 685, care Hoard's Dairyman. 8-2

Herdsman—Dairyman. Open March 15. Guernseys preferred. Six years' experience, calf raising to A. R. work inclusive. Butter, soft cheese and ice cream maker. Operate steam boilers, power separators, churns, etc. Age 22, single, temperate, non-user of tobacco. References exchanged. JOHN PHILIP MARTIN, 553 Broadway, Lawrence, Massachusetts.

Place wanted as herdsman or manager on dairy farm. ROBERT HAZARD, 1 Perry St., New York City.

Practical, single man with college training, also several years' experience farming and dairying, will be open for position as working foreman April 1. Would consider operating a farm with small dairy on the share plan. State your best proposition. Excellent references. Address BOX 684, care Hoard's Dairyman.

Farmer, single, 45, would like permanent job on farm owned by a woman, anywhere. Temperate, agreeable. JOSEPH T. PROCTOR, 51 Bank Street, Stamford, Connecticut. 8-2

Position wanted as farm foreman on dairy or general farm by graduate of Wisconsin Agricultural School. Can furnish best of references if required. Address MORRIS SHEA, Campbellsport, Wis. 8-3

Dairyman who has his own help would like dairy proposition on shares or salary. Practical scientific man in all details. Would take place on option to buy. Wife has her help in house. I have my help outside. Must make change within one month or sooner. Would consider proposition where my two oldest boys, age 16 and 18, and I under my observation, could run dairy or test work. Want place where we can make a showing. Would tie for one year. Either boys and I or family. Address BOX 682, care Hoard's Dairyman. 8-3

Wanted—By April 1st position on modern dairy farm. Single, good habits, understand feeding and testing. Would consider apprenticeship. Holsteins a specialty. Excellent references. State best proposition. E. R. BAILEY, Berea College, Berea, Ky.

Middle-aged herdsman open for position. Life time with cows and raising calves. Good reference. Name best wages with room and board. J. T. McDERMOTT, care J. F. Daugherty, Delta, York Co., Penna.

POSITIONS WANTED

Position Wanted—Married man, experienced dairy farmer, semi-official testing, crops, machinery. Good habits, capable of taking charge. Would consider position calf raiser on large breeding farm. Wife willing to board two or three men. Minnesota, Iowa or Wisconsin. State full particulars and salary. Address BOX 680, care Hoard's Dairyman. 8-2

Dependable, experienced, married man wants to operate dairy farming business selling clean milk, no boarding. Describe farm, cows, equipment, location, condition of business, dwelling and surroundings. CLARENCE DORSEY, Moro, Illinois.

Position Wanted—Single man many years in charge of dairy herds as milker, feeder and calf raiser. State your best proposition for attention, salary, board and room. M. L. RILEY, Barrington, Illinois.

Two young men familiar with tractors, general farming and dairying desire position on modern farm, or neighboring farms in United States or Canada. References. DARRELL JONES, Chambers Prairie, Wash.

Experienced tractor operator wants job driving tractor. Ohio, Pennsylvania or New York. HOWARD CLOSE, 65 Groton Ave., Cortland, N. Y.

City Luxuries are Farm Necessities

In the course of one of his public addresses, Mr. J. R. Howard, President of the American Farm Bureau, spoke in part, as follows:

"The farm home today is the heart of this country, and we should endeavor by every reasonable means to make those farm homes better. There should be in every farm home of this country the same comfort that there is in the city home.

"I am going to tell you a little personal experience. Four years ago when the war was on we were like everyone else—hard pressed for help. During the winter an electric light plant man came out and wanted to sell us a lighting plant, and we told him we could not buy for we would have to borrow the money.

"When spring came we were putting in the crop, and Mrs. Howard said to me one day, 'I am at the end of my ability to do this work. You will have to rent out some of the ground. I can't cook and wash and keep house for the farm help and all of these hired hands.' We could not get any help in the house. We could not get the washing done except we took it twenty miles and went twenty miles after it, which was an impossibility. And we reverted to the talk of that light plant. She said, 'If I had some way to get the ironing done and did not have to take care of these old lamps, and if I had a vacuum cleaner and a fan to take some of the heat out of the kitchen, I think I could get along.' I replied, 'You know why I did not buy that plant,' and she said, 'I know, and we would have to borrow the money, but I believe if that fellow could put in a plant right away I would try to borrow the money.'

"The next day I was out plowing with a tractor, and a fellow jumped across the fence. I don't know how he ever knew what we talked about at home, but it was the electric light plant man. I asked him if he could put it in right away. 'Yes, I can put it in next week.' So I told him to write out the order right away and he did, and we put it in.

"Do you know how I paid for that plant? I borrowed the money for 90 days at 7 per cent and I knew I could not pay it. I renewed that note four times before I paid any of it, but do you know what that plant did for that country home of ours? It saved the day for us. It made housework easier. The housewife could go ahead and enjoy as necessities those things which her sister in the city had as luxuries. It increased our production on that farm.

"When at the beginning of this school year we took our family to the city in order that I could be at home occasionally while I was doing this farm bureau work, we did it with a good deal of fear and trembling for fear our boys would be obsessed with the lights of the city, but the boys were too wise to be fooled. That electric light plant, and other things comparable to it, had made the old farm life so enjoyable to our family that, though now in Chicago, the boys do not talk about anything but going back to the farm as soon as school is out in June.

"Now, we have to have those things on our farms. The things which the city people have as luxuries are necessities in the farm homes of this country. We have a credit which will enable us to have those things on our farms. We have to have rural schools, my friends, that are just as good as any schools in the city. Do not forget that. Don't forget that the rural school and the rural church are cornerstones of American civilization. And when we get those things, farm life will be better and we will have a new day in agriculture."

Ayrshire Quarterly a Monthly

Annual Meeting of Association to Be Held at Milwaukee

At a recent meeting of the Executive Committee of the Ayrshire Breeders' Association, it was decided to change the breed's publication from The Ayrshire Quarterly, published four times a year, to The Ayrshire Digest, which will appear each month. J. G. Watson is editor; Clyde N. Smith, associate editor; and Arthur H. Sagendorph, business manager.

At this meeting it was recommended by the Executive Committee that the Board of Directors call the annual meeting for 1921 at Milwaukee, Wis., in June, and that the national sale be held at that place. The secretary was instructed by the Executive Committee to write all fair associations, state bureaus of animal industry, and the Bureau of Animal Industry at Washington requesting that the owners of all animals entered for show purposes furnish federal or state approved test charts before being admitted to their respective fairs and that all charts be approved by a federally accredited veterinarian.

Cheese Prices for February

The daily quotations of the U. S. Bureau of Markets show the following average prices for American cheese (style Twins) for three large markets in February, 1921 and 1920:

	Average price Feb. 1921	Feb. 1920
	Cents	Cents
Wisconsin Boards	25.10	27.82
Chicago	24.91	29.30
New York	27.00	30.16

Longhorns averaged 26.16 cents on the Wisconsin Boards or one cent above the price on Twins. In February a year ago, they sold for 32.04 cents.

One of the secrets of success in spraying is doing it at just the right time. Are your materials and machinery ready?

If a thing is worth owning it's worth insuring, say the insurance men. And if seed is worth planting it's worth testing.

MARKETS

CHICAGO, March 3—Butter—Creamery, extras, 52c; standards, 51c; dairy, firsts, 44@50c; seconds, 30@38c.

Cheese—Twins, 25½c; Young Americas, 25½c.

MILWAUKEE, Wis., March 3—Butter—Creamery, tubs, 53c; prints, 54c; extra firsts, 50@51c; firsts, 44@45c.

Eggs—Current receipts, country candled, cases returned, 29@30c; seconds, 26@27c; checks, 25@26c.

Cheese—Twins, 26@26½c; Daisies, 26½@27c; Young Americas, 26@26½c; Longhorns, 26½@27c; fancy Brick, 22½@23c; Limburger, 1 lb., 22c; 2 lbs., 23c; Swiss Loaf, 40@45c.

NEW YORK, March 3—Cheese—Firm; state milk, common to specials, 12@29c; skims, common to specials, 5@19½c.

Butter—Firm; receipts, 8,701 pkgs.; creamery, extras, 54½c; state dairy, tubs, 29@54c.

Eggs—Weak; receipts, 29,160 cases; nearby white, fancy, 50c; nearby mixed, fancy, 34½@42c; fresh firsts, 35@38c.



17,602 Pounds Milk; 850.5 lbs. butter fat in a year is the record of this splendid AYRSHIRE. Healthy? Of course!

NOTE:—The trademark name has been changed from KOW-KURE to KOW-KARE—a name more expressive of both the PREVENTIVE and CURATIVE qualities of the remedy There is not the slightest change in formula or manufacture.

You, too, can have record cows

Even though you may not have a single cow in your dairy that can ever hope to approach the mark of a champion, there are nevertheless many opportunities in almost every dairy for greatly increased milk production.

How? Simply by keeping an accurate record of every cow—and working to make each cow BEAT HER OWN RECORD. Milk records are great indicators of the ups and downs of a cow's physical condition. If the milk-making organs become sluggish, you'll soon learn—as others have—that a little prompt attention to health will return dollars for every penny spent.

For toning up and warding off the diseases that attack the organs of production, nothing has yet been found so promptly effective as the Kow-Kare treatment. At slight expense you can insure your cows against disease by its moderate use.

The medicinal properties of Kow-Kare act directly on the digestive and genital organs, making them function normally. Barrenness, Abortion, Retained Afterbirth, Scouring, Lost Appetite, Bunches can be prevented—or successfully treated—by following the simple Kow-Kare home treatment.

Convince yourself by testing Kow-Kare on one cow. Your feed dealer, general store or druggist sells it in 70c and $1.40 packages.

FREE—Our useful book on cow disorders, "The Home Cow Doctor." Write

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says the Good Judge



That you are getting full value for your money when you use this class of tobacco.

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Put up in two styles

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RIGHT CUT is a short-cut tobacco

Weyman-Bruton Company, 107 Broadway, New York City.

The 20th Amendment

(Continued from page 305)

oleo do you sell in proportion to the amount of butter?" he was asked.

"One-third," was the prompt reply. The next storekeeper in this same town who was quizzed regarding the burning subject allowed that he sold from one-third to one-fourth as much oleo as butter in this hotbed of dairying interests. But a butcher around the corner volunteered that he, too, was in the good game, that he sold no butter whatever over the counter, contenting himself with disposing of seven thousand, five hundred pounds, taken from actual figures, of butter substitute, or one-fourth the entire amount sold in that dairying village of seven hundred souls.

Again—7,500 lbs. of oleo oils and vegetable fats sold by one butcher in one year in one village of 700 in one county in one state which prides itself on its mighty dairy interests! Not to speak of 30,000 lbs. sold in one year altogether in this same tiny dairying stronghold! Fifteen tons of oleo—and the store people volunteered the information that of this amount the dairymen themselves bought seven and one-half tons annually.

When you multiply seven and one-half tons of oleo, the amount used in one little town in New York State by farmers only, by the thousand and hundreds of thousands of towns throughout this country and Canada, not including the huge cities, one can begin to get the glimmering of an idea of what butter has been, is, and will continue to be up against so long as conditions remain largely as they are. There have been numerous remedies suggested from the standpoint of the milk producer, but the one the least advanced and least acted upon, apparently, consists of picking the beam out of our very own eyes before we attempt to drive the consumer into washing the moat from his.

But this is no laughing matter, this farmers-eat-oleo crisis. Things are going from bad to worse so far as milk consumption is concerned, and the empty pockets and jobless heads of city families promise no immediate return to recent times when conditions were reversed and every back stoop boasted one or two quart milk bottles just because money was flush and you had to spend it somehow. Europe no longer cries for our milk, though her starving children cry to her in vain for it, and on every hand we are hearing repeated that old bogy-tale, "Surplus!"

We can advertise and in a great measure take care of this surplus, as most people know. But we cannot do it consistently when the pikers and ignoramuses among us insist on betraying the industry they have embraced by a silver quarter in coin of the realm instead of a kiss, as did one Judas Iscariot. Their parsimony reminds one of the dog or fox or wolf in the myth who, in crossing a stream on a narrow bridge, looked down into the water and there beheld another like himself who also was carrying a bone in his mouth. To be sure, the dog or whatever animal he was had a bone of his own, but he wanted to get that belonging to the dog in the water too. So he snapped at the bone in the water, only to have his bone slip from his jaws, while he himself fell into the stream after the shadow.

Some day a lot of dairymen are going to fall into the stream of very hard luck if they continue to demand two bones in the shape of good prices for their own milk while they eat imitation butter at half the price of what they demand for themselves. Some day everyone will use oleo at the rate it is advancing in popular diet—and then, goodby, poor old butterfat, you have had your day!

There are a good many million dairymen left in this free country who are still able to look ahead a bit and figure out the results to themselves, from purely personal motives, if they attempt from now on to eat their oleo and have their butter sold too. Perhaps it is one of these who would like to add one more law to the constitution, to-wit, that the 20th amendment take care of those who would sell out the whole industry for a mess of pottage.



Elsie Stevens of Ohio is shown here holding the Holstein cow, Ferndale Nudine Blanche, which she milked four times a day during a recent 7-day test when the record of 475.9 lbs. milk, 14.56 lbs. fat was made.

VETERINARY

Advice is given free in this department. Inquires must be signed by the writer, and should pertain to veterinary Matters only. Where an immediate reply and prescription are desired by mail, the inquiry must be accompanied by a fee of one dollar. In every instance it will be necessary to give a full description of the symptoms present.

Acute Mammitis

By this term is meant severe or aggravated and often ruinous inflammation involving the milk-secreting gland tissue of the udder. If simple mammitis be likened to cold in the head and bronchitis, acute mammitis corresponds to pneumonia. It is that form of inflammation which commonly spoils one or more quarters of the udder and tends eventually to involve and ruin the entire vessel. As a rule, it attacks but one cow and so is termed a "sporadic" disease.

It may be recognized by the severity of its attacks, by the high fever it causes, and the fact that the cow loses appetite, shows distress and pain which may end in weakness and emaciation. The attack is ushered in by a chill followed by a high fever and fast pulse. The quarter affected becomes intensely swollen, hard, red, and painful, causing lameness and straddling gait. The milk at once turns to whey containing curds and flakes and is sometimes stained with blood. Soon pus clouds the fluid and should the disease not subside it eventually loses all likeness to milk and becomes muco-purulent, brownish in color, and often foul smelling. In many cases hard tumors form in the udder replacing true gland tissue, and in some abscesses form and discharge pus into the milk ducts or externally. The milk from the other teats is unfit for any purpose at time of attack and when the cow recovers from the severe symptoms and remains a "three-teater" her milk scarcely can be considered fit for use. Such a cow is a menace if left in the herd as infection readily may be spread from her to other cows by the milkers' hands or by contact with floors, ground, or feed contaminated with the unsound milk or discharge from the diseased quarter.

Other causes of this disease are invasion of the udder by pus germs (streptococci) from the blood stream or lymphatics, or they may enter by way of a wound or abrasion or severe bruise of the udder or be carried by a milking tube, dilator, or bistoury (teat slitter) which has not been cleansed and disinfected by boiling for 20 minutes each time before use. Discharges from the vagina of a cow that has aborted, or expelled a dead and decomposed calf, or retained her afterbirth and become affected with pyometra getting onto her teats may also cause the infection. There can also be little question that germs are always more or less prevalent in the udder and may therefore cause this form of mammitis as a sequel to an attack of the simpler form of inflammation.

An affected cow should be isolated at once and the stall she has occupied at once cleansed, disinfected, and whitewashed. The milk, or abnormal fluid from her udder should be caught in a pail containing a disinfecting solution and then disposed of in such a way that it cannot cause infection. The veterinarian should give the cow hypodermic injections of mastitis bacterin and may consider it advisable to irrigate the udder with a mild milk-warm solution of boric acid or salt. Other treatment consists in frequent stripping of the udder, massages, and rubbing with camphophenique or a mixture of equal parts of carbolized oil, camphorated oil, and compound soap liniment. Iodin ointment and mercurial ointments may have to be used later. Despite all that can be done, however, perfect recovery from such an attack is extremely rare.

Ringworm

I have a herd of cattle which are affected with the so-called mange. These cattle do a great deal of rubbing and sores form around the eyes and about the neck and shoulders. Please advise remedy.

Hatchville, Mass. H. W.

The disease apparently is ringworm which is caused by a vegetable parasite and is contagious. Isolate affected animals and cleanse, disinfect, and whitewash the stable and fixtures, after removing loose trash. Treat by scrubbing spots free from crusts or scabs, if necessary first saturating them with sweet oil daily until softened. Then paint spots on face twice daily with tincture of iodin and rub iodoform powder into spots of upper eyelids. Saturate spots on neck and body with a solution of 4 ounces of sulphate of copper (bluestone) and 1 pint of hot water, and repeat the application every 6 or 7 days.

Indigestion

Advise me what seems to be the trouble with my calves from six weeks to three months of age. They bite on wood quite often. I feed them silage, ground oats, and skimmilk twice a day and clover hay all they will eat. Otherwise they are in good condition.

Turtle Lake, Wis. M. L.

Indigestion often is indicated by such depraved appetite or pica. Give each affected calf a dose of castor oil in milk. Stop feeding ground oats and allow the calves to help themselves to whole oats, wheat bran, and oil meal. Stop the silage. Allow free access to rock salt. Continue the milk, feeding it blood warm. Should the trouble persist, mix an ounce of lime water in each pint of milk fed daily.

A woodlot should be treated as the principal in a savings bank. The annual growth of wood corresponds to compound interest. When you cut out more than the equivalent of the growth, you are drawing upon your principal.

How Mr. Baldic Won the Sweepstakes

"I was awarded the sweepstakes at the Central Maine Fair at Waterville this year. I also got 40 ribbons, mostly blue, and received the highest praise from everybody for the quality and appearance of my products. I give a great deal of credit to Agricultural Gypsum for these excellent results. I shall use Gypsum on my entire farm next year."

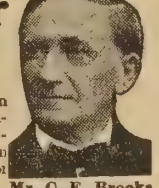
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MARTIN REMEDY COMPANY, Dept. A, 398-408 Columbus Ave., New York City. Reference—Colonial Bank.

Shipping Gift Corn

Carl S. Vrooman, former Assistant Secretary of Agriculture and now Director of the the Farm Bureau Federation's Gift Corn Relief, is asking farmers to give 3 per cent of one-half of their entire corn crop for the relief of the starving peoples of the world. At the present time, Mr. Vrooman is only interested in securing corn but it is suggested that after the corn project is fully under way that some other sort of relief, such as canned milk, will be taken up.

The details for handling the 50 million bushels of corn it is expected to send in relief, have been well worked out by the men in charge. Farmers will haul their gift corn to their local elevators where it will be shelled and loaded into cars. In nearly all cases, this will be done free of charge as will also the freight and labor of getting this corn to the seaport. County agents will arrange all details for transportation in the counties under the direction from the state farm bureau. Loaded cars will be routed direct to the nearest of several designated mills, which will grind the corn into meal and other products.

The function of the American Farm Bureau Federation in the project consists in securing the corn from the farmers, loading the cars and routing them to the nearest mills. From that point, the project is under the responsibility of the Hoover Relief Committee and of the Polish, Near-East, and Chinese Relief Committees. Provisions have been made to insure that the corn reaches the famine sufferers at no cost to them. Reports will be rendered back to the donors as to the disposition of their gift.

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PENSHURST FARM, Narberth, Pa.
(7 miles from Philadelphia)

Delchester Farms Ayrshires

Tell us your wants and we can supply them at prices you can afford to pay.

Aged cows, bred to Glenury, an A. R. son of Finlayston.

Aged cows, bred to Rena's Baron of Highland, an outstanding son of Baron's Best of Bargenoch.

Heifers, bred to these two great sires.

Young heifers.

Bull calves.

All the above stock carries some of the best producing blood of the breed with A. R. ancestry on both sides.

Herd free from tuberculosis

DELCHESTER FARMS
Edgemont, Del. Co., Penn. - Thomas W. Clark, Supt.

Orchard Lodge AYRSHIRES

Stock for sale, all ages.
Both sexes, prices reasonable.
G. W. STOLLER, Johnstown, New York

Pure-bred Ayrshire Cattle For Sale

Best of breeding. Calves sired by a Grandson of Brown Kate, record 1,080 lbs. butter in year.
Wm. Nisbet & Sons, Richland Center, Wis.

Canada's First National Ayrshire Sale

Under the Auspices of the
Canadian Ayrshire Breeders Ass'n
Will be held at MacDonald College
St. Anne de Bellevue, Quebec
(20 miles west of Montreal on G. T. R. and C. P. R. lines)

Thursday, March 24th, 1921
At 1 O'Clock, P. M.
(The day following the Annual Meeting in Montreal)

About 40 Head of Choice Females and a Few Bulls Will be Offered

These range in age from ONE to EIGHT years.

A few of the cows will have freshened by sale time, but a number are due to freshen in April.

Every animal offered has been selected with a view to type and production and from the best herds in the Country.

A good opportunity to select foundation stock.

Sale catalogues will be ready about March 10th, and for same apply to:

Gilbert McMillan, Sales Mgr., R. 2, Huntingdon, Quebec
W. F. Stephen, Secretary, Huntingdon, Que.
Auctioneers:—L. E. Franklin, Toronto, Ont.; C. A. Gavin, Huntingdon, Que.
Lunch will be served in the Sales Arena at noon.



We Have For Sale

the well bred Ayrshire bull, Bargenoch "Drexel" (18474) Imported. Bred by John Logan, Bargenoch, Scotland. Born Feb. 2nd, 1919. Color white and red. Sire, Bargenoch Magnificent (9579). Sire of Bargenoch "Royal Champion" sold at Bargenoch sale, 1919, for $7,267.00.

Dam, Bargenoch Victoria (37003). Scotch record: 9,221 lbs. milk, 4.23% fat in 43 weeks; 11,070 lbs. milk, 4.50% fat in 47 weeks.

BARCLAY FARMS, John Cochrane, Manager, ROSEMONT, PENNSYLVANIA

Middlesex Meadows Ayrshires

We owned *CAVALIER'S NETHERHALL CHANCELLOR* who sired the winning bull calf at this year's National Dairy Show. We have two young bulls ready for service by this sire and out of cows with official A. R. records of better than 12,000 lbs. of milk and 450 lbs. butterfat. Both these youngsters have excellent conformation but we must have room and the first check for $400 takes either one. We have also some younger calves by this bull out of A. R. cows at $250 and up.

A. Henry Higginson

South Lincoln, Mass.

Monstone Farm Ayrshires

"Production — Size — Individuality"

Bull calves out of dams with A. R. records of 10,000 lbs. (and better) of 4% milk—Winners in show ring—Sired by Lessnessock Gem's Good Gift Imp.—Winner in show ring and proven prepotent sire—Weight 2,250 lbs. in breeding condition—Whose dam made 8,930 lbs. milk, 4.05% fat, in *36 weeks* (Scotch record)—Sire's dam 10,342 lbs. milk 365 days (Scotch record)—Prices $100 to $1,000. If you want class and a square deal, correspond with us. We can supply your wants at your prices. Nothing but the best. Herd Federally tested.

MONSTONE FARM, John Chalmers, Manager, IPSWICH, MASSACHUSETTS

Bensalem Ayrshires

For Sale:—Bull Calves from our best A. R. Dams, and sired by "Queen's Favorite", whose Dam, "Bloomer's Queen", holds the World's Record as an Ayrshire Four-year-old with 21,820 lbs. milk, 1,009 lbs. butter. Grandam of Sire, Auchenbrain Brown Kate, Ex-world's Champion, 23,022 lbs. milk, 1,080 lbs. butter.

FRIENDS HOSPITAL, Frankford, Phila., Penn.

Ayrshire Stock

of all ages for sale. Satisfaction guaranteed

L. W. McCONNELL, Wellington, Ohio

BLACKBURN FARM
HOME OF
Addington's Champion

Grandfathers—Nox'emall and Finlayston
Father—Rena's Champion, 17 A. R. Daughters
Mother—Addington Queen 3d, two Mature Records each over 19,000 lbs.

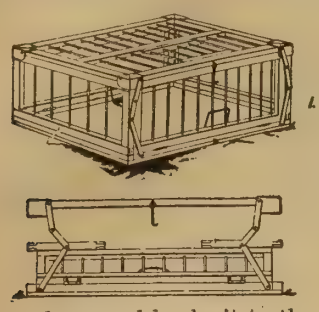
For Sale—
4-year-old cow—Fresh Dec. 12, 1920
2-year-old heifer—Fresh Jan. 16, 1921
Also Young Stock
Tuberculin Free Herd

Sewickley, Pennsylvania

Inventions and Appliances of Interest to Agriculture

Collapsible Crate

To knock down this crate, the operator first holds each side down against the tension of a spring, then turns the ends horizontally on toggle links (see lower figure), and finally presses

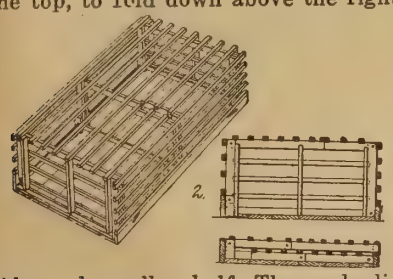


the top down and hooks it to the bottom.

(John T. Hendrick, Ready, Ky. U. S. Patent, 1,287,307.)

Knockdown Crate

The bottom sideboard at the left of this crate is higher than the one on the right. This arrangement permits the left side, and larger half of the top, to fold down above the right

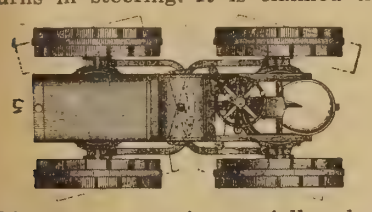


side and smaller half. The ends lie on the bottom under these.

(C. L. Austin, Sullivan, Ind. U. S. Patent, 1,335,635.)

Tractor

Each of the four wheels of this tractor are drive wheels, and each turns in steering. It is claimed that

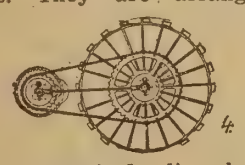


this arrangement is especially advantageous in orchards and vineyards where short turns are made at the ends of the rows.

(Lisenby Mfg. Co., Fresno, Cal. U. S. Patent, 1,343,979.)

Tractor

The new feature of this tractor is that the sprockets can be interchanged by removing the cotter pins and caps. They are arranged as

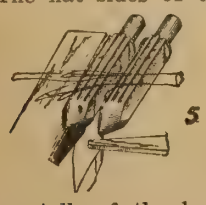


shown for power in hauling, but are interchanged for speed.

(Nash Tractor Co., Denver, Col. U. S. Patent, 1,325,853.)

Corn Husker

The snapping rolls here squeeze the ear out of the husk without injury to the ear and without shredding the husk. The flat sides of the rolls ad-



mit the stalk of the husk, and the grooved sides separate the ear.

(Burkett Mfg. Co., Columbus, Ohio. U. S. Patent, 1,329,752.)

Canada. C. J. LYNDE.

642 Pounds Fat

is the average on the A. R. daughters of Bellfounder, the sire of Countess Prue, the World's Champion Guernsey and My Fancy, eighth in Class A.

We offer bull calves carrying 15%—50% of this consistently high producing blood.

Prices $225.00 to $600.00.

The demand is keen; write today.

FALCON'S FLIGHT FARMS,
Litchfield, Connecticut.

GRASSLAND FARMS GUERNSEYS

Choicely bred males and females for sale. (The natural increase of the herd.)

Herd federal tested for tuberculosis. Send for sales list. Satisfaction guaranteed.

Taconic, Conn., Litchfield Co., (C. N. E. R. R.)

Guernsey Females

bred to an outstanding son of Ne Plus Ultra, one of the greatest sires of the breed. Fifty head from which to select.

MEADOWLAND FARM, Litchfield, Conn.

The Mixter Farms

For Sale at farmers' prices,—**bull calves** sired by May Rose bulls and out of May Rose dams with records of 500 to 700 lbs. fat. Also a number of producing females—animals that will be a credit to any herd and prove profitable in dollars and cents.

Write us before purchasing elsewhere. Mixter Farms have bred over 3,000 pure-bred Guernseys. **J. S. Clark, Supt., Hardwick, Mass.**
300 Guernsey Females.

Green Meadow Farms
NOW THE HOME OF
Langwater Steadfast

We are now offering *a fine Yearling Bull* sired by *Langwater Renown* and out of a fine Imported Dam with a record of 16,510.90 milk, 717.79 fat. We offer with him *ten fine Imported heifers* old enough to be bred. Anyone wanting to start a small herd, this is a rare chance.

We also have *a few two-year-olds* of May Rose and Golden Secret breeding that will be fresh this coming spring. Also *four yearling bulls*, old enough for light service of the above breeding. Our herd is now in the third year Federal Accredited List. For price and particulars address

GREEN MEADOW FARMS
Walter Jauncey, Mgr., Williamstown, Mass.

Hillswold Farm
Shrewbury, Mass.

Registered Guernsey bull calves for sale. Dams in Advanced Registry and tuberculin tested. Prices right, and animals guaranteed to suit. **W. A. Clones, Mgr.**

SAUGERTIES FARM GUERNSEYS

For Sale Bull Calves sired by Ultra May King, 27600. A. R. breeding. May Rose strain. Send for Sales List. Federal Accredited Herd No. 1511.

SAUGERTIES FARMS,
Saugerties, New York.

Harbor Hill Guernseys
Masher's Galore 8572 A. R.

Increased the Average Production Credit of 12 A. R. daughters out of A. R. dams by 181 lbs. We offer his double grandson out of another daughter also making a better record than her dam.

C. H. Hechler, Superintendent
Box 30, Roslyn New York

Forestdale Farm

3 Bully Baby Bulls 8 Handsome Healthy Heifers
— 2 to 18 months

from Superior Standard Sires, also a few A. R. matrons. May Rose Breeding. Tuberculin tested. $250 lowest price.

R. D. DeForest, Amsterdam, N. Y.

Herd Bull For Sale

Billy of Clover Lawn 44913

Sire—Gloriana's King Masher 27645. Four A. R. daughters and four others on test. Sire—King Masher 11084 A. R. Dam—Glendett's Dairymaid of C. L. 52237 A. R. Milk 9202.70 lbs.; butterfat, 444.67 lbs. Class D. On retest 85 days, about 146 lbs. fat. Sire, Glendett of Pinehurst 3rd 19208 A. R.

Lady Rose of C. L., 678 lbs. butterfat. Beauty of C. L. on test 62 days, 148 lbs. fat. Write for full particulars.

Elmer Wirt. Lewiston, Minn.

GUERNSEY SALE

This is a reminder that you should attend the

Second Annual Guernsey Sale
Of The
Elkhart County Guernsey Breeders' Ass'n
To Be Held March 17, 1921
At Goshen, Indiana
In Whittaker Sale Barn

We have catalogued 40 females instead of 36 as stated in our ad of last week.

All animals are tuberculin tested and guaranteed breeders. Write or wire for catalog or better come to the sale.

ELKHART COUNTY GUERNSEY BREEDERS' ASS'N
C. M. ENDERS, Sec. WAKARUSA, IND.

HONESTY PRIDE OF BIRCHFIELD 44580



Sire — Langwater Warrior 26509
Dam — Langwater Honesty 49479
10,536.9 lbs. milk, 517 lbs. fat, at 2 yrs. and 5 months

We are now offering a few splendid sons of Honesty Pride of Birchfield. From cows with A. R. records or now on test. Everyone is a straight backed, growthy, vigorous youngster. These young bulls will put type and production in your herd. Prices range from $150 to $300.

Quality Guernseys **HIGHLANDS** *Tuberculin Tested*

NYE H. FREEMAN, Herdsman, Linwood, New York

Guernsey Bulls For Sale

No. 1. Mimosa's Golden Butter Boy 48183. Born October 30th, 1917. *Sire*, Imp. Golden Noble II of the Briquet 40951. *Dam*, Imp. Mimosa III of Meadow Farm 68672.

No. 2. Raymond May Rose King 62800. Born October 29th, 1918. *Sire*, Raymond's Bequest of the Manor 33197. *Dam*, Imp. May Rose II of the Frie Baton 68669.

No. 3. Liseter Duke Raymond 58151. Born September 25th, 1918. *Sire*, Raymond's Bequest of the Manor 33197. *Dam*, Imp. Fairy Duchess III of Frie Baton 68690.

These Bulls are well grown, nice individuals, bred in the purple and guaranteed breeders. For full particulars and prices apply

LISETER FARMS, -:- Newton Square, Penn.

Guernsey Bulls

Our last 9 official records average over 510 lbs. fat, including all ages. Our herd sire has 8 A. R. daughters, including one with 572 lbs. fat in Class GG. His three nearest dams average 822 lbs. fat. Send for pedigrees and prices on young bulls with this backing.

Folly Farm, Box 587, Libertyville, Ill.

Thorn Hill Farm Guernseys



Have several well bred young Guernsey bulls for sale at reasonable prices. All my own breeding. May Rose and Glenwoods, out of A. R. cows with records from 500 to 750 lbs. of fat. Write for sales list to

AUGUST ZIESING, Deerfield, Ill.

Do You Want A Guernsey Bull

Closely related to Pergue's Crescent A. R. with a record of 13,316.9 lbs. milk and over 582 lbs. fat in Class EE and dropping two calves within the year, entitling her to second place in her class? Some excellent young bulls closely related to Pergue's Crescent ready to head your herd. Write for descriptive circular, or come and see them.

Ernest W. Sass, Box H, Streator, La Salle County, Illinois

Langwater Traveler

Carries 50 per cent blood of Imp. King of the May, greatest bull of the breed.

His dam is Langwater Lustre, A. R. 806.10 lbs. fat, fifth cow in Class C. She is the second highest testing daughter of King of the May. His sire is Langwater Holliston, sire of Langwater Levity, sold for $6,000.00 and leading cow in Class EE. Traveler's daughters are averaging over 500 lbs. of fat with their first calves. His first daughter to freshen will be a class leader in FF. We offer some excellent bull calves by Traveler out of May Rose cows with fine records. Federal Accredited Herd.

CHICONA FARM GUERNSEYS
A. L. Glle, Prop., Chinook, Washington.

Guernsey Bulls For Sale

Polly's Anchor No. 42845, born August 24, 1916, and Imp. Bluebird of Lakeside No. 45329, born June 15, 1917. Good, straight bulls, very gentle and sure breeders.

For Sale by

RADISSON FARM, ANOKA, MINN.

DON'T PUT OFF
Seeing your friends and having them join in for a club of subscribers.

Registered GUERNSEYS For Sale

7 cows and 3 heifers, due to freshen from April to October. 2 open heifers. All tuberculin tested. Farmers' prices, $200 to $400. We offer these animals because of crowded conditions in our barns. We must make room.

HYNICKA BROS.,
Stockdale Farms, Lebanon, Pa.

Iowanola Guernseys
We are offering
A Very Fine Son

born July 25, 1920, out of Imp. Kitchener's Express 43925, his dam has 592 lbs. of fat, and out of Franseca of Homa Della who has 12,855.2 lbs. of milk and 640.09 lbs. of fat in Class D. This is a very typy calf and should appeal to any one in need of a bull. Correspondence solicited.

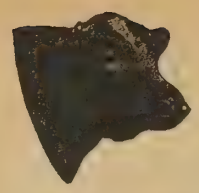
MOUNTAIN BROS.,
Carrier 403, Des Moines, Iowa.

Major Oliver S. Johnson



The Dairy Auctioneer

Tipton, Ia.



Economy in Production ← GUERNSEYS → Quality of Products



"I have had the satisfaction of producing the best," said one breeder who is the owner of a herd of 35 Guernseys descended from one cow purchased nine years ago. "The raising of registered cattle gives much greater pleasure than raising common stock." Let us tell you about others who have succeeded with Guernseys.

THE AMERICAN GUERNSEY CATTLE CLUB, Box H38, Peterboro, N. H.

GUERNSEYS FOR SALE

BANKER FARMER EXCHANGE — RELIABILITY QUALITY — of WISCONSIN BANKERS' ASSOCIATION

Pure-breds { 70 Cows; 61 Heifers and Heifer Calves; 162 Young Bulls and Bull Calves

Grades — { 116 Cows; 115 Heifers and Heifer Calves

Other Live Stock: Breeders are listing with us other dairy cattle, beef cattle, horses, sheep, and swine. Write us if you want stock. We will answer promptly.

BANKER FARMER EXCHANGE,
D. H. Otis, Director. 1822 Chadbourne Ave., Madison, Wis.

Young Bulls For Sale
From A. R. Dams

I am offering several young sons of Golden Noble of Craigmoor A. R. He is a son of Langwater Raritan A. R. and from Imp. Daisy Moon 4th (639 lbs. fat).

These bulls are from A. R. dams with records up to 648 lbs. fat.

They are from 3 months to a year old. For prices and pedigrees call or write

Maple Heights Guernsey Farm
Frank E. Swan, Wauwatosa, Wis.
Federal Accredited Herd.

Tilden Farms Guernseys

FOR SALE: Several typy, May Rose bulls out of A. R. cows and sired by Hope's May Rose of Maple Hill (35903), whose dam is a class leader with 776 pounds of butterfat at 3 years. Also several choice pure-bred females and a few excellent grade cows. Herd on Federal Accredited list.

TILDEN FARMS
James H. Murphy, Mgr. Delavan, Wisconsin

Mound City Farm Guernseys For Sale

May King's Reputation of Mound City (63800) born Dec. 3, 1919.

Sire—May King's Vrangue of Ingleside (15430). Dam—Alma Ethel, three records namely 495 class G, 621 lbs. class AA and 704 lbs. class A. Alma's King of Mound City (63801) born Dec. 23, 1919. Sire—Cinderella's King of Mound City (40476). Dam—Alma Lehigh (43704). 340 lbs. fat class G. 648 lbs. fat class A. Rose's May King of Mound City (63802). Born March 19, 1920. Sire—May King's Vrangue of Ingleside (15430). Dam—Rose of Little Platt (55717) record of 667 lbs. fat in class AA now fourth in her class. Some younger bulls of equal breeding.

Chas. A. Wilkins, Platteville, Wisconsin

GORDONDALE

Guernsey bulls of serviceable age offered for sale, also younger ones. They carry May Rose breeding, are from A. R. dams and have splendid A. R. backing Ask us about them.

Herd under Federal Supervision.

L. E. GORDON, JR.,
Nelsonville, Portage Co., Wisconsin.

SARNIA FARM GUERNSEYS

We are offering several very high class bull calves, 1 to 10 months old, nearly all out of A. R. cows. Send for sale list and circular giving pedigrees and pictures of the herd sires. Place your order now for bred heifers from 1920 importations.

Charles L. Hill & Son, - Rosendale, Wis.

2 Guernsey Bulls

No. 1—A son of Bob Rilma's Monogram, whose dam and sire's dam have records averaging 887.5 lbs. fat. His dam, a daughter of Langwater Hambro, made over 400 lbs. fat in Class G., 10 months old and well grown.

No. 2 is from a 519-lb. cow and sired by a son of Lord Waukesha from a 717-lb. 13-year-old dam. They're priced right and they must be as represented. Write me for further information.

RALPH TRATT, Whitewater, Wis.

CityViewFarm
GUERNSEYS

FOR SALE: Typy May Rose bulls out of A. R. cows or cows on test with records up to 615 lbs. fat AA Sired by Bell Buoy of Linda Vista, 17 A. R. daughters, and Langwater Good News. Some of these bulls trace 18 times to May Rose II and are priced to sell.

O. R. SCHWALEN, Roberts, Wis.

Guernseys

Best May Rose breeding. Both sexes and all ages from an Accredited Herd. Write your wants and send for lists.

E. S. Person, Minot, N. D.

BARRON
The Only
COUNTY

in the world to complete **tuberculin test.** 68,000 head tested. Less than 1% reactors.

Guernseys For Sale

2 CARS GRADE HEIFERS
1 CAR GRADE COWS
30 PURE-BRED BULLS

Barron Co. Guernsey Breeders' Ass'n
FRANK D. OTIS, Secy. Barron, Wis.

May Rose Bull For Sale
VISCOUNT OF EDGEMOOR No. 49389

21.09% May Rose

Sire: Imp. Itchen May King 25174 Grand Champion N. D. S. 1920.

Dam: Manoa's May Rose 25269 545 lbs. fat.

Born February 1, 1918, well grown, very good type, and a sure breeder.

Also offer two younger bulls, one ready for light service and one September calf by above sire.

F. C. MEYER, Lancaster, Wisconsin

Koshkonong Place Guernseys

Herd Bull: ANTON'S KING CECIL
(6 May Rose crosses).

BULL CALVES 6 mos. to 1 yr. old from A. R. daughters of
Jury and Gilt-Edge of K. P.
Herd on Federal Accredited list.

A. R. HOARD, - Fort Atkinson, Wis.

MAPLE HILL FARMS

May Rose bulls for sale from 2 to 16 months old with A. R. backing.

Fruit Bros., - Waukesha, Wis.

Special Low Prices To Move

Guernsey bulls by Beauty Eagle's Bonny Boy 42893, he by Bonny Boy of Riverdale 29070 (noted show bull), and out of Beauty Eagle 18117, 846 lbs. fat, or a son of Glenwood's Champion 15639 (24 A. R. daughters) out of daughter of Langwater Demonstrator 16451. Splendid high producing dams. Send for sale list.

LA BELLE KNOLL FARM, Oconomowoc, Wis.

Wern Farm Guernseys

I am offering for sale 20 head of choice Grade Guernsey springers coming with first and second calf. Also have two bulls highly bred along May Rose lines just ready for service, that I will sell. For full particulars, write, wire, or come and see the stock.

Wern Farm, Waukesha, Wis.

Homestead Farm

Offers for sale bulls from 11 to 13 months of age from A. R. dams. Also a few young bull calves of excellent breeding, and three A. R. cows. Write for sale list or come and see them.

JAMISON BROS., Appleton, Wis.

Here's Your Opportunity!

Good Grade Cows in car lots. Pure-bred Males, Females with type and good producing ability. Investigate.

Fox River Valley Guernsey Breeders' Association
Harry Leppla, Sec'y, Appleton, Wis.



CONTENT'S MERRY BOY OF PROSPECT 64022

Dropped Dec. 23, 1919

The above picture very poorly represents Merry Boy. He is a regular bull calf—full of life and vigor. His conformation is the kind that pleases a close observer. He is straight and wide. His barrel is of good length and his depth is especially noticeable. We know that his purchaser will be more than pleased with him.

He is sired by ANTON'S KING CONFIDENCE 43517, our senior herd sire who traces six times to May Rose 2nd. The dam of Anton's King Confidence has a record of 764.65 lbs. of fat as a junior 4-year-old.

His dam is Content of Prospect A. R. 5960. She is one of the most persistent producers we have in the herd. She easily made the A. R. and is the kind of a cow that always makes good money for her owner. If you want this bull calf write

Hoard's Dairyman Farm
Fort Atkinson - - Wisconsin

Calumet County Guernsey Breeders' Ass'n

Announce the holding of their

First Annual Consignment Sale

OF REGISTERED AND GRADE

Guernseys March 31 and April 1, 1921 Chilton, Wis.

On March 31st, SIXTY-THREE SPLENDID MALES AND FEMALES will be offered. A number of choice A. R. cows are listed, and bulls out of dams with fine official records.

On April 1st, TWENTY PURE-BRED BULLS and TWENTY-FIVE very good GRADE COWS AND HEIFERS are to be offered.

Auctioneers: Love and Benjamin.

(Watch coming issues for details).

For Catalogue address
F. E. FOX, Sales Manager, Waukesha, Wisconsin

GUERNSEY SALE
100—HEAD—100

La Crosse County Guernsey Breeders' Fourth Annual Sale

West Salem, Wis., Wednesday, March 30, '21

60 Pure-breds, the choice of La Crosse and adjoining counties.
40 high grades mostly fresh or soon due.

Send a card for catalog now.

H. W. GRISWOLD, Sale Manager West Salem, Wis.

MR. GUERNSEY BREEDER

we are offering bulls of May Rose, Glenwood and Yeksa breeding out of A. R. cows. Our records range from 450 lbs. to 864 lbs. of fat; ages from 2 months up to serviceable age for $100 and up.

Can spare a few fine females.

CORIUM FARM, F. J. Rueping, Owner, Fond du Lac, Wisconsin

Dairy Industry of Argentine

The Rural Society of Buenos Aires, the leading authority in the Argentine Republic in matters pertaining to the animal industry, announces that during the five years 1914-1919 there were imported into that country 29 bulls and 43 heifers of the Holstein-Friesian breed; 15 bulls and 10 heifers of the Jersey breed; 11 bulls and 2 heifers of the Red Polled breed; 21 bulls and 1 heifer of the Red Lincoln breed; 9 bulls and 15 heifers of the Norman breed; and 1 bull and 2 heifers of the Guernsey breed; which goes to show the interest the Argentine breeders are beginning to take in the dairy breeds.

Out of a total of 32,000,000 head of cattle of all breeds, the dairy breeds are represented by 3,000,000 cows, with an average milk production of five quarts per day.

The rapid progress of the dairy industry in the Argentine Republic is shown by the fact that in 1914 the total butter production was 9,307 tons, and the cheese was 5,413 tons; while during the first nine months of 1920 the production reached 20,939 tons of butter, 21,770 tons of cheese, and 10,706 tons of casein; and the number of factories working on dairy products has reached the grand total of 4,364.

The Rural Society is now busily engaged in organizing an International Dairy Exhibition, to be held in Buenos Aires during the coming month of May, and seems to be especially interested in having a large representation from American breeders and manufacturers of dairy products, and particularly of dairy machinery. MRS. E. H. SIRVENT.

Washington, D. C.

BROWN SWISS



BETTY OF LAKE VIEW

Breed Brown Swiss Cattle

As producers they are worth every cent you pay for them. Cows are easily sold at reasonable prices. Their earning power has not been capitalized. Brown Swiss meet the ideals of working farmers.

BROWN SWISS CATTLE BREEDERS' ASS'N
IRA INMAN, Secretary, Beloit, Wis.
William B. Hale, Pres., Aqueduct Bldg., Rochester, N. Y.

JUBILEE FARM
Brown Swiss Cattle

Young stock for sale. Individuals of Quality. The best producing blood lines of the breed.

BOX 747, PEORIA, ILL.

Fariview Dairy Farm
Brown Swiss Cattle
FOR SALE
Both Male and Female
F. P. MINNETTE & SON, Sauk Center, Minnesota

JERSEYS

Sophie 19th of Hood Farms
World's Champion Long Distance Dairy Cow

9 years R. O. M. records total 110,918.1 lbs. milk, 6,356 lbs. fat, 7,945 lbs. butter 80% fat. Now on tenth yearly test in sixteen-year-old form. Has made in four months 5,137 lbs. milk, 295 lbs. fat. We offer grandsons of this World's Champion cow. They will sire size, production, constitution, longevity. Write for description and pedigree of bulls and bull calves. Prices from $200.00 and up.

HOOD FARMS, Inc.
Lowell - - Mass.

N. B. Over a quarter century breeding Jerseys for large size, heavy production, strong constitution, longevity and profit, enables us to offer you a bull that will sire profitable producers. Our correspondence is very large, to save time and correspondence, we would appreciate your writing us priced bull you wish to purchase, and we will send full information on more than one for your consideration.

JIMMY DODGE, Mgr.

$450 WILL BUY JERSEY BULL TATTOO 340
Dropped Aug. 14, 1919.

SIRE—Sophie Gilsland Tormentor 123534. Sire of 2, others on test making from 450 to 500 lbs. fat as two-year-olds. His dam Sophie's Adora is ex-champion Junior 4-year-old with 15,852 lbs. milk, 888 lbs. fat.

DAM—Miss Stella Fox 242261. R. O. M. record 11,484.6 lbs. milk, 589 lbs. fat. She is a big cow of excellent type with large, well shaped udder and large, well placed teats.

The bull is solid light fawn, black tongue and switch. He is large, of splendid type and bred to sire large type, big producing cows.

Four generation pedigree on request.

AYREDALE STOCK FARM,
F. W. Ayer, Box 713, Bangor, Maine.

Jersey Cows For Sale
FROM FEDERAL ACCREDITED HERD

I have six cows for sale with Register of Merit records from 400 to 500 lbs. butterfat, age from 3 to 8 years. Prices from $250.00 up. One of these is a daughter of Noble's Fawn Prince, record 493 lbs. Five will freshen between January 5th and April 15th. These are all good individuals of right type.

P. G. WARMINGTON, Honey Creek, Wis.

HERE'S YOUR OPPORTUNITY

Bull calf born March 4, 1920, sired by a grandson of Majesty's Western King and out of a R. of M. daughter of Ibsen's Chief. For full pedigree and price write

E. E. HILL & SONS, Tomah, Wis.

Valley Farm is Offering

Several bulls, 6 to 12 months old, from R. M. cows. Sired by Golden Maid's Viscount and Kilda's Royal Majesty, two of the best Island bred bulls living. At prices to sell. Write

FRED STUBLEY, Black Earth, Wis.

JERSEYS—DUROCS

Just one bull old enough for service and a few young calves. Hood Farm breeding.

F. R. Constance & Sons, Waupaca, Wis.

Hillcrest Jerseys

Bull calf born March, 1920. Sired by Imp. grandson of Golden Fern's Noble. Priced right for quick sale. Write

ROLLIE VANDERVORT, TOMAH, WIS.

Six Splendid Jersey Bulls

FOR SALE. Good type, well bred and well grown, 12 to 18 mos. old, from dams in R. of M. or on test. Rich in the blood of H. F. Torono, Figgis, H. F. Pogis 9th, Pedro, Loretta D, King Sappho King and Golden Maid's Prince.

J. Q. EMERY & SON. - Edgerton, Wisconsin

Register Merit Jersey Herd

At Head, Mona's Jacoba Premier grandson: Pogis 99th of Hood Farm. Dam, Mona's Jacoba, record 806 lbs. butter: Granddaughter Jacoba Irene, young stock; St. Lambert breeding for sale. R. C. Green & Son, Albion, Wis.

For Better Jerseys

We do not retain in our herd any cow which under favorable conditions will not produce 500 lbs. of butterfat (600 lbs. butter) in 1 yr. on official test.

We have a few young bulls for sale.

THORNBURY FARM
LIBERTYVILLE, ILLINOIS
W. A. BREWERTON, Owner L. A. BENT, Mgr.

BELSWOOD FARM
Financial Bred Jerseys

We are offering for sale a splendid lot of bulls and bull calves out of R. of M. dams with records of 500 lbs. butter. Also several heifer calves. Send for illustrated catalog, containing pedigrees and delivered prices.

A. F. Block, Mgr., Norwood Park, Illinois.

JERSEY BULL
Ready For Service

Dropped July 25, 1919. Solid dark fawn, black tongue and switch. SIRE—Sigma's Raleigh Majesty 156131, by a R. of M. grandson of Royal Majesty, out of Raleigh's Sigma 241848, Champion Jersey butter cow of Iowa, in R. of M. 1,011 lbs. butter in 1 year—1,951 lbs. in 2 consecutive years, out of a daughter of Raleigh's Fairy Boy, by a son of Mabel's Raleigh. DAM—In R. of M. 448.35 lbs. butter at 3 years old. A prize-winning granddaughter of Oxford You'll Do, out of a cow of Champion Flying Fox and Golden Fern's Lad breeding.

Price $175.00 F. O. B. Forest Lake, Minn.
M. D. MUNN, ELMS JERSEY FARM
Forest Lake, Minnesota

Montpelier Jerseys

Three young bulls ready for service. Trace three times to Oxford Lad. Fine typy individuals. Right in every way.

Montpelier Manor Farms, Laurel, Md.

POLLED JERSEYS

Breeders' names and Spillman's "Inheritance of the Poll Character in Cattle" mailed free.

CHAS. S. HATFIELD, Secy, R4, Box 5, Springfield, Ohio.

Fifteen Jerseys For Sale

Heifers, rich in the blood of Sophie 19 and Hood Farm Torono. Bred to Pogis 99th Duke 8, directly bred from Pogis 99 and Sophie 19, Hood Farms greatest producers. Will freshen in May and June.

GUY C. HAYWARD, Scotts, Mich.

JERSEYS
The Profit Breed

"The Key to Dairy Profits" and *"Jersey Facts"*—two important books, telling how farmers are making real profit today with Jerseys—how anyone can do it anywhere. Whether you are interested in one cow or a hundred, these books will show you how to make money. Free—Write today

American Jersey Cattle Club, 324-E W. 23 St. New York

Meridale Jerseys
Head Your Herd With a Meridale Bull



The most practical way to increase the profit of a dairy herd is to head it with a pure-bred bull. Such herds average receipts of about $26.00 per cow per year higher than herds headed by a grade or scrub.

A good bull is worth more than his cost to the dairyman. We have a few such young bulls available. They are bred from Register of Merit ancestry, and give promise of being better than their sires. Figure what the *need* of a pure-bred bull is costing you. Write for booklet and pedigrees.

AYER & McKINNEY
Meridale Farms Meredith, New York

HOLSTEINS

We Have For Sale

Good record bulls and bull calves; also some typy heifers, two and three years old. Write us your wants, or come to see the herd. We can supply you with foundation animals that are healthy and sound, of the choicest breeding, at prices that are moderate.

DATE HOLSTEIN FARMS
GRANT E. VOLLAND, Mgr. Baroda, Mich.

THE TRAVERSE HERD

We have what you want in
BULL CALVES

the large, fine growthy type, guaranteed right in every way. They are from high producing A. R. O. ancestors. Dams' records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.

Traverse City State Hospital, - Traverse City, Michigan

The Pontiac Herd
"Where the Champions come from"

Offer Bull Calves sired by sons of *Pontiac Korndyke, Hengerveld De Kol, Pontiac Dutchland, or Admiral Walker Pietertje.*

Do you want a Pontiac in your herd?

PONTIAC STATE HOSPITAL, Pontiac, Mich.

Registered Holstein Bulls
4 Yearlings, 7-4 to 6 months old
$100.00 and up if taken soon

All sired by 30-pound bulls. Out of A. R. O. dams with records made on the farm running from a 17-lb. two-year-old to 21-lb. two-year-old, and aged cows from 22 to 30 pounds. We have 13 granddaughters of King of the Pontiacs in our herd and one of his sons out of a 30-lb. dam. Also a grandson of Pontiac Korndyke out of 1,105-lb. dam, 30 pounds, 7 days.

C. A. PARKS, Mgr. Assumption, Ill.

BULL CALF FOR SALE

Sire is a 27-lb. son of Johanna McKinley Segis, the 40-lb. bull that sold for $25,900. Dam is a granddaughter of Pearl of the Dairy's Joe De Kol with 78 A. R. O. daughters. Marking ⅞ white.

Long Distance Phone 389.

DUETT ROBINSON, R. 3, Capron Ill.

Edinboro Lake Farm

Show Type **HOLSTEINS** Production

Six state yearly record champions 1918-19.

We offer bull calves by Sir Paul Veeman Hengerveld and Sir Ormsby Skylark Fredericka, out of yearly record dams with type.

Edinboro, Pa.

DISPERSAL SALE
45-Registered Holsteins-45

Two Herds—One an Accredited Herd, the other under State and Federal Supervision

Tuesday, March 15, 1921 at 1 o'clock, on my farm

Near York, Pa, also all horses, mules, hogs and farm implements. This is a grand lot of cows, heifers and young bulls. My herd sire a 32.48-lb. grandson of K. K. S. V. and Colie Charge. Sold on a 60-day guarantee retest. Send for catalog. Trolly cars run within 2 squares of the farm near the Lincoln Highway.

H. N. FORVEY, York, Pa.

SONS
of Sir Echo Sylvia Johanna —
⅞ Brother to the $106,000 Bull

From high bred fine individual A. R. O. cows up to 30 lbs. Several on test now. All good, straight individuals, backed by lots of milk and butter. Some are ready for service. Priced very low. Write for catalog.

(*Herd Under Federal Supervision*)

CHESTNUT HILL FARMS,
G. A. Burdick, Mgr., Gibsonia, Pa.

ORIGIN FARM

HORNLESS HOLSTEINS, Registered and A. R. O. Animals, all ages, for sale. Federally Tested.

GEO. E. STEVENSON, Scranton, Penna.

4 Holstein Bullsfor Sale

All by King Segis Pontiac Cor-Will, 190512, whose sire is King Segis Pontiac, 44444, and whose dam is an A. R. O. daughter of Pontiac Korndyke. Also two fine young registered cows, one a granddaughter of Pontiac Korndyke. Wm. N. Osborn, Wanatah, Ind.



HOLSTEIN CATTLE

N. P. Hanson, Westbury, Minnesota, writes:

"Nine years ago I purchased my first purebred Holsteins, three young heifers and a bull. One of those heifers cost $175 and now has five daughters, four granddaughters and four great granddaughters. For the whole family a conservative estimate of their value is $15,000—not so bad for a $175 investment nine years ago."

Send for Free Booklets

The Holstein-Friesian Association of America

101 American Building, Brattleboro, Vermont

A Son of K. P. O. P.

From A World Record Dam

He is Friend Piebe, a splendid individual and one that is backed by good individuals. His dam is Lady Mutual Friend, former world record 41-lb. cow that made 1,129.95 lbs. butter in 305 days and 1,281.46 lbs. from 23,388.90 lbs. milk in a year. She has 4 A. R. O. daughters, 2 above 30 lbs. and one with 948.81 lbs. in a year as a 2-year-old. His sire is King Pietertje Ormsby Piebe, recognized as one of the greatest sires of the present time. This fellow is priced to sell on easy payment terms.

Hargrove & Arnold, Norwalk, Iowa

Herd under Federal Supervision

SIR JOHANNA FAYNE



42147

now has 9 daughters 20,000 pounds or over. All of his yearly tested daughters, 3½ years old or over average 21,465.1 pounds milk and 831.45 pounds butter. 17 daughters average 20,000 pounds. A few young sons left at reasonable prices. Herd under Federal Supervision.

IOWANA FARMS

DAVENPORT, IOWA



SADIE CORNUCOPIA EIBERTJE

Her Son For Sale—

This cow was 2nd prize A. R. cow and 3rd prize 4-year-old at Dairy Congress, 1920. She is by the best son of the 1st 30-lb. cow and has a 20-lb. 2-year-old record with 510 lbs. butter in 345 days. Now on test as a 4-year-old with 400 lbs. butter in 1st 6 months. Her dam 530 lbs. butter in 10 months; next dam 516 lbs. butter 365 days at 2 years. Calf is by Woodcrest Sir Clyde, who is from a 33-lb. and 970-lb. dam; born May, 1920. More black than white. Given a Federal Certificate of Health.

Write for photo and pedigree today.

W. B. BARNEY & SONS, - - - Chapin, Iowa

BULL CALF

Sire's dam, butter, 1 yr., 848 lbs.; her daughter, 1,055 lbs. Grandsire's dam, 987 lbs. at 11 yrs.; her full sister, 1,344 lbs.; another, same dam, 1,322 lbs. Dam, Miss Pietertje Alexina 3d, sister to Miss Pietertje Alexina 2d, 1,290.91 lbs. A dandy calf, priced right. Write quick to

McKAY BROS., - - CADDOA, COL.

Another Good Young Bull

A son of Hester Aaltje Cornucopia, 24-lb. 3-year-old. His sire is King Pietje Alcartra Pontiac. His 7 nearest dams average 32.19 lbs. butter in 7 days. This fellow is a mighty good individual. He was born March 11. Write us about him.

Brown Bros., Waverly, S. D.

Holstein Service Bulls

sired by

King Bess Burke Ormsby

whose 5 nearest dams average 36.56 lbs. butter in 7 days, 1005 lbs. in 1 year.

PRICED TO SELL
TUBERCULIN TESTED

Milford Meadows Stock Farm
Lake Mills, Wisconsin

Sons of a 36-lb.—1315-lb. Sire

They are sons of Dutchland Creamelle Denver Prince. His sire is a 30-lb. 1,028-lb. grandson of Colantha Johanna Lad and his dam, the highest record daughter of the same sire, with 36 lbs. in 7 days, 1,315 lbs. in a year.

They are from tested (records up to 20 lbs.) and untested dams — Good producers rich in the blood of Mooie Mutual De Kol and King Segis Pontiac.

The calves are from 2 to 8 months old. Priced right.

Jefferson County Asylum, Jefferson, Wis.
W. E. Voigt, Supt.

Bull Ready For Service

Nicely marked and a good individual. Dam 20 lbs. butter at just 3 years. Next dam a 23-lb. 4-year-old. Two nearest dams of his sire average over 32 lbs. and ten nearest dams over 29 lbs. in 7 days Not a break in a three-generation pedigree. Priced to sell. Call or write

Halsey J. Sedgwick, Limeridge, Wis.

Grade Heifer Calves—$20

Good grade heifer calves by pure-bred sires $20 f. o. b. cars. Pure-bred bull calves $40 and up. Good, registered heifer calves at reasonable prices.

J. C. BOLGER, Waterloo, Wis.

Serviceable Bulls For Sale

Sired by Pabst Pontiac Hengerveld, a son of King Pontiac Champion from Pabst Hengerveld Colanthus (31.5 lbs. butter in 7 days, 1,057 lbs. in a year.

These are nicely marked, well grown youngsters out of good producing dams. Several are ready for service, others are younger.

Write today.

John Alexander, Baraboo, Wis.

GREENBUSH FARM

REGISTERED HOLSTEINS

Offering a service son, by a 1225.67-lb. sire, from a 657.1-lb. senior 4-year-old dam. Good individual. Price $400. Several others at $150 and up. Herd under federal supervision. For complete information address

GREENBUSH FARM,

R. Turano, Herdsman, Glenbeulah, Wis.

Yearling Bulls

From 21-lb dams. One has 662 lbs. butter, over 17,000 lbs. milk at three years. By proven bulls with daughters up to 30 lbs. Best of Ormsby and yearly record backing. Good size and type. Guaranteed to please and stand a 60-day retest. Priced to sell. Write

RIVAL STOCK FARM, Laurens, Iowa

A Son of LIEUTENANT RAG APPLE

from a ⅞ths sister to a 948-lb. junior two-year-old daughter of a 1,281-lb. cow. $100.00. Let us tell you about him. Serviceable.

BLUEBELL FARM, Riceville, Iowa

Send For Our Bull Sales List

Three bulls of serviceable age—four others will be old enough for service in a month or two—others three months old and older. Almost all of them sired by SIR ORMSBY BEAUTY PONTIAC SEGIS, the son of a 37-lb., 1112-lb. three-year-old daughter of KING SEGIS PONTIAC COUNT.

If it will be of an accommodation to the purchaser, we will accept a six months' note in payment, WITHOUT INTEREST, or will accept payment on installment plan basis.

Pinehurst Farms Co., Sheboygan Falls, Wis.

Cows and Heifers

A Few Good Bulls

Because I am overstocked, I am offering some very good registered females for sale. They either have A. R. O. records or are from A. R. O. dams.

Can also offer some excellent young bulls by a 33-lb. sire and from A. R. O. dams with records up to 28 lbs.

Every animal sold is guaranteed to be as represented.

Write or come and see for yourself.

J. D. McDonald West Salem, Wis.

$100 to $200 Buys A Bull From A Good Record Dam

Am offering several for those prices sired by a 26-lb. bull and from A. R. O. dams with records up to 25.46 lbs.

Write at once. They'll go fast.

H. W. Crawford, R. 5, Campbellsport, Wis.

A Fedral and State Accredited Herd Offers—

two serviceable sons of M. M. Rag Apple Oak Denver, a grandson of the 36-lb. cow, Dutchland Colantha Denver (1,315 lbs. butter, 25,431 lbs. milk in a year).

No. 1—Born Oct. 7, '19. Dam's record 16.04 lbs. as a heifer; second dam 24.79 lbs.; third dam 28.88 lbs. Bull mostly white, very good individual. Price $250.

No. 2—Born Nov. 5, '19. Dam's record 19.75 lbs.; second dam 18.75 lbs.; third dam 21.45 lbs. Half white. A show bull. Price $200.

For complete information and pedigree write

A. M. Anderson, Whitewater, Wis.

1000---HERD---1000

Quality Holsteins

GRADES AND PURE-BREDS

Just now we have a splendid lot of grade heifers. Write for our pure-bred bull list.

Jefferson County Holstein-Friesian Breeders' Association.
A. F. Gafke, Secretary, Jefferson, Wis.

A BULLY CHANCE

to get a serviceable sire—born March 15, 1919. A fine individual—well bred—well marked—well grown. Sire, a son of King Segis Pontiac out of a 26-lb. daughter of Juliana King of Rock. Dam, A 26-lb. daughter of King Korndyke Veeman Wayne, he out of a 31-lb. daughter of Sir Veeman Hengerveld. Will trade for pure-bred Holstein females, liberty bonds or cash. If you want a herd sire—what have you got that you don't want? Write or call for price, pedigree, photo. Also have some younger bulls. Herd tuberculin tested.

RIDGEHURST STOCK FARM,
Glen C. Ramsey, Ft. Atkinson, Wis.

ORMSBY BULL - Born Feb. 28, 1919

Sire, King Ormsby Pontiac De Nijlander, whose two nearest dams average over 30 lbs.

Dam, Aaltje Hengerveld Tritomia Segis. A. R. O. 17 lbs. at 3 yrs., next dam 29.68 in 7 days. Color light, fine individual. Ready for service. Price $300.

Fairview Stock Farm Whitewater, Wis., W. G. Marshall, Prop.

Fairhurst Herd

On the Accredited List

We offer young bulls, fine individuals and well grown. Sired by 33-lb. bull and from dams with records up to 30 lbs. Write for pedigree and price.

KITTLE BROS., Holland, Ohio.

ZEHRINGHURST HOLSTEIN FRIESIANS

A Few Splendid Young Bulls

for sale that have show ring type, that are backed by 7-day and yearly records and by the best productive breeding in Ohio. They are from an accredited herd, are guaranteed right and are priced to sell.

Zehringhurst Farm, Germantown, O. Oscar O. Zehring, Prop.

A 26-Pounder For Sale

A handsome, large, straight bull calf born Nov. 8, 1920. White in color except a few black spots. Sired by my De Kol Hengerveld Burke bull, and out of a very large, straight, square, handsome cow with a perfect udder and teats. This cow recently made in a 7-day official test 552.0 lbs. milk and 26.14 lbs. butter. Her sire is the best son of Pontiac De Nijlander, the champion butter cow of the state of Michigan. $300.00 will buy him.

A few others for less money out of cows with records up to 24 lbs.

I. M. SHORMAN, - - - - - Fowlerville, Michigan

Holstein Breeders' Sale Company's

QUALITY SALE

March 15-16—Fond du Lac, Wis.

150 Head — of the Best **HOLSTEINS** — 150 Head

EVER OFFERED AT A CENTRAL WISCONSIN SALE WILL BE SOLD

70 cows with A. R. O. records, 55 bred heifers, yearlings and heifer calves—all out of A. R. O. dams. 25 bulls—2 of them from 30-lb. dams. Also good yearly record bulls.

Fletcher Bros. Entire Herd Will Be Sold

This herd of 55 head includes a 30-lb. 3-year-old and 2 of her daughters, a 26-lb. junior 2-year-old daughter of a 32-lb. cow and 3 of her sons. Joe Oak De Kol Fobes and 20 of his daughters will be included.

The W. W. Williams' Herd is Also to Be Sold

This includes 30 head, among them a 30-lb. cow, and her yearling son by King Waldorf Pietje Echo, 36-lb. grandson of May Echo Sylvia. Also 12 daughters of this good sire, two 27-lb. cows and the junior herd sire, a 31-lb. bull.

There will be two 30-lb. cows, two daughters of 30-lb. cows, a 28-lb. 4-year-old, two 27-lb. cows, three 25-lb. cows, one 24-lb., four 23-lb. and ten 20-lb. cows.

Bulls with the best of 7-day and yearly record backing.

All Animals Over 6 Months Old, Tuberculin Tested and a 60-Day Guarantee Given.

Get Your Catalog and See For Yourself.

Auctioneers: Kelly, Mack & Pohlman. F. H. Everson in the Box.

S. H. BIRD, Sale Manager, So. Byron, Wis.

Watertown, Wisconsin Wednesday, March 30th

—A Big Day

A full programme of real

Bred in the Purple Holsteins

Our men are out now inspecting the consignments. We are doing our level best to assemble cattle that will reflect credit to our territory. Remember, that the bulk of our offerings come from Dodge Co., to our notion the County that has played a greater role in contributing to real Holstein type than any other County in the World. Did you know that Oak De Kol Ollie Homestead, Iowana Sir Ollie, Ollie Johanna Sir Fayne, Cedar Lawn Canary Paul, Ollie Watson Prime Madonna, Piebe Laura Ollie Homestead King, Jessie Fobes Bessie Homestead and Grace Fayne 2nd Homestead came from Dodge Co.?

You'll find a lot of this splendid line of Breeding in Our Sale

AND THIS IS NOT ALL. We have a double grandson of 37th from a 24-lb. Jr. two-year-old daughter of 37th sired by a son of 37th's only 30-lb. daughter to have 1,000 lbs. in a year to her credit. Some bull. We have a yearling son of a 31-lb. 4-year-old that sold for $4,300.00 in the State Sale. She is now making 900 lbs. on yearly work. This bull is sired by son of Sir Piet. We have another choice 30-lb. yearling from a show cow sired by a 33-lb. son of King of the Sadie Vales. We have a splendid two-year-old daughter of a 25-lb. cow due at sale time, bred to the 30-lb. grandson of 37th referred to above. We have a dandy 25-lb. cow making 800 lbs. on yearly work.

We'll tell you more again about this sale. Plan to come. All animals tuberculin tested.

Write Francis Darcey, Secretary

Watertown Holstein Sales Company

Watertown, Wisconsin

A SERVICEABLE SON

Of the 1235-lb. Yearly Sire

Sir Korndyke Bess

His Dam has a remarkable 305-day record.

R. E. BENSON, - Dousman, Wisconsin

HOLSTEIN BULLS AND HEIFERS!!

To make room in our barn we offer a dozen or more heifers from 1 month to 3 years of age. They are backed by some of the best families of the breed. Also a few bulls sired by King Korndyke Veeman, whose two nearest dams average over 37 lbs. butter in 7 days. Come and see them or write to

WISCONSIN STAR STOCK FARM, ED. M. SCHULTZ, HARTFORD, WIS.

A Son of This World Record



Oak Lodge Colantha Lady

Three-year-old

For Sale

Oak Lodge Colantha Lady, his dam, made over 18 lbs. butter as a senior yearling. As a junior 3-year-old she has just finished a world's record for 305 days with over 21,000 lbs. milk and 816 lbs. butter.

The sire of this youngster is King Pontiac Artis Sadie Vale, 34-lb. son of the great King Korndyke Sadie Vale.

The bull himself is light in color and very well grown. Come and see him or write us for complete information.

Gustave Pabst's Hollyhock Farms

Fred J. Southcott, Manager — **Dousman, Wisconsin**

Hill Side Dairy Farm

OFFERS

Young Bulls For Sale

Bull No. 1. Evenly marked 8 months old and ready for light service. He is sired by Sir Pietertje Ormsby Bonheur, a 26-lb. sire. The dam has an A. R. O. record of 20.02 butter in 7 days. Price $150, crated.

Bull No. 2. Mostly white. Good individual. He is sired by Sir Aaltje Pontiac Hengerveld, a 33-lb. sire. Dam has an A. R. O. record of 21 lbs. as a senior 5-year-old. Price $200, crated.

THORE SEBION, Westby, Wisconsin

5-10 WELL BRED HEIFERS

SEVERAL GOOD YOUNG BULLS

are what we are offering just now. The heifers are registered two-year-olds, bred to freshen this fall. The bulls, old enough for service, are from A. R. O. dams and by Sir Ormsby Homestead Butter Boy, a 35-lb. bull. One is by a 42-lb. grandson of S. P. O. M. Come and see them.

ANDREW FRANK, FOX LAKE, WIS.

Bull For Sale — Born January 2, 1920

Dam:—A 22.62-lb. granddaughter of Johanna McKinley Segis. She has several good daughters in the herd with records up to 33.48 lbs. butter in 7 days and 112 lbs. milk in one day.

Sire:—A son of Molly Johanna Korndyke, former world's record 2-year-old with 30.62 lbs. butter in 7 days. Write for pedigree and price.

W. J. McROBERT, Waupun, Wis.

Holstein CATALOG Prices

These prices include compiling of pedigrees.

STYLE I.

A 6x9 inch book bound on the end.
$3.25 a page, 500 books
$3.55 a page, 700 books

STYLE II.

A 6x9 inch book, bound on the end. Good quality paper.
$3.75 a page, 500 books
$4.15 a page, 700 books

STYLE III.

A 7x10 inch book, bound on either end or side. Good enameled paper.
$4.25 a page, 500 books
$4.75 a page, 700 books

Wisconsin Live Stock Advertising Company

Pioneer Bldg., Madison, Wis.



Yearly Records

Choice Young Bulls

from one to fourteen months old for sale. Sired by Cloverlawn Johanna Piebe whose five nearest dams average 1,070 lbs. of butter, 23,809 lbs. of milk a year. Herd numbers 140 head, forty cows with yearly records. State exactly what you want.

JOHN PULS, - HARTFORD, WISCONSIN

A. R. O. BULLS—2 Weeks to a Year Old

At Bargain Prices

They are sons of Rag Apple Pontiac, a 30-lb. grandson of King of the Pontiacs, from well bred dams with records up to 27 lbs. in 7 days. Write today for prices and pedigrees. I'll answer your inquiry promptly.

W. W. Quackenbush, - West Salem, Wis.

A GRANDSON OF S. P. O. M.

And a ¾ Brother to the 36-lb. Daughter of "37th"

This youngster was a year old March 3rd. He's light in color, well grown and an excellent individual. His dam, a 24-lb. cow, is also the dam of the 36-lb. 4-year-old daughter of "37th." His sire, one of the good sons of S. P. O. M., is a brother to "37th." First check for $400 takes him. Write us.

SPRING BROOK FARM - - - - Burnett, Wis.

Herd under Federal Supervision.

COME TO THE

BULL SALE

Thursday, March 17, '21

WINTERTHUR FARMS

Will Sell At Public Auction

42 Registered Holstein Bulls

13 Ready For Light Service

35 out of dams that have completed semi-official records, or that are now making such records.

4 Have Dams With Over 900 Butter, 20,000 Milk
2 Others With Over 890 Butter, 24,000 Milk
7 Others With Over 700 Butter, 15,000 Milk

13 ARE SIRED BY KING OF THE ORMSBYS

Approved notes accepted for any bull purchased if satisfactory arrangements are made beforehand.

LOCATION

Winterthur Farms are located six miles north of Wilmington on the Kennett Pike. Automobiles will meet trains in Wilmington the morning of the sale.

Write for Catalog

Sale starts 12:30 p. m. Lunch served 11:30 a. m.

Auctioneer: Col. Geo. W. Baxter, Elmira, N. Y.

Winterthur Farms, Winterthur, Del.

(Federal Accredited Herd)

Dispersal Sale

100 HEAD

Registered Holstein-Friesian Cattle

Friday, March 18, 1921

At 10:00 A. M. Sharp.

Linside Farms and personal property are sold. This great herd must be disbanded after fifteen years of careful breeding with 30-lb. sires at head of herd.

Rag Apple Korndyke 20th 204631, sired by Rag Apple Korndyke with 51 A. R. O. daughters, one 37 lbs. and whose dam is Mutual De Kol, the 30-lb. show cow with 2 A. R. O. daughters is now in service. The whole breeding herd with A. R. O. records up to 27½ lbs. butter 7 days with a lot of two-year and yearling heifers by 30-lb. sires and bred to a 30-lb. bull with the 1920 crop of heifer calves and three young bulls from A. R. O. cows will form a wonderful opportunity for buyers to fill their needs. Herd Federal tested with 60-day retest privilege.

Farms one-half mile north Unionville, reached by stone roads and trolley; ample hotel accommodation in West Chester.

S. T. Wood, Sale Director, Syracuse, N. Y.

Kelly & Baxter, Auctioneers.

Send for Catalogs

W. B. WICKERSHAM,

Chester County, EMBREEVILLE, PA.



The 1921 Sale of Guaranteed Holsteins

Syracuse Sale Pavilion,

March 22, 23 and 24

275—Attractive Individuals—275

THREE BIG DAYS

A Trip Across the Continent

FORTY REPRESENTATIVE EASTERN BREEDERS have picked out for THE 1921 SALE the finest lot of individuals their herds can produce.

IT HAS NOT BEEN POSSIBLE for the management to visit every consignor's herd, but the large number of entries thus far inspected indicate a sale of the greatest array of beautiful individuals ever brought together in the East.

INDIVIDUAL QUALITY has been the first consideration, but records and breeding are not lacking.

THE 60-DAY HEALTH GUARANTY in certain respects offers better protection for the buyer than has ever yet been afforded in any of the great national sales.

THE LARGE NUMBER of animals to be sold offers the widest scope for selection, even to the purchaser of several carloads.

YOUNG COWS FRESH OR SOON DUE constitute a large proportion of the entries. In the sale also are heifers of quality and breeding, a very few calves, and some splendidly bred young bulls good enough individually to win in the show ring and good enough in pedigree to head any herd.

ISN'T THIS EXACTLY THE KIND OF SALE that the careful buyer who wants to make every dollar do the work of two will do well to attend whether he is located near by or, in order to be present, has to make a trip across the continent?

E. M. HASTINGS COMPANY

Sale Managers

Everything in Holstein Pedigrees and Sales Management

PULASKI, NEW YORK

AUCTIONEERS:

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W. G. CRANDALL, Homer, N. Y.

LAKESIDE STOCK FARM

of SYRACUSE, N. Y

offers serviceable young bulls of the highest individuality, several of them by 30- to 40-lb. sires, and from 30- to 34-lb. dams, part of them State Fair prize winners. In individuality they can not be easily excelled. Lakeside also offers a very choice lot of yearling and two-year heifers and young cows.

E. A. POWELL, Prop.

Good Seed Means Bigger Profits



Better Cattle
Mean More Money
In Dairying

River Meadow Farms

Have, for thirty years, supplied such cattle to appreciative dairymen. On our several farms over 400 head of grade and pure-bred cattle are kept, offering the widest selection to buyers. Quality and Reliability are the foundation of our business.

For beginners in the dairy business we suggest a pure-bred bull calf and as many grade or pure-bred heifer calves as possible. We take pride in supplying such orders.

RIVER MEADOW FARMS, Portlandville, N. Y.

Holstein Bull

Tuberculin tested and ready for service. Sired by King of the Changelings, a 33-lb. son of King of the Pontiacs. Dam, a daughter of a 33-lb. sire and has an A. R. O. record of 15.57 lbs. butter in 7 days at two years of age, averaging almost 4%. He is well grown and a splendid individual. First check of $175 takes him.

HARRY W. PETZOLD, Owego, Tioga Co., N. Y.

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READY FOR SERVICE

Here is a show bull whose dam has a three-year-old record of 23 lbs. butter and 511 lbs. milk. His sire's dam is a 31-lb. daughter of LORD NETHERLAND DE KOL, while his sire's sire is by a son of KING OF THE PONTIACS.

Write for pedigree.

G. BURLINGAME, Cazenovia, N. Y

Buffalo Creek Farm Holsteins

This yearly record bull calf for sale, born Nov. 28, 1919.

Name, King Lavera Ormsby No. 297926. Sire: King Pietertje Homestead Ormsby No. 221488. Dam: Lavera Hortensia Bawn 2d, No. 124734, with a record of 26,010.2 lbs. of milk and 1,050.55 lbs. of butter in a year. Write for price and pedigree. This calf won 5th premium at the Dairy Show.

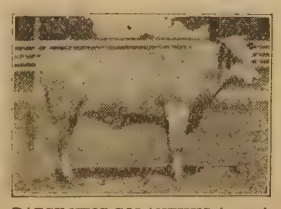
Herd under Federal Supervision.

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Whitehurst Farms

BULLS FOR SALE FROM SEMI-OFFICIAL DAMS. Priced Right.

A. F. Randolph, Prop., Canton, Ill.



PABST KING COLANTHUS (206276)

We Offer A Son Of

PABST KING COLANTHUS 206276

and our fine Show Cow

LISLE SEGIS LADY LAHMAN 464038

Born December 7th, 1920

HO Dam made at 2 years, 1 month—S. O. Record 14,383 pounds Milk and 612.27 pounds butter

Price $250.00

THE HOME OF 2 WORLD AND 4 STATE RECORD COWS

Holstein Bull Calves For Sale

A few exceptional individuals ready for Service.

Write for our Bull Sale List.

LISLE FARMS CO., Lisle, Illinois

Minnesota Holstein Breeders' Association

Be sure that you buy Minnesota Holsteins from state association members. They are responsible. For list of members and other information address

THE SECRETARY, 406 MARKET BANK BUILDING, MINNEAPOLIS, MINN.

This Week We Offer

This Splendid Line-Bred

Sir Pietertje Ormsby Mercedes Bull



Sir Jesse Skylark (307356)

Born February 25, 1920.

He is an excellent individual, well grown and of a rugged type. Through his pedigree he combines a most desirable line of breeding.

HIS SIRE:

SIR PIETERTJE SKYLARK ORMSBY—A young sire combining the blood of Duchess Skylark Ormsby and Sir Pietertje Ormsby Mercedes. He is by the only son of the only 1500-lb. cow and from a 940-lb. two-year-old daughter of Sir Pietertje Ormsby Mercedes, 14 daughters above 1000 lbs. and 60 averaging above 800. The next dam is a 1089-lb. four-year-old daughter of Colantha Johanna Champion (His dam 1247) and from a 1255-lb. daughter of Pietertje Maid Ormsby. Nine nearest dams of this sire average above 1000 lbs.

HIS DAM:

EDENVALE JESSIE ORMSBY—24.76 lbs. butter and 503.2 lbs. milk as a three-year-old. She is a show cow from end to end and one that will make a real record in the future. She is sired by Sir Pietertje Ormsby Mercedes 39th, one of the proven sons of old Sir P. O. M. The dam is from Jesse Rosanna Longfield, a daughter of Parthenea Longfield, a proven sire.

Price $500.00

E. C. Schroeder Farms, Moorhead, Minn.

(Herd Under Federal Supervision).

Minnesota Holsteins

For Your Next Herd Sire



Miss Korndyke Akkrummer Ormsby 30-lb. 4-year-old. 39.67 lbs. butter at full age. Owned and developed by J. B. Irwin.

get a son of Sir Ormsby Banostine Champion, son of Duchess Skylark Ormsby, world record cow. We have some good ones for sale from dams with good 7-day and year records.

Woodlake & Clover Farms,
John B. Irwin, Station F,
Minneapolis, Minnesota.
"The Home of the Ormsbys."



Lola Segis Pontiac Homestead

the highest record bull in southern Minnesota, heads our herd. His sire, Piebe Laura Ollie Homestead King, has more daughters that as 2-yr.-olds have produced 20,000 lbs. milk in a year than any other. His dam, a 34-lb. 4-year-old daughter of King Segis Pontiac Count, has 3 records averaging 33 lbs. and has made over 1,000 lbs. in 1 year. We have a few serviceable bulls and younger from A. R. O. dams for sale.

Clover Lea Farm, W. W. Walker, Owner. Austin, Minnesota



Sir Walker Segis Homestead

The best show bull and son of the great bull, PIEBE LAURA OLLIE HOMESTEAD, out of a "COUNT" daughter, BEAUTY BEETS WALKER SEGIS, world's greatest heifer, with two yearly records over 25,000 lbs. milk and 1,000 lbs. butter in heifer form, and a seven-day record of 35.03 lbs. butter from 730 lbs. milk.

We offer several choice bulls, one month to a year old, out of high yearly record and A. R. O. cows, at very reasonable present day prices. Pedigrees and photos will be sent.

A. J. LASHBROOK, - - - Northfield, Minnesota

COME TO BISCAY

for your next purchase of pure-bred or grade Holstein cattle, mature or young stock. Large selection, also a few select male calves to offer. Located near station

BISCAY SALES CO., BISCAY, MINN.

Lake Shore Farm

Offers May 22nd, 1920, bull calf. 795 lbs. butter over 20,000 lbs. milk is his dam's yearly record. King Segis breeding, light color. Price for January $250.

E. J. OPPLIGER, Box 20, Forest Lake, Minn.

Sons of "COUNT"—

—"The Marvel of All Sires"

Whose daughters have broken more World's Records than the daughters of any other sire of the breed in both long and short time work. He has eight 1,000-lb. daughters.

Sons of "PIEBE" — "The Present Day Sensation"

The only bull in the world with five 20,000-lb. two-year-old daughters.

Sons of "COUNT" from daughters of "PIEBE"
Sons of "PIEBE" from daughters of "COUNT"

We have the finest line of young bulls we have ever raised at ARDEN FARMS, priced in accordance with present financial conditions. LIBERAL TERMS GIVEN IF DESIRED. Write me for particulars.

J. M. HACKNEY

602 Merchants Bank Building, - - - St. Paul, Minnesota

Bull Calves of Ormsby Breeding

from A. R. O. dams for sale, 2 to 8 months old. Prices $200 to $1,000. We can also offer several good, typy cows bred to a good Ormsby bull. Write or come and see us.

MINERAL SPRINGS STOCK FARM, - - SAVAGE, MINNESOTA

Stuart—McIntyre—Hansen, Owners.

Address correspondence to Axel Hansen, formerly with John B. Irwin.

6 Good Cows For Sale

THE MINNESOTA KIND

They are all by a 36-lb. sire, are bred to a son of King Korndyke Colantha Ormsby, and are due to freshen this fall and winter. They are from 3 to 5 years old and absolutely straight and right. Lack of barn room forces us to sell.
Write or come and see them.

E. J. Brosious, - Stillwater, Minn.

Grandsons of Sir Pietertje Ormsby Mercedes

The sire is Sir Pietertje Ormsby Mercedes 22d a son of Minnesota's first 1000-lb. cow. These bulls are all nicely marked, straight top lines. Very good individuals from good A. R. O. dams.
For pedigrees and prices, write

O. J. GROVER, - GLYNDON, MINN.

Grandsons of

Duchess Skylark Ormsby and of S. P. O. M. 38th.

for sale. These youngsters are from A. R. O. dams that are now making good yearly records. Write today for further information.

POPLAR HOLLOW STOCK FARM,
Bertram D. Scott, Prop., Richfield Station
Minneapolis, Minn.

Bull Calf

advertised last week is sold. Here is another good one ready for light service. Sired by a 30-lb. bull. Dam a 14-lb. 2-year-old who will be tested again next spring. Priced so reasonable that you can't afford to be without him. $150.00 for immediate sale.

V. R. Holmes, Anoka, Minn.

Get A Calf

We have a grand bunch of youngsters on hand. Come and pick out a calf while you have a big choice. Grow him to suit you. Saves you money and we are selling them as cheaply as we can. Show calves that are backed by generations of official testing and careful breeding. Sons of DUTCHLAND CREAMELLE COLANTHA LAD No. 165049. His yearly daughters all average over 834 lbs. of butter at 26 months of age.

GRAHAMHOLM FARMS,
H. R. Searles, Mgr., Rochester, Minn.

Sir Korndyke Ormsby De Kol 15th—21 Months Old

His sire is a son of Sir Korndyke Hengerveld De Kol; 51 A. R. O. daughters, one of whom has a 7-day record of 39.56 lbs. and several above 1000 lbs.

His dam has a record of 23.778 lbs. and now on yearly test.

Geo. H. Elwell, - Minneapolis, Minn.

Buy A Bull

that is going to increase in value. A bull that is going to be worth more money when you want to sell him than you paid for him. We have them. Do you need one? Send for the bull circular.

Flecks Farms, Faribault, Minn.

HOLSTEINS—Females

We offer some very choice females, all ages, priced very reasonable. Mostly bred to our 34-lb. bull, Piebe Count Com. One or a carload.

BLACK AND WHITE STOCK FARM,
Route 3, Melrose, Minnesota

Holstein Bulls

At Farmers' Prices

We are not in the game to get rich but to help promote the breed by offering pure-bred bulls at the lowest prices, enough to cover raising. Write for prices and descriptive list. The Ormsby kind.

RAMSEY COUNTY HOME,
J. E. McMahon, Supt., North St. Paul, Minn.

Mankato Holstein Farms

Offer a Son of

King Colantha Ormsby Bess

A Sir Pietertje—Bess Burke combination. Nine dams average over 1,000 lbs. Dam is by a brother to Pietertje Maid Ormsby. 894 lbs. butter and 21,833 lbs. milk last year. Running at a world's record gait for the year. Over 400 lbs. butter and 10,000 lbs. milk first four months. Several bulls at prices warranting their use in grade herds.

Write or better still come and see them

(Herd under State and Federal Supervision)

Marlow & Randall, Mankato, Minn.

RICHLY BRED

HOLSTEIN BULL CALVES

out of A. R. dams and sired by our two richly bred herd sires — **King Piebe Ormsby Mercedes,** a 35-lb. son of Sir Korndyke Bess and every dam in pedigree over 22 lbs. and **King Pietertje Mercedes Ormsby,** a son of Sir Pietertje Ormsby Mercedes and out of a 19-lb. senior two-year-old dam.
Herd tuberculin tested. Write for information or visit herd.

P. FROST SPAULDING FARM CO.
C. L. Spaulding, Mgr., Warren, Minn.

Richly Bred Ormsby Bulls

From Yearly Record Dams—Age 1 to 14 Mos.

Six three-year-old heifers in my herd (under ordinary farm conditions) have just finished yearly records averaging 722 lbs. butter from 16,639 lbs. milk. To make room for calves now coming on, am offering at bargain prices three grand individual sons of above cows ready for service. Act quick. Herd under Federal Supervision.

F. A. STILLINGS, Frazee, Minn.

"DUKE"

The only place you can buy sons of serviceable age sired by DUKE PIETERTJE KORNDYKE ORMSBY

The bull selling at the last Minnesota state sale for $33,000.00 is from the herd where he stood for three years prior to the sale. "Duke's" dam now has three records above 1,000 pounds, the last one was 1,190 pounds.
Now is the opportune time to buy one of these bulls as their sisters will be given every opportunity. Get a son now and be in line. Clean bulls from a clean herd. Prices reasonable. Write

EDW. H. ULRICH, Biscay, Minn.



"Before installing the Perfection I examined all the different makes of milkers, and finally decided on the Perfection Milker because it has the most *natural action* of any machine I have ever seen." —GEO. HENTON.

Milk Your Cows Nature's Way

WHY not milk your cows Nature's Way? The calf is Nature's Way of milking. It is impossible for human hands to imitate the calf's action. What human hands fail to accomplish has been reproduced to the last detail in the action of the Perfection Milker. That's why you milk Nature's Way when you milk with the Perfection.

The calf milks with a gentle suction followed by a *downward squeeze* between the roof of the mouth and the tongue and then a moment of rest while swallowing. Put your finger in the teat cup of the Perfection and you find the same action. In no other milker will you find that downward squeeze.

Perfection owners say their cows stand quietly for this natural way of milking and give more milk.

Milk Nature's Way and save yourself time and drudgery. You can milk 24 to 30 cows in an hour with the Perfection. Here's enough saving in wages of hired help to pay for the Perfection in less than a year.

Find Out More About Nature's Way

Send for a copy of the book, "What the Dairyman Wants to Know." It explains in detail this better way of milking. We'll send names and addresses of Perfection owners near you.

Why Milk By Hand? Perfection milks Nature's Way.

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PERFECTION MILKER

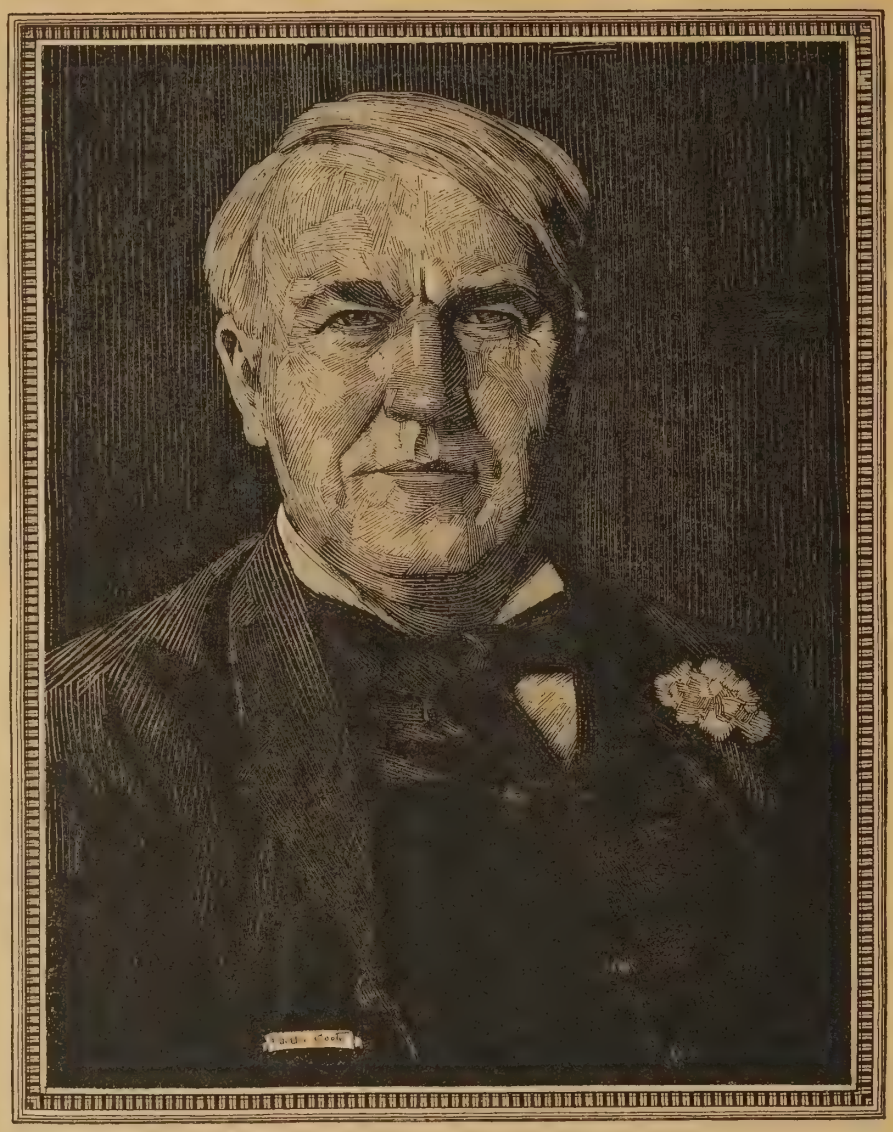
4 C
Reading Room

HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING



Fort Atkinson, Wisconsin Volume LXI, No. 9 March 18, 1921



An Interview with Thomas A. Edison regarding the imperfections of the human voice

[*Introductory Note.*]—The realism of the New Edison is so perfect that this wonderful instrument brings the full benefits of music into every home.

In this interview, Mr. Edison explains, in his characteristic way, why this perfect realism causes him to be exceedingly careful in his selection of artists.

Mr. Edison also makes plain that the New Edison (in addition to RE-CREATING music in conjunction with Edison RE-CREATIONS) plays the talking machine records of all the principal talking machine manufacturers. The New Edison lends improved tone quality to these talking machine records. If you have a favorite artist, who does not record for the Edison Laboratories, you should certainly hear him on the New Edison.

Some five hundred Edison dealers have equipped themselves with Turn-Tables, on which they have placed the New Edison and various well-known talking machines. This Turn-Table permits each instrument to be played in the same position, in the same room, so that an absolutely scientific comparison can be made.

"THE object of an inventor, attempting to produce a phonograph, should be to achieve the highest possible degree of realism. That has constantly been my goal, and, as is now well known, we have succeeded to a point where our phonograph reproduces, or RE-CREATES, the human voice and other forms of music, with such fidelity to the original that the most sensitive ears are unable to distinguish any difference. Our success in registering and emitting every quality of the human voice has revealed some rather remarkable facts.

"I have collected, through my agents in Europe and America, phonographic voice trials by approximately 3800 singers. Of these, there are but 22 who sing pure notes, without extraneous sounds and the almost universal tremolo effect. A singer's trill is quite a different thing from a tremolo. A trill can be and is controlled by the brain, but a tremolo is not within brain control and, so far, there has been no means found for correcting it. Most singers cannot sustain a note, without breaking it up into a series of chatterings, or tremolos. The number of waves varies

from two per second to as high as twelve. When at the latter rate, the chatter can just be heard and is not particularly objectionable. When at a slower rate, it is very objectionable.

Patti Had Pure Notes

"If this defect could be eliminated, nothing would exceed the beauty of the human voice, but, until this is done, there will be only a few singers in a century, who can emit pure notes in all registers. Patti, for example, was conspicuous for emitting pure notes, except in the lower part of her scale, and she was always reluctant to sing a song requiring the use of her lower register.

"The ordinary talking machine gives so incomplete and imperfect a reproduction of a singer's voice that the natural defects of such voice become relatively unimportant, because the defects in the talking machine are so much greater than the defects in the singer's voice. However, in the case of our phonograph, the defects in a singer's voice become very apparent, because we reveal his voice, exactly as it is. Our phonograph applies the acid test to the human voice. There are no realistic stage settings and no dramatic action to key our emotions to a pitch that renders us tolerant of imperfect singing. The impressive stage appearance and histrionic ability of the artist are lost upon us because we cannot see him.

Opera Artists in Concert

"The opera artist has somewhat the same problem when he appears in concert work. Lacking the stage picture and trappings of the opera, the grand opera star frequently fails on the concert platform, because of vocal defects, which are obscured in his appearances on the opera stage. Needless to say, the test, which our new phonograph imposes, is many times more severe than that of concert work.

"*The emotional effects and consequent benefits of music are well known. Through the agency of our new phonograph, and because of its realism, I can produce the same effects as would result from the original music, provided I use artists, who emit pure tones and have artistic potentialities, which are fully felt by the listener, even though he does not see the artists.*

"*I instruct my agents, when listening to an artist, in opera or concert, to close their eyes, in order to approximate as nearly as possible the conditions under which the phonograph will be heard.*

No Truly Perfect Voice

"The foregoing will, I think, make plain why I am unwilling to let an artist do serious work for my new phonograph, unless his voice is free from objectionable defects. I have not as yet encountered the truly perfect voice, but I endeavor to obtain voices that are as nearly perfect as possible; and, no matter how great an artist's reputation may be, I will not record him if his voice is below my standards.

"Even artists, whose voices meet my standards, frequently are not in sufficiently good voice to sustain the acid test of our phonograph. The fact that an artist is in good enough voice to appear in opera or concert, without evoking criticism, does not necessarily signify that our phonograph will not reveal that he is actually in poor voice. We cancel many recording dates for this cause. I believe this practice is unusual elsewhere. The reason for this is obvious, since, if the reproduction is inadequate and imperfect, voice defects, due, for example, to a cold, are not likely to be detected in the reproduction.

Of 3800 singers, only 22 sing pure notes, says Mr. Edison

Admires Stage Personality

"I wish most emphatically to say that I have every admiration for the peculiar gifts of the singer, whose stage presence, or physical charm, enables him, or her, to achieve a great reputation, despite the handicap of an inferior voice, but I hope no one will expect me to record such voices. I realize that there is a certain amount of historic interest in collecting—much as one collects mementos for a memory book—the records of celebrated artists, irrespective of whether their records are truly agreeable to the ear, and I am very glad that the records of all the principal talking machine companies can be played on the New Edison, with the best possible results. Anyone, desiring the talking machine records of artists, who do not make recordings for me, will find that such records (unless they contain extraordinary faults) are given increased musical value by our new phonograph."

The NEW EDISON
"the phonograph with a soul"

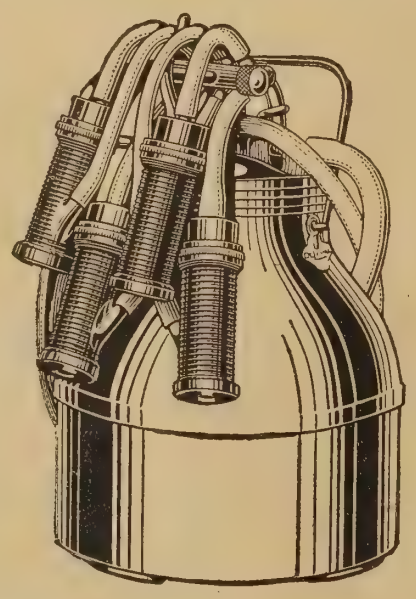
The same factors which have made the De Laval Separator famous, are back of the DE LAVAL MILKER

Just as the De Laval Cream Separator established new and higher standards of efficiency and construction, so is the De Laval Milker establishing higher standards among milkers. It is strong; durable; simple in construction and operation; easy to keep clean; saves time, and increases production.

The same policies which have made the De Laval Cream Separator the most popular and most widely used in the world are back of the De Laval Milker and are responsible for its rapidly increasing use.

Long ago the De Laval Company recognized the need for a mechanical means of milking, to place the dairy business on a machine basis. For over twenty years experiments have been conducted, and after many years of research, test and use, and not until the De Laval Company was absolutely sure its milker was actually a better way of milking, was it offered for sale. Now after four years of commercial use, in all sections of the country, owners are proving that it not only saves time and eliminates the drudgery of milking, but it actually increases the flow of milk even over good hand milking.

Service also helped make the De Laval Separator famous; and it is service back of the De Laval Milker that is helping to create preference for it among dairymen. This means that the De Laval Milker will be properly installed, that you will be thoroughly instructed in its care and operation, and that the De Laval Company's interest in you, instead of ending there, just begins.



The De Laval Separator has rendered a service of inestimable value to the dairy industry — the De Laval Milker is doing the same. It removes the one great drawback to dairying — hand milking. American farmers realize the service, stability and integrity back of the name "De Laval," all of which is reflected in the rapidly increasing use of De Laval Milkers.

Write for full information concerning the De Laval Milker

The De Laval Separator Company

NEW YORK, 165 Broadway
CHICAGO, 29 East Madison Street
SAN FRANCISCO, 61 Beale Street

Sooner or later you will use a De Laval Milker or Cream Separator

HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING

Volume LXI — FORT ATKINSON, WIS., MARCH 18, 1921 — Number 9

Does the Show Ring Fulfill Its Purpose?

Experiences on the 1920 Circuit Indicate That There Is Need for Better Ideas of What Constitutes the Ideal Type

E. G. WOODWARD, State College of Washington

ONE of the chief values of the show ring is to point out correct types to the beginner in the breeding business, as well as to indicate the path of progress to older breeders. If the show ring is to accomplish this purpose, the same type of animal must be ranked highest in each ring; otherwise confusion in the matter of type will be the result of a series of shows.

If a beginner in the business sees a Holstein heifer placed first in her class and later made junior and grand champion of a show, and two weeks later sees this same animal led into the ring only to be left in the discard without even being brought into line for placing, he must naturally wonder if there is any such thing as approved type in Holsteins. Some difference in the placing of animals in different show rings is bound to occur, due to a change in competition, and also to a change in the animals themselves. However, if there is an approved type and the judges are competent, the placings on a given circuit where the shows follow each other at short intervals should come near agreeing.

The writer had some interesting experiences last fall in showing three breeds of cattle at four of the leading shows of the Northwest, and, inasmuch as he has also at times acted as judge and has done his bit in making radical changes in the placings of other judges, he takes the liberty of pointing out some of the interesting occurrences on last fall's show circuit. The shows included are: The Spokane Interstate Fair, the Walla Walla Agricultural Fair, the Washington State Fair, and the Pacific International Live Stock Show. The instances cited are from the Jersey and the Holstein breeds, and the judges who placed the awards are, for Holsteins, F. S. Stimson, Washington; H. P. Davis, Idaho; C. F. Jenness, Iowa; W. S. Moscrip, Minnesota; and for Jerseys, Harry West, Oregon; H. P. Davis, Idaho; F. H. Scribner, California; George W. Sisson, Jr., New York.

The following table, with one exception, was made up of animals from the show herd of the State College of Washington. In each instance the two animals compared were shown in the same class, and usually by the same person. The table is not presented to show a change in rank at the different shows as that is to be expected with a change in competition. It is presented, however, to bring out the fact that the order of placing of each pair of animals changed and, further, that in certain instances other animals were placed in between the animals making up the pairs regardless of which was placed highest.

Animals	Show I	Show II	Show III	Show IV
		Pair 1		
A	2nd	3rd	7th	11th
B	1st and Gr. Champ.	1st	not placed	not placed
		Pair 2		
A	6th	4th	1st and Jr. Champ.	not shown
B	5th	1st	2nd	not shown
		Pair 3		
A	1st	1st	1st and Gr. Champ.	8th
B	2nd	2nd	3rd	2nd
		Pair 4		
A	7th	5th	3rd	8th
B	3rd	3rd	2nd	11th

Pair No. 1 brings out the fact that at the first two shows B was placed over A, and in addition was made grand champion at one show. At the second two shows, A was placed over B.

Pair No. 2 shows a similar change, in that B was placed over A at the first two shows, while at the third show A was placed over B, and was also made junior champion. At the fourth show these two animals did not compete.

In the case of Pair No. 3, the judges at the first three shows agreed as to the placing, in each case putting A over B, and at one of the shows making A the grand champion in addition to placing B third. In the fourth show A was placed eighth and B second.

In case of Pair No. 4, at the first three shows B was placed over A. At the first show there were three animals in between the two, while at the fourth show, the placing was reversed with two animals in between.

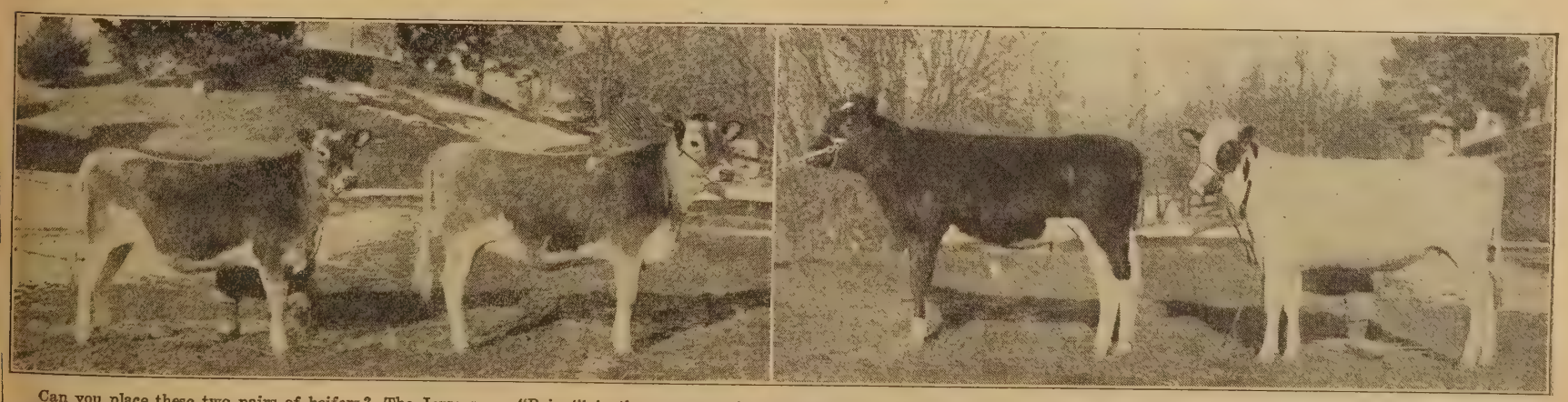
What does the study of these winnings point out to a beginner regarding type? If a beginner had attended the first show and studied the winners there with the idea of trying to establish their type in his own herd he would be breeding for a somewhat different type of animal than his neighbor who attended the third show and studied the prize winners there. Is the show ring fulfilling its purpose where placings change as indicated in the preceding table?

A study of such instances forces a person to arrive at one of two conclusions: First, either the ideal type is a very hazy thing; or, second, judges are decidedly incompetent. The second of these conclusions can hardly be held, as there is no doubt but that the judges selected in the Northwest are as competent as those selected for any region of the country. The fact remains that the placings vary within wide limits, so that the first conclusion seems to be the correct one.

If the ideal type is a hazy thing, what can be done to make it less hazy? There is no question but that the approved type changes with time. In most breeds there have been some changes in the past twenty years. However, when type changes within a week, it seems that it is changing entirely too fast even for this rapidly progressing age.

Some may say that the different breed associations have adopted score cards which point out the approved type. That the score card will not remedy the condition mentioned is shown by the fact that a class of students after being instructed in a body and given practice in the use of a score card will arrive at widely different scores on the same animal. The score card as it stands merely reduces the problem to a number of details without solving it. The difficulty lies in the fact that the descriptions on the score card do not mean the same thing to different people, and until this condition can be remedied there is no doubt but that there will be wide differences of opinion among men who apply the score card in show ring judging.

I believe that two things might be done to unify the show ring judging, and thereby make our stock shows very much more valuable as demonstrations of correct type. The first is the publishing of a complete set of illustrations by each breed association to go with the scale of points. In other words, when the Jersey scale of points describes an ideal udder this description does not mean exactly the same to two persons. This ideal udder might well be illustrated by a series of photographs from different angles to point out exactly what the udder described in the scale of points looks like in life. In my opinion, these illustrations should be actual photographs rather than the productions of an artist. If it is not possible for a committee appointed by a breed association to agree upon suitable illustrations for the score card, it cannot be expected that judges will agree as to the type described by a scale of points. I realize that the illustrations might be very difficult to obtain yet it is a matter which in my opinion warrants considerable effort. The other thing that might be done is for the breed associations and show officials to be even more careful than in the past in the selection of official judges. Naturally, only one who will subscribe to the scale of points as illustrated should be designated as an official judge for the particular breed.



Can you place these two pairs of heifers? The Jerseys are "Pair 4" in the accompanying discussion. In three shows A, at the left, was placed under B; in a fourth, A was rated higher. Which do you like better of the two Holsteins, whose show record is given as "Pair 1"? In two shows B, the white heifer, was given the blue ribbon, being grand champion in one. In two other shows A was placed while B was left out of the money entirely.

Simple Ways of Feeding Dairy Cows

[A continuation of a practical feeding discussion begun by H. P. Davis, Professor of Dairying at the University of Idaho, in last week's issue of Hoard's Dairyman. In this concluding article Mr. Davis gives a simple method of balancing practical dairy rations and lays down workable rules of value to every feeder of milking cows.—EDITORS.]

Much has been written about balanced rations and their necessity. Too frequently the idea has been created that a balanced ration is so hard to prepare that the average dairyman can make but little use of it. In fact a balanced ration is by definition simple, namely nutrients, or food materials, supplied in quantities to exactly supply a cow's needs for maintenance and milk production.

In balanced rations there are several constituents necessary: protein, carbohydrates, fats, and mineral material. Protein is the name given to a large number of substances all of which contain the element nitrogen. Protein is needed for making blood and it is one of the chief constituents of the skin, hair, lean muscle, and milk. It is absolutely necessary that a definite part of the ration be protein as nothing else can be substituted for it.

Carbohydrates include a number of substances, the most commonly known of which are the sugars, starches, and crude fibre. This group furnishes fuel to carry on body functions or, in other words, is a source of energy.

Fats are a third class of substances and their use is similar to that of the carbohydrates except that they are 2¼ times as valuable as a source of energy. Since the fats are used for practically the same purposes as the carbohydrates for practical feeding, they may be considered together. Protein can also furnish energy and for that purpose it is equal to carbohydrates pound for pound.

Mineral material, especially lime and the phosphates, is needed in considerable quantities by the dairy cow. Bone and milk make large drains upon both lime and the phosphates and the demand must be met by the feed.

Grain Mixtures

The making up of a ration need not be a complicated matter. A simple method is to make up a grain mixture that will balance with the available roughage when fed in proportion to milk yield. Certain things must, of course, be considered in the grain mixture to make it of the greatest efficiency.

Cost: No one can forget the all important item of cost in feeding. Dairy cattle should be fed as economically as possible. Economy, however, does not mean the use of feeds that are cheap per hundredweight but feeds that furnish the various constituents at the lowest cost. Protein is usually the most expensive of the nutrients so that special efforts should be made to obtain it as reasonably as possible. To determine the cost of a pound of protein as furnished by any feed, divide the price of 100 pounds by the per cent of digestible protein it contains. If this calculation is made for a number of feeds, the economy of each as a source of protein will be readily apparent. In like manner the cost of carbohydrates can be obtained. They are not quite so important as far as cost is concerned since a large part of the carbohydrates needed is furnished by the roughage. Generally speaking, in making up a grain mixture, the cost of protein is one of the chief considerations.

Bulk: Heavy, compact concentrates are difficult to digest because of their mechanical condition. It is of the greatest importance that the feed value of any grain or grain mixture be not reduced because it is not readily digested. In making up a grain mixture at least a third and preferably a half of the mixture should be composed of light bulky feeds.

Roughly, concentrates may be divided into three groups according to their heaviness or compactness:

Bulky—Loose	Medium	Heavy—Compact
Alfalfa meal	Corn meal	Cottonseed meal
Wheat bran	Hominy meal	Linseed meal
Corn bran	Gluten feed	Cocoanut meal
Dried beet pulp	Barley (ground or rolled)	Peanut meal
Corn and cob meal	Ground rye	Soy bean meal
Ground oats	Buckwheat middlings	Wheat middlings
	Rice polish	

Palatability: Since the attractiveness of feed to the taste is a means of increasing the quantity eaten, it is important that a grain mixture should be palatable to the cows. This means that if unpalatable feeds are included there should be enough palatable ones used to make the whole feed palatable. It is believed by many persons that a grain mixture containing at least four grains or concentrates will be palatable and relished for a longer period than a mixture of only two grains, for example. Perhaps for the average cow the question of palatability is not so important, but in the high producer it is one of the essentials of successful feeding.

Physiological Effect: By physiological effect is meant the influence that the feed will have upon the digestive organs, the general health of the cow, and upon the milk and its constituents. Linseed oil meal is known to have a laxative effect upon cattle as does wheat bran also, but to a less marked degree. Cottonseed meal, on the other hand, is constipating and when fed in large quantities tends to produce an undesirable effect upon the cow. Butter from cows fed upon large quantities of cottonseed meal tends to be whitish, hard, and crumbly. Oats and wheat bran, for example, are good conditioners. The effect of the mixture in connection with the roughage has to be guaged also.

Minerals

In considering the feeding of cows until very recent years, the usual practice has been to consider that the cow received enough minerals of all kinds in any ordinary ration to meet her needs. We now know that many rations lack certain elements and there is reason to believe that this lack sometimes seriously limits milk production.

The practice of giving animals common salt is too old and too common to need comment. We know that the average cow requires about an ounce of salt every day. A good practice in giving salt is to add about one per cent by weight to the grain mixture and in addition provide either rock salt or coarse ground salt in a convenient place. The latter kind of salt is to be preferred since cows will frequently develop sore tongues from licking rock salt and even then not get all they need.

Of the various minerals that are needed by the cow, and of which our present knowledge seems to indicate that there may frequently be a deficiency, the most important are lime, phosphoric acid, or combinations of the acid with lime or magnesia, and potash. Probably medium and low producing cows can store enough mineral salts during the summer pasture season to last them through a lactation period even though at certain periods the feed may be deficient in those substances. The cow giving large quantities of milk produces large quantities of lime and phosphates and, unless very carefully fed, is compelled to draw upon her body reserve. Such a condition will very likely reduce the production in succeeding lactations.

A study of the chemical analyses of common feedstuffs shows the superiority of legume hays as sources of potash and lime. Also, the importance of bran from its potash and phosphoric acid content will be readily realized when its analysis is known. Such facts should be considered in the final composition.

Grain Mixture to Balance Roughage

With the exception of the legumes, the stems and leaves of plants are largely sources of carbohydrates while in the seeds is found a larger proportion of protein. In general, therefore, the roughage is considered chiefly as a source of carbohydrates or energy, while grain is expected to balance up the ration by supplying the needed protein. By using legume hay a greater part of the protein of the ration can be supplied in the form of roughage. That is desirable and usually economical.

For the purpose of balancing rations, roughage may be divided roughly into two general classes, high protein and low protein. An intermediate class is also necessary since part of the roughage may be from each class. In the high protein class are included all the legume roughages such as alfalfa hay, the clovers, cowpea hay, soy bean hay. The low protein class includes timothy, millet, prairie hay, straws of the cereal grains, corn stover, corn silage, cottonseed hulls, etc. The combination class includes mixed hay, oat and pea hay, or any combination of the first two classes where approximately half of the roughage is from each class.

Since it is not practical on most farms to feed each cow separately, the best plan is to determine the average and make up a grain mixture that when fed in connection with the roughage will supply all the nutrients needed. Under this plan the grain is fed in proportion to the milk yield. To make the plan even simpler it is assumed that if the cow has all the good roughage she will eat up clean and is fed grain in proportion to milk yield that she will receive enough carbohydrates.

Simple Rules for Compounding a Grain Mixture

1. Make up the mixture to fit the roughage. For low protein roughage, the mixture should have from 18 per cent to 22 per cent of digestive protein. High protein roughage requires from 13 per cent to 16 per cent of digestible protein and combination roughage from 15 per cent to 18 per cent of digestible protein in the grain mixture.

2. Select grains that furnish protein at the least cost, using home-grown grains if possible.

3. Be sure that at least one-third, and preferably one-half, of the grains or concentrates are light and bulky.

4. Keep in mind palatability.

5. See that the grain mixture has the proper physiological effect when fed in connection with the roughage.

6. There should be plenty of lime, phosphoric acid, and potash in the mixture.

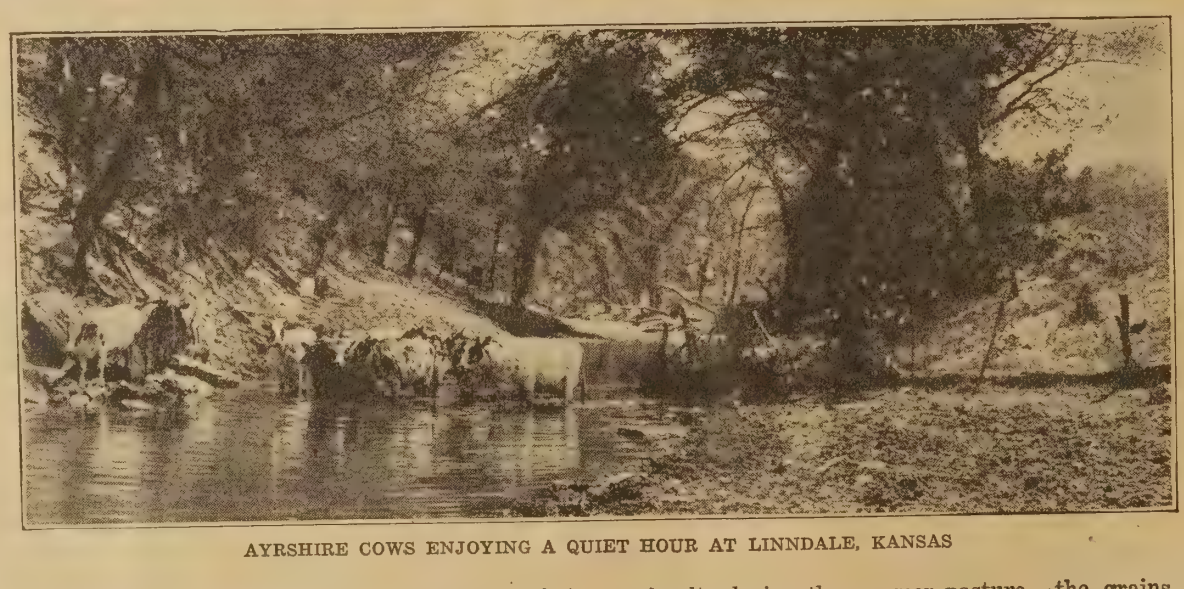
Digestible Protein in Concentrates

The following table gives some of the more common feeds so grouped:

5 per cent average (2.5 to 7.4 per cent)	10 per cent average (7.5 to 12.4 per cent)
Corn meal	Ground oats
Corn and cob meal	Barley (ground or rolled)
Hominy feed	Ground rye
Dried beet pulp	Ground wheat
	Ground buckwheat
	Ground sorghum grains
15 per cent average (12.5 to 17.4 per cent)	20 per cent average (17.5 to 22.4 per cent)
Wheat bran	Gluten feed
Wheat middlings	Malt sprout
	Coconut meal
	Peanut meal (with hulls)
	Ground cowpeas
25 per cent average (22.5 to 27.4 per cent)	30 per cent average (27.5 to 32.4 per cent)
Buckwheat middlings	Gluten meal
	Linseed meal (both processes)
	Soy bean meal
35 per cent average (32.5 to 37.4 per cent)	40 per cent average (37.5 to 42.4 per cent)
Cottonseed meal (choice)	Peanut meal (hulled nuts)

The different concentrates may b

(Continued on page 370)



AYRSHIRE COWS ENJOYING A QUIET HOUR AT LINNDALE, KANSAS

How, When, and What of Soy Beans

GEO. M. BRIGGS, Wisconsin College of Agriculture

IN the live stock business the man who loves his particular breed prospers. From the standpoint of field crops, not only is it necessary for the farmer to love the handling of all crops, but the particular crop which he is handling must be the one which is best adapted to his soil and the variety which is best for the use it is to be put to. From the soy bean standpoint so much has been published the last few years concerning varieties, etc., that at first thought it seems unnecessary to go into details concerning varieties; however, after mingling with farmers here and there over Wisconsin, and knowing their wrong ideas concerning soy bean varieties, it might be wise to just mention a few things about soy bean varieties.

Perhaps the majority of people in Wisconsin know what the little Wisconsin Early Black soy bean looks like. Last October I was visiting a farmer in Rusk County who had planted soy beans, and upon inquiry found that they were Early Browns. In that he had some few seeds saved over, I requested to see them and they were our common little Wisconsin Blacks. So with this experience fresh in my mind, is it any wonder that I say a few words about soy bean varieties. A majority of the soy beans raised in this state are of this Early Black variety, the plant being most widely used as a seed producer. This plant matures in from 90 to 105 days, ripening some pods even earlier in a dry year when plant development has been hindered.

Three varieties being quite extensively grown and maturing seed in this state are Ito San, Manchu, and Black Eyebrow, all of which come into the middle maturing class requiring from 100 to 115 days, depending upon the season, for ripening. All three of these varieties are extremely popular in this state for most any purpose, their success depending upon season and fertility of soil. The Ito San bean can easily be identified, being a small yellow bean and having a small black dot at the end of the leaf scar. The Manchu variety is slightly larger than the Ito San, is yellow, and has the whole leaf scar dark. As the name indicates, the Black Eyebrow is green and dark in color, or if exposed to the light much and old may be yellowish green and dark. The dark covers the leaf scar side and extends part way up to the middle on both flat sides of the bean. A green bean known as Early Green, also a brown bean called the Early Brown, are both grown in this state in small quantities. The green bean is probably a few days later than the Ito Sans, while the browns rank about the same in growing period.

Inoculation Necessary

Regardless of purpose, if beans are planted for best results and success, whether for seed, silage, hay, or green manure, they must be inoculated. When once beans are planted on a field, perhaps inoculation need not be applied for several years. My advice, however, would be to apply it just the same. Artificial cultures can be procured from the Agricultural College for a very nominal fee, and if an old soy bean field is close by, some soil directly beneath the row can be taken and mixed with the soy beans after moistening them slightly with water, sweetened slightly with molasses, or sugar, or mixed with glue so that the soil will adhere. A very small amount of soil is necessary, one quart being enough for a peck of beans providing it is soil containing soy bean bacteria. Care should be exercised in keeping the inoculated beans from being exposed directly in the light. It is also important to have good germinating beans. Our Wisconsin grown beans may germinate well but like all other soy beans, regardless of where they come from, should be tested a short time before the planting season. If there is anything that makes a person regret, fret, and grow old it is to plant seeds that don't grow. If there is anything that will make a county agent unpopular, or a seed house unpopular, it is to have Mr. Farmer plant some seeds they have been instrumental in furnishing and to find out that they don't grow. Soy beans lose their germinating power quite fast. Should a farmer carry any over or buy some early, by all means test them before planting. Another precaution might be added, that of not planting too deep. Plant down to moisture but stop there. If germination would be real good and soil light, may be in cool weather they would come through, but in heavy soils the chances would be against you—so be careful not to plant too deep.



D. K. BARRETT, WISCONSIN, CUTTING SOY BEANS IN FALL OF 1920 WITH MOWER

In dry years when beans don't get very high a mower is about the only machine that can get them. However, should the farmer have an old fashioned reaper, less work will be required in handling than with a mower, as the reaper leaves them in small bunches which can be left for curing.

How, When, and What of Seed Crop

Generally speaking, if attempting to raise soy beans for seed, plant Early Blacks where No. 8, No. 25, and other early white or yellow dents will mature. Where early selection of Wis. No. 7 or Golden Glow will mature, the best and safest beans are Early Blacks. However, many years the medium maturing varieties, such as Ito San, Manchu, or Black Eyebrow, are planted and in ordinary years would come through safely providing they are planted early, kept clean, and cultivated thoroughly and persistently. In those sections where Silver King and Golden Glow corn mature in ordinary years, these medium maturing varieties can usually be depended upon to mature for seed. The Early Greens would be fitted only to this last mentioned section in that they are a few days later than these medium maturing varieties. It is difficult to recommend any certain variety because their growth depends so much upon seasonal and soil conditions.

Soy beans have been planted in various ways for seed. Some use corn planters, as they are, narrowed up, or driving back over the rows, putting a row in between each planter track. Another method, quite extensively used, is to use a common grain drill, closing up some of the spouts by putting a tin or board on the inside of the box so that only spouts every 24 or 30 inches apart will be seeding. Then there is the beet drill, common hand garden drill, little hand corn dropper, all of which are being used by various farmers through the state.

A few farmers have experimented by planting soys solid, either drilling or broadcasting for seed, but due to the many weeds that seem to thrive this practice is gaining no headway. Generally speaking, putting beans in rows, a bushel will plant from 2½ to 3 acres, depending upon size of beans and distance apart of rows. If drilled solid, between 1¼ to 1½ bushels would easily be used. V. P. Atwell, who last year planted over 150 acres of soy beans, believes it wiser to plant thin rather than thick to get results as seed, having the plants spaced from five to eight inches rather than from two to five inches. This planting distance will vary with fertility of ground, but even on fertile soil should drouth occur naturally a greater setback will result than where thinner. Mr. Atwell is also a firm believer in early planting and this last season started planting his soy beans on May 3 quite a while before regular corn planting time. P. W. Jones is also of the same belief, in that it is better to get them started early and have the frost touch them slightly, than to have them frozen in the latter part of the season. With the dry season of 1920, however, Mr. Atwell experienced having his early planted beans lose their leaves and stop growing much sooner than those planted later. If I were to forecast the future, I would say that early planting will be the rule.

How Cared For

Charles Ristow was perhaps Wisconsin's first advocate of cultivating soy beans with a weeder. Many farmers are now following this practice, finding that, where rain doesn't hinder them from getting on the field when the weeds are small, by cultivating crossways, kit-a-corner, lengthwise and any old way, weeds are kept out with only a part of the effort it took with a regular cultivator. Some farmers, however, believe that for best results this weeder should be supplemented at least once by a cultivator to stir up the soil a little deeper and get out some of the remaining weeds. The important thing is to keep the weeds out regardless of how it is done. On Mr. Ristow's farm this past summer and in an old hog pasture where weeds got the start of the beans, the yield was easily cut in two. Lambsquarter, smart weed, and sand burs grew until they destroyed at least six bushels to the acre.

For cutting and curing soy beans no special machinery need be bought, a grain binder, grain reaper, or mower with clover or pea attachment being used the same as for other crops. In threshing, however, care must be exercised by the thresher to keep the machine speed low and probably remove most of concaves in order to avoid splitting the beans. Special machinery can be bought for threshing beans should any one farmer or neighborhood decide upon raising any quantity for seed. A careful thresherman, however, can do a pretty good job with a common machine, but it has to be run slowly and adjusted so as not to break too many beans.

Soy Beans as Hay

For a hay crop the only place I would recommend them to be planted in solid drill or broadcast would be on new soil free from weeds, or in localities with heavy rainfall. In Northeastern Wisconsin soy beans planted solid might prove very popular some years because of heavy rainfall, or on swampy low soils in other parts of the state, but for the greater part of the state the same method of seeding and caring is best for hay as is recommended for seed, only the plants could be from 2 to 4 inches apart in the row so as to make finer stems.

In the north half of the state on sandy, fertile soils, or in the south on pieces of land likely to be caught by frost, the Early Blacks have proven very popular. On French Island near La Crosse this year these Early Blacks attained a height about the same as other later varieties, being from 28 to 32 inches high. In Wabena in Forest County, these Early Blacks also reached about the same height as Ito Sans. There are many varieties which will grow bigger, but in selecting a variety for hay, we must keep in mind the fact that they cure best when weather is warm and dry, and the latter part of August is much preferred to the middle of September, so we want a bean ready to cut at that time. These Early Blacks on the poorest of soils in all parts of the state may prove too small for hay in a dry year, and the medium maturing varieties would be superior. In our test at Marshfield this past season, the Manchu proved superior to all other varieties tried as a hay crop. The next best was the Mongol, known in Northern Indiana as the Hollybrook, but the Early Green wherever tried approached the leafy, stiff stemmed character of this Mongol variety.

(Continued on page 391)



Soy beans can be put in small bunches to cure for hay or seed. In average years this crop will be as easily handled for hay as any other legume.

Power and Production

R. U. BLASINGAME, PENNSYLVANIA

ONE hundred years ago about ninety per cent of the population of the United States resided in rural districts and were occupied in agricultural pursuits. The 1910 census shows that only 35 per cent of the population of the United States are employed in farming. This means that at the present time each farmer is producing from three to four times what his ancestors were able to produce. His ability to produce more than his forefathers lies in the fact that he employs agricultural machinery to prosecute his farm work.

An investigation was conducted during 1917 by the United States Department of Agriculture among over six hundred farmers in the state of Illinois who used gas tractors. The investigation shows that one-third of these farmers were able, through the use of mechanical power, to increase their number of acres during the war, yet experiencing one of the greatest shortages of farm labor known since the Civil War.

As a result of a similar investigation covering 200 tractors, conducted in the same state among tractor owners in the previous year, less than eighty per cent of the farmers made the statement that power farming equipment was profitable, while the investigation conducted during the following year, which has been referred to above, indicates that ninety per cent of the power farming equipment had proved to be profitable. This indicates two things: First, that the new agricultural tractor has been improved and that the tractor operator is becoming more skilled in the operation and maintenance of his machine.

Some of the advantages of the tractor as enumerated by the Illinois farmers ran as follows: With the use of the tractor, a greater amount of work can be done in a short time during hot weather; the use of the tractor enables the farmer to increase his number of acres; with the use of the tractor, the hired man may be dispensed with; the tractor is adapted to belt work. The main disadvantages seem to be the lack of skill and experience in the operation and maintenance of the tractors, and in the matter of delays caused by poor service in replacing repair parts. These two disadvantages are easily overcome. Many tractor dealers are inspecting each machine that they sell every thirty days to see that it is in working order. The man making the inspection carries a number of repair parts with him in a light car. So far as service is concerned, when there are enough tractors used in a particular neighborhood to justify the dealer in rendering such service, the tractor should not be out of operation more than a few hours at a time. The matter of skill in operation is merely a matter of education, and here again the tractor dealer in many localities is spending one to three days with the tractor purchaser, in order to show him every minute detail of the tractor in order that he may know his machine, and be able to give it the right kind of care.



DISKING AND HARROWING AT THE SAME TIME

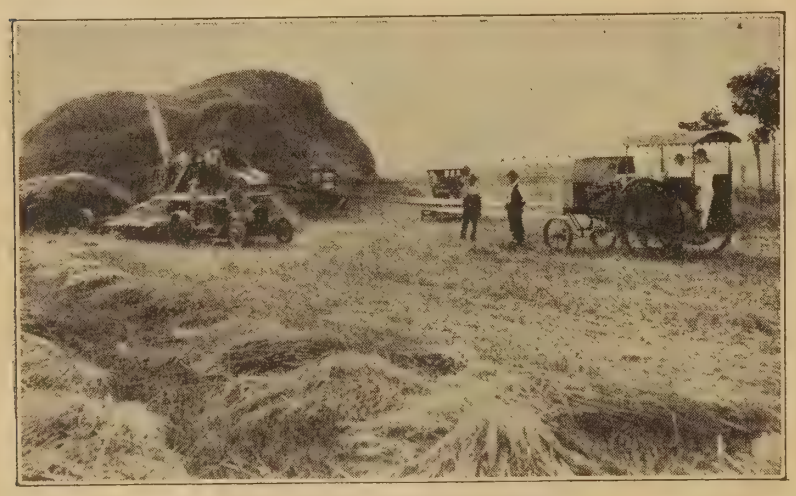
The tractor stands today in the same place that the grain binder stood during the Civil War. The grain binder was invented by Cyrus McCormick in 1831, but was never used to any great extent, on account of the enormous supply of cheap labor, until the Civil War made the labor shortage very noticeable. At this time, and under such circumstances, the grain binder came into its own, and since that time has grown to be one of the standard and specialized agricultural machines, a machine which is indispensable in modern farm operations. In fact, Ex-Governor Laubet of France made the statement a few years ago that "the French nation would starve to death if it were not for the self-binders manufactured in Chicago."

While the tractor was being used to quite a great extent before the World War, the shortage of labor during hostilities stimulated its use, as is indicated by figures obtained by the United States Department of Agriculture in investigating the number of tractors that are being manufactured. From 1916 to 1917 the increase in the number of tractors manufactured was 111%; during the year 1917 to 1918 the increase was 120%, and from all indications, the following year the increase of machines was over 200%.

The tractor has indicated its usefulness. During this period of the shortage of farm labor, and from all indications, many farmers are purchasing tractors now, who a few years ago did not consider their use to be practical.

The tractor offers an attractive job for the southern negro. The negro is capable of operating an automobile;

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AN OHIO THRESHING SCENE

Humoring Dame Nature in Crop Production

ORIN CROOKER, ILLINOIS

Most farmers stop short of sufficient work upon the seed bed and most of them also shirk in the way of sufficient cultivation. Nature, however, is a curious dame who has her own ways of accomplishing results. He farms best who seeks to humor her and gain his ends along the line of least resistance to her likes and dislikes. Diplomacy can be utilized to advantage in farming quite as well as in affairs of state.

IN these days of spring and early summer, while seed beds are being prepared and crops are being cultivated, it is well to understand that there are some things of even more importance in crop production than the amount of plant food in the soil. This will seem a startling statement, perhaps, to many who have been following farm practice for years. It is a common notion that if a soil is kept bountifully supplied with plant food crops must necessarily grow and give a good account of themselves. Usually they do, but it is not wholly the plant food that is responsible for such returns. The physical properties of soils influence production far beyond what is commonly supposed. It is our purpose in this article to point out some of the relationships that exist in matters of this kind. Spring and early summer are good times to put one's understanding of such things into practical operation.

The earliest knowledge of men, both in physics and chemistry, was grouped around what were supposed to be the four elemental substances. These were earth, water, air, and fire. Such a classification appears to us in these days very crude of course, but as a basis for the wonderful development that was to come in subsequent generations it served admirably. To minds groping for understanding in those early times, earth, water, and air seemed to be purely elemental. Practically everything known could be classified roughly under these heads. Fire was a mystery, so it was placed by itself. Present day understanding, of course, has eliminated the idea of either earth, water, or air being elemental. We know that the earth's crust is made up of nearly a hundred elemental substances; that water is a chemical combination of two gases and that it may hold many substances in solution. Air we know to be a mechanical mixture of three or four gases—some of which have escaped recognition until very recently. However, so far as this article is concerned the ancient classification will serve very well, for the physical properties of soil (earth) depend largely upon both water and air, while "fire" comes into our considerations under the guise of temperature. We will take up the last three in the order named and in so doing see the bearing which each has upon the first.

I. Water. Water exists in the soil in three well defined ways. It is always water, so far as its chemical composition is concerned. It is in a liquid, not a gaseous, state. Physically, however, its relation toward the soil is widely different in each of the three ways in which it is held.

First is what is known as *hydrostatic* water. This is the water that exists below the upper level of the "water table", or ground water. There is a depth in all soil, varying from a few inches to many feet, below which the spaces between the soil particles are entirely filled with water. This is spoken of as the "water table". The water below this level constitutes a great reservoir from which it is possible as a rule to draw a large measure of help by proper methods of soil handling.

Second is what is known as *capillary* water. This is water that is drawn upwards in soil from the water table by the power of capillary action, just as oil rises in a lamp wick from the body of oil below. It is this water that is most valuable in ordinary cropping.

Third is what is known as *hydroscopic* water. This is the film of moisture with which each soil particle is surrounded. It is of no great importance, so far as our present consideration is concerned. Hydroscopic water is so tightly held to the soil particles that neither gravitation nor capillary action will remove it. No matter how dry and powdery a soil may appear to the sight or touch this

moisture is present. It may be removed only by oven heat.

Having seen in what forms water exists in soils let us now consider the bearing of water on crop production. Without moisture to absorb plant food there could, of course, be no such thing as a growing plant. Plants take such of their sustenance as they do not derive from the air in the form of "soup", a watery solution of the soil minerals upon which their roots feed. This "soup" comes to the plant in two ways. It may be in the form of rain water which has absorbed soluble plant food after it entered the soil, or it may be in the form of capillary water which has crept up through the soil from below and picked up on the way such soluble mineral salts as lay in its path. Rain water, of course, tends to seep downward through the soil and enter the reservoir of ground water below A portion, however, is retained by capillary action.

It is evident from what has been said that if rainfall were sufficient and came with clocklike regularity farmers would not need to concern themselves very much over any other source for the "soup solution" which crops demand. This, however, is not the case. There may be long periods between precipitations during which dependence must be had upon the water that rises from below through capillary action. Here, then, is a goal toward which to work in farm practice. It is possible to so handle a soil that its power to bring up water in this way may be greatly increased. It is a physical law that the height to which water will rise by capillary action depends on the size of the spaces through which it creeps. The finer the spaces the more slowly but further will water work in this way. There are two means of accomplishing this end. Deep rooted crops leave minute channels through the subsoil, often to a depth of several feet below the plow line. This is of great aid in promoting capillarity. The proper pulverizing of a seed bed operates to retain moisture, while frequent cultivation of its surface serves to check evaporation. It is important to recognize that not only should moisture be coaxed from below and held in the close proximity of plant roots, but evaporation at the surface should be retarded as much as possible. Stirring of the top soil tends to loosen it and increase the space between the soil particles. Water will rise from below in obedience to the laws of capillary attraction until it reaches this loose and mellow earth. Here it is in a measure stopped because of the larger air spaces through which it will not move so freely.

II. Air. A soil must have air as well as moisture in order to be productive. If the soil spaces are filled with water, air is crowded out and plants turn yellow and die. Hence the necessity for proper drainage and the lowering of the water table to a point well below the depth reached by the roots of plants. Air is of great importance to the bacterial life of a soil without which crop production would be at a standstill. The minute organisms, for instance, which convert organic matter into nitrogenous plant foods must have oxygen in abundance. If this is denied them through lack of air they are totally unable to do their appointed work. There is, however, danger of having a soil too loose. Air is a poorer conductor of heat even than water. If a seed bed, for instance, is not sufficiently pulverized the air spaces will remain large. This will not only lessen the amount of capillary water that will ascend to the region of the plant roots but the excessive amount of air between the soil particles will lower the temperature of the soil. It is here that the importance of rolling the seed bed is seen. After a

Yard and Breeding Stall for Vicious Bull



ONE of the problems which comes to the owner of many dairy bulls is how to handle them and not be in danger from them all the time they are being handled. The accompanying photograph shows how a farmer living on Washington Island, Wisconsin, solved the problem to his own satisfaction.

A pen about 24x40 feet is built so that the barn forms one side of it. The bull thus has a box stall in the barn the doors of which may be closed from the inside and the bull either kept in the barn or shut out of it.

On one side of the yard and about three and one-half feet from the fence on the outside is built the breeding stall. Exactly opposite the back of the stall is a four-foot gate in two sections. When these are open they connect the stall with the yard. A cow can easily be led into the stall from the outside. The doors can then be opened and the cow served. The bull can be driven back and the doors closed.

With a yard and stall of this kind the owner of a bull is never required to handle the bull, never has to go in the enclosure with him, and always has him under control. It is a safe, economical, and practical way to care for a vicious bull of any breed.

The accompanying photograph shows the stall with the doors open thus connecting it with the bull's pen.—D. S. Bullock, Washington, D. C.



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The scale can also be used for all weighing purposes.

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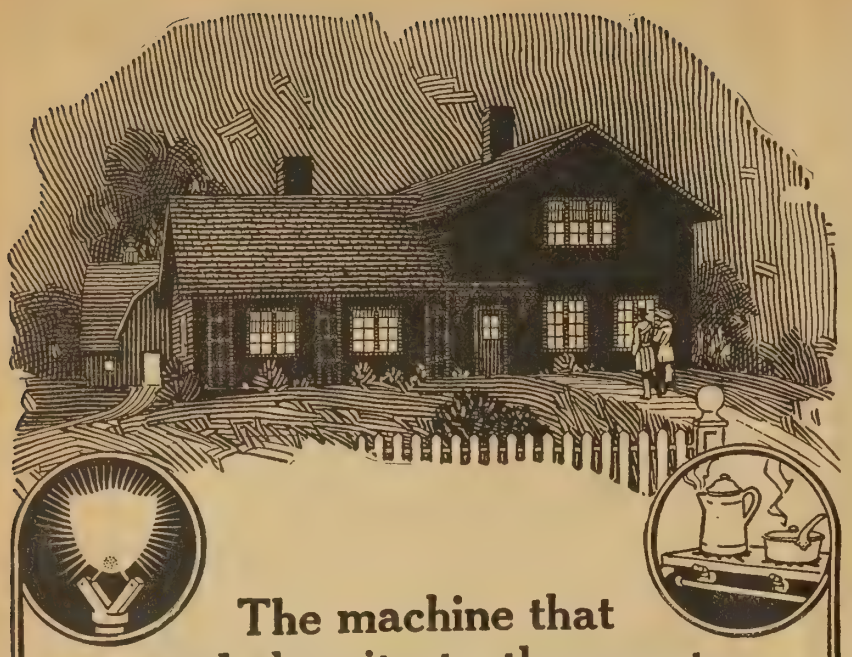
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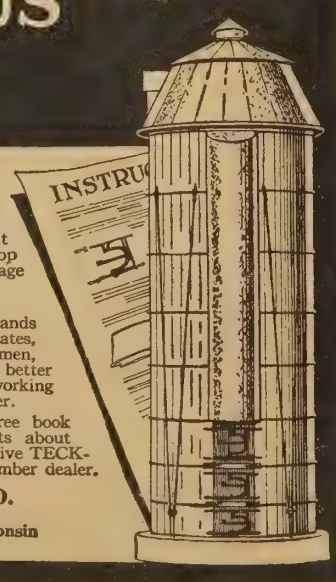
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field has been thoroughly harrowed until it is in a fine state of pulverization the use of a roller will tend to pack the particles together and thus reduce the size of the space between them. This results not only in increasing the capillarity of the soil but in rendering it better able to conduct heat from the surface downward.

III. Temperature. The influence of soil temperature upon growing crops needs no emphasis, but the relation of certain factors to temperature deserves mention. We have just spoken of the poor conductivity of air and the need of small spaces between the soil particles. Generally speaking, soils warm up as the amount of either air or water is reduced while a rise in temperature is retarded by too much air or too much water. It is evident, however, that more water usually means less air and vice versa. A happy medium is the desirable state, since both air and water are highly necessary for productivity. Evaporation of water from soils is a cause of lower temperatures since this is always accompanied by loss of heat. Rapid loss of water by surface evaporation lowers the temperature from 5 to 10 degrees over what it might otherwise be. Hence the need for shallow cultivation to break up the crust that forms after a rain and to permit a surface layer of soil to be formed in which the air spaces are relatively large in size. The influence of humus also enters at this point. Humus it is that gives the dark color to most soils. Black has the physical property of absorbing more heat than other colors. Consequently a black soil will be relatively warmer during hours of sunshine than light colored soils, and will retain this heat further into the night. The heat absorbing powers of certain soil minerals also exert a strong influence of this kind. Sand, for instance, has high power of absorbing and transmitting heat. A soil in which considerable sand is a constituent will warm up quickly under the sun's rays but it will also give off this heat quickly after sunset.

Taken altogether, then, the productivity of soils is influenced greatly by both water and air quite independently of the matter of temperature. The relative amounts of water and air also govern temperature to a considerable extent as does the presence of humus and sand. In preparation of the seedbed and in cultivation these factors should be held in mind and influenced for good so far as lies within the power of the operator.

A Brick Cheese Factory

HOARD'S DAIRYMAN:—The Woodhull Co-operative Association, which operates a factory in Fond du Lac County for the making of Brick cheese, has just concluded a very successful year. The association paid off $1,000 on the outstanding debt and at the same time paid a dividend of 8 per cent. Enough new stock was subscribed at the annual meeting to clear all debts and provide a fund for improvements needed for a larger production during the coming year. The association handled 2,645,739 pounds of milk, and had a total make of 261,594 pounds of cheese. This sold for a total of $65,473.46, maintaining an average price of 25 cents per pound. A making commission of 2½ cents a pound was charged, and money received from the sale of whey cream totalled $4,017.04. The average price for butterfat was .656c and the average price for milk was $2.37 per cwt., returning to the farmers a total of $62,950.68. The average yield was 9.88 pounds of cheese per hundred pounds of milk.

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Dairying Thirty Years Ago

Taken from the Issue of March 13, 1891

C. L. Gabrilson thinks that feeding a young calf twice a day is better than three times. Brother Gabrilson ought to instruct his cows and sows that suckle their young, so that they will conform to his more *natural* method for bovine and porcine babies to take nourishment. Our own experience with calves is that until they are two months old, feeding three times a day is better tha. two, and four times even better than three. A baby stomach, the world over, requires frequent nourishment.

If the way your business is run will not stand the test of the severest financial scrutiny and the comparison with others in the same line, then you have something to learn about carrying it on. This is just as true of a dairy farm and of a butter and cheese factory as it is of a railroad, or a printing establishment, or a manufactory of any kind. Competition and supply fix the prices for sales. Reducing the cost of production is where the chance for exercising ingenuity and good judgment, integrity, and industry come into practical play.

The late Professor Fjord was recently instructed by the Danish government to make careful comparative trials between the different methods of separating cream from milk and making butter therefrom. After a series of trials extending over twelve months, Professor Fjord reported that to make one pound of butter it required with the separators twenty-four and four-tenths pounds of milk, while by the old fashioned system of skimming thirty-two and five-tenths pounds of milk were required, the difference being 34 per cent.

We have yet to find a woman who has proved a failure as a farmer. Nay, more, there are several ladies of our acquaintance who, as breeders of dairy cattle and practical managers of dairy farms, have proved their eminent fitness for such a business. As a rule, women are more painstaking and faithful to small details than men. The care of animals calls for a quick perception of a thousand and one important details which must not be neglected.

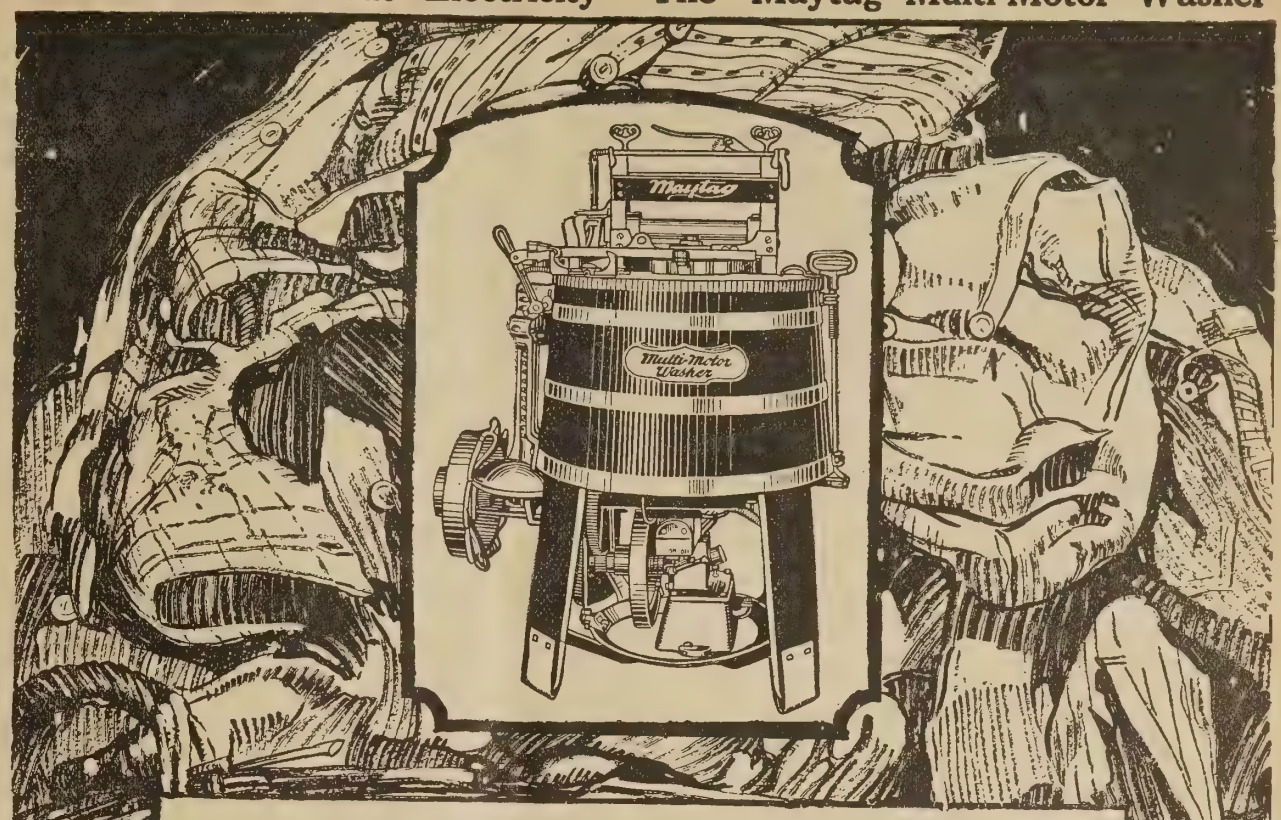
By carefully testing what a cow can do, prior to her being 4 years old, the farmer, if he finds she is not "panning out" much and is not likely to, can beef her while yet her flesh will make good butcher's meat and save the losses that would come from feeding her to an old age and raising her heifer calves to be as much of a failure as dairy cows as herself.

Dehorning Cattle

The advantages of dehorning cattle are set forth by D. G. Sullins of the Georgia Experiment Station in a recent press bulletin. He states that the only advantage of horns in a dairy herd is the added attractiveness of the animals which may be used for show purposes, that horns are responsible for many of the injuries in a herd and also that horns are very objectionable when cattle are brought together in herds, especially for shipment. Of special importance is his statement that dehorned cattle are more docile and make better use of their feed in the production of beef or milk than do animals with horns. Also, since such animals require less space in housing and may be fed and watered with less trouble, they require less labor in their care and management.

Dehorning with a saw or clipper is not recommended with animals which are less than one year of age, because of the chance that scurs will develop. This may happen with older cattle when the horns are not cut sufficiently close to the head, which should be about one-quarter of an inch below where the skin joins the horns, so that in dehorning a rim of skin is left on the horns removed. Mr. Sullins recommends the use of caustic potash on the young calf as the most satisfactory method of dehorning. To be successful, this caustic potash should be used before the calf is more than three days old. The hair should be clipped away from the small buttons which will be felt, and the stick of potash moistened and rubbed on the spots until the skin bleeds slightly. It is cautioned that care must be taken to make certain that not enough potash is used so that it will run down the calf's head. Where horns have been allowed to develop, dehorning should take place out of fly season and in cool weather. If it is done at other times, pine tar should be applied to the cuts. Care should be taken also that animals do not have access to straw piles or brush immediately after the horns are removed as they may harm themselves seriously by getting foreign matter into the wounds.

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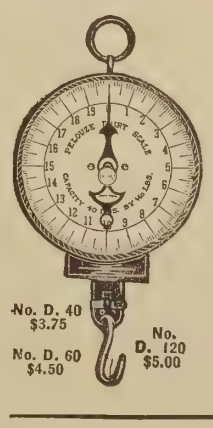
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Fort Atkinson, Wisconsin

Founded 1885 by W. D. HOARD

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Coming Events

March 29-30—Cloverland Farmers' Institute will be held at Menominee County Agricultural School, Menominee, Mich. Superintendent, R. N. Kebler, Menominee, Mich.

May 23—Missouri State Holstein Association first Annual Show of Sale Cattle at Sedalia, Mo.

Missouri Holstein Meeting

An important meeting of dairy farmers was held at Clayton, Missouri, recently to discuss the organization of an eastern Missouri Holstein association. Action will be taken toward this end at a future meeting. Professor C. Larson of the Illinois Agricultural Association and A. C. Ragsdale of the University of Missouri spoke.

In part Professor Larson said: "Producers must have a dependable, stable market for milk at reasonable prices. The rural districts should have better living conditions. The profit of the dairyman is small, but there are two ways to better this—economical production and better marketing facilities. I would advocate the pooling of interests and the erection of receiving and manufacturing plants in convenient places, and the manufacture of butter and cheese of surplus products. Only by co-operation can milk producers obtain a constant and steady outlet for their product at a reasonable commensurate price. There are six large milk concerns in St. Louis who dictate the price on milk in that city. The 7,000 producers scattered over the state are not prepared to meet the buying power of these companies. The farmers demand a market that will bring just returns on their investment.

"The farm bureaus of the country will eventually solve the marketing system. Patience must be used to adjust and solve these problems. The farmer who pays $25 and $30 a ton for hay loses money on producing milk at $2.70, because it costs $2.69 to produce 100 lbs. of milk. Only by the complete organization of all milk producers can communities get results. Consumers are not so much concerned in the cost of milk, but the quality is what they want. Milk must be put before them in the proper light and the demand will increase.

"Dealers get 6 cents a quart for their milk and the producers less than 6 cents. Sour milk, etc., makes a percentage of 40 per cent loss to the producer, and only through organization can such conditions be made better for systematic marketing."

Professor Ragsdale said: "A large number of dairy farmers eat oleo and sell their butter. They should wake up and appreciate the value of their own product by consuming some of it themselves. A well-bred dairy herd does not necessarily mean pure blood or pedigreed stock, but the head of the herd should always come from high producing, pure-bred stock. Ensilage is absolutely necessary to produce milk economically and better feed and care of the herds should be exercised. The farmer is not justified in asking more for the milk until he betters the quality and production of his product. From a standpoint of profit a herd must be healthy and purely from a standpoint of dollars and cents every dairyman should have his cows tested. They must put clean, healthy milk on the market. There would be more sensible milk laws if dairymen had not allowed unsanitary conditions to exist, and they will not get justice until they take up the fight for clean milk."

A resolution was passed at the meeting that the dairymen of St. Louis County and St. Charles County should urge their state senators and representatives in the legislature to support a larger appropriation for the dairy department of the State Agricultural College. But $2,500 a year is now allowed for this work and the department is asking $11,800. A resolution was also passed asking the Chamber of Commerce of St. Louis to make an effort to secure a national dairy show for St. Louis.

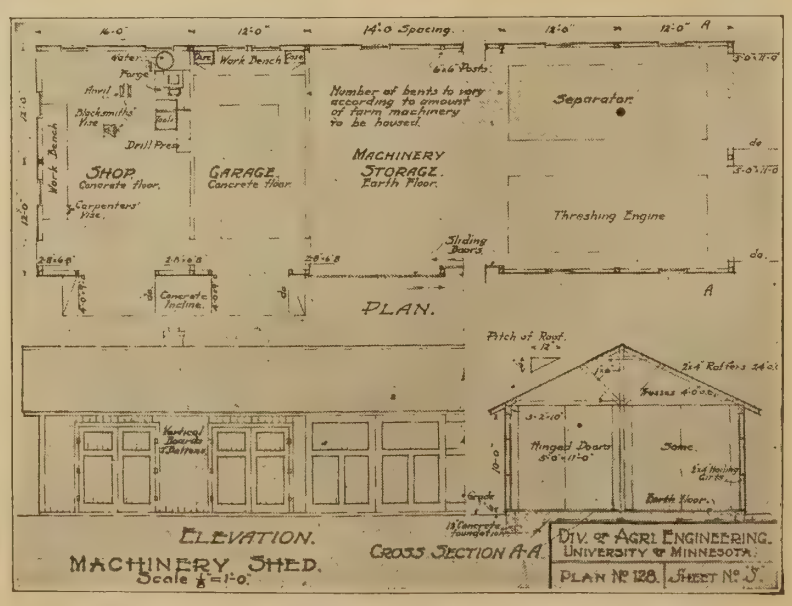
A Machine Shed

Because the depreciation of farm machinery is a source of loss of which too little account is often taken, the division of farm engineering of the University of Minnesota has prepared two plans for farm implement sheds. One of these, No. 127, is designed especially for a threshing machine and separator. The other, No. 128, is a general implement shed and includes a work-shop and garage.

The plan for the general implement shed and shop as worked out by H. B. White, assistant professor of farm buildings, is shown in the accompanying drawing. The plan calls for a shed 24 feet from front to back and as long as the implement equipment of the farm makes necessary. The walls are ten feet high. At the extreme left is a work-shop with a carpenter's bench and vise, a forge, anvil, and blacksmith's vise, and a drill-press. The floor is to be of concrete. Adjoining this is a garage with a work bench and concrete floor also. To the right of the garage is the space for the storage of implements, the number of bents to vary according to the amount of farm machinery to be housed. The plan for this part of the shed calls for an earth floor. Access from the machinery storage room is had directly to the garage and through that to the work-shop. The doors to the work-shop and garage swing on hinges. Sliding doors are used for the storage room.

Mr. White believes in both permanence and attractiveness in a farm building of this kind and so urges the laying of a concrete foundation, and construction that combines attractiveness with utility. He further emphasizes the needed utility in urging that the machine shed on a farm should be on the line of travel between the barn and the fields.

Blue prints of the plans for both of these implement sheds may be had at the nominal cost of ten cents to cover the expense of making and mailing, by addressing the office of publications, University Farm, St. Paul. The same office has blue prints of houses, barns, granaries, a corn crib, hog houses, poultry houses, potato warehouses, and miscellaneous farm buildings and equipment together with plans for farmsteads which may be had upon the same terms. Before ordering any of these, however, farmers should write to the office for a list of the various plans in order that they may make selections from the description given. For example, there are 19 plans for farm houses of different sizes and styles on the list and to order simply a plan for a farm house makes it necessary for the office of publications to write for some description of the kind of farm house desired.—Minnesota College of Agriculture.



PLAN NO. 128 FOR GENERAL IMPLEMENT SHED AND INCLUDES A WORK SHOP AND GARAGE

Less Than a Thousand League Signers Cancelled

Every member of the Dairymen's League who signed the new co-operative contract, providing for the pooling of proceeds and the sale of his milk, was given in that contract from the 12th to the 28th of February to cancel it and withdraw from the Co-operative Association. The cancellation period is just past, and out of the 43,000 signers to the contract only 982 exercised their privilege of withdrawing and many of those who did withdraw did so for the perfectly good and legitimate reason that they were going out of the dairy business. Therefore in spite of all the money that has been spent and the propaganda written and spread throughout Dairymen's League territory to create in the farmers' minds distrust of the Co-operative Association and of the contract, only 2% withdrew their names.

What is of still greater interest in showing the spirit of the farmers toward co-operation is the fact that out of the 2,300 patrons of the co-operative plants which have been operated by the Co-operative Association for several months under the co-operative contract and with pooling of proceeds, only 169 cancelled. In other words, "The proof of the pudding is in the eating". The men who have worked under the co-operative contract during the past eight or nine months, about the worst period for the marketing of milk for the past ten years, were well enough pleased with the work of their own association to stick to it.

The meeting of the directors on March 17th will be followed by county meetings in over seventy counties where the League is organized, and at these county meetings plans will be made for committees to visit every dairyman on his farm to give him a chance to participate in the benefits of co-operation. E. R. EASTMAN.

Seitz Premier Breeder

The Ayrshire Breeders' Association announces that at the last meeting of the Executive Committee of the Association it was ruled the yearling bull, Wendover's Ambassador, was bred by F. S. Peer of New Jersey, and not by Wendover Farm of that state. This decision gives the banner for premier breeder at the 1920 National Dairy Show to Adam Seitz of Wisconsin.

Soil Inoculation For Legumes

Inoculation for one legume crop will not necessarily serve for all legumes. If one legume crop has been grown on a soil and was thoroughly inoculated with many nodules on its roots, this gives no assurance that any other kind of legume will grow without the special treatment of inoculation. Some different kinds of legumes inoculate each other, but legumes do not cross-inoculate universally. Some have a single kind of bacteria which will grow on no other plant, and they must be inoculated with that specific kind of bacteria for their best growth, while others have one kind of bacteria common to two or more types of plants. It is a well established fact that alfalfa can be inoculated with the bacteria from sweet clover, and that the cowpea may be cross-inoculated with the wild partridge pea. Likewise, red clover, white clover, and all other true clovers will inoculate each other. Soy beans, however, have a particular kind of bacteria not yet found on any other legume. According as the common legumes will cross-inoculate, or as they have the same kind of bacteria in common, they may be separated into the following groups:

1. The true clovers, including red, white, alsike, crimson, and mammoth red.
2. Alfalfa, yellow and white sweet clovers, bur clover, and black medic or yellow trefoil.
3. Cowpea, partridge pea, peanut, velvet bean, and Japan clover.
4. Garden, field and sweet peas, and vetches.
5. Garden beans.
6. Soy beans.

Because sweet clover and alfalfa inoculate each other many persons are apt to think that simply seeding sweet clover will inoculate the soil for alfalfa. Such is not the case. If proper bacteria have never been introduced artificially or by chance, they must be applied when the first of these two crops on the soil is sweet clover as well as when it is alfalfa. Sweet clover often gets into alfalfa and smothers it, because conditions favorable for alfalfa are also favorable for sweet clover. The bacteria that nourish the alfalfa also nourish the sweet clover, and the sweet clover makes a much more rank growth, so that the alfalfa is smothered out. The soil is, however, no better supplied naturally with the bacteria for sweet clover than it is with those for alfalfa the first time one of these crops is grown; and if they must be added to the soil for the alfalfa, the need of inoculation cannot be met by substituting sweet clover. If the soil is to be put into alfalfa eventually, there may be some advantages in first seeding it to sweet clover for a season or two, since the latter crop seems to be less delicate than alfalfa. It establishes itself over weeds more readily and helps distribute the bacteria for the alfalfa. It cannot, however, generate the bacteria needed for the alfalfa if they are not put there either by chance or by artificial inoculation, and the venture of establishing inoculation for sweet clover is as great as establishing it for alfalfa.

Soil may be inoculated by two methods: (1) By transferring soil from a field where the same legume has been growing with plenty of nodules, and (2) by the use of pure cultures, or artificial cultures, grown especially for this purpose.

The Soil Method

The use of inoculated soil was the first means of introducing the proper legume bacteria into a field, and this was accompanied with such good results that it has become established as good procedure. By this method, from 300 to 500 lbs. of inoculated soil are scattered over each acre of the field and disked or harrowed in before seeding. The soil so distributed is collected from the surface six inches of a field on which the same legume—or one which cross inoculates with it—has been grown recently with many nodules. Extensive exposure of this soil to the sun before scattering is thought to be detrimental to the bacteria, but definite evidence fails to prove that this is as harmful as might be thought. Useless exposure to the sun, however, should be avoided.

In case only small amounts of soil are available it may be applied to the seed rather than to the field. Soil collected as just mentioned is dried and sifted over the seed which has been moistened (not wet) with a ten per cent glue solution (one pound of liquid furniture glue to one gallon of water, or one pound of dry glue to three gallons of water). Dry, powdered soil is added while the moist seed is stirred until every grain has become coated and the seed has a dirty appearance. After drying rapidly to prevent molding and loss of vitality, the seed is ready to be sown. The smaller seeds, such as alfalfa and sweet clover, will need to be screened before seeding in order to break up the clusters of seeds held together by the glue.

Some objections have been made to the soil inoculation method, but under proper precautions the objections are not serious. The method may be laborious, and rather expensive when no thoroughly infected soil is available in the immediate vicinity. It can also introduce noxious weed seeds or dangerous plant diseases, but these can be avoided by using unifested soil. When any of these undesirable conditions prevail, the pure-culture method might well be used; but whenever good soil can be had for the same cost as pure cultures, the soil method is doubtless preferable. It has given a greater degree of success in past experience.

Pure or Artificial Cultures

The pure-culture method, like the soil method, is based on the principle of scattering the bacteria on the field. The bacteria are grown especially for such use. When bacteria were discovered to be the cause of the nitrogen-gathering power of legumes, attempts were soon made to grow pure cultures of them to avoid the difficulties of the soil method. For several years the pure cultures were in ill repute, but recently improved methods of propagation and distribution have overcome the former opposition and tests of commercial cultures by many experiment stations have found them generally reliable.

The desired bacteria are separated from the nodule and grown on neutral jelly in the laboratory, where they increase rapidly. These are sent to the farmer in various ways, sometimes in solution, sometimes on vegetable jelly, but more often on sterilized soil or sand. The method used is immaterial, provided the bacteria are alive. In using the culture it is diluted with water, sprinkled on the seed and allowed to dry.

The advantages of this method are its simplicity and ease of performance. No great expense is involved in making the cultures. With pure cultures there is no liability of introducing dangerous diseases, destructive insects, or noxious weed seeds. They must not be used carelessly, however, since the bacteria are living organisms and die when the cultures are stored too long or subjected to excessive heat or cold. Directions for using are always supplied and, if followed with reasonable care, this method of inoculation should be successful.

Small Acreages for Beginners

Whenever a new legume is seeded for the first time it is good policy to attempt it on a small acreage. Such procedure offers a chance to become acquainted with the habits of the crop and the best methods of handling it, without the chance of a heavy loss of money and labor in case of failure. If this small area is inoculated, soil may be taken from it to inoculate larger fields in years following. It is, however, well to leave a part of this small area uninoculated and if the treated part has dark green plants with many nodules on the roots while the untreated has poorer plants or fails to develop nodules, the soil needs inoculation for the crop.

Such procedure with the small acreage of a new legume has the following advantages: First, it involves no great risk of a heavy loss in labor and money; second, it determines at a very small cost whether the legume crop will do well; third, it tests the soil to see if inoculation is necessary; and fourth, if such treatment is necessary, it furnishes the soil from the inoculated part of the field as good material for inoculating the rest of the farm. Venturing on a small scale is far better policy than trying a large one, and anyone who is seeding a new legume for the first time will do well to be guided by this principle, trying a few acres to find out how successful the crop is in the locality, rather than investing large sums in seed and labor to be lost in possible crop failure.—W. A. ALRECHT in Missouri Circular 86.



BESSIE OF OAKLAWN FARM, A GUERNSEY COW OWNED BY GEO. H. VANDRE OF WISCONSIN

In December she produced 100.2 lbs. fat; in January 85 lbs.; in February, 98.3 lbs.; and for March, 101.9 lbs.; an average for four months of 96.4 lbs. In this time she averaged 2,142 lbs. of milk per month.

A Splendid Food Product

One of the many splendid dishes that can be made from milk is junket, a very nutritious food product, the composition of which is milk, sugar, and flavoring. Junket is a very delicious dish and oftentimes is looked upon as a dessert or a pudding because it is highly flavored and sweetened, and in a solid form.

Junket is made by adding to the whole milk any flavoring desired, together with sugar and a junket tablet, which when allowed to stand causes the milk to turn into a solid.

Numerous flavors can be used such as strawberry, vanilla, raspberry, orange, chocolate, and various others.

There is no reason why the public should not use vastly more junket than at the present time. It is possibly because they have not received the information regarding this valuable dish. There is nothing so good for all the family as the milk foods.

Junket is put up in two forms, tablets and powder, each convenient for a variety of uses.

Junket tablets are used with lukewarm milk which must be sweetened and flavored to taste for desserts and ice cream. The tablets are also used for making cottage and cream cheese, whey for invalids, and for modifying milk for infants.

Junket powder comes with flavor and sugar, all ready to be added to the lukewarm milk. It makes excellent quick milk desserts and delicious ice cream. One package is generally used to a quart of milk.

A greater use of this excellent food would mean better health and a saving of money. Why not get acquainted with this delicious dish; and remember milk foods are the best foods there are.—NATIONAL DAIRY COUNCIL.

Canadian National Ayrshire Sale

On March 24th Canada holds her first National Ayrshire Sale. This follows the annual meeting at Montreal and promises to be one of the the best Ayrshire sales ever held in Canada. Forty head of carefully selected animals are being sold. These have successfully passed the combination tuberculin test or will be sold subject to a sixty-day retest.

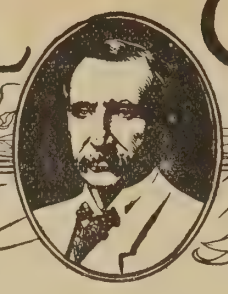
At the annual meeting on March 23rd, changes in the by-laws of the association will be considered, one to provide that $1.00 of the member's fee shall be applied as an annual subscription to the Canadian Ayrshire Review, and another providing that when a director holds office consecutively four years he automatically retires and is not eligible for re-election for two years. Another matter for the approval of the association is a proposed reciprocal arrangement between the Ayrshire associations of the United States and of Canada by which animals recorded in the herd book of either association will be accepted by the other without the recording of ancestors.

Ayrshire Association Organized in Pennsylvania

The Ayrshire breeders of McKean County, Pennsylvania, on February 14, 1921, organized the McKean County Ayrshire Breeders' Association, their constitution and by-laws embodying such clauses as "to become a member one must place his herd under the state and federal supervision for the eradication of tuberculosis" and "any member wilfully misrepresenting a pure-bred, for the purpose of a sale, will upon sufficient evidence be expelled from the association". The number of reactors in the county have been .8 of 1%. This exceptionally low percentage, an ideal dairying section, well-bred heifers and bulls, together with the enthusiasm shown, will truly make history for the Ayrshires.

Pennsylvania. W. W. SMITH.

EDITORIAL COMMENT



THE Wisconsin Division of Markets has made the following statement: "The farmers want to have something to say both about local and terminal conditions. Their ambition is to build up a system which will enable farmers to control their products more than they have in the past. Farmers are opposed to a system in which farm products pass into other people's hands at low prices only to be held until needed by consumers and then sold at much higher prices."

We wonder just how many farmers are really concerned about the marketing of their products. Those willing to devote some time, willing to make some sacrifice for the improvement of marketing their products, are the only ones really interested in establishing an improved system of marketing farm commodities. Altogether too few men are really interested in this subject. Every farmer is interested in receiving a high price for his products but so few are sufficiently interested in improving the marketing system that it is discouraging to those who see the necessity and opportunity for providing better methods for selling farm products.

THE SOIL

Despised earth, thy blackness is a shroud
For struggling hosts that perished in the past,
That man might till a soil with life endowed
And garner wealth that centuries amassed.

Holy earth, man's sacred heritage
To use in trust for ages more sublime.
May I not, then, commit the sacrilege
Of wasting from their fields the gifts of time?
—NIMROD.

These verses are full of meaning. They describe briefly how the soil has been enriched and man's sacred duty toward the soil.

The earth is holy. It is a sacred heritage of those who occupy the land whose duty is to hold it in trust for the coming generations.

All thinking men appreciate their duty to the soil and that its fertility belongs to the coming ages as much as it does to the present. They have urged that the fertility of the fields, which is the gift of time, be conserved and that to waste it is to cheat the future generations. To treat the soil intelligently requires a knowledge of it, the character of crops to grow, and how it must be fed. The men who have seen their duty toward the soil and toward the coming generations have become true farmers and splendid citizens.

HOME OR MONEY

There are those who complain about the money return of the farm, and consider that the professions offer a much larger remuneration. Those who consider the professional career superior to the calling of farming do not know its difficulties as they do those of the farm, and altogether too frequently do we find persons who have not comprehended the real purpose of life. The resignation of Professor A. D. Wilson, chief of the Extension Department of the Minnesota College of Agriculture, that he may take charge of his farm in Northern Minnesota, has led us to consider the object of human activities. Mr. Wilson was farm bred and reared. He knows farming and he likes it. His salary has been above the average of those engaged in teaching agriculture; yet he gives up this position that he may build a farm home, a desire he has always expressed. He appreciates the money return may be less, but success is not measured in dollars and cents alone. The farmer may not have opportunity to handle so much money as the man engaged in some profession, but a farm properly managed gives greater opportunity for building an ideal home and preparing a competency for old age.

After all, isn't it one of the main purposes of life to be engaged in a work that is to our liking? Isn't the building of a home our most important work? The building of character is the greatest purpose of life, and without a home, with wholesome surroundings, this purpose is not so easily attained; in fact, too much money often brings defeat. There is no question but that we as a people dwell too much upon the getting of money and not enough upon what should be the real purpose of human endeavor. No other home is quite so well situated as the farm home, and Mr. Wilson appreciates this. His taste for rural life and its work has led him to decide to build his future home in the country where he can rear his family in useful service and surround them with the best conditions for the development of character.

SHOWS AND TUBERCULOSIS

We have been informed, upon good authority, that a herd of well bred dairy cattle which was exhibited at several fairs and at the Dairy Cattle Congress and at the National Dairy Show has had ninety per cent of its members react to the tuberculin test. These animals at the beginning of the show circuit were free from tuberculosis, but five months afterward ninety per cent of them were suffering from this disease. This is a serious matter.

The public desires to see the best bred animals and it is of advantage to the advancement of our live stock industry to exhibit them. The breeder who has clean cattle at home cannot afford to expose them to diseased animals, and after having an experience which causes him to lose ninety per cent of his show herd is not likely to show any of his cattle again.

Managers of cattle expositions have a responsibility which should cause them deep concern, for, unless they act with decision and enforce rules which will prevent the exhibition of diseased cattle, our fairs and dairy shows in the future will suffer. There is a general awakening everywhere to eliminate tuberculosis among cattle and the best breeding herds in the country are being placed upon the tuberculosis-free accredited list. None of the owners will show their cattle in the future unless they are sure that the management of fairs and dairy shows has taken steps to prevent without doubt the entrance of any tuberculous cattle.

We suggest that those who have the management of fairs and live stock expositions in charge and the breeders who desire to show cattle put forth extra effort this coming show season to see that nothing but healthy animals are permitted to be exhibited. It would not be going too far to require that the herd from which the show cattle are selected is free from tuberculosis. Any herd found to contain diseased cattle should not be permitted to exhibit any of its members even though the exhibition animals were shown by the tuberculin test to be free from tuberculosis. Tuberculous germs are likely to be lurking in show animals from such a herd and they might spread contagion.

HUBAM CLOVER

"Hubam clover" is a new name for the recently popularized annual white sweet clover which was found by the Iowa Experiment Station in 1916 and which has since been distributed to many sections of the United States. The choice of this name is made for the purpose of doing away with any confusion with the biennial white sweet clover and also to shorten the name in order to make it more appropriate for every-day use.

Hubam clover, as it is now to be called, was first found by Professor Hughes in an experimental seeding that he had made in the greenhouses at Ames. He carefully saved the seeds of the few annual plants he discovered and has since grown the seed in increasing amounts and has distributed it until fairly large amounts have been grown. Various reports have been circulated that this annual sweet clover had been found growing in other sections of the United States but when finally traced down by Professor Hughes, he was convinced that the first mutation which produced this particular clover probably occurred in a certain section of Alabama not over 30 years ago. It was not recognized as a new clover because it was mixed with the regular biennial clover. There is now an attempt being made to capitalize this later information and there is some danger that there will be a considerable portion of the common sweet clover seed being put on the market at the price now prevailing for the annual seed.

The Michigan Farm Bureau Federation has purchased some 40 bushels of seed of Hubam clover which it will distribute to Michigan farmers as rapidly as possible. The Iowa Experiment Station will also continue the practice it has previously adopted of sending a small sample of this seed to every inquirer who will send a self-addressed stamped envelope to the Farm Crops Section, Ames, Iowa.

THE VALUE OF GREEN FEEDS

Investigational work done by Professor E. B. Hart and his associates at the Wisconsin College of Agriculture indicates that the fresh, green plant has in it a certain property that is extremely valuable for the best nutrition of the animal and for the largest possible production of milk. While their work has been largely confined to experiments with milch goats, there seems no reason why it should not be applied to dairy cows as well.

In some previous work which they have done, they found that milking animals, such as the cow and goat, would excrete more calcium in their milk and feces than they received when being fed on grains and dry oat straw. In the case of a goat, they found after a period of this type of feeding that if they fed the animal fresh green grass, almost immediately the goat would discontinue throwing off more calcium than was supplied in its food.

The particular point in this experimental work is that it is the belief of many men that it is the failure to assimilate sufficient calcium that frequently brings our milk cows down in production. This is particularly true of the period just prior to freshening and this decreased production seems to continue throughout the entire succeeding lactation.

The particular factor that is found in green growing plants is possibly similar to the fat soluble A which is the factor in milk which makes it desirable for growing children. Neither of these factors are discernible by chemical test and are only shown by feeding trial. Investigators have found that the principle of green grass which is so valuable in the assimilation of calcium and lime is also found in other green growing plants and also seems to be found in considerable quantities in such roots as turnips and rutabagas. For some reason it does not appear to be quite as good in silage, indicating that the heating and fermentation may have destroyed this particular principle. This factor is also found in the juice of such fruits as oranges. It is too early as yet to make any definite application of these investigations but it opens up a line of new study which may prove highly valuable to the dairy industry.

TOO MUCH BUSINESS

At this time when the dairy cattle business, in common with most other lines of business, has been experiencing a slump, it comes as somewhat of a surprise to learn of a breed association that has too much business.

Recently a county breeders' association, that had been advertising their county as a center where good cattle could be purchased, discontinued its advertising because their secretary's office was unable to answer the resulting inquiries. This is, of course, decidedly poor business to neglect such inquiries and the advertiser who does so regularly

is much better off not to advertise. In this case discontinuance of the advertising did not seem to be the right remedy.

The primary purpose of a county breeders' association is to serve the interests of the breed it represents and to improve the sales of the breeders who are members. In this particular instance the association represents a well established Holstein county, one that has good cattle for sale and one where suitable advertising is warranted. The membership realized this and voted the necessary appropriation for such advertising. Consequently the association is falling short of its purpose; it is not adequately serving its members. Suitable provision should be made to handle business. The secretary is unable to do it because of his own business but it is possible to hire some one to do it and, furthermore, it would certainly pay to do so.

This is a problem that every growing, local association will have to meet sooner or later. Some one must do the work connected with a secretary's office and as the association grows it is asking too much to expect a breeder or business man to give his time gratis to the work.

Large county associations in Wisconsin and elsewhere are beginning to employ paid secretaries, paying them in various ways. There is no rule that will apply to all but it would be well for very many associations that are expanding rapidly to avoid delay in considering this question. It will not pay them to wait until the emergency arrives before beginning to prepare.

The inquiries which come to this county show the confidence these men have in the dairy industry and their desire for well bred cows. It is unfortunate that this county failed to serve them promptly. This incident shows that breeders who have good cattle and advertise them properly and employ good salesmanship need have little fear of finding a good market.

Soilage and Soiling Crops

I have a small herd of Jersey cows, amounting to ten in number, and I find, in trying to rotate crops, that I have nothing like enough pasture.

I know that in the old countries the farms are very small and I thought probably you would have some information on how to raise green crops for feeding a herd instead of pasturing them. Is that not done by some of the large dairies, and is it not practical?

Columbus, O. C. L. C.

If there is sufficient labor to properly handle and cultivate all the land, it will be found more profitable to follow the system of soilage than to attempt to pasture productive, tillable land. By soilage is meant the growing of a succession of green crops and feeding continuously during the summer months, or the making of silage so that the cows may receive the regular silage ration during twelve months of the year. In a general way it is estimated that it takes three acres of good pasture to supply a cow with as much feed as can be obtained by cultivating one acre and harvesting the crop either as soilage or silage.

Compared with allowing animals to gather their feed by grazing, Professor Henry in his book on "Feeds and Feeding" states that soilage has the following advantages:

"1. With all crops, even grasses, which soon spring up again when grazed, a larger yield is secured by allowing the plants to nearly mature before harvesting than by pasturing them. 2. With a properly planned succession of soiling crops an abundance of palatable feed may usually be supplied throughout the season, so that the production of the animals will not decline if pastures become parched in midsummer. 3. None of the forage is wasted through being tramped down by the animals or fouled with manure. 4. Less fencing is required. 5. In bad weather cattle will be more comfortable fed soiling crops in the stable than when grazing."

The disadvantage of soilage is the greater expenditure for labor, feed, and fertilizer in producing the crops and for labor in cutting and carrying them to the animals. Also, in warm weather the soilage crops are liable to ferment and spoil if cut in too large quantities for immediate feeding. It is also difficult under this system to always have a proper succession of green crops that will be in the best condition.

The largest objection to soilage is overcome by use of the summer silo. Such a silo should not be so large in diameter but that at least two inches, or preferably three inches, will be fed off each day. If a less quantity is fed the silage is quite certain to mold and spoil, thus making an actual loss of the feed or producing an indifferent and dangerous feed.

Most successful dairymen follow a combined pasture and soilage system, in most cases using summer silage to supplement pature when the latter does not furnish sufficient feed. To provide a succession of green feed by means of soilage crops it is necessary to fit and plant comparatively small areas to the different crops at different times. These crops must be harvested in small quantities and in all kinds of weather, which is both inconvenient and expensive, besides which the work must be done during the busiest season of the year. This objection does not hold true where corn or sorghum are grown for silage, for with these latter crops large fields are fitted, planted, cultivated, and harvested with labor saving machinery and at a minimum of expense. Also the labor involved in feeding the silage takes but a few minutes daily during the summer season when the fields are demanding the utmost exertion of the farmer.

Another reason why silage is preferred is that corn and sorghum will yield more feed per acre than any of these soiling crops. In discussing this particular phase of the question, Professor Henry further states: "Silage furnishes feed of uniformly high quality throughout the season, a goal which is difficult to attain by soiling, for one crop is often exhausted or too mature before the next is in prime condition for feeding. The years when drought is severe and pasture unusually short are the very times when soiling crops will be scant or may even fail. By means of the silo the crop may be carried over from one year to the next, thus providing insurance against drought."

The accompanying table of soiling crops represents the practice followed at the Iowa Experiment Station, which was found very desirable.

Succession of Soiling Crops Used

Approximate time of cutting	Crops	Approximate time of sowing	Rate of seeding per acre	Av. yield of green feed per acre
June 10—June 15—	Alfalfa	Spring or August	20 lbs.	6 tons
June 15 July 5	Oats and Canada field peas	April 5	1½ bu. oats 1½ bu. peas	5 tons
July 1—July 10	Oats and Canada field peas	April 20	1½ bu. peas 1½ bu. oats	5 tons
July 10—July 15	Alfalfa	Spring or August	20 lbs.	3 tons
July 10—July 20	Amber and fodder cane	May 5	70 lbs.	20 tons
July 15—Aug. 15	Fodder cane and cowpeas	May 15	30 lbs. cane 1 bu. cowpeas	11 tons
Aug. 15—Sept. 20	Fodder cane and cowpeas	June 10	30 lbs. cane 1 bu. cowpeas	14 tons
Sept. 20 to heavy frost	Millet	July 10	3 pecks	3 tons

Where a field furnished more feed than was used in soiling and the crop, perhaps, was getting too ripe, the balance was cured as hay or made into silage. In this manner there was no direct wastage of the crop.

Under average conditions and given a good soil, it will take approximately three-quarters of an acre per cow of soiling crops for the usual summer season. In many cases two crops may be grown on the same field if care is exercised.

Remodeling Cow Barn

I would like to remodel my cow barn from a 30-cow to a 15-cow barn. The dimensions are 33'x60' inside; feed alley in center is 12'x60'; cow stalls and gangs are 10½'x60' each. Do you think that this 10½'x60' is large enough for exercising pens for 15 cows? I want to change this space into maternity pens and calf pens. How would you divide this space for best economic results? How would you arrange for feed and water in these pens?

I want to divide a 11'x20' space in another part of barn into a bull and breeding pen or crate. How would you go about this?

Oregon City, Ore. G. B.

As we understand it, you propose to remove the cow stalls from one side of the barn and replace them with maternity and calf pens; however, your question, "Do you think this 10½'x60' is large enough for exercise pens for 15 cows?" misleads us somewhat. We assume that you simply asked this question with another idea in mind. Fifteen cows can be placed in this space and they will have sufficient room to move about quite freely.

The space can be divided into four maternity pens 9x10½', and two calf or young stock pens 9½x10½' with a 5 ft. feeding space between the two calf pens. The calf pens will accommodate six small calves or four young stock in each pen; all pens to have a gate for entering from the center feed alley; the cow pens to have a feed box or manger on the side next to the feed alley. For watering, an iron cup or bowl in each pen connected up with piping to an overhead supply tank or some other pressure system is recommended. A system of this kind is a labor saver and permits the animals to drink at any time they desire. Steel maternity and calf pens are preferable to wooden construction as they are more durable, sanitary, permit better lighting and ventilation, and present a more pleasing appearance.

For prices of water cups and steel pens, we suggest that you write to the firms advertising barn equipment in these columns; they are in a position to give you some valuable suggestions for rearranging your barn to get the most economical and efficient results.

In order to give suggestions of any value for constructing the bull pen and breeding crate, more detailed information concerning this space and its surroundings would be necessary. If the space required for a breeding crate is taken off, it will reduce the size of the bull pen considerably. It is suggested that, if possible, the breeding crate be placed outside of the building and gates arranged so that the bull can be allowed to enter the crate or be shut out as desired.

Wisconsin. A. G. CRERAR.

Silage Heats and Molds

Can you explain why ensilage sometimes will be hot and steamy? I built a new silo last year and my silage was hot all winter. The nearer I got to the bottom, the hotter it got. This winter, it is the same way only not quite so hot. It gradually gets cooler as I near the bottom of the silo.

My silo is a 10-foot diameter Bourbon triple wall and I am feeding only nine head of cattle and have experienced a considerable trouble and loss of silage on account of not being able to feed it down fast enough. Of course, when silage is warm and steamy, it spoils very quickly. My neighbors do not seem to have any trouble with their silage in this way. I have examined the silage in several silos in this vicinity and find it perfectly cold in every case.

I put in the mammoth Eureka corn and it was pretty well dented when ensiled but the leaves were all green. I do not have a cement bottom in my silo; I am just using the ground for a bottom. Do you think this is all right? Do you think that the heat is caused by not enough moisture in the corn at time of ensiling?

Batavia, Mich. C. L.

Heating of silage indicates the presence of air. The corn probably was too dry when put in the silo. If water was added the amount was insufficient. Poor packing may be the cause of the air getting in and the fact that the silage is better towards the bottom suggests this especially. There is always more danger of poor packing in a silo ten feet in diameter than in a larger one.

It is advisable to feed off at least two inches daily to insure good keeping quality and with nine animals to feed you are probably not feeding hardly this much. A two-inch layer would weigh about 425 pounds.

Silage will keep all right with a dirt floor and this is not the cause of the trouble. A cement floor, however, is advisable. Try covering part of the surface of the silage with canvas or building paper, removing this when taking out the daily supply to feed. C. H. ECKLES.

Minnesota College of Agriculture.

Pearl Pop-corn for Silage

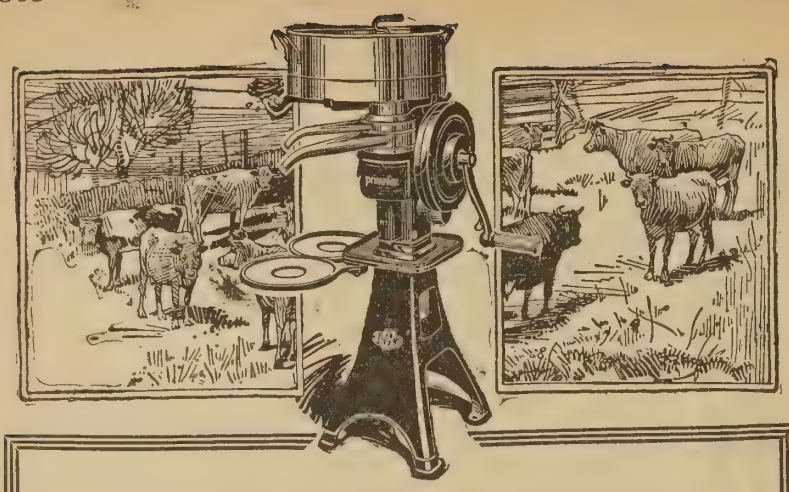
I am advised that pearl pop-corn makes an excellent silage. Do you find that it is better than the ordinary field corn?

If you advise the pearl pop-corn, will you kindly inform me how the same is planted? Do you drill it in with a grain drill, or with the corn planter, and what width apart?

Peoria, Ill. G. J. J.

We see no advantage in the use of pearl pop-corn for silage. There is no question but that it should prove a good silage but it is doubtful whether it will yield as much silage per acre as will that of other varieties which are usual in this section. The field corn which will mature ears and at the same time make the largest growth of leaf and stalk is probably the best variety for silage purposes.

If it is desired to use the pop-corn, we would seed it in the same manner as corn is seeded for silage purposes. If the field is fairly free of weeds, we would suggest drilling it in with the corn planter, placing the plants or seed from 6 to 12 inches apart in rows, the rows being the usual distance apart.



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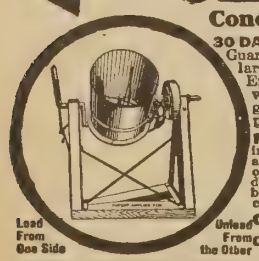
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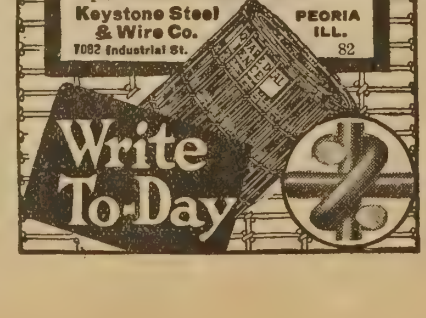
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DAIRY MARKET NEWS

Cheese Markets Quieter

[Report by U. S. Bureau of Markets.]

The cheese market during the week ending March 5 ruled steady. Trading consisted mostly of small lots of average quality, dealers holding their better grades for prices somewhat above prevailing quotations. With comparatively lower prices in the eastern markets, demand from the Middle West increased causing an active market in New York State and a decrease in general stocks, especially of such styles and grades as were included in heavy purchases made by western dealers and users.

Toward the close of the week, trading at Wisconsin primary markets was reported dull and weaker. Orders slowed up, and an easier tone was noted, although the demand was very good for small lots, and limited for carlot shipments. The arrival of several shipments of Twins at Chicago from eastern points has depressed the market for this style.

New Style Cheese at New York

A small 5-lb. cheese about 2½ in. square and 13 to 15 in. long, called sandwich cheese, has gained favor on the New York market, and is preferred by some of the trade formerly using Young Americas. This cheese weighs about 5 lbs., and 4 or 5 are packed in a box.

Plymouth Market Changes Little

Sales on the cheese board at Plymouth, Wis., on March 7th, were made at the same prices as last week except Longhorns which advanced 1c and Square Prints which dropped ⅜c. The following quotations were established: Twins 26c, Daisies 26½c, Longhorns 26c, Young Americas 24c, and Square Prints 27c. Prices on Feb. 7th were: Twins 23⅓c, Daisies 24¼c, Double Daisies 23½c, Longhorns 25¼c, Young Americas 25c, and Square Prints 24c.

The average wholesale prices on American cheese (style Twins) for the week ending March 5, 1921, and for the corresponding week a year ago were as follows:

	Week ending March 5 1921	1920
	cents	cents
New York	27.7	29.2
Chicago	26.9	26.6
Boston	24.7	31.1
San Francisco	20.7	30.0
Wisconsin	26.7	26.8

The total receipts of American cheese at these markets were 2,748,757 lbs. as compared with 3,220,158 for the corresponding week a year ago and 2,835,584 lbs. last week.

Recent Price Advances Checked on Butter Markets

[Report by U. S. Bureau of Markets.]

After registering an almost continuous advance in price averaging more than 10c for top grades on the four markets since Feb. 10, the butter market became topheavy and reacted during the week ending March 5. There was a certain amount of skepticism the previous week, many members of the trade thinking that prices were becoming too high, but New York seemed to be short of fresh butter and buyers were stocking up heavily in order to anticipate any further advance. A certain amount of momentum goes with either a continued advance or a continued decline and this factor held up the market until Wednesday, when buying stopped and declines were in order the rest of the week.

The statement is often heard that a market cannot go one way all the time and traders were of the opinion that with less quality storage butter to choose from and with no reason to expect any large increase in the fresh make, the market would soon settle at a price somewhere around 50c. This would mean a retail price under 60c, which is considered consistent with the maintenance of normal consumption. More Danish is expected and with the shortage in the Northwest evidently taken care of, judging from the 15c drop in the San Francisco market, more Pacific Coast butter may come to eastern markets.

A few weeks ago butter was scarce on the Chicago market while New York reported a surplus. Chicago now has a number of cars of centralized butter and more surplus on the street, while New York has only a slight accumulation resulting from the break in prices.

The cargo of 11,200 casks of Danish butter on the steamer Heligolav is expected to be available about March 14th and other small cargoes, including those on the Stockholm and Magnolia are either in or due shortly. This butter is now costing between 44c and 45½c C. I. F.

Considerable difference of tone was apparent on Saturday's closing market. New York firmed up with ½c advance, while Chicago made a further break of 2c on 92 score and of 4½c on centralized carlots. The decline under Monday's prices amounted by Friday to ½c at New York and Boston, 3½c at Chicago, and 1c at Philadelphia.

The average wholesale prices on 92-score butter at five of the principal markets for the week ending March 5, 1921, and the corresponding week last year were as follows:

	Week ending March 5 1921	1920
	cents	cents
New York	53.4	63.9
Chicago	51.9	64.2
Philadelphia	54.0	64.5
Boston	53.1	65.5
San Francisco	41.9	57.4

The receipts of butter at these markets were 7,543,708 lbs. as compared with 7,384,663 lbs. last year and 6,475,090 lbs. last week.

New York Butter Market

New York City, March 8:—There was some disappointment felt among receivers because of the failure of the President to sign the Fordney Emergency Tariff Bill, which bore a 6c duty on imported butter, although it was fully expected that the bill would meet the fate that did befall it. It is now predicted that fully 5,000 casks of Danish butter will be received each week for several months to come. In view of the fact that Danish exchange has deteriorated in value to a marked degree during the past several days, the American butter market is more desirable to the Danes than it has been for some time. It is highly probable that as a result of Danish butter importation, a variable market will obtain throughout the summer.

(Continued on next page)

Carload Prices of Hay and Feed at Important Markets March 5

(In dollars per ton)

Commodity	Boston*	New York*	Philadelphia	Baltimore	Atlanta	Jacksonville	Memphis*	St. Louis*	Cincinnati*	Pittsburgh*	Chicago*	Minneapolis*	Omaha*	Kansas City*	San Francisco
HAY															
Timothy and clover:															
No. 1 Timothy	29.00	30.00	25 00	.....	30.00	30.00	27.00	26.00	21.50	24.00	26.00	20.00	.....	†20.00	.....
No. 1 Clover, mixed	27.00	25.50	.....	20.50	29.00	28.50	.....	21.00	19.50	22.00	21.00	16.50	.....	†17.00	.....
No. 1 Clover	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Alfalfa:															
No. 1 Alfalfa	.....	.....	.....	.....	30.00	33.00	27.00	23.00	26.00	.....	24.00	20.00	18.00	20.50	19.00
Standard Alfalfa	.....	.....	.....	.....	28.00	32.00	25.00	21.00	23.00	.....	20.00	18.50	13.00	18.00	.....
No. 2 Alfalfa	.....	.....	.....	.....	25.50	31.00	20.50	17.00	18.00	.....	17.00	16.50	9.00	14.00	.....
FEED (Bagged)															
Wheat Bran:															
Spring	33.50	32 50	32 50	32.00	32.00	32.50	.....	.....	27.50	29.50	25.75	22.00	.....	.....	.....
Soft Winter	34.50	33.00	35 00	33.00	32.00	34.00	25.00	25.00	28.50	30.50	.....	.....	.....	.....	42.00
Hard Winter	33.75	32 50	32.00	.....	32.00	.....	.....	24.00	27.50	29.50	.....	.....	21.00	20.50	.....
Wheat Middlings:															
Spring (Standard)	32 50	31.50	31.00	31.00	33.00	33.00	.....	.....	28.00	29.00	25.50	21.50	.....	.....	43.00
Soft Winter	36.00	....	35.00	32.00	34 00	35.00	.....	27.50	31.00	32.00	.....	.....	.....	.....	.....
Hard Winter	35.00	.....	.....	.....	33 00	.....	.....	26.50	30.00	32.00	.....	.....	.....	.....	.....
Rye Middlings	28.00	.....	27.00	.....	.....	.....	.....	.....	27.00	26.00	25.50	19.00	.....	.....	.....
High protein meals:															
Linseed	46.50	46.00	45 50	.....	.....	.....	.....	.....	44.00	43.00	42.00	39.50	43.00	44.00	.....
Cottonseed (41 per ct)	39.00	.....	37.00	36.50	.....	.....	.....	.....	.....	37.50	34.50	37.00	31.50	31.00	35.00
Cottonseed (36 per ct)	36 75	36.00	35.00	34.50	30.00	30.00	25.50	.....	30.25	35.00	.....	35.00	.....	.....	.....
No. 1 Alfalfa me'l (med)	35 00	.....	.....	35.00	30.00	34.00	22.50	21.50	27.00	.....	23.50	.....	19.00	19.00	27.00
Gluten feed	45.08	41.50	42.20	42.00	.....	.....	.....	.....	40.30	41.43	37.00	.....	.....	42.15	.....
Hominy feed (white)	32.00	32 00	31.50	28.00	35.00	.....	.....	23.00	23.50	.....	25.00	.....	19.00	.....	.....
Ground barley	.....	.....	42 00	.....	.....	.....	.....	.....	40.00	.....	35.50	23.00	31.00	30.00	30.00
Beet pulp	37.00	32 00	35.00	36.00	.....	42.00	.....	.....	36.50	.....	.....	46.00	.....	.....	.....

*Hay quotations represent average of cash sales at these markets. †Nominal. ‡Rolled

Straw—Straw is in fair demand at the several markets but receipts generally are sufficient for their needs. Prices are practically unchanged. Quotations are: Wheat straw—Baltimore $14, Richmond $16, Pittsburgh $14.50, Cincinnati $8, Chicago $12.50, Minneapolis $7.50. Oat straw—Baltimore $18, Pittsburgh $14.50, Cincinnati $8, Chicago $13.50, Kansas City $6.50. Rye straw—New York $18, Baltimore $17, Pittsburgh $15, Cincinnati $15, Chicago $14.50, Minneapolis $8.50.

However, it is barely possible that some emergency tariff law will be enacted by Congress during the first weeks of its special session although sentiment among the leaders in that body seems to be that other legislation should be given first consideration.

At the present time, while there is little Danish butter in first hands, large quantities will be available in the near future. The shipment of 11,200 casks which was expected the first part of this week has not arrived as yet nor will it be available for distribution before Monday of next week as the boat bearing it is at present in Boston where it stopped to discharge passengers. Another shipment of 5,000 casks is due to arrive the first of next week. As the two shipments will aggregate 1¾ millon pounds, the effect of the simultaneous arrival of the two shipments will undoubtedly have a decided effect on the butter market. A sharp break in prices is expected. As the butter markets on the Pacific Coast experienced a decided slump during the past ten days, extras in San Francisco being quoted at about 43c, there is decided movement of western made butter to the eastern markets. Several carloads of California butter are reported to be in transit at present and more will doubtless follow. That butter also will have a decided bearing on this market during the next few days.

It is again very apparent that the price of butter acts as a governor on demand. During the break of two weeks ago, demand became very acute with the result that practically all accumulations of fresh butter of all grades were cleared up. With demand keen, there was a sharp upward trend to butter prices which finally resulted in the quotation on extras reaching the high figure of 54½c which is decidedly high for this season with conditions as they are at present. With the advent of high prices, there was a marked curtailment of demand and the market reacted very quickly. At present, a very nervous condition obtains which is the forerunner of a decided slump in prices.

On Monday of last week, extras were quoted at 53½c and on the following day, the quotation was advanced 1c, 54½c being the high mark for the week and for some time past. On Wednesday, it was very apparent that the highest possible price level, consistent with an active movement of butter, had been reached and a reaction set in although there was no change in quotations. On Thursday, however, prices declined 1c and a similar decline materialized on Friday. On Saturday, there was an unexpected recovery and the quotation advanced 1c. On Monday of this week, it was again apparent that lower prices must prevail if butter moved freely but there was no change in quotation until today when prices declined 1½c. There is an absolute dearth of activity today and it is expected that a steady price decline will be the order of the next few days. Established quotations today are: Extras, 51@51½c; higher scoring than extras, 52@52½c; firsts (90—91 score), 49½@50½c; firsts (88—89 score), 47@49c; and seconds, 38@46c.

W. B. LIVERANCE.

Savage Feed Service Latest Formulas

HOARD'S DAIRYMAN:—Feed prices were recently quoted to Professor Savage of the Feed Service, Utica N. Y., on straight carloads for cash f. o. b. any station taking the Utica rate.

After considering their rates he has made his formulas for the following feed mixtures:

For Dairy Cows

	Wholesale
200 lbs. ground oats or barley	$ 3.85
100 lbs. standard middlings	1.64
200 lbs. hominy or corn meal	3.07
400 lbs. cottonseed meal	7.74
100 lbs. oil meal	2.26
1,000 lbs. will cost	$18.56
100 lbs. will cost	1.85
2,000 lbs. will cost	$37.12

Mixtures for Calves and Young Stock

	Wholesale
300 lbs. hominy or corn meal	$ 4.62
100 lbs. wheat bran	1.52
500 lbs. oats or barley	9.60
100 lbs. oil meal	2.26
1,000 lbs. will cost	$18.00
100 lbs. will cost	1.80
2,000 lbs. will cost	$36.00

Professor Savage suggests using as much high protein feed in the ration as cost and the health of the animal will permit, as the high protein feeds have a much greater manurial value than low protein feeds.

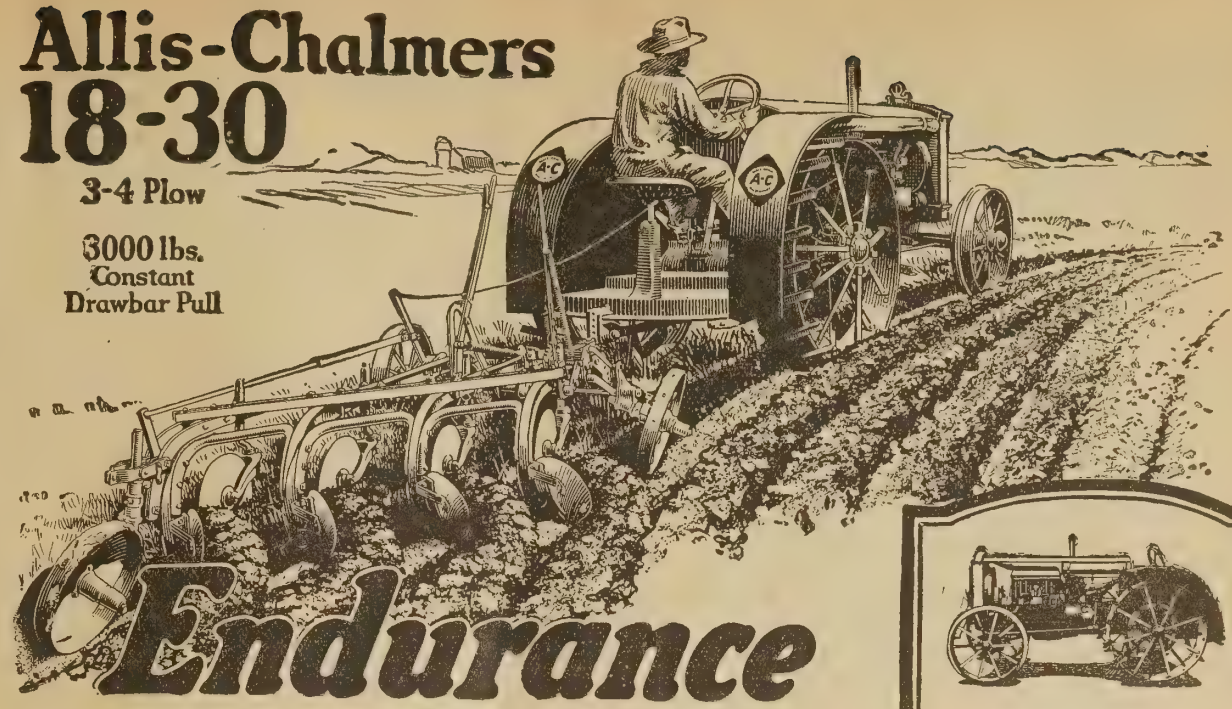
Feed prices in general have continued to drop for the last two weeks, but some feeds have gone up slightly. The most notable drop has been in gluten feeds. Cottonseed meal still remains the cheapest source of protein.

E. M. L. B.

Allis-Chalmers 18-30

3-4 Plow

3000 lbs. Constant Drawbar Pull



Endurance

How Seven Years' Proving and Improving Put Stamina Into Every A-C Part

PLOWS set *deep*—furrows turned at a speed close to three miles an hour—and motor held at full rated horse power hour after hour! In these times of pressure Allis-Chalmers' quality and reserve power guarantee against delay—put you in the field and quickly out again, with every acre plowed when soil is in its best condition.

Oversize bearings; removable cylinder sleeves; heat-treated, cut and hardened steel gears, machined to an accuracy of one-thousandth of an inch and running in a constant bath of oil—these are typical Allis-Chalmers features. Naturally, the Allis-Chalmers owner figures tractor life in terms of greater service. The shocks and strains of hardest going find their match in wear-resisting parts; the over-loads of heavy duty quickly disappear before the brute reserve of Allis-Chalmers' motor.

Now Comes the A-C 12-20!

SO remarkable has been the performance of the A-C 18-30 that every tried and tested feature of this model has been engineered into the new A-C 12-20. It is a 2-3 plow tractor with 2,000 pounds constant drawbar pull—and abundant reserve. Large-scale production, combined with Allis-Chalmers' enormous buying power, makes this tractor one of the greatest values in the industry. Watch for the A-C 12-20!

New Power and Economy Standards Set by $42,500,000 Company

With sixty-six years' experience in building machinery for some of the largest factories and engineering projects in the world, *quality* is only another name for *economy* at the mammoth plant of Allis-Chalmers. So, seven years ago, this company set its vast resources and one of the world's largest engineering staffs at work to build a tractor worthy of the Allis-Chalmers name.

To combine the flexibility of high-speed motors with the rugged strength of heavy-duty power plants, was the first problem Allis-Chalmers sought to solve. Engines of many types were built and run under full load for days at a time. Power output was watched, fuel and oil consumption recorded, and every engine underwent severe inspection. Transmissions, too, were put to rigid tests. The sudden thrusts that gears must stand in service do not compare with those that A-C tractor gears endured. Finally a finished A-C 18-30 took the field. At a touch of the throttle, the perfected Allis-Chalmers motor responded with automobile-engine smoothness—yet conquering every kind of soil with its tremendous flow of power. But Allis-Chalmers was not satisfied. It was the endorsement of the farmer that was wanted!

So A-C 18-30's, in only limited numbers, were released. And not a single owner made complaint about the service he was getting. Now, after the expenditure of $3,000,000—climaxing seven years' development—Allis-Chalmers tractors stand perfected. Now this $42,500,000 company goes into volume tractor manufacturing—offering proven models at prices in keeping with a gigantic production capacity of 100 tractors a day!

Easy to Master Allis-Chalmers Construction

Allis-Chalmers tractors appeal most to men who see beyond the paint—who look to the very working vitals for the long life which can begin only there. You will appreciate the ease with which every part may be reached; you will recognize in Allis-Chalmers simplicity the total absence of unnecessary parts which only add to the weight and subtract from performance. For example, there is no "frame" to an A-C 18-30. Motor is bolted direct to transmission housing—forming a rigid, trouble-free "backbone" which resists being thrown out of alignment, no matter how rough the travel.

See Allis-Chalmers tractors—notice their clean cut, easy-to-master design! And remember, back of each model stands a $42,500,000 company—guaranteeing the super-service you have a right to expect from a tractor bearing the Allis-Chalmers name.

ALLIS-CHALMERS MFG. CO., Dept. 28 F, Milwaukee, Wis.

WRITE FOR BOOKLET TODAY: Ask for the 18-30 or the 12-20 booklet—or both—giving complete details of exclusive Allis-Chalmers construction features which make these tractors so superior.

DEALERS: Write today for attractive dealership and jobber proposition. Share in the mammoth sales co-operation program which goes with Allis-Chalmers 100-tractor-a-day production capacity.

Watch ALLIS-CHALMERS this Year

ALLIS-CHALMERS A-C MILWAUKEE

Colorado Holstein Meeting

The Holstein Breeders' Association of Holly, Colorado, held its annual meeting February 12th and elected W. S. Partridge president, J. A. Pierce, vice-president; C. F. Hampton, secretary and treasurer; and J. H. Leonard, George D. Shell, Joe Boetto, and Edward Klein, directors. A number of very excellent sales were reported, the demand for good animals being good. A committee was appointed to confer with the dry land farmers in this section to discover whether better methods of dairying cannot be taken up by them, the plan being to introduce Holstein cattle on these farms.

Wasn't Carlyle right? "Work rids us of three ills—tediousness, vice, and poverty."

SUPERIOR

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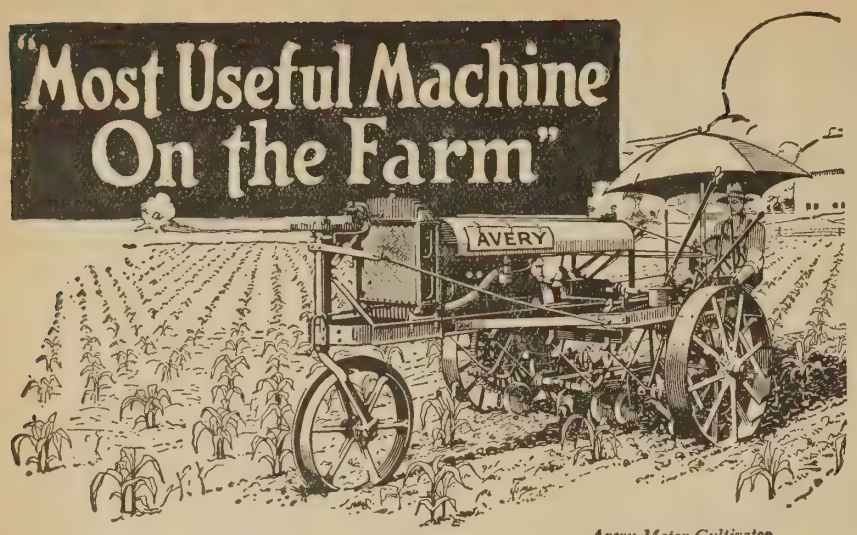
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THIS Avery machine is more than a motor cultivator and more than a tractor. It is, as one owner says, "the most useful machine on the farm."

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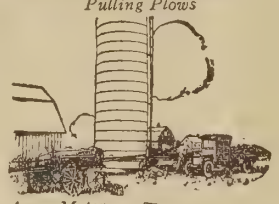
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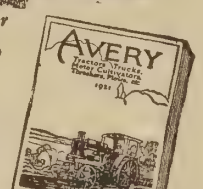
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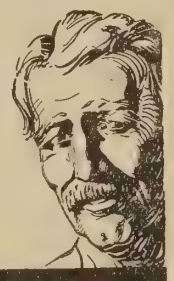
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I haven't much use for a feed-dollar that only does 78 cents' wuth of work.

EARLY DAN



How Far Do Your Feed Dollars Go?



Unless dairy feed is *all* feed, it cheats twice—it doesn't make milk and it *does* make cows use up good energy to get rid of the waste.

Every cent you lay out for CE-RE-A-LIA SWEETS is spent for *feed*—high grade cereals, pure cane malasses. Analyzes 20% protein, 50% carbohydrates, 4.5% fat, 10% fibre.

Feed One Cow Four Weeks at Our Risk with Ce-re-a-lia. Money back if it does not improve milk flow or test. Write for details right now.

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Mfrs. of Tuxedo Scratch Tuxedo Hog Ration.

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BUY YOUR **COFFEE** WHOLESALE IN 5 LB. LOTS from JEVNE'S and SAVE 10c per pound

We Pay Parcel Post. We sell only High Grade Coffee and Tea Send for our Money-Saving Price List, or better still

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1643 Oakland Avenue Kansas City, Mo. 1643 Empire Building Pittsburgh, Pa.

Simple Ways of Feeding Dairy Cows

(Continued from page 358)

grouped into classes according to their percentage of digestible protein.

The percentage of digestible protein in a grain mixture can be determined as follows: Take the number of parts of each feed used and multiply the percentage of protein by the number of parts. Add the percentages and divide by the number of parts.

If it is desired to make up a grain mixture from corn, oats, and linseed meal to balance with alfalfa hay as roughage for a herd of medium producing Holsteins, the process would be as follows: Alfalfa hay is a legume roughage and belongs to the class of high protein roughages that require from 13 to 16 per cent protein in the grain mixture. Start by taking one part of each concentrate.

1 part corn meal.....	5% digestible protein
1 part oats.....	10% digestible protein
1 part linseed meal....	30% digestible protein
3 parts mixture contains	45 parts protein

1 part equals 15.0 of 15% protein in the mixture.

Now the mixture need not contain more than 13 or 14 per cent of protein with such a hay so the mixture may be changed so that there will be less protein in it. This may be accomplished by adding more parts of corn or oats or both. The same result could be obtained by reducing the quantity of the linseed meal. The mixture is palatable since all its constituents are palatable so that part is all right. As it stands it is a little heavy, that is, it lacks bulkiness. The cost depends upon the conditions and varies greatly. Suppose corn is worth $40 a ton and oats, $35. In such a case it would be cheaper to add oats than corn. Oats is slightly higher in mineral content than corn, so from that standpoint is to be preferred. The linseed meal insures enough laxativeness in the ration even without silage. The addition of oats gives the mixture a lower protein content. By trial it is found that a mixture of 1 part corn, 3 parts oats, and 1 part linseed meal contains 13 per cent of digestible protein. The roughage and the grain mixture will work well together and if as much hay is fed as the animal will eat up clean and the grain in proportion to milk yield the results should be satisfactory.

Let us take another example. Suppose we have corn silage and clover hay available as roughage. The feeding of corn silage and clover hay places the roughage in the combination class which necessitates from 15 to 18 per cent of protein in the grain mixture. It will be considered that the desired percentage of protein is 15. As a basis, the farm grown grains, corn and oats, should be used. It is apparent that some high protein concentrate will have to be added to corn and oats to bring up the percentage of protein. Since cottonseed meal and linseed meal cost about the same per ton, cottonseed having the larger percentage of protein is the cheaper as a source of protein.

1 part corn meal.....	5% digestible protein
1 part ground oats....	10% digestible protein
1 part cottonseed meal	35% digestible protein
3 parts mixture equals	50 parts protein
1 part equals 16.66 pounds	
Add	
1 part ground oats....	10
4 parts	60 parts
1 part	15 parts or 15% of protein in mixture

(1 part usually stands for 100 pounds of feed)

As far as the percentage of protein is concerned, the mixture is satisfactory. With two parts oats to one part each of corn meal and cottonseed meal, the bulk and palatability are satisfactory. Considered in connec-

A 1-Piece Cow Stall ONE Attachment

THAT describes the CLAY Cow Stall. Easily and quickly put up—and *stays up*. Nothing to break. Warranted not to bend. For bigger dairy profits—through safety, sanitation and a saving of time, feed and labor—equip with the

CLAY SANITARY ONE-PIECE STALL

Strong Smooth Steel Tubing No Angles, Joints Or Heavy Castings

Simplest, strongest cow stall made. Outlasts the barn. Designed with the help of hundreds of dairy farmers who *know* what the dairy farmer needs. None of the faults of old-style stalls — all of the good points barn equipment can have.

CLAY Equipment will save you *hours* every week, keep your herd comfortable and contented and pay dividends from the start in a bigger yield of milk.

CLAY 2-Way 1-Hand Stanchion

Instantly closed or opened *both* ways with *one* hand. Eliminates troublesome sure-stops. Locks at 6½, 7½, or 8¼ inches—fits either cow or heifer without change. Hangs squarely in center of stall—cow can't miss it. Lock guaranteed brute-proof.

YOU CAN MAKE MORE MONEY

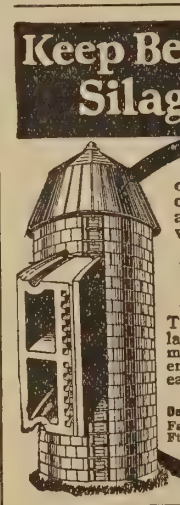
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PRESTON **Lansing** Vitrified Tile Silo

The patented block in shiplap formation gives enormous strength; twisted steel reenforcing in cement between each tier. Write for Catalog.

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EVERY FARM

will have a silo within the next few years. Be the

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Best of materials, six different diameters, everlasting hollow tile roof, easiest to build—such features as these have made the Dickey pre-eminent among silos.

The Fruit Jar of the Field

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"B-V-T" Silo

Will last forever. You will never have to rebuild it! Neither will your grandchildren. Built from the famous BRAZIL VITRIFIED FIRE CLAY. The "B-V-T" has been on the market **nine years without a failure.**

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Tag your stock—best and cheapest means of identification for Hogs, Sheep and Cattle. Name, address and number stamped on tags. Catalog mailed free on request.

F.S. Burch & Co. 156 W. Huron St. Chicago

tion with the roughage there are large enough quantities of the various mineral compounds present. Perhaps the only question would be as to whether cottonseed meal formed too large a part of the grain mixture. This might be questioned for very high producing cows if the grain were fed in proportion to milk yield, but, for average producers, the proportion is not too great. When there is no succulence in the ration it is advisable to use some linseed meal for the laxative effect.

In connection with the general rules for feeding, three guides for general feeding may be given especially with reference to the quantities to be fed. Briefly they are as follows:

1. Feed all the roughage that the cow will eat up clean. Only restrict the roughage when the cow becomes over fat.

2. Feed the grain mixture in proportion to milk production, 1 pound of grain daily for each pound of butterfat produced weekly. Or feed one pound of grain daily for each 3 pounds of milk produced daily for Jerseys or Guernseys up to 40 pounds of milk; above that 1 pound of grain for each 3½ pounds of milk; for Holsteins 1 pound of grain for each 4 pounds of milk produced daily up to 50 pounds of milk and then 1 pound for every 5 pounds of milk; Ayrshires, one pound of grain for each 3½ pounds of milk.

3. When the cow fails to respond in milk production, reduce the grain.

4. Observe the cow, her weight, and production and try to keep her in good condition and well.

Some feeders limit the production of their cows by not giving them enough water. Such a practice is extremely shortsighted since water is the cheapest ingredient of milk. Fortunately there is no law or regulation that prohibits the giving to cows all the water that they want. The quantity needed will depend upon the kind of feed and the quantity of milk being produced. Cows on dry feed require more water than those on pasture. Ideally, water should be before the cows at all times, but since this is not always practicable, watering twice a day is very satisfactory for ordinary conditions.

Oregon Dairymen's League

A Series of Intelligent Questions Answered

One of the new members of the Oregon Dairymen's League recently submitted a series of questions to the officers of that association that open up a fund of valuable information. Readers of Hoard's Dairyman will be interested in these questions and the answers as prepared by the League. They are as follows:

Q. How long has the Oregon Dairymen's League been organized? A. 3½ years.

Q. How long has the League been handling dairy products under its present 5-year contract? A. Since July 1, 1920.

Q. Previous to this contract, what method did League members employ to dispose of their product? A. The League sold it on commission, charging 5c per cwt. for milk and ¼c per pound fat for cream.

Q. How many members has the League at present? A. 2,228 contracts accepted. About 600 more signed, to be taken over this month.

Q. How much capital do you estimate these members control? A. About $25,000,000.

Q. How many plants has the League in operation? A. 18.

Q. Can the League secure as much, relatively, for its products as privately owned creameries? A. Have netted members from 1 to 12 cents a pound butterfat more on the pools that have closed.

Q. Do you consider that there is any opportunity whatsoever for capital to get control of the League? A. None. It is a straight membership organization with one vote for each member and no proxies.

Q. Is there a demand at present for all of the League product? A. Yes. Our members have created a demand for more than we can supply. The demand has been created by asking dealers to handle our product.

Q. Would a systematic advertising campaign increase the demand to the extent of boosting the price? A. Yes, after we have graded up and standardized the product.

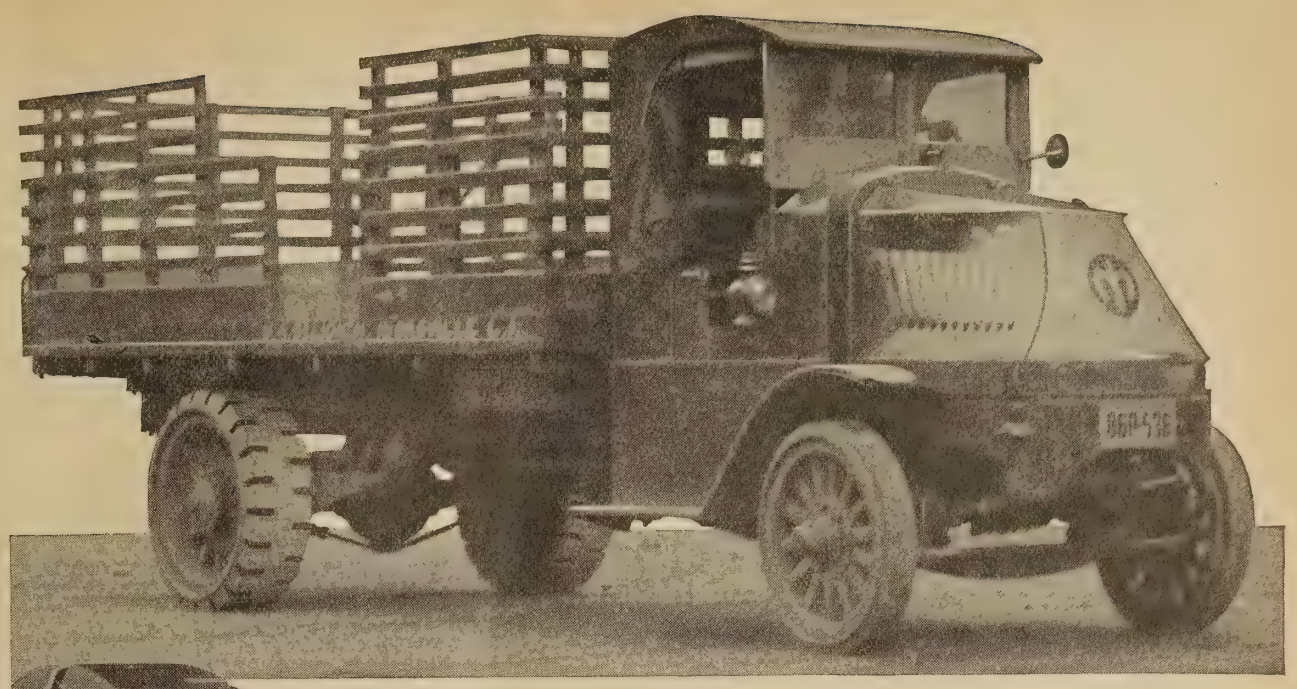
Q. About what date of the month can members expect their 75 per cent payment? A. On the 25th of the following month.

Jersey Cattle Notes

For week ending February 25:

Number of animals registered: Bulls, 202; cows, 528; total, 730. Number of transfers recorded: Bulls, 143; cows, 353; total, 496.

"Deflation is a matter of passing the buck. When the farmer gets it, he has no one to pass it to."





Why farmers are buying Caterpillar Tires

One of the problems of the truck-owning farmer has been to find tires that will give him traction on all the various kinds of roads over which his truck must travel.

Many farmers, finding that ordinary solid tires could not do this, have turned to the big pneumatics as a possible solution of their problem.

Those, however, who have put Kelly Caterpillars on their trucks after trying out the big pneumatics say that Caterpillars give them as much traction as pneumatics and a great deal more mileage.

Besides which, Caterpillars cost less and are more dependable.

Made in sizes suitable for trucks of all types and weights.

Kelly-Springfield Tire Co.
GENERAL SALES DEPARTMENT
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THE SIMPLEST MILKER MADE
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"SEE-THRU" Teat Cup
Patented exclusive feature. See all teats milking. One piece—clear as crystal—as easy to clean as a dish. Most lasting, greatest milker improvement invented.





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Get particulars on complete United line
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Ask your dealer



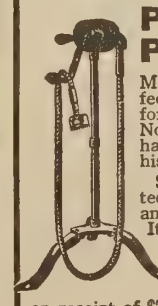
United Engine
1¾ to 12 H.P. Gasoline or Kerosene—200,000 in use. Get all facts today.



UNITED ENGINE CO.
Dept. 157 Lansing, Mich. (27)

THE GREAT UNITED LINE FARM MACHINES

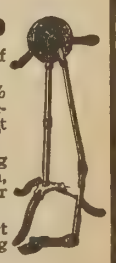
Puts Horses In Prime Condition



Most horses will work if they feel right. When you have to force them, something is wrong. No horse feels right when worked hard on warm spring days unless his heavy winter coat is clipped.

Spring clipping is the best protection against colds, stiffness and more serious horse ailments. It pays big, and progressive farmers do it with a Stewart No. 1 Ball Bearing Clipping Machine. Price $14 at your dealer's, or we ship direct on receipt of $2 and you pay balance on arrival. Guaranteed to please or money back.

Bigger Wool Crop



The wool is an important part of your sheep profits. Get it all.

Hand blade shearing leaves 15% of the wool crop on the sheep, besides an uneven fleece that won't bring best prices.

This Stewart No. 9 Ball Bearing Machine shears quick and clean, leaves no ridges. Quickly pays for itself, even on a few sheep.

$22 at your dealer's, or buy direct from us, sending $2 and paying balance on arrival.

If your flock is large, write for Catalog No. 69 of power shearing machines.

Chicago Flexible Shaft Company
Dept. AB 156 5600 Roosevelt Road, Chicago

When Writing to Advertisers, Mention Hoard's Dairyman

Washington, D. C., Weekly News

[SPECIAL TO HOARD'S DAIRYMAN]

WASHINGTON, MARCH 7—The chief activities of the Maryland—Virginia Milk Producers' Association at this time are the financing of the proposed surplus milk plant which was voted at the annual meeting. Manager McLaughlin and the officers and directors are carrying on an energetic campaign for signatures to the loan agreement from the members, the plan contemplating the deduction of the amount subscribed from the milk checks of the members who agree. Those subscribing receive certificates of indebtedness, on which the association agrees to pay six per cent interest, and also agrees to pay off the indebtedness, returning each member the entire amount subscribed within five years. The campaign is to raise one hundred thousand dollars, which is the amount estimated for the construction of the plant.

The price reduction in Washington has helped the milk surplus which was developing here, and the influx of inauguration visitors helped to clean up the stock of cold storage cream held here. Unusually warm weather followed the first of the month, so milk flow increase is to be expected, and the association is preparing to take care of it.

⚜

A recent meeting of the Washington Board of Trade heard a report of a committee on Public Health, approving the tuberculin test for all cows from which milk is received in this city. This came about by reason of the court action to compel the Health Board to admit New York State milk from herds not tuberculin tested. Some effort was made at the meeting to defeat or delay the adoption of the resolution, on the argument that pasteurization made the milk safe, no matter whether the animals were free from tuberculosis or not. Dr. Wiley, who was present, made a characteristic address, after which the resolution was adopted without opposition.

⚜

The agricultural appropriation bill, held up until the afternoon of the last day's session of Congress, by the row over the free seeds proviso, went through at last. It carried the authorization for a World Dairy Congress in 1922, for which a long effort was made by the Washington members of the provisional committee named at the last dairy show. Plans for a definite business organization to arrange and finance this international gathering, will be pushed at once, now that official endorsement has been secured.

⚜

B. H. Rawl has been definitely appointed Assistant Chief of the Bureau of Animal Industry and Dr. C. W. Larson, who has been Acting Chief of the Dairy Division, has been appointed Chief of that Division. The change was effective last week, but has not previously been announced. Dairymen everywhere are indebted to Messrs. Rawl and Larson for sincere and well directed effort of high character to make this Bureau and Division of service and value to the industry. They rank high in the personnel of the great Department of Agriculture, which numbers on its staff some of the finest technical and scientific men in the world, and so far as their work is concerned and so far as the support given this work will go, the dairy industry will be well served.

⚜

The inauguration of President Harding on Friday, marked by simplicity and dignity, but attended by a great gathering of people, was followed on Saturday by the installation of his cabinet advisers in their respective positions, completing the turn-over of administrations. Secretary of Agriculture Wallace was sworn in with a ceremony as simple in its way as that of his chief, at eleven o'clock, Saturday forenoon. The ceremony was performed by Chief Clerk Reese of the department, and heads of bureaus, a few newspaper men, and photographers being present. Retiring Secretary Meredith was first to offer congratulations. Secretary Wallace told newspaper men that there were no changes or appointments to be discussed or announced. Later on Saturday announcement came from the White House that Assistant Secretary Ball had been re-appointed. Assistant to the Secretary, Floyd R. Harrison, tendered his resignation effective March 4th, and has left the department, going to New York to take a position in a financial concern with Eugene Meyer, former chairman of the War Finance Corporation. Some of the other subordinates in the secretary's office have also resigned. Mr. Harrison had been with the department for a long time, starting as messenger and rising to the position of chief executive assistant to both Secretaries Houston and Meredith and was their spokesman before legislative committees as well as chief administrative assistant in the office. For the present at least, it is indicated that his place will be filled by Assistant Secretary Ball.

⚜

Revenue Commissioner Williams resigned March 4, somewhat unexpectedly so far as the public was informed. He was ill for a few days following the "adulterated" butter hearing, February 25, and did not make any decision or take other action on this case. As it stands, the ruling will become effective April 1, just the same as if no hearing had been held, unless a new commissioner, or a new attorney general, makes other announcement. No steps have been announced as yet as to further procedure by those in charge of the opposition to the ruling.

⚜

Indictments against officers of Louisiana Dairymen's Co-operative Association have been dismissed on demurrer by defendants, according to telegram received by G. P. Warber, National Milk Producers' Federation, from Edgar W. Cahn, their attorney.

New Farmer Must Dress the Part

It's Not the Clothes that Make the Man—but Good Clothes Help a Lot

HELEN S. K. WILLCOX, NEW YORK

I WAS much impressed with a letter in a recent issue discussing the unfortunate habit some farmers have of appearing in public or elsewhere in clothes which identify and betray the so-called "hick" or "hayseed".

Your correspondent made the point that while clothes do not make the man, they help more than some of us seem to be aware, and that the business of farming will never receive its rightful measure of respect until we eliminate for all time some of our old fashioned standards of dress and appearance and manner and in their stead try to dress and appear and talk more like other professional men.

All this is perfectly obvious and everybody recognizes it except the blissfully ignorant parties most concerned. But we are improving fast in this respect, nevertheless, and any sizeable meeting of farmers and dairymen shows more white collars and tasteful cravats than many would suppose. The idea of conforming in our dress to the standards of the rest of the world is neither sissified nor silly. It is strictly necessary if we want to make the world understand at last that we aren't boors and clod-hoppers but a capable, intelligent class no different any longer in outward appearance than at heart from our business associates in other callings.

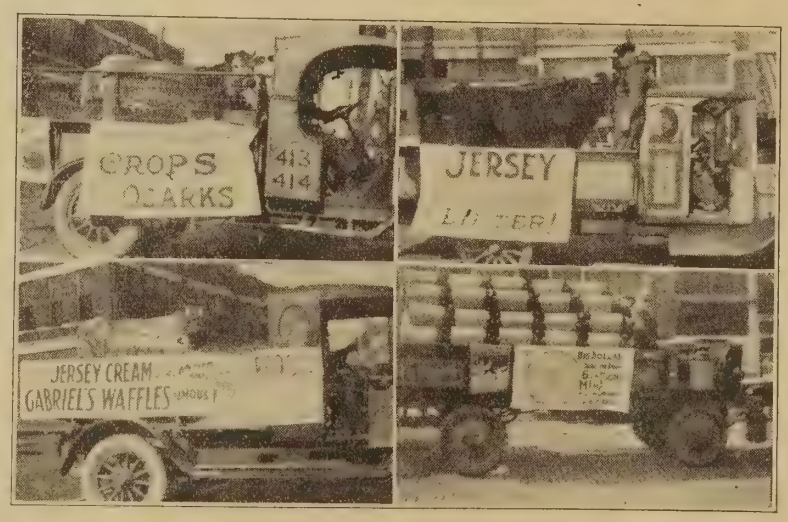
But the farmer has got work before him to counteract the deeply ingrained thought in the world's mind that he invariably murders the king's English; wears cow-hide boots and a flapping straw hat, and is simple and uncouth to the point where those who particularly notice these things and who are numbered with him desire to hang their own heads in shame. They have hung all of these things on us and we have nothing to be proud of that occasionally in these farm-forward days the shoe often pinches. The thought, however, to which I particularly wanted to call attention is that many farm papers and farm leaders seemingly fail to recognize the farmer's personal appearance; handicap and insist on presenting pictures and photographs invariably depicting him in his untidy work clothes, rather than "dressed up", as even the farmer would be naturally upon the important taking of a photograph.

I have in mind the farm paper which is the worst offender in this matter, this magazine in question always showing Tom, Dick, and Harry at their worst, or, supposedly dressed in their regulars, with never a white collar or decent suit of clothes on any account. On the other hand, I can't recall that Hoard's Dairyman has ever published photographs, excepting rare instances, where the subjects appeared any different than the average man. To appear before the thousands of readers of the ordinary paper, most farmers would choose to be clad even as other men, instead of set apart as a class which never dresses up and must remain bewhiskered and barny and socially half-broke to the bitter end.

It makes me writhe to see the pictures zealous city editors always select as typical of those remaining on the old farm. One ambitious city daily in my territory has a page, and a good one, devoted to the farm and its interests, and "photographs" of prominent and near-prominent farmers are often run. These pictures are usually snapped by the paper's own reporter-photographer, and a worse looking lot of scalawags, train robbers, and illiterates you would fail to find in a day's journey than these farmers photographed with the disadvantage of their old clothes. I warrant the same men in the majority of cases would look like any other average citizen if given half a chance, but, no, tradition has it that farmers must play their parts on the world's stage as rubes and jokes and goats—while their audience takes them at their own value and laughs merrily at the funny, back-woods ways of old Uncle Cy!

It is not that we need be ashamed of our honest insignias of hard work—sturdy boots, strong shirts, overalls, and frocks, but we don't necessarily need to appear in these at meeting as well as at mill, for at meeting it is only right and decent to merge ourselves in the crowd, not as farmers but as citizens, and to do this successfully we must leave the smell of the barnyard and the particular trophies of our trade at home.

The farmer is making gigantic strides forward today in the conduct of his own affairs and most of him is incidentally keeping pace in personal appearance. That this latter counts tremendously is already apparent to thinking farmers who have mixed with successful men of other



FLOATS IN THE JERSEY PARADE

The meeting of the Southwest Jersey Breeders' Association, held at Springfield, Mo., was voted by those present to be the best gathering which the association has ever held. President Golloday presided at the meeting at which Mr. Woodruff, president of the Springfield Chamber of Commerce, and Mr. C. E. Randall, cashier of the Bank of Commerce at Springfield, spoke. Mr. Randall outlined the plan his bank is following in financing new dairymen. He believes that $300,000 can be raised for this purpose. In the afternoon a Jersey parade was staged, the character of which is shown by the illustrations published herewith. It was under the direction of W. F. Delp, County Agent. At the afternoon program, Professor A. C. Ragsdale spoke on "Jersey Progress Through Official Testing"; J. G. Winkjer discussed the organization of bull associations; Professor H. E. Dvorachek discussed "The Essentials of Successful Jersey Breeding"; E. G. Bennett, Dairy Commissioner of Missouri, talked on "The Future of the Jersey in the Ozarks"; and Secretary F. W. Atkeson reported the results of the Association's activities since June 1, 1920.

trades and on whom they hope to make an impression which will still further help the progress of American agriculture. We are all brothers under the skin, true enough, but it is a fact, right or wrong, that a clean-cut, business-like appearance gained through correct clothes is a big help for that farmer who wishes the world to respect him and his job. It would be a long step in the right direction to concentrate a little more on this very important part of our new forward relations with the world that we may gradually overcome the impression that we are canny and sly, perhaps, but hopelessly un-American so far as being up and coming is concerned and therefore must naturally be the rest of the world's meat. Let's unite hereafter in refusing to stamp ourselves as unprogressive types of yesterday, but instead prove to everybody that our jobs call for and contain men the equal in every way of other successful men. I believe it would prove worth while.

Controlling Weeds

HOARD'S DAIRYMAN:—More than half the battle against the weeds that infest cultivated crops can be fought before the crop is planted. Of course, corn is one of the farm crops that requires exceptionally good care to keep it free from weeds; being planted far apart weeds have a chance to grow before the corn gets tall enough to shade the ground or to keep them out. Close planted



The light spike toothed harrow is valuable for breaking the crust on the soil after a crop has been planted.

grains, like oats, wheat, or barley, of course, can keep down the weeds unless there is extremely wet or foul piece of ground.

Plowing the land in the fall and then turning under deeply trash and weed seeds is a good way of disposing of last year's growth. Weed seeds, however, stay in the soil for a good many years and it is easier to remove them during germination time. With fall-plowed land it is possible to get on the land early in the spring with tillage implements and tear it up in such a manner as to destroy the weeds as they begin to show their heads above ground.

When land is plowed in the spring for corn or other farm crops, it is necessary to work the soil down into a firm, moist, and fine seed bed. With the use of the spring tooth or disc harrow, it is possible to refine the soil and at the same time destroy the weeds that begin to sprout just as soon as temperature conditions are favorable in the spring. We find, however, that going over the soil a couple of times with a spring tooth harrow will hold the weeds in check. When drawn by a tractor it is usually possible to get over the ground once or twice oftener than when horses are used to fit the land for planting.

After the crop is planted to either potatoes or corn, the weeds will begin again and sometimes grow faster than the crop in unfavorable crop seasons, so that some method must be devised to keep them in check before the planted crop is ready to cultivate. The spike tooth harrow is valuable at this point for the teeth may be set at an angle so that the crop is not taken out of the ground and yet the surface or crust of the soil is torn up, for it is just under this crust the weeds are germinating. The spike tooth harrow will make it possible to control the weeds after the crop is planted until it is large enough to cultivate.

We have tried out a number of kinds of cultivators and have no particular favorite, except that certain kinds should be used under certain conditions. Where pea vines, wild morning glory, etc., infest the corn field the drill gang attachment for corn cultivator is quite satisfactory as it throws the soil to some extent and of course chops these parts into pieces and even cuts up the roots. The disc gang on the corn cultivator can be set so as to work very closely on the corn plant, the disc being set in a manner to throw the dirt away from rather than up to the plant. A cultivator equipped with spring tooth gang shovels is also quite effective in getting rid of weeds.

A quick way of cleaning up the corn field after the corn is plowed the first time is to go crossways on the corn with the common weeder. This breaks the crust between the hills of corn not touched by the plow and destroys all weeds that may be already growing in these thin strips.

The disc cultivator drawn by tractor is effective in keeping soil clean and getting rid of trash. Before oat stubble is plowed for wheat it is best to disc it by maintaining a fine mulch on the surface of the ground and chopping the wheat straw or trash deeply into the ground. The same practice is valuable before corn land is plowed either for oats or to be put back to corn again. The disc harrow will chop up the cornstalks in such a way that they will cause no further damage either in cultivating or harvesting the crop, while the discing of stubble land is the first control to be exercised over weeds.

In all this practice it should be remembered that the most effective time in destroying weeds is during a dry spell. If the ground is wet and the soil is weedy, no matter what kind of implement is used, weeds are usually dug out of the ground and then simply reset again. Weeds in a wet soil are not disturbed much by being replaced, but if the sun may strike them and the ground is dried off to some extent, then they will wilt and die before night comes on or before they can secure extra moisture.

Ohio. C. M. BAKER.

Milk Substitute Bill Defeated

HOARD'S DAIRYMAN:—Dairymen of Washington were defeated in their effort to put through the present session of the state legislature House Bill 29, the Milk Substitute bill, which would have prohibited the manufacture or sale in this state of substitutes for milk or butter containing other fats or oils than butterfat. It was designed to protect the dairy industry of this state, as has been done in Ohio, against substitutes using imported cocoanut oil instead of butterfat and sold in cans or bricks like condensed milk or butter. It was introduced by Representative O. R. McKinney of Pierce County, president of the Pierce County Dairymen's Association and vice-president of the United Dairy Association of Washington, of which the Pierce County Association is a subsidiary. It had the united backing of the state association, and of many farmer organizations not directly interested in the dairy business, but it lacked 10 votes of passage. A motion to reconsider action passed, but the bill was again beaten.

The number of dairy cows in the state has been materially reduced during the past two years, largely, dairymen say, because of the effect of the manufacture of Hebe and butter substitutes. They say that 75 per cent of the remaining 216,000 cows are in very small herds which it will be easy for owners to dispose of, and that such disposal will proceed rapidly now that Hebe has been legalized in Washington for another two years.

Washington. GEO. N. ANGELL.

Three Champion Jerseys in Three States

Meridale's Golden Lassie, a Jersey yearling owned by H. P. Lutz of North Carolina, has become champion for her age in that state with a production of 5,719 pounds of milk containing 322 pounds of butterfat.

Arkansas also has a new yearling champion in Oxford Lass' Jap Maid. This heifer, owned by Mrs. G. N. Clouston, has made a production of 6,312 pounds of milk containing 311 pounds of butterfat. She carried a calf the greater portion of the period in which this record was made.

In Ohio, a senior two-year-old Jersey has recently completed a new state record for this age. This heifer is Chieftain's Flora, owned by Woodcliffe Farm. In one year she has produced 13,178 pounds of milk containing 689 pounds of butterfat.

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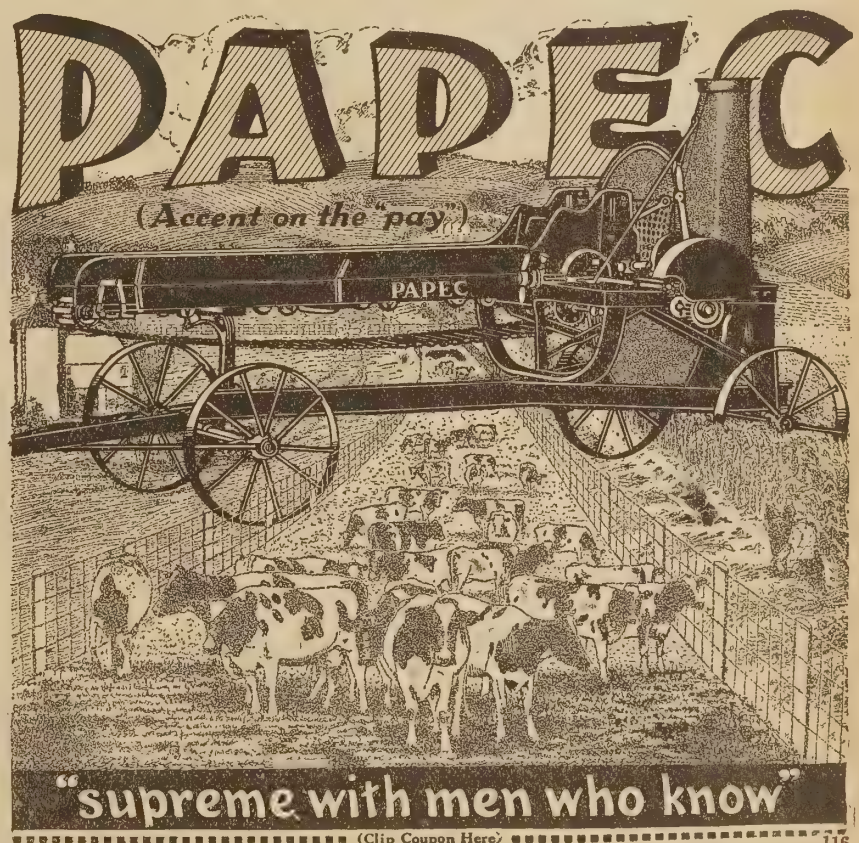
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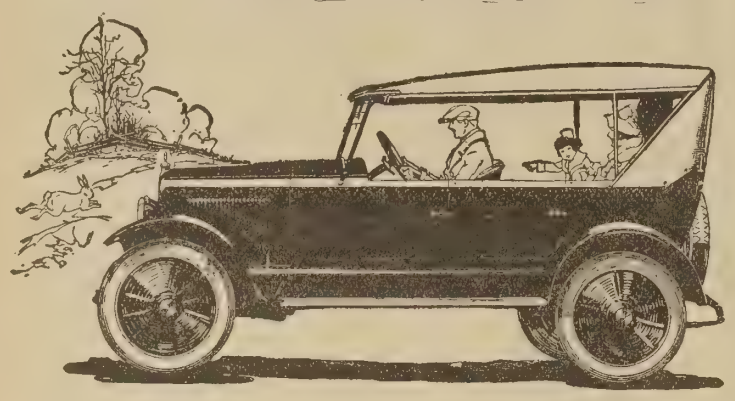
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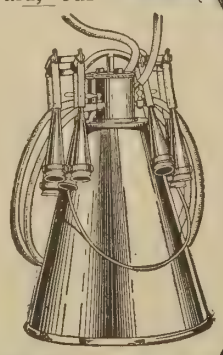
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February Milk Prices

Table I is compiled from the U. S. Bureau of Markets' report and presents a comparison of the net prices received during February by producers for fluid milk (test 3.5%) f. o. b. local shipping points or milk plants operated by fluid milk dealers.

Table I—February Producers' Prices by Geographic Sections

Sections	Range of Jan. prices per cwt.	Comparison of average prices 1921 Jan.	1921 Feb.	1920 Feb.
United States	$1.69—$4.09	$3.28	$2.96	$3.76
New England	2.92— 4.35	3.85	3.61	4.15
Middle Atlantic	2.59— 4.04	3.30	2.82	3.63
East No. Central	1.84— 3.92	3.05	2.59	3.67
West No. Central	1.69— 3.49	3.06	2.97	3.41
South Atlantic	2.67— 5.23	3.99	3.91	4.38
East So. Central	2.23— 4.07	3.34	3.27	3.59
West So. Central	2.50— 4.09	3.77	3.66	4.62
Mountain	2.10— 3.50	2.89	2.79	2.94
Pacific	2.09— 3.87	3.40	3.09	3.62

Table II shows for certain representative city markets the prices of standard grade milk (Grade B, test 3.5%) received by producers f. o. b. city and paid by consumers during the month of February.

Table II—February Producers' and Consumers' Prices by Cities

	Producer receives per cwt.	Consumer pays per qt. Cents	Butterfat allowance per lb.*
Birmingham, Ala.	$3.80	20—25	$ .40
San Francisco, Cal.	4.04	15—16	.29
San Diego, Cal.	3.95	17	1.10
Denver, Colo.	2.63	13	.75
New Haven, Conn.	†	16	.40
Washington, D. C.	†	15	.40
Jacksonville, Fla.	5.00	18	.30
Atlanta, Ga.		20	
Chicago, Ill.	†	14	.40
Indianapolis, Ind.	2.63	14	
Des Moines, Ia.	3.30	15	.50
Topeka, Kans.	2.75	14—16	flat
Louisville, Ky.	3.25	20	.50
New Orleans, La.	4.20	17	.40
Baltimore, Md.	†	15	.58
Boston, Mass.	4.19	16½	
Detroit, Mich.	2.50	13	.40
St. Paul, Minn.	3.21	13	.50
Kansas City, Mo.	2.85—3.10	13—15	
St. Louis, Mo.	†	15	.30
Butte, Mont.	2.98	15	
Lincoln, Neb.	2.36—2.56	13	.67
Trenton, N. J.	†	13	.40
New York, N. Y.	†	16	.40
Fargo, N. D.	2.68	14	flat
Cleveland, Ohio	†	14	.50
Cincinnati, Ohio	†	14	
Okla. City, Okla.	2.80—3.50	15	
Portland, Ore.	3.07	14	.50
Pittsburg, Pa.	†	15	.50
Philadelphia, Pa.	†	13	.40
Providence, R. I.	4.19	16½	
Sioux Falls, S. D.	3.75	14	flat
Memphis, Tenn.	4.07	18	flat
Dallas, Tex.	2.80	19	
S. L. City, Utah	3.14	12½	flat
Burlington, Vt.	3.00	15	.73
Seattle, Wash.	2.50	10—12	
Spokane, Wash.	3.25	14	.50
Milwaukee, Wis.	2.30	10	flat

†See Table III for prices for these cities.

*In actual practice this allowance is made on the basis of a certain price per hundred of milk of a certain test one-tenth of the price per pound fat being paid or deducted for each one-tenth per cent above or below the stipulated basic test. Where the word "flat" appears in this column, it means that no allowances are made for butterfat content but the milk must not be lower in test than legal requirements and must not be adulterated or skimmed.

The prices quoted for producers are for milk testing 3.5 per cent and delivered f. o. b. city, from which must be deducted the various transportation costs in order to get the actual price. In certain cities the prices given apply only to that portion which is considered as the producers' average production, the surplus being either handled by the producers' association or the dealers at somewhat lower prices.

The prices given are here reduced to the comparable basis of 3.5% fat, as different cities vary from 3% to 4% as the basic fat test. To reduce the prices per hundredweight to either a gallon or a quart basis divide by 11.63 or 46.33, respectively.

The prices paid by consumers are for average testing milk delivered in quart bottles. It is the grade of milk most generally sold in these cities and in most cases is for pasteurized milk.

Country Shipping Stations Retail Prices

Prices per cwt. for standard grade milk that are paid at the dealers' country receiving stations or at producers' railway shipping plants, as also for prices f. o. b. city, are given in Table III for the month of February.

Table III—February Producers' Prices Per Hundred F. O. B. City and at Country Stations

	F. O. B. city	Country stations
Bridgeport, Conn.		$2.92
Hartford, Conn.	$4.22—4.52	2.94
New Haven, Conn.	4.42	3.00
Washington, D. C.	4.07	2.55—3.05
Chicago, Ill.	2.93	2.35
Baltimore, Md.	3.66	2.92
St. Louis, Mo.	3.37—3.49	2.69
Newark, N. J.	3.31	2.78
Trenton, N. J.	3.48	2.91
Buffalo, N. Y.		2.62
New York, N. Y.		2.78
Cleveland, Ohio	3.25	2.70
Cincinnati, Ohio	3.30	2.70
Pittsburg, Pa.	3.61	2.70
Philadelphia, Pa.	3.48	2.88
Harrisburg, Pa.	2.94	2.59
Wilkes-Barre, Pa.		2.78

Prices reported for all of the above cities represent those agreed upon by dealers and an active producers' marketing association.

Retail Prices

Table IV gives for a few cities the retail prices of special milk, certified milk, cultured buttermilk, cottage cheese, and cream for February, 1921:

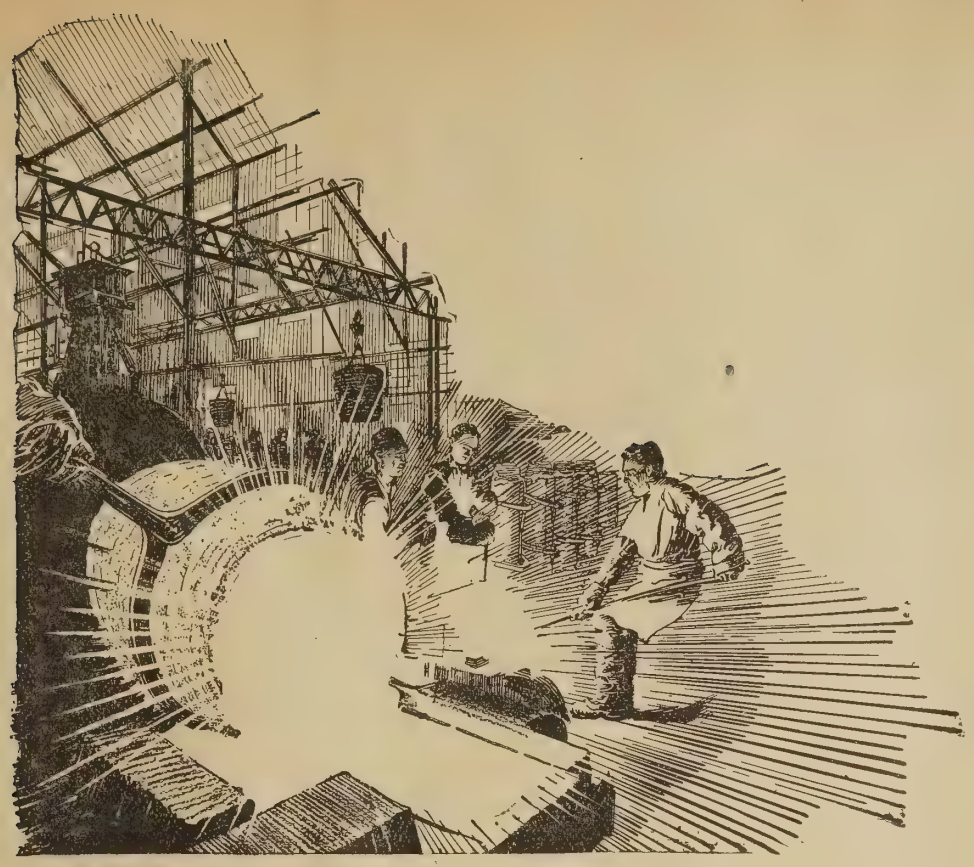
Table IV—Prices for Special Grades

Cities	Special milk per qt.	Certified milk per qt.	Butter milk per qt.	Cottage cheese per lb.	Light cream* per ½ pt.
	Cts.	Cts.	Cts.	Cts.	Cts.
Boston	20	25–27	11	13	15–16
New York	19	27–28	12	10	21
Buffalo	15	26–30	10	15	21
Philadelphia	15	28	12	7–8	16
Pittsburg					18
Cleveland	20	32	15	15	18–20
Chicago	23	25	10–12	10–12	17
Milwaukee	13	25		12	14
Detroit	22	25			15
Minneapolis		23			15
St. Louis	20	25	14–20	15	18
Des Moines			10	20	15
Washington	16	30	14		18
Richmond	17		9		16
Baltimore	19		15		20
Louisville			14–18	20	14–15
Memphis		30	10		20
New Orleans	20	30	15		18
Colo. Springs	15			12	13
Salt Lk. City	15		7	20	15
Portland		21	14	15	16–17
Spokane			10		15
San Francisco		25	17	20	17

*Cream testing 18 to 20% butterfat.

Facts on Farm Labor

A study of Wisconsin farms has shown that in 1910 forty per cent more labor was required than in 1880. This was due to the great increase in live stock farming which requires considerably more labor than does grain farming. The study also shows that only one-third of the labor on Wisconsin farms is done by men working out and indicates that the best farm hands on the modern live stock farms are the sons of neighboring farmers who are looking forward to owning farms themselves. According to investigations by H. C. Taylor, wages in the southwest part of the state average about $10 per month higher than in Central and Eastern Wisconsin. It is found that new methods of paying wages have improved the relationship between the farmer and his hired help. While different wage scales are usually employed for winter and summer work, it has been found that the most satisfactory system is a uniform wage scale throughout the year. Good results have been secured on some farms by the payment of bonuses to men who stay for a full year's work.



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Your banker will be more disposed to aid you where and when he can. He knows of the long life and satisfactory service which E-B implements give, and he appreciates the importance of your being able to obtain repairs promptly through E-B branches and dealers.

His sound business judgment sanctions your choice of E-B tools.

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Detroit, Mich.

Cow Testing Associations

RECORDS, PRICES OF FEEDS, FAT, AND MILK

Following is the summary of reports received during the week and up to the time of going to press of this issue:

State	Association	Tester	Month	No. of cows tested	No. of cows producing over 40 lbs. fat	Fat production of high cow	Owner
Pa.	Troy	M. V. Bennett	Feb.		48	74.1	W. D. Huntington
Ill.	DuPage County	C. J. Rieck	Jan.	378	97	75.6	A. W. Fischer
Iowa	Dallas County	Don L. Chase	Feb.	202	31	100.7	Leaverton & Son
Wis.	West Bend	Martin Lange	Jan.	372	69	75.6	Zeigler & Co.
"	Rosendale—Eldorado	R. G. Thurman	"	530	120	82.6	Marchant & Son
"	Eureka	I. W. House	"	469	50	76.3	H. L. Ellis
"	Empire—Osceola	Palmer Simonson	Feb.	547	80	80.1	August Habeck
"	Richland County	Henry Engsberg	"	400	9	54.9	Joe Cooper
"	North Crandon	Chas. Stivers	Jan.	250	4	49.4	C. J. Rasmussen
Va.	Prince William	T. O. Scott	"	306	19	55.4	F. M. Swartz
Wis.	Wilton	E. V. Doemming	Feb.	479	66	90.0	L. H. Schindler
Ill.	Jo Daviess Co. No. 2	James Wiley	"	149	1	44.0	Schonhoff Bros.
"	Lake County	A. Christianson	"	443	122	84.8	Wm. Butt
R. I.	Newport County	E. R. Lavagnin	"	298	18	58.4	M. M. VanBeuren
Ohio	Geauga County	C. M. McEwen	Jan.	251	51	69.4	Paul McNish
"	Ohio Valley	D. W. Harpley	Feb.	194	14	61.7	D. B. Armstrong
Ill.	First Kane Co.	R. J. Young	"	828	73	87.6	Albert Krahn
Iowa	Davenport	W. A. Durning	"	287	21	57.9	Iowa Soldiers' Orphans' Home
Ind.	Orleans Co-op.	A. C. Walker	"	379	14	58.0	M. C. Johnson
N. Y.	First Tioga Dairy Imp.	Wm. W. Wetmore	Jan.	315	104	104.2	J. Smith & Son
Mich.	Emmet County	Angus L. Hodges	Feb.	120	6	53.9	Mrs. H. M. Anderson
Pa.	Juniata County	Karl A. Fettig	Jan.	291	26	103.1	D. J. Adams
"	West Branch	Hiram Savidge	"	213	5	66.0	W. B. Bryson
"	Laurel Hill	Wm. H. Cole	Feb.	362	42	70.6	C. S. Chaffee
"	Wyalusing	Glen Ruland	Jan.	405	74	93.0	C. W. Newman
Wis.	Fort Atkinson	Wm. Seales	Feb.	521	62	76.4	Jeff. Co. Farm
"	Whitehall	C. L. Dueveneel	"		16	49.4	P. Speerstra
"	Racine & Kenosha	T. N. Boyer	"	481	50	62.3	Holloway Bros.
"	Rock Prairie	W. J. McKee	"	554	81	80.0	Wehenger & Son
"	Amherst—Nelsonville	Geo. W. Baumel	"	382	71	59.4	Otis Olson
"	Wausau—Marathon	N. M. Nelson	Jan.	407	42	64.4	W. Alexander
"	Wood Co. No. 2	H. M. Kuckuk	"	481	25	61.5	W. Maxwell
"	Byron	Alfred Miller	Feb.	498	134	81.0	H. L. Weber
Minn.	Northfield	Harold Marshall	"		61	79.7	Wm. Rose

Association Notes

Troy, Pennsylvania:—A few unprofitable cows were sold during February. January market milk testing 3% sold for $3.06 per cwt. and 4c per point above. The creamery paid 54—60c per lb. for fat. Feeds sold as follows: gluten, $2.25—$2.75 per cwt.; corn meal, $2; Unicorn, $3.80; cottonseed meal, $2.50; wheat bran, $2.10; molasses feed, $2.35; oil meal, $3.

Du Page County, Illinois:—The last half of the association year started with the month of January. Two new members joined, making a total of 25. One member did seven-day testing during the month and several are planning on doing more A. R. O. work. Six grade cows were sold for dairy purposes. Two grades, undesirable but not unprofitable, were sold to the butcher. Six pure-bred heifers were sold to the Kane County Calf Club. January 3.5% market milk sold for $2.50 per cwt. and 4c per point above. Milk retails for 14c per quart and butter for 56c per pound. Feed prices: Alfalfa, $25 per ton; silage, $6; barley, $35; oats, $32; bran, $35; oil meal, $50; gluten, $50; corn, $27; cottonseed meal, $40.

Dallas County, Iowa:—This association is now "100 per cent" in the use of silos and pure-bred bulls. Two cows were sold during February for beef. February market milk sold for $3.30 per cwt. and 5c per point above 3.5%. Feed prices: corn and cob meal, $11.50 per ton; ground oats, $23; bran, $40; oil meal, $48; cottonseed meal, $46; alfalfa, $25; clover, $20; silage, $8.

West Bend, Wisconsin:—January market milk sold for $2.40 per cwt. The condensery paid 50c and the creamery 51c per pound for fat. The cheese factory paid 60c per pound. Milk retails for 9—10c per quart, butter for 56c per pound; and cheese for 30c per pound. Feed prices are: barley, 90c per bushel; oats, 50c; corn, 70c; bran, $31 per ton; middlings, $34; oil meal, $48; gluten, $55; silage, $7; alfalfa hay, $30; clover, $28.

Rosendale—Eldorado, Wisconsin:—Two registered Holstein bulls were bought during January and four unprofitable cows were sold. One carload of bran was bought at $32 and another ordered at $23.50 per ton. Feeds sold as follows: oats, $25; corn, $28; bran, $30 to $35; oil meal, $44.75 to $50.

Eureka, Wisconsin:—Four per cent market milk sold for $2.00 in January, 20c being deducted per cwt. for hauling. The creamery paid 55c per pound for fat. Feed prices are: ground oats, $30 per ton; ground corn, $26; oil meal, $60; brewers grains, $50.

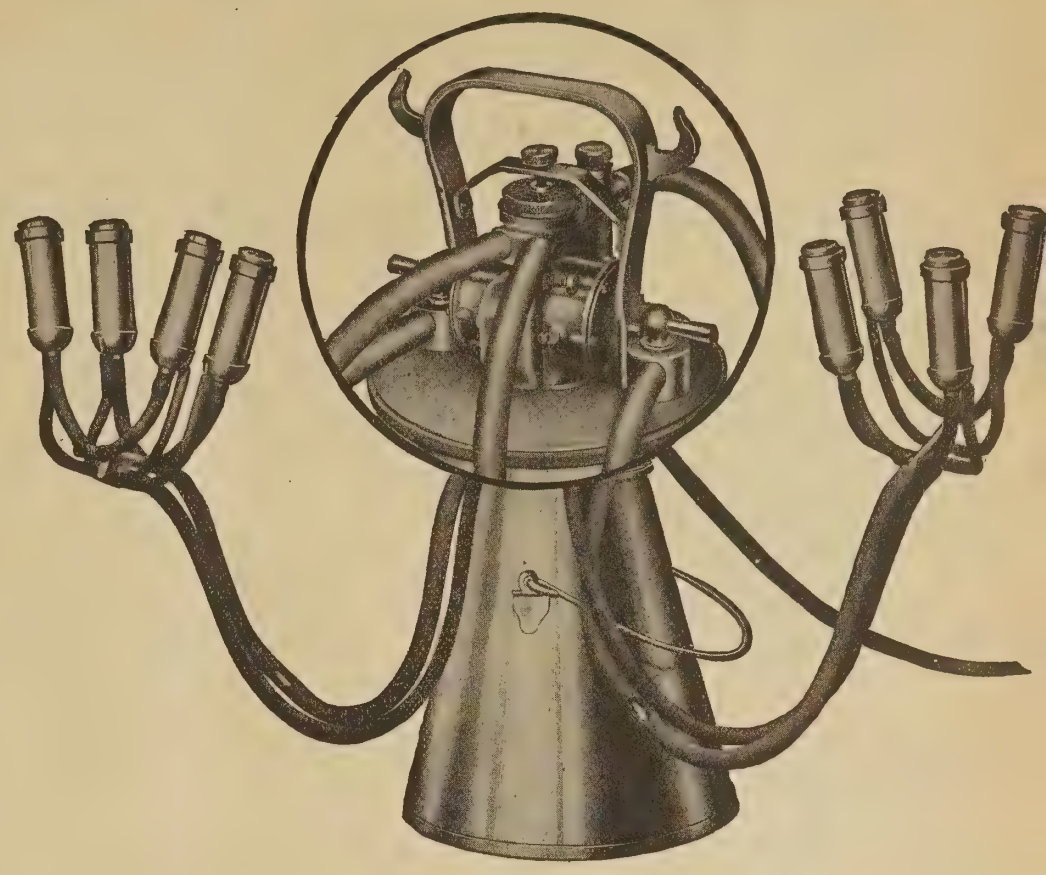
Empire—Osceola, Wisconsin:—Several members are now feeding balanced rations and reporting good results. Most of the feed is purchased co-operatively. Three registered bull calves have been sold by two members. The condensery paid 50c and the cheese factory paid 53c per pound for fat. Butter retails for 50c per pound. Feeds sold as follows: silage, $8 per ton; alfalfa hay, $20; clover hay, $20; bran, $34; oil meal, $50; corn and cob meal, $20; oats, $28; barley, $34.

North Crandon, Wisconsin:—One pure-bred Guernsey bull was purchased in January. Members are feeding for better production on fresh cows. Expect to have a few cows that will make R. O. P. records. The creamery paid 46c and the cheese factory 46c per pound for fat. Milk retails for 10c per quart, butter for 52c per pound, and cheese for 35c per pound. Feed prices are: oil meal, $60—$70 per ton; corn, $38; bran, $36—$42; middlings, $38; Dairy Ration, $50—$60; clover hay, $24; timothy, $20—$26; oats, $30; peas, $60.

Prince William, Virginia:—Three slackers were found during January and sold. More than one herd in this association could afford to sell sev-

(Continued on page 380)

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A NEW pulsator on the Empire Milking Machine—the *only* pulsator backed by a 4-year guarantee—that spells opportunity.

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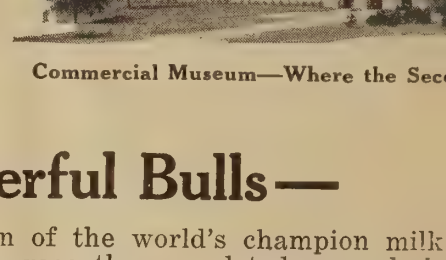
THE Holstein Classic of 1921

Second Brentwood National Sale AND Exhibition

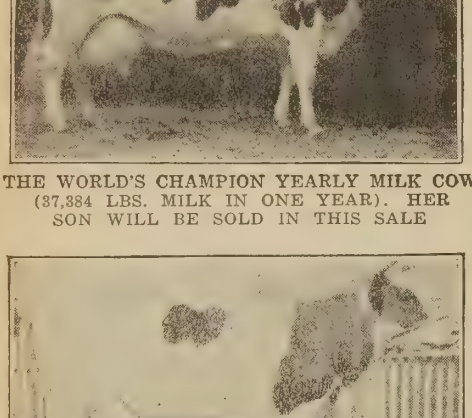
Commercial Museum

[34th — Below Spruce]

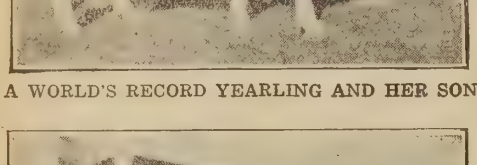
[To reach the Commercial Museum take Car 13 (outside Bellevue-Stratford) on Walnut St., get off at 34th and Woodland Ave., walk two squares South.]



Commercial Museum—Where the Sec



THE WORLD'S CHAMPION YEARLY MILK COW (37,384 LBS. MILK IN ONE YEAR). HER SON WILL BE SOLD IN THIS SALE



A WORLD'S RECORD YEARLING AND HER SON



SADIE GERBEN HENGERVELD DE KOL, WISCONSIN'S 40-LB. COW. (SEE HER TWO SONS IN THE SALE).



A 35-LB. COW. (785 LBS. MILK).



A BLUE RIBBON COW FROM THE PACIFIC COAST

Note the following wonderful Bulls—

1.—Carnation Segis Prospect, a 2-yr.-old, Prize-winning son of the world's champion milk cow, SEGIS PIETERTJE PROSPECT, whose recently completed record is 37,384 lbs. milk, 1,445 lbs. butter in one year. This bull is by DUTCHLAND GOVERNOR SIR COLANTHA 90477, a son of the great milk sire, COLANTHA JOHANNA LAD.
World's Record Bull

2.—King Fayne Segis of Nooksack, a yearling son of the world's champion yearling heifer for 7 days' milk and yearly milk and butter. His dam, NOOKSACK JEWEL FAYNE, (see her in the Sale) has a 7-day record of 627 lbs. milk in 7 days; 23,100 lbs. milk, close to 900 lbs. butter, in a year.
World's Record Bull

3.—Sir Model Sylvia, an 11-month-old son of CHAMPION ECHO SYLVIA PONTIAC and BELLE MODEL PONTIAC, a beautiful show cow with three 7-day records of 32 lbs., 33 lbs., and 37 lbs. butter. Her dam is a twice 37-lb. cow.

4.—King Valdessa Pontiac Tritomia, a son of the 40-lb. bull, KING VALDESSA PONTIAC from POLLY DOUGLAS FAYNE (see this splendid cow in Sale), a 32-lb. 4-yr.-old now making approximately 1,200 lbs. butter.

5.—A 4-month-old son of King of the Ormsbys from a 31-lb. 4-yr.-old.

6.—King Ormsby Bodo, a 6-month-old son of KING OF THE ORMSBYS from a 26-lb. 4-yr.-old which made 892 butter, 19,753 milk in a year.

7.—A Son of King Ona Pontiac (best son of Ohio's only 30,000-lb. cow) from a junior 2-yr.-old with over 21,000 milk, 800 butter in a year.

8.—A 5-month-old Son of Dutchland Colantha Sir Inka (the greatest proven sire in the East) from K. K. S. V. TOPSY, the sensational 40-lb. 3-yr.-old.

9.—King Pontiac Segis Lad De Kol, a 15-month-old son of SADIE GERBEN HENGERVELD DE KOL, Wisconsin's first and only 40-lb. cow (782 lbs. milk in 7 days) and winner of first prize in Holstein-Friesian Association, 1919-20 with over 4,100 cows competing. This bull won second at the 1920 National Dairy Show in a class of 26 bulls, all ages. His dam, the first 40-lb. cow under new rulings of National Association.

10.—Sir Pontiac Gerben Hengerveld 262742, born Jan. 15, 1919. FULL BROTHER TO NO. 9. A splendid individual and worthy to head any herd in the country.

11.—A 9-month-old Son of the Famous Ormsby Korndyke Lad (14 daughters with records of over 1,000 lbs. butter in a year, 18 over 30 lbs. in 7 days). Dam of calf is CLARA MERCEDES PONTIAC (35.37 butter, 547 milk in 7 days at 3 years, 3 months).

12.—A 3-month-old son of Sir Echo Verbelle Segis (brother to MAY ECHO SYLVIA) from a 31-lb. show cow.

13.—A Son of Carnation King Sylvia (the $106,000 son of the famous MAY ECHO SYLVIA) from a 32-lb. dam.

14.—Toyon Chimacum Butter Boy, a yearling son of a 37-lb. bull from a dam which produced 21,567 milk, 904 butter as a 2-yr.-old and has just made another record of 1047 butter.

15.—King Posch, a yearling son of a 32-lb. bull from a 38-lb. daughter of King Segis Lyons.

16.—Sir Echo Sylvia Canary, a 2-yr.-old son of CHAMPION ECHO SYLVIA PONTIAC from the great show cow, ALICE TENSEN, with over 30 lbs. butter, 825 lbs. milk in 7 days. The two nearest dams of this bull average 870 lbs. milk in 7 days.

17.—The Splendid Proven Sire—King Walker Johanna Lad, who ranked fifth among all the leading sires of the breed for the year 1919-20. A blue ribbon bull with only 17 tested daughters (they average over 19 lbs. as 2-yr.-olds) and more than 60 yet to be tested.

18.—The Richly Bred Proven Sire, Finderne King Fayne Segis, weighing 2,200 lbs. Thirteen A. R. O. daughters. A sire of choice individuals. (See his four daughters in the Sale).

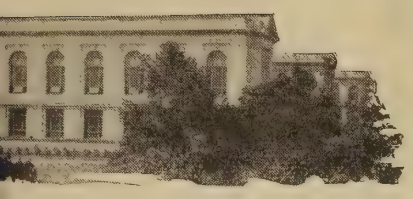
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$1,000 FOR BEST FEMALE Offered by Corn Exchange National Bank of Philadelphia

$1,600 in addition to be given in various classes—Heifers and Cows (in milk and dry) WITH $500 FOR BEST BULL (any age).



A 37-LB. SHOW COW, DAM OF SIR MODEL SYLVIA, THE 11-MONTH-OLD SON OF CHAMPION ECHO SYLVIA PONTIAC

A Few of the Leading Female Entries —

Two daughters of Carnation King Sylvia, one bred to CARNATION SEGIS PROSPECT (son of the world's record yearly milk cow).

Two Daughters of Ormsby Korndyke Lad (14 daughters over 1,000 lbs. butter in a year), one from a 32-lb. dam.

Five Daughters of Matador Segis Walker, bred to CARNATION KING SYLVIA, the $106,000 bull.

The World's Record Yearling Heifer—NOOKSACK JEWEL FAYNE (627 lbs. milk in 7 days, over 23,000 lbs. in a year, almost 900 lbs. butter.

Otego Valley Christmas Belle, a splendid individual with several A. R. O. records (including one of over 40 lbs. butter in 7 days). Bred to KING ECHO SYLVIA JOHANNA 203054.

A 30-lb. Daughter of King Lyons from a 31-lb. dam.

Two Great Producing Daughters of Colantha Johanna Lad 8th, one with over 32 lbs. butter in 7 days; the other has just made 35.12 lbs. butter from 785 lbs. milk in 7 days and 143.75 lbs. butter, 2,949 milk in 30 days. The average of these two cows for 7 days milk is 809.5 lbs.

A Wonderful Daughter of King of The Ormsbys from O. K. L. Royal Beets, whose 7-day record is 35.33 butter, 809.9 milk and 1,208 butter, 28,084 milk in 365 days. She is American champion milk producer (in her class) for 7 and 30 days. The averages for this calf's two nearest dams are: 7 days, 36.8 butter, 800.9 milk; 365 days, 1,250 lbs. butter, 26,500 lbs. milk.

Two Beautiful 32-lb. Cows (one with over 1,200 lbs. butter in a year) bred to ECHO KING SYLVIA (son of May Echo Sylvia).

A Daughter of Adirondac Wietske Dairymaid (over 800 lbs. milk in 7 days and over 31,800 lbs. in a year; 1,296 butter). Heifer is a show animal and by King Segis Alcartra Prilly, one of the greatest show bulls of the breed.

Hazelwood Ormsby Posch 2d, first prize cow at the 1920 Pacific International and winner of many grand championships and blue ribbons.

Four Daughters of the 35-lb. Bull, Finderne King Fayne Segis. A 30-lb. 4-yr.-old bred to King Walker Johanna Lad. A 21-lb. Daughter of a 35-lb. cow which produced 841 lbs. milk in 7 days bred to Model Darius Glista. Daughters of King Model. Three Splendid Heifers Bred to Ormsby Segis Lad 234065. DAUGHTERS OF KING SEGIS PONTIAC KONIGEN, DUTCHLAND CREAMELLE KORNDYKE LAD, WINTERTHUR KORNDYKE ORMSBY, FISHKILL ORMSBY JANE KING, SIR PONTIAC HET LOO, TIDY ABBEKERK KING, SIR AAGGIE MEAD DE KOL, KING SEGIS ALCARTRA SPOFFORD, and many other leading bulls.

A Very Choice Daughter of Champion Echo Sylvia Pontiac from a 27-lb. senior yearling.

Katy Pietertje Paul 5th, a wonderful 34-lb. cow which made over 31 lbs. butter from 703 lbs. milk at 10 yrs. of age. Now milking 100 lbs. per day.

A 3-yr.-old heifer which made over 20,000 lbs. milk, 813 butter as a 2-yr.-old.

Three Yearling Daughters of King Sadie Vale Hengerveld from A. R. O. dams.

Aurora Fayne Fobes De Kol 3d, a 4-yr.-old with 31 lbs. at 3 yrs. and 26,500 milk, 1,170 butter in a year.

Canary Oak De Kol 3d, a 3-yr.-old with a 2-yr.-old record of 23,000 lbs. milk, 900 butter in a year.

Three Fine Heifers Bred to C. E. S. P. Waldorf Pietje Clyde 266174.

Two Daughters of Spring Farm King.

A Daughter of Korndyke Abbekerk from an A. R. O. Show Cow.

A Yearling Daughter of King Korndyke Sadie Vale.

A 35-lb. cow with records of 31.22 lbs. at 4 yrs., 32.08 lbs. at 5 yrs., and 35.37 lbs. at 6 yrs. (19,509 milk, 934 butter in 305 days).

A Daughter of V. P. I. Korndyke Veeman from a junior 2-yr.-old which made 16,209 milk, 598 butter.

Two Splendid Daughters King Tweede Spring Farm 212246 from A. R. O. dams.

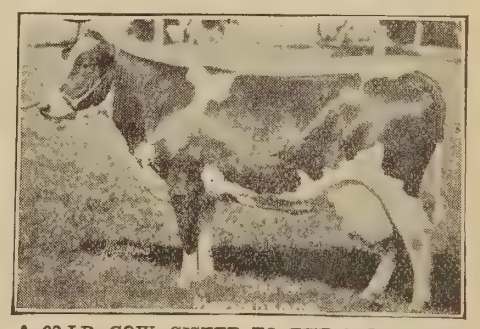
Two Very Fine Daughters Dutchland Colantha Mona Lad 90476, one a 24-lb. cow with three other A. R. O. records.



A DAUGHTER OF CHAMPION ECHO SYLVIA PONTIAC



A PROVEN SIRE WHOSE FIRST 17 DAUGHTERS AVERAGE 19 LBS. BUTTER AS 2-YR.-OLDS



A 32-LB. COW, SISTER TO THE 35-LB. COW OPPOSITE

A 28-LB. DAUGHTER OF TIDY ABBEKERK KING NOW MAKING OVER 1,000 LBS. BUTTER IN HER YEAR'S TEST

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Cow Testing Associations

(Continued from page 376)

eral of the poor cows and make more profit out of the remaining cows than they are doing at present. One member has recently finished a new 36x40 foot barn in addition to his present one of the same size. Both barns are equipped with individual drinking cups for cows and electric lights and are strictly modern in every way.

Wilton, Wisconsin:—A pure-bred Jersey bull of high breeding has been purchased by two farmers for their herds. A pure-bred Holstein yearling bull was purchased by a member who disposed of his grade bull at the association's scrub bull funeral last fall. Dairymen received 60c per pound for fat at the creamery in February. Feed prices: oats, 40c per bushel; corn, $1.17 per cwt.; bran, $1.40; oil meal, $2.25; silage at auction, $2 per ton; silage (home), $8; mixed hay, $16—$22; alfalfa (shipped in), $23—$30.

In basketball the "pure-breds" won from the "scrubs", score 22—12. One herd was fed pure ground flaxseed and this has very evidently been responsible for the herd average test increasing 2% butterfat. Pure flax was fed in place of oil meal for six weeks in a mixture of 100 lbs. flax, 100 lbs. bran, 100 lbs. oats, 100 lbs. corn, and 50 lbs. barley, in addition to corn silage and clover and mixed hay. If others would quote their experiences in feeding pure ground flax, we of this association would appreciate it, as it seems to have given us fine results so far.

Jo Daviess County No. 2, Illinois:—Twenty of the 149 cows tested in February were unprofitable. Twenty-two cows freshened, two of which died. Ten females and one grade bull were sold. Three pure-bred and two grade females were purchased. This association will reorganize April 1st. February market milk testing 3.6% sold for $2.50 per cwt. and 4c per point above. Feed prices are: silage, 40c per cwt.; bran, $1.70, corn, $1.40; oats, $1.65; barley, $1.50; oil meal, $2.45; middlings, $1.60; cottonseed meal, $2.40; molasses feed, $1.70; mixed hay, $1.25; wild hay, $1.20; Cow Chow, $2.80; Big Q, $2.75.

Lake County, Illinois:—One herd was tested for tuberculosis during February. Half of the members milked their herds three times daily and seven kept daily milk records. L. J. Hutchings' herd held first place for the third month in succession. February market milk testing 3.5% sold for $2.35 per cwt. and 4c per point above. The creamery paid 48c to 52c per pound for fat. Feed prices are: silage, $8 per ton; hay, $20—$24; corn stover, $6; corn and cob meal, $20; ground oats, $27; wheat bran, $34; oil meal, $48; cottonseed meal, $42.

Newport County, Rhode Island:—Rating plan goes into effect February 1st with producers of the Co-operative Dairy, and some of the unprofitable cows are being sold to cut down the surplus milk. Farmers' Exchange supplies a large number of producers in the county. This exchange is about a year and a half old and in flourishing condition. Milk will be bought on a weight and test basis beginning March 1st by our dairymen's association. February market milk sold for $4.63 per cwt. Milk retails for 17c per quart. Feed prices are: corn meal, $1.61 per cwt.; middlings, $1.84; cottonseed meal, $2.13; ground oats, $1.91; bran, $1.89; oil meal, $2.48; silage, $8 per ton.

Western Allegan, Michigan:—The association year ended January 27th. The average production for the entire association was 6,500 lbs. milk containing 288 lbs. fat. The herd with the highest average production, 387.1 lbs. fat in 10,559 lbs. milk, is owned by F. T. Lane. The high cow, a Jersey owned by J. D. Wedge, produced 522.8 lbs. fat in 8,220 lbs. milk. F. T. Lane owns the second highest fat producer, a Holstein whose record is 479.4 lbs. fat in 10,715 lbs. milk. Four more cows in his Holstein herd head the list as milk producers, the best record being 12,362 lbs. During the year two members purchased three silos, three pure-bred bulls were purchased, one member installed drinking cups, another put in a cement floor and piped in water; ten cows were sold as unprofitable and a number of others are being held for better prices as beef. Several improvements in feeding methods were noted.

Ohio Valley, Ohio:—February was the association's third month, and fine progress in better feeding is shown. Some herds have doubled their profit. A few more members are needed to make the association as a whole show up well.

First Kane County, Illinois:—Four pure-bred bulls and seven females have been purchased during February. A carload of bran and one of oil meal have been bought co-operatively. One member has begun Register of Merit work and will confine his efforts to long time tests. The number of cows tested now exceeds any previous number in this association. Market milk testing 3.5% sold for $2.35 per cwt. and 4c per point above.

Davenport, Iowa:—Six unprofitable producers were sold for beef during February. Three per cent market milk sold for 30c per gallon. The creamery paid 50c per pound for fat. Milk retails for 12½c per quart, butter for 48c per pound. Feed prices are: corn, 50c per bushel; oats, 48c; cottonseed meal, $42.50 per ton; bran, $40; oil meal, $50.

Orleans Co-operative, Indiana:—The average cost of producing one pound of butterfat in this association during the month of February was 33⅓ cents. One pure-bred sire was purchased this month. Three per cent market milk sold for $4 per cwt. The condensery paid 69c and the creamery 55c per pound for fat. Milk retails for 15c per quart and butter for 45c per pound. Feed prices are: corn and cob meal, $19 per ton; ground corn, $21; bran, $30; ground oats, $33; cottonseed meal, $36; oil meal, $42; alfalfa hay, $28; clover hay, $25; corn silage, $8.

First Tioga Dairy Improvement Association, New York:—Every herd in the association is headed by a pure-bred bull and every member is feeding a good balanced and economical ration. Some of the members have organized and are buying feed through the G. L. F. Exchange. During January 18 unprofitable cows were sold. Every member is a strong supporter of the Dairymen's League. A number of men have entered their herds for federal tuberculin test. January market milk testing 3% sold for $2.58 per cwt. and 4c per point above. Milk retails for 13c per quart, butter for 50c per pound; and cheese for 28c per pound. Feed prices are: silage, $6 per ton; mixed hay, $18; gluten, $42; bran, $35; oil meal, $45; cottonseed meal, $36; corn meal, $40; wheat feed, $40.

Juniata County, Pennsylvania:—At present there are ten members of our association signed up for the tuberculin test. After this test is run, it is hoped one or two bull associations will be started. Greater interest is being taken in the dairy business as a whole. January market milk sold for $2.75 per cwt. Feeds are rated as follows: silage, $6 per ton; hay, $20; corn stover, $8; corn and cob meal, $32.60; ground oats, $35.20; bran, $40—$45; cottonseed meal, $48—$55; oil meal, $50; Peerless Dairy Feed, $68.



PRINCESS MERCEDES SEGIS, A FIVE-YEAR-OLD HOLSTEIN OWNED BY PURDUE UNIVERSITY, INDIANA

In seven days she has made 539.1 lbs. milk containing fat equivalent to 29.829 lbs. of 80 per cent butter. As a three-year-old she made in 305 days 11,795 lbs. milk, 360 lbs. fat.

West Branch, Pennsylvania:—Six cows were sold during January, not as unprofitable, but to increase herd production. Four per cent market milk sold for $2.40 per cwt. and 4c per point above. Milk retails for 10c per quart and butter for 45c per pound. Feed prices are as follows: corn and cob meal, $24 per ton; ground oats, $30; cottonseed meal, $58; linseed oil meal, $58; wheat bran, $40; corn stover, 5c bundle; mixed hay, $20 per ton; silage, $6.

Laurel Hill, Pennsylvania:—Six unprofitable cows were sold during February. January market milk testing 3% sold for $3.13 per cwt. and 4c per point above. The creamery paid 68c per pound for fat. Feeds sold as follows: corn meal, $2 per cwt.; ground oats, $1.85; cottonseed meal, $2.70; Red Brand Tioga Dairy Feed, $2.75; gluten, $2.80; bran, $2.65; buckwheat, $2.60; oil meal, $2.65.

Wyalusing, Pennsylvania:—The association completed its year's work in February. Enough members were secured to start the new year without any loss of time. The highest individual was a pure-bred Holstein owned by C. W. Newman, which produced 689.7 lbs. of butterfat and over 17,000 lbs. of milk. This record

exceeds the previous highest association record for the county, which was 660.9 lbs. butterfat, held by a pure-bred Jersey owned by M. A. Taylor.

Rock Prairie, Wisconsin:—Two herds were tuberculin tested during February and six cows condemned. Six herds are on official test. February market milk testing 3.5% sold for $2.35 per cwt. and 4c per point above. Milk retails for 13c per quart, butter for 53c per pound, and cheese for 35—40c per pound. Bran is rated at $28 per ton; oil meal, $50; cottonseed meal, $50; oats, $30; corn, $18.

Amherst—Nelsonville, Wisconsin:—Four cows were sold for beef during February. More members have installed drinking cups and one has installed a milking machine. Balanced rations are fed by most members.

Wausau—Marathon, Wisconsin:—Ten per cent of the cows tested in January entered the 40-lb. class, as compared with six per cent for December. Three months ago the owner of the high cow hired an experienced herdsman. The profit from his herd of 30 cows has increased approximately 70 per cent in three months, four of the cows entering the 40-lb. list and three of them making the highest records for the month. One pure-bred Holstein bull was purchased during the month, and two carloads of alfalfa were bought. Three cows were sold for beef and one for dairy purposes. Four per cent market milk sold for $2.20 per cwt. and 5½c per point above. The creamery paid 54c and the cheese factory 52c per pound for fat. Milk retails for 10—14c per quart, butter for 45c per pound, and cheese for 32c per pound. Feed prices are: mixed hay, $23 per ton; silage, $6; bran, $28; middlings, $28; corn meal, $32; hominy, $32; linseed meal, $48; oats, 47c per bushel; barley, 80c; cottonseed meal, $54 per ton; alfalfa, $29; Wisconsin Balanced Ration, $42.

Wood County No. 2, Wisconsin:—Increased use of concentrates has greatly increased production of all herds. A survey shows 34 herds using pure-bred sires and four using grades. Milk retails for 10c per quart and butter for 50c per pound. The condensery paid 50c, the creamery 46c, and the cheese factories 51—57.5c per pound for fat during January. Feed prices are: cottonseed meal, $40 per ton; oil meal, $45; pure bran, $26; oats, $30; corn, $25; alfalfa, $30; timothy and clover, $16—$18.

We Know Our Cows

In May, 1917, I joined the Cedar Grove Association and at the end of the year's work I found that 12 of my cows had finished with an average of 252 pounds of fat. Although no boarders were present, the record was nothing to feel giddy about and I resolved to try again. At the end of the following year's work I found that 12 of my cows had finished with 302 pounds of fat on the average, which I thought a pretty good gain over the year before. By that time the Cedar Grove Association had grown unwieldy and was split into two associations. We commenced the third year's work in the Oostburg Association in July, 1919, and found at the close of the year that 11 of my cows had averaged 356 pounds of fat.

The above gains from year to year were made with ordinary cows, under very ordinary conditions, and with a shortage of labor. This can be duplicated by many farmers by following the tester's advice and directions more closely.

Wisconsin. G. LAARMAN.



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Which Tuberculin Test?

HOARD'S DAIRYMAN:—On page 90 of your issue of Hoard's Dairyman for February 4th, 1921, you compare the intradermal and subcutaneous methods of tuberculin testing. You only give the result of the post mortems on reacting animals. Nothing whatever is said about the failure of the subcutaneous test to eliminate from the herd those animals that have the disease extensively generalized and that frequently fail to react to this test, but that in some cases at least will react to the intradermal. The chief objection to the subcutaneous test in the past has been the fact that it left in the herd diseased animals that fail to react, which led to discrediting the breeder who sold such animals that were later found to have the disease.

In a recent series of tests in our vicinity of the animals that reacted to the intradermal and ophthalmic tests, only 75 per cent reacted to the subcutaneous. As these animals have not been slaughtered, we cannot yet be certain what the post mortems would show, but, if we assume that all that reacted to the intradermal and ophthalmic tests were diseased, then the subcutaneous test was only 75 per cent accurate. This is about what the most careful statistics demonstrate it to have been as used in the past.

The writer believes that the use of the intradermal and ophthalmic methods will result in taking out of the herd at the first test a much larger percentage of the diseased animals than the subcutaneous, and that these two tests show much greater hope in the future of maintaining clean herds than by the use of the subcutaneous test. Perhaps it is too early yet to arrive at definite conclusions as to the efficiency of the two latter tests.

Pennsylvania. READER.

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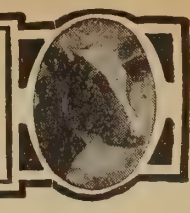
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HOARDS DAIRYMAN JUNIORS



A DEPARTMENT FOR THE DAIRY FARM BOY

Exchanging the Old for the New

Spring was beginning to put in its appearances. Everything emphasized this fact. The red breasts were to be seen at nearly every hour of the day, merrily chirping their best to attract a mate for the season. The willows had already been robbed of their pussies, for the younger Greenes had carried them by the armfuls to their teachers. The air was soft and balmy and the cattle in the yards lowed plaintively as they daily raised their heads and sniffed to catch the first breath of the growing green. The sky grew bluer each day and the sun climbing higher and higher radiated its warmth to old mother earth in such generous portions that dormancy was giving way to new life everywhere. Indeed spring was here, accompanied by the activity of every rural household. The new routine was again established and Jerry Greene found himself working just a little longer each day in order to keep ahead of the work which was now beginning to crowd all the members of the Greene family.

It was on one of these days in early spring when one is really made to realize that it is good to be alive and to have good health that Jerry watched his father carefully spading a piece of sod along the old garden fence, a thing which he had seen from the time he first toddled about the yard.

"I hope that you are not going to do that same old stunt, dad," he finally broke forth. "It doesn't get at what you want to know anyway and wouldn't Jimmy be disgusted if he could see you right now, and I don't know but what I am about as disgusted as he would be. There's no use, dad, sticking to the old ways when there is something better. I'll take care of the seed corn testing this spring, dad," and he reached to take the spade from his father's hands.

"This way's just as good as any," answered the father. "I've growed corn more years than you are old, boy, and I hain't never failed to get a crop yet. And what's more I've tested my seed corn like this every year. Your grand dad taught me that and if it was good enough for him, then it is good enough for me," he breathed hard as he jabbed the spade vigorously into the soft, moist turf. "There's too many of them new fangled notions going 'round about the best ways to farm and the very ones to start them are those who hain't had no experience at the game. I'll take my lessons first hand, and it's my opinion that if them college perfessurs would teach the boys down there at school the things we learn from the experiences of others, they might do something worth while," and he pulled just a little harder than usual on the black clay pipe as he stopped his work and looked up at his son.

"Just what they are doing, dad; teaching their experiences and they ought to know because that's what we pay them for; to find out the things that we haven't time for and even if we had, we wouldn't know how to go about their job. Their training fits them for their jobs and it is a silly notion that just because they are not farming, they cannot do some things for us. I know that I can't talk the way Jim can about these things, but it is just as plain to me as if I had the education that Jim is getting. I for one want to see this old place run in an up-to-date way, and we are cutting off our own pleasures if we don't pay attention to the best things that we are paying for. There is a better way to test seed than you have practiced all these years and because you always cure your seed corn in the worst way possible it is all the more reason that we should test it in the best way. You boast about always having a corn crop, but you don't know though what you are losing by not knowing the kind of seed you plant. This much is certain; you have never yet defeated Bob's father in corn yields. He proves that every year and his soil isn't any better than ours either and I don't think that Bob ever cultivates their corn as much as Jim and I do ours. I've been thinking about this for a long time and the only way that I can figure it out is that they plant better seed than we do. I've always noticed this and that is they take just as good care of their seed corn as they do of their cattle and you don't catch them curing their seed corn on the windmill frame and under the porch. Anyway if I was ma, you wouldn't decorate the front porch every fall with stringers of corn. Last spring after the corn was all up, Jim and I noticed that ours didn't look like Ramsey's. Theirs came up quicker and thicker and it kept ahead of ours all summer, too. And one day when we were talking about it, Bob said that it was all in the kind of seed they used. That set me to thinking and now I'm ready to do the job right."

"Getting as bad as Jim, Jerry," his father answered. "He was always giving advice where it wasn't wanted and I don't know as it ever got him anywhere."

"Got him in the agricultural college," Jerry smiled, "and you just watch him make good, too."

"Bob says lots of things," continued the father as he started for the house with the long strip of sod under his arm. "I don't believe all the stuff I hear; I want to see it proved first, and don't you forget, Jerry, that I'm an old hand at growing corn and them fellers that talks that stuff you believe are white collared farmers," and he almost snickered at the point he thought he had scored.

"Dad, I don't believe you know what I am driving at," retorted Jerry.

"Indeed I do, and there's one thing sure, you and Jim will drive me crazy with your fool notions if you keep this up about everything that I do. I'm running this place and until it is turned over to you boys, I intend to do so. After that you can do as you want to, and that settles it."

By this time they had reached the house and Pat Greene carefully laid the strip of sod on the stone door step while Jerry looked on, a dry smile playing about the corners of his mouth. Suddenly he broke forth with, "Dad, you remind me of a story that the fellow who bought my last sow last fall told me when he was here. You remember him, don't you? That tall, good natured looking fellow who came all the way from Oxford just to buy one of my famous Durocs that you said I couldn't make any money from? Well, I did make money and you know it, too. But what I was going to say was this, the story he told me. A nigger preacher in Detroit was letting loose to his congregation one Sunday about how the Israelites walked across the Red Sea. And he said, 'Bred'rn, I'se knowed dis to be a fact all my life, but 'til I'se libbed in dis heah city, it's always been a mattah ob faith wid me. Now I sees de reason for it all. When dem Israelites did dat walking, de sea was froze over and dey just natu'lly walked across on de ice. You see bred'rn, dat's all very simple when you got de experience to back yeh!

"Just as he concluded, a young colored youth flashily dressed and fresh from college arose in his pew and said, 'Mistah Reve'nd Johnson, how could dat be when de Red Sea am down near de equator and dere ain't nebber been no ice down dere. You'se got de wrong explanation for dat miracle, Mistah Preachah!'

" 'Ladies and Gen'men,' " shouted the preacher, 'Dis heah young sprig of a niggah hain't telling no truth. Jus cause he's ben away to college and got his head stuffed wid a lot of fool notions of dem college professahs, he thinks he knows more'n de ol folks an de teachings of de good book. And I want to say, ladies and gen'men, dat I has de right explanation for dat miracle for in dem days when de Israelites did dis walking, dere was no equator. Now I leave it to your good jedgment, bred'rn, who is right?' "

Dad Greene looked up with a dry grin decorating his homely pug face. "Pretty good story, Jed, and I suppose you think that I am like the old darkey preacher."

"That's what I told the story for, dad. You're the 'show-me-kind' and I'm going to show you this time, dad. I got ready for you last fall at seed picking time and now we want to learn the truth about the whole matter and I'm just as ready to learn as you should be. And now we are both ready for the lesson or experiment, I guess Jimmy would call it. First of all we must size up the situation as it has been for the past about our seed corn."

"Well, as usual, I presume you will have to have your own way about the matter," replied the father, "but I think I shall test a little of the seed in the same way I always have just to make myself believe that the job has been done and I guess I'll feel better about it, too. Now, what did you do to get ready for this experiment as you are calling it, son?"

"It wasn't much, dad, but I guess it will prove our point just the same. I took about 25 ears last fall and hung them in my room upstairs to dry out. You know that the kitchen chimney leads through there and so there is plenty of heat to dry seed corn quite fast. Every day I examined it and then compared it with yours hanging under the porch and what I found out at that time makes me very anxious to carry out this trial that you have agreed to. Yours was three times as long in drying as mine was and if there is any truth in what we hear nowadays about curing seed corn, mine should be the strongest seed. But I'm here to learn too. Jimmy told me the last time he was home that it isn't only important how much seed grows but how strong it grows. I never thought about that before as simple as it sounds and I guess you didn't either, dad. Anyway we will have some satisfaction from this deal.

"Now, this is what I want to do, dad. I will test 25 ears of your seed right along side of my 25 ears, doing all for the one what is done for the other. In this way we will be able to make a fair comparison of the results."

"Well, there isn't very much time to waste, son, for corn planting will soon be upon us, so we had better get the seed down and shell it."

"All but 25 ears, dad, remember that."

It took but little time to run the ears through the sheller and as Jerry turned the crank he smiled to himself as he noted some of the dark, musty looking cobs bobbing out of the hole. "That's what he gets for curing his seed corn on the outside," he thought to himself. "You can't expect to get strong seed from such ears and I'll just bet that I can predict what the results of the experiment will be." With the shelling completed, Pat Greene took a handful of kernels from the sack and scattered them over one-half of the strip of sod and after wetting it, he folded over the other half and carried it into the kitchen where he placed it under the kitchen range, to remain there for the next six or eight days. In the meantime, Jerry prepared a rag doll test and proceeded to carry out his plans.

"Now you see, dad," he explained, as he worked with his father looking on, "that my way has an advantage over yours. If any of the kernels fail to grow or if they don't produce good strong plants, I'll know just

(Continued on page 388)



THE STORY OF THE RAG DOLL
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No Sale? Why?

WAS it because the fertilizers offered were not like those he formerly used?

Was it because they were not rightly balanced?

Was the price too high?

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Was he in doubt whether the fertilizer offered is the kind that will give him the best profit consistent with maintaining or increasing the productiveness of his land?

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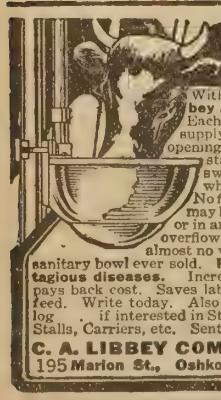


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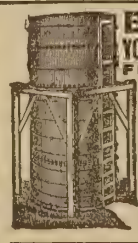
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New State Record Jersey

J. C. ALLEN, INDIANA

PURDUE'S Golden Estella, nine years old, a pure-bred Jersey cow in the dairy herd at Purdue University, is the new champion butterfat producer of her breed in Indiana, winning this honor when she completed a year's record which showed 14,101 pounds of milk and 752.35 pounds of butterfat or nearly 900 pounds of butter. This mark established a new Jersey record for the state, and also one of the best in the United States.

The champion cow is remarkable as a producer. She was bred and raised on the University farm so that her records are complete in every detail. One of her daughters as a two-year-old produced more than 500 pounds of butterfat and this year in the three-year-old class promises to make another record for three-year-old Jerseys. All her female offspring have been high producers and the bull calves have grown into valuable sires.

Her daily ration consists of 25 pounds of silage, 14 pounds of alfalfa hay, and about 12 pounds of grain or concentrate mixture which includes ground corn, ground oats, bran, oil meal, and cottonseed meal. Last fall she also received a good feed of beets each day. Despite this high record and the rearing of a calf, the champion cow has come through the year in good condition and is in better flesh than when she started the test last February.

"This shows what can be done with a good pure-bred cow properly handled," said Professor L. H. Fairchild, of the dairy staff. "She is of good breeding, is a good individual, and she has been fed the best we know how. She is a splendid eater and appreciates good attention, as is shown by her record."



PURDUE'S GOLDEN ESTELLA

Cheese Factories to Pay by Test

HOARD'S DAIRYMAN:—The days of the old pooling systems at cheese factories seem to be numbered. Some years ago a Dairy Standards Act was placed on the Provincial Statute Books of Ontario, providing that milk at cheese factories must be paid for either on a straight fat test or fat test with two per cent added as a casein allowance. Opposition developed and the Act was never enforced. This winter the Act has been endorsed by both the Eastern and Western Ontario Dairymen's Associations and by so many local meetings, that it will probably be brought into action this coming season. One of the strong arguments used against the Act in the past has been that tests could not be relied upon. Since then the Cream and Milk Tests Inspection Act has been brought into force and already inspectors are on the road, checking up the tests made by creamery operators. In the past season only three convictions were made, two for underreading the test and one for overreading it. In the latter case, it was assumed that the creameryman, who was just starting business, was trying to attract patronage and would make up for his generosity (?) later on. These inspectors would also be available to check up on cheese factory tests.

A little incident happened at the Finch Dairy Station, which illustrates the essential selfishness of those who support the pooling system for the division of cheese factory proceeds. Milk had been paid for on a straight fat basis at this station for one year. About half the patrons then petitioned the Department to go back to the pooling system. Probably they were the half who had gotten under the average for their milk. Instead, the station superintendent announced that milk would be received at one weighing-in platform by the pooling plan, and at the other on test. The cheese would be made up separately and the proceeds kept separately. When the morning arrived for the inauguration of the new plan there was not a can of milk turned in at the pooling platform. The dairymen producing poor milk had no use for the pooling system unless it enabled them to share in the proceeds that rightly belonged to their neighbors who were producing a higher testing milk.

Cheese Boards Passing

Some months ago I told readers of Hoard's Dairyman of how cheese factory patrons in Eastern Ontario had gotten together and organized a co-operative company known as the United Dairymen Co-operative, for the sale of their cheese. The factories belonging to this new company ship their cheese to Montreal, where it is graded by an official of the Department of Agriculture, and sold at auction according to its grade. This method is designed to do away with the local cheese boards which have been subject to many abuses. During its first season the company did a business of $1,000,000 and this winter

organization work is being pushed so vigorously that in the coming season several times as much cheese may be handled as in 1920. The Ontario dairymen got their idea from the creamerymen of Saskatchewan, who organized the Saskatchewan Co-operative Creameries Limited. From a report just to hand I learn that in its third year, just concluded, this western concern ran 23 creameries, five cold storage plants, three poultry killing stations, supplied Regina with milk and cream, made 161,000 gallons of ice cream, 3,000,000 pounds of butter, marketed 50 carloads of eggs, and has fixed assets of $900,000. This concern is right in the home of the greatest co-operative grain handling company in the world and the dairymen evidently do not intend to be outdone by their grain growing neighbors in co-operative development.

Dairy Production for 1920

The value of dairy products produced in Ontario last year is estimated at $100,164,500. Of this the cheese industry is responsible for $25,440,000; creameries, $21,175,000; condenseries, etc., $10,000,000; ice cream, milk, buttermilk, cream, etc., $11,000,000; and farm dairy butter and milk used on farms, $33,000,000. The dairy industry is in a thriving and healthy conditio .

Canada. F. E. ELLIS.

Cocoanut Oil Takes Place of Dairy Products

"Too much cocoanut oil in competition with butterfat is the trouble with the dairy industry, today," says K. L. Hatch of the College of Agriculture, at the University of Wisconsin. "Before 1915, we were importing milk products, and the percentage of imports was increasing. After 1915, we were exporting and have continued to do so up to the present time, although a relatively small portion of the total milk production goes into the export trade. How does it happen that we could turn so quickly from an importing to an exporting nation? It has been due, not to an overproduction of dairy products, but to the increase in cocoanut oil imports," explains Mr. Hatch. "This is the way it began. As the war came on, we were urged to use substitutes. Then when prices kept soaring, we naturally sought something cheaper, until, in 1918 and 1919, butter substitutes were replacing 5,000,000,000, pounds of whole milk in the United States. This was three times the amount of condensed milk exports.

"What are we going to do about it?" asks Mr. Hatch. "It may be that time will take care of the matter, for we are not importing quite so much cocoanut oil this year as last. The surest way, however, to boost dairying and save the situation is for the farmer to use more butter and milk on his table, to feed more milk on the farm, to do away with the 'boarder' cows, to advertise his milk products, and not to buy condenseries on a glutted market."

That the use of butter substitutes by the American people is the real cause of the dairy situation, and not the importation of butter from foreign countries, as many believe, is the statement of more than one good authority. "While the arrival in our markets of butter from Denmark and New Zealand is bound to have a depressing influence," states B. H. Hibbard of the Agricultural Economics Department, "there is no cause for real alarm. These countries are too small to make a great impression on our trade."

One solution, which Mr. Hatch suggests, is to increase the use of butter and discourage the use of inferior substitutes. The growth of the demand for substitutes is far larger than most dairymen realize. In a canvass of five leading grocery stores in the city of Madison, Wisconsin, it has been found that the average amount of substitutes sold, both vegetable and animal, is more than double the amount of butter. The only store visited from which a greater percentage of butter is sold has many Jewish customers whose religion will allow them to take no chances in eating butter substitutes made of unknown fats. The farmers, themselves, the grocers say, are bringing in butter to sell and taking away oleo for use in their own homes.

The little town of Darien, down in Walworth County, has the one cow testing association in the state of Wisconsin, whose members, all farmers, use no oleomargarine on their tables. "We want to use this as a nucleus from which to start a 'Use More Butter' campaign all over the state," says A. J. Cramer, state leader of cow testing associations. "It all came about through the efforts of one live man, George Moss, tester of the Darien Association. About eight months ago, as he went around from farm to farm, helping the members in their feeding problems and improved methods of dairying, Mr. Moss noticed that, in many of the homes, oleo was used on the tables. He at once decided to start a campaign and began by tactfully refusing to eat the oleo offered in the homes of the members.

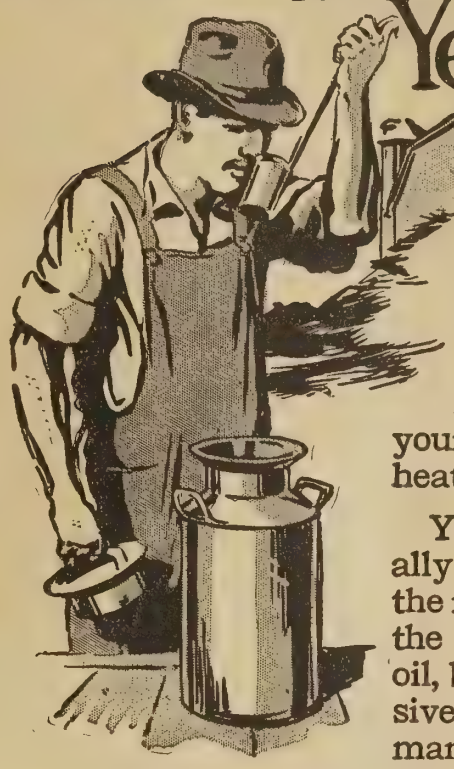
"'Here,' he said, 'you folks are complaining of the price you are getting for your butterfat, and you don't eat butter yourselves. How do you expect other folks to buy it?'"

The members took it up among themselves and, with the help of Mr. Moss, carried the campaign into Darien and other nearby towns, until, today, the association members' tables are 100% free from oleomargarine, and the grocers of Darien are selling only one-half as much butter substitute as before.

Wisconsin. HAZEL HANKINSON.

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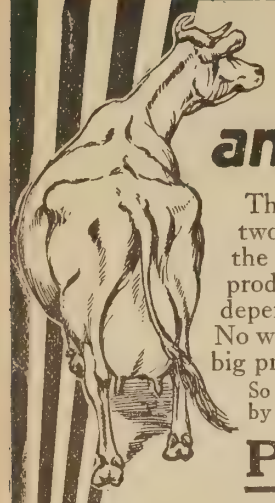
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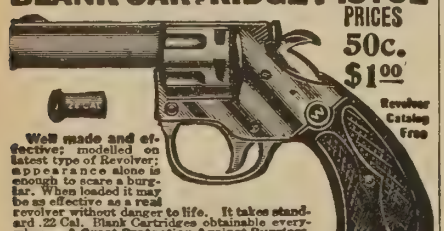
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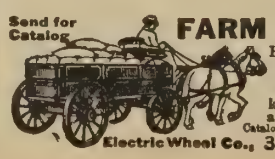
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Exchanging the Old for the New

(Continued from page 382)

where to look for them and can throw out the ears from which they come. You can't claim that for yours and so the bad kernels from such ears get planted with the rest. That, of course, reduces the stand of plants that you will get and it is common sense to believe that the yield will also be reduced some. Good seed is the beginning of every successful crop. I'm almost ready to say that I'll bet you a new hat that the seed from the ears I cured in the house will prove to be lots stronger than yours. And what simpler test do you want than this? Easy to perform and it can't help but be accurate," he added as he rolled up the tester and tossed it into a bucket of water to soak for a few hours. "I'll leave it there until we come from the field tonight and then I'll drain it and set it away for six or eight days the same as yours."

Each day seemed to add its toll of interest to the experiment as Jerry carefully moistened his tester each evening after the day's work was done. The entire family now considered it a part of their business and each evening the younger members of the household begged Jerry to open the tester for they were sure it was ready. But Jerry always laughingly put them off saying, "a scientist must be patient if he expects to get good results." Even the father now seemed to enjoy the trial in which he found himself one of those concerned and when the evening came upon which they had agreed to open their testers, it found all on hand to learn the lesson.

The sod tester was the first to be opened. "Pretty good seed I should say," remarked the father as he looked at it with approval. "There aren't many that haven't grown."

"Well, let's see about that, dad," broke in Jerry observing it critically. "I've already counted ten and there are some more too and the worst of it is, you don't know from what ears those dead kernels came. And since your seed is all shelled how could you possibly locate them if you wanted to? "Yes," he added, "the others don't look any too strong either. I think you are taking too many chances in planting seed like this. Well, perhaps mine won't be much better and then you'll have the laugh on me," he remarked proceeding to unfold his rag doll tester.

It was an interesting and instructive lesson that Jerry's tester taught, as the reading of it proceeded. There were weak sprouting kernels and dead kernels, but upon examination each set of such seeds were directly referred to the ears of corn he had taken from his father's seed. Every square of kernels coming from the ears he had cured the way seed corn should be cured made a most excellent showing and taught the lesson which Jerry had set out to teach.

"It sure is a lesson to me about seed corn," spoke up Jerry's father, "and I think I'll go over to Ramsey's tomorrow morning to see if he can spare me some of his better seed. I'll be taking too many chances if I plant this stuff."

"Yes, dad, and I want you to notice how much stronger the sprouts are on my plants than they were on yours. That's because my seed had more vigor than yours had and it's all in the way the ears were cured. How about them college ideas now, dad?" he slyly asked. "Not so bad after all, are they?"

The Acid Test for Good Seed

The acid test for good seed corn is the germination test. Believe it or not, it is true and every good corn grower will agree with this statement. The indifferent attitude which you may have about applying it does not alter the case in the least and, remember this, no one but yourself is the loser. Pat Greene's method of testing can tell you some things and may be all right to apply for a general test when you are pretty certain that you have taken excellent care of your seed, but in those cases where seed corn is purchased or where you are not certain about the way the corn cured out, then we would recommend the individual ear test. It is too unsafe to rely upon eye examination of the ears as to the quality of seeds which they carry. It is nonsense, Juniors, to enter a corn production contest without knowing just what kind of seed you are planting. Most Juniors who grow corn in the contest work do so upon an acre basis. Now it is a small matter to test 15 or 20 ears, the number required to plant an acre, and it is a very important matter just the same.

It makes little difference as to what method of germination testing is used, providing the test you adopt is properly applied. That is the important feature. It is unnecessary to describe the kinds of tests, because all are so common that any farm boy knows how to perform them. Seed corn that does not grow from 95% to 100% strong is unsafe to plant if you are in the contest business. Many of the Juniors interested in seeing how much corn they can grow on an acre, test their seed corn at school as a part of their agricultural class work. Maybe you can do the same and perhaps by talking with your teacher about it, a seed corn testing club can be formed and all of the corn can be tested by the club members. The time is here when you will want to know how your seed will act when it is planted in the soil, and if you are a real live corn grower, we are sure that you will not slight this very important operation.

Junior Letters

Hoard's Dairyman Juniors:—I like your paper very much. I read the junior letters and stories. I never knew what a good paper Hoard's Dairyman was until two years ago when I joined the judging contest at the Wayne County Fair. We each received a paper and I chose Hoard's Dairyman. I won second place in the contest and last year I won third place. We have a farm bureau and a fine county agent. With the money I got for second prize I got a high grade Holstein calf. Later I bought a pure-bred calf. The grade's name is Whiteface and the pure-bred's name is Countess De Kol Pontiac Girl. They are a little over a year old now. We have 14 pure-bred Holsteins and 7 grades. We bought a pure-bred Holstein bull last winter but he died. Now we have a male calf about five months old.

Pennsylvania. Alice Curtis.

Hoard's Dairyman Juniors:—My sister and I joined the Boys' and Girls' Calf Club and besides caring for this calf I must go four miles to school. Our calves are Holsteins and mine weighs 250 lbs. I give it four quarts of sweet milk twice a day, also a mixture of four pounds of ground oats, ground barley, bran, and oil meal twice a day.

I received my fob, button, and creed and I was delighted to get them. I think they are great in getting the boys and girls interested in good farming. I live on a 60-acre farm and we are preparing to build a new house in the spring. I am ten years old and in the fourth grade. I would be very glad if some of the juniors would write to me. Wishing all the juniors good luck.

Wisconsin. George B. Paltzer.

Hoard's Dairyman Juniors:—I have a heifer calf that my father gave to me. She is a high grade calf. We have a cow that gave 45 lbs. She is the best grade cow we have. My cow is doing pretty well; so is my calf. My calf has quite a lot of white in her. Her mother gave 50 lbs. a day. My father swapped a bull calf for her for me. I have been going to school all this week. I am still milking the four cows. We are milking 11 cows altogether. It has been raining a little and the climate is just like March. My father has bought him a calf. She cost $15. If any of the juniors will write to me I will answer their letters. My address is Dexter, Maine. Horace Hopkins

Guernsey Enthusiasm in Yakima

HOARD'S DAIRYMAN:—With a record of twelve new pure-bred Guernsey herds started in the Yakima Valley within the past year, and an exceedingly optimistic outlook for the rapid development of the Guernsey breed in that section, the Yakima Valley Guernsey Breeders' Association held a very enthusiastic session at its second annual meeting recently.

In his address President H. E. Angel reviewed the work of the association to date and called attention to the marked progress of the Guernsey breed in the valley, largely due to the fine co-operative spirit of the association members. He spoke of the twelve new herds started in the valley, and of the steady upbuilding and high standards characteristic of the Guernsey breeders of the district. He urged even greater activity for the coming year and stressed the importance of more publicity for the Guernsey breed in the valley.

County Agent Coglin spoke on the value of a balanced ration and the best feeds for Yakima Valley herds. An interesting talk was made by A. L. Wallace who gave some illuminating side lights on the Pacific International Live Stock Exposition at Portland. President Haigman of Washington State College spoke on the growing of feeds; F. A. Majenski gave some practical advice on how Guernseys may be kept as a profitable side issue on a Yakima orchard tract. Other speakers were President Hayton of the state farm bureau and C. A. Peabody.

The following were elected officers for the coming year: President, H. E. Angel; vice-president, A. L. Wallace; secretary and treasurer, R. N. West. Members of executive committee are J. B. Vance and C. A. Peabody.

The association voted to offer two silver cups at the Oregon State Fair next fall. The members were entertained by the Commercial Hotel at luncheon.

Oregon. E. K. HILL.

Bulletins of the Week

Dairy Cattle Valuation, by G. C. White. Bulletin 28, Extension Service, Connecticut Agricultural College, Storrs, Conn.

Flock Management in Winter by R. E. Begg. Bulletin 27, Extension Service, Connecticut Agricultural College Storrs, Conn.

Dodder, by A. A. Hansen. Farmers' Bulletin 1161, U. S. Dept. of Agr., Washington, D. C.

SALE ANNOUNCEMENTS

Mar. 22—Holsteins. Blue Earth County Holstein Breeders' Consignment Sale, Mankato, Minn.
Mar. 22-23-24—Holsteins. Syracuse, N. Y. E. M. Hastings Co., Sale Mgrs., Pulaski, N. Y.
Mar. 23—Holsteins. Iowa Holstein Breeders' State Sale at Waterloo, Ia. C. F. Jenness, Sec.
Mar. 24—Ayrshires. Canadian Ayrshire Breeders' Ass'n., St. Anne de Bellevue, Quebec. Gilbert McMillen, Sale Manager, R. 2, Huntingdon, Quebec.
Mar. 28—Holsteins. Isaac DeMunck & Sons, Plymouth, Wis. I. DeMunck, Sale Mgr.
Mar. 28—Holsteins. W. B. Wickersham, Embreeville, Chester Co., Pa.
Mar. 29—Holsteins. Fred Gessert, Plymouth, Wis. Fred Gessert, Sale Mgr.
Mar. 29-30—Holsteins. Watertown Holstein Sales Co., Watertown, Wis. F. Darcey, Secy.
Mar. 29-30-31—Holsteins. Philadelphia, Pa. Second Brentwood National Sale.
Mar. 30—Guernseys. La Crosse Co. Guernsey Breeders, West Salem, Wis. H. W. Griswold, Mgr.
March 30—Holsteins. R. L. Goelzer Sale at Plymouth, Wis. R. L. Goelzer, Mgr.
Mar. 31-April 1—Holsteins. H. J. Goelzer's Sixth Sale at Plymouth, Wis. E. E. Goelzer, Mgr.
Mar. 30—Holsteins. Roland Goelzer at Plymouth, Wis.
Mar. 31—Holsteins. Hand & Traxler at Plymouth, Wis.
Mar. 31—Guernseys. Goldmead Guernsey Farm First Annual Sale at Versailles, Ohio. Sherman Spillers, Mgr.
Mar. 31—Guernseys. First Consignment Sale of Calumet Co. Guernsey Breeders' Association at Chilton, Wis. F. E. Fox, Waukesha, Wis., Sales Manager.
April 1—Guernseys. First Consignment Sale of Registered males and grade females. Calumet Co. Guernsey Breeders' Association at Chilton, Wis. F. E. Fox, Waukesha, Wis., Sales Manager.
April 2—Holsteins. Pabst Stock Farm Second Semi-annual Sale at Oconomowoc, Wis.
April 7, 1921—Holsteins. Central Wisconsin Holstein Breeders' Ass'n. 13th Semi-annual Consignment Sale at Marshfield Sales Pavilion, Marshfield, Wis. R. A. Peterson, Wisconsin Rapids, Wis., Sale Mgr.
April 15—Guernseys. Anna Dean Farm, Barberton, Ohio. Charles L. Hill, Mgr.
April 15—Holsteins. Virginia Holstein-Friesian Breeders' Club Sale, Richmond. W. L. Kirby, Manager.
April 19-20—Holsteins. Ohio Holstein Breeders' Association Second Annual Sale at Columbus, Ohio. H. C. Barker, Sec.
April 21—Holsteins. Eaton Co. Holstein Breeders' Second Consignment Sale at Charlotte, Mich.
April 21—Brown Swiss. Illinois Brown Swiss Breeders' Association Annual Spring Sale, Morton, Illinois. Chester G. Starr, Pekin.
April 23—Selected Guernseys from the Sunnybrook and Willowbrook Herds at Sunnybrook Farm, Eatontown, N. J. Leander F. Herrick, Sale Mgr.
April 25-26—Holsteins. Waukesha County Holstein-Friesian Association Sale at Waukesha, Wis. W. L. Baird, Sec'y.
May 2—Holsteins. Walworth County Holstein Breeders' Association Eighth Semi-annual Sale at Elkhorn, Wis. Ben Bachhuber, Mgr.
May 3—Holsteins. Clark County Quality Sale at Owen, Wis. J. Wuethrich, Sale Mgr.
May 4—Holsteins. Minnesota Holstein Breeders' Association Third Annual Sale at Faribault, Minn. B. D. Scott, Sec.
May 4—Guernseys. T. C. Norman Dispersal Sale of Registered Guernseys at Lake Crystal, Minn. F. E. Fox, Waukesha, Wis., Sales Mgr.
May 5—Jerseys. Wisconsin Jersey Breeders' Ass'n. Sale at Madison, Wis.
May 5—Guernseys. Waupaca Co. Guernsey Breeders' Assn. Annual Consignment Sale at Waupaca, Wis.
May 6—Holsteins. Illinois Holstein-Friesian Ass'n. State Sale. R. N. Thompson, Sec.
May 9—Holsteins. Brown County Holstein Breeders' Sale at De Pere, Wisconsin.
May 10—Guernseys. Dispersal Sale of Emmadine Farm Herd at Hopewell Jct., Dutchess Co., N. Y. Leander F. Herrick, Sale Mgr.
May 12—Guernseys. J. L. Hope's Annual Sale at Florham Farms, Madison, N. J. Leander F. Herrick, Sale Mgr.
May 12—Holsteins. Jefferson County Holstein-Friesian Breeders' Ass'n. second consignment sale. A. F. Gafke, Sec'y.
May 12—Holsteins. Marathon Co. Holstein Breeders' Association Sale at Wausau, Wis. Francis Darcey, Watertown, Wis., Mgr.
May 13—Holsteins. Chippewa Falls, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 13—Eastern Guernsey Breeders' Association Combination Sale at Devon, Pa. Leander F. Herrick, Sale Mgr.
May 17—Holsteins. State Fair Grounds, Milwaukee, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 18—Jerseys. Monroe County Jersey Breeders' Consignment Sale at Tomah, Wis.
May 18-19—Holsteins. Manitowoc County Holstein-Friesian Breeders' Association, Manitowoc, Wis. Chas. Hampke, Manager.
May 23-24—Holsteins. Missouri State Holstein Association Show and Sale at Sedalia, Mo.
May 24—Guernseys. Marathon Co. Guernsey Breeders' Ass'n. Second Annual Consignment Sale at Wausau, Wis. F. E. Fox, Waukesha, Wis., Sales Mgr.
May 25—Guernseys. Portage Co. Guernsey Breeders' Association Annual Consignment Sale of Registered Guernseys at Amherst, Wis. R. K. McDonald, Sec'y. F. E. Fox, Waukesha, Wis., Sale Manager.
May 26—Holsteins. Michigan Holstein-Friesian Breeders' Assn. Sale at Grand Rapids, Mich. H. W. Norton, Jr., Secretary, Lansing.
May 26—Guernseys. Portage Co. Guernsey Breeders' Association Annual Consignment Sale of Registered Guernsey males and grade females at Amherst, Wis. R. K. McDonald, Sec'y. F. E. Fox, Waukesha, Wis., Sales Manager.
May 26—Holsteins. Marshfield, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 27—Holsteins. Outagamie County Holstein Breeders' Ass'n. Sale at Appleton, Wis. Edw. O. Mueller, Sec.
June 1—Holsteins. Dispersion of Fairview Stock Farm's Herd at Anderson, Ind. O. L. Janney, Owner.
June 3—Guernseys. Fond du Lac Co. Combination Sale. Charles L. Hill, Mgr.
June 9—Holsteins. First Annual Bred Heifer Sale, Thorp, Wisconsin. W. H. Krause.
June 9—Holsteins. First Annual Sale, Holstein-Friesian Co-operative Association of New Jersey, Trenton, New Jersey. J. W. Bartlett, Secretary, New Brunswick.
June 15—Guernseys. First Michigan State Sale at Lansing, Mich. F. E. Fox, Waukesha, Wis., Sales Manager.

Paint Prices Reduced!

Go to the Carter White Lead dealer in your vicinity and ask the price of

12½ lbs. CARTER WHITE LEAD.
⅔ gal. Linseed Oil.

You will then have this season's reduced cost of a full gallon of the purest and best white paint that money can buy.

For first coat, add a pint of Turpentine.

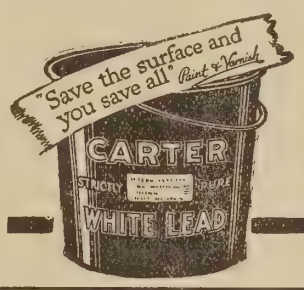
To make colored paint, the tinting colors will cost a little extra.

For large jobs, 100-lb. kegs of Carter White Lead are more economical.

You will then be able to estimate closely the cost of any needed painting and it will total much less than you think—only a small percentage of the replacement value of the buildings it will save from decay.

You can't escape the cost of needed painting. You can only choose whether you will pay for the painting or stand a greater loss through damage to your buildings—the damage resulting from unchecked decay and rot.

Another suggestion: The demand for CARTER WHITE LEAD was never so great as it is this season. The supply is large, but not unlimited. If you get yours now you will not be forced to accept a substitute nor put off painting until your dealer can get it for you.



Get ready *now* for Spring painting.

CARTER WHITE LEAD CO.
Made in Chicago, Ill.
Sold nearly everywhere.

"Perhaps You Don't Know"
says the Good Judge

How long a little of the Real Tobacco Chew will last.
Nor how much genuine chewing satisfaction the full, rich real tobacco taste will give,
Ask any man who uses the Real Tobacco Chew. He will tell you that this class of tobacco will give more satisfaction—and at less cost—than the ordinary kind.



Put up in two styles

W-B CUT is a long fine-cut tobacco
RIGHT CUT is a short-cut tobacco

Weyman-Bruton Company, 1107 Broadway, New York City

Keep Tab on Your Cows

Send 5c in stamps for samples and prices of our weekly and monthly Milk Record Sheets. **Hoard's Dairyman, Fort Atkinson, Wis.**

The Pabst 2nd Semi-Annual Sale

Buy Your Herd Bull — or Some Foundation Cows There

Some of the Bulls—

1—PABST KORNDYKE CREATOR, a Creator son from a 25-lb. sister to a 35-lb. cow. This dam has produced a 29-lb. daughter and her own dam has 26 lbs.

2—PABST PONTIAC CREATOR, a Creator son from a 22-lb. junior 3-year-old daughter of King Pontiac Champion. Her dam is a half sister to a 39-lb. cow.

3—PABST CREATOR ACHILLES, a Creator son from a 29-lb. and yearly record daughter of King Pontiac Champion. Dam has 898 lbs. butter from over 20,000 lbs. milk. Her dam also has a yearly record of over 800 lbs. Third dam has a yearly record of almost 900 lbs. His five nearest dams average over 1,000 lbs. butter. A great bull.

4—PABST CREATOR MODEL, a Creator son from a sister to three cows with records of 1,000 to 1,200 lbs. in a year. Dam has 600 lbs. milk and 27 lbs. butter and also has a splendid ten-month record.

5—PABST CREATOR ELDER, a Creator son from a 29-lb. Champion dam. Her dam has 31 lbs. in 7 days and 1,050 lbs. in a year. A splendid calf.

6—PABST KING PONTIAC LAD 43D, a grandson of King Pontiac Champion and a 39-lb. cow. Dam is a sister to Pabst Korndyke Cornflower, a 38-lb. 3-year-old that sold for $30,000. Second dam is a 35-lb. daughter of Champion, third dam a 29-lb. 3-year-old.

7—PABST CREATOR DUKE, a Creator son from a junior 3-year-old with 21 lbs., she a full sister to a 29-lb. cow with almost 900 lbs. in a year. Second and third dams have 800 lbs. butter in a year and 27 lbs. in 7 days. His own dam is on yearly test and doing well.

8—PABST CREATOR CYNTHIA, a Creator son from a 23-lb. junior 4-year-old, her dam the highest record daughter of King Pontiac Champion with 38 lbs., third dam a 29-lb. cow. A calf of rare breeding.

9—BORN DECEMBER 16, 1920, a Creator son from Pabst Champion Dora Korndyke. This means the two grandams of this bull are Champion Dora Korndyke and Spring Brook Bess Burke 2d that together have seven 1,000-lb. yearly records. The dam has just made 21.88 lbs. butter as a 2-year-old and is on yearly test. This bull comes from one of the best combinations of breeding and high records in our herd. He is an exceptional calf.

10—PABST CREATOR IVY, a Creator son from a 34-lb. dam with a ten-month record of over 80 lbs. butter. She has produced a 32-lb. daughter and is a maternal sister to a 1,100-lb. cow with almost 26,000 lbs. milk.

11—BORN DECEMBER 25, 1920, a Creator son from Pabst Kinnickinnic with three records above 32 lbs., one above 35 lbs. A sure 1,000-lb. prospect. The two nearest dams of this calf now average over 1,100 lbs. with the dam's record at ten months.

—And a line up on the Cows

They will include several daughters of King Pontiac Champion, a few of them in calf to Creator, also several sisters to Pabst Korndyke Cornflower that sold for $30,000 at St. Paul. There will also be some daughters of Maplecrest King De Kol and Woodcrest Clyde. One of these heifers is from a 31-lb. dam with 1,050 lbs. in a year. Another by Maplecrest King De Kol is from a 29-lb. daughter of King Pontiac Champion. This cow has a yearly record of over 800 lbs. and in calf to a three-fourths brother to Pabst Korndyke Cornflower.

PABST SALE
SURPLUS ANIMALS
APRIL 2nd

¶ 29 Young Bulls
¶ 15 Young Cows
¶ 15 Sons of Creator
¶ 16 Sons of Yearly Record Dams
¶ 7 Cows Bred to Creator
¶ Several Daughters of King Pontiac Champion
¶ Practically every animal bred, born and raised here.

The bulls in this sale are the surplus of our herd since our sale last October. They include the very best we have ever bred. You come to this sale and buy at your own bid the result of fifteen years of constructive breeding. In instances we own the dam, the grandam and the great grandams of these bulls. You see them for yourself, you know what you buy.

Last year Pabst Stock Farms won first place as breeders of prize winners. This means that her animals make good. For those who want to start with foundation animals we say come to this sale. In our last sale 39 bulls went to head different herds. Send now for the advanced sale list and make your plans to attend.

PABST STOCK FARM

OCONOMOWOC, (Waukesha County) WISCONSIN

April 2nd
AT THE FARM

Bull of Ormsby Breeding

We offer Chief Segis Lyons Ormsby No. 280751 Born March 3, 1919, a grandson of Sir Pietertje Ormsby Mercedes 41st. His sire a 33-lb. bull; his dam a granddaughter of Sir Pietertje Ormsby Mercedes, who had more 1,000-lb. daughters than any other sire in the world. Also some splendid bull calves ready for service, from A. R. O. dams. Herd tuberculin tested. Write for prices.

Schermerhorn Farms, Mason City, Iowa.

Don't Buy

a bull calf until you see what we have to offer. We have a 5 months old calf, more white than black, son of the 42-pound bull, Idleaze Pontiac Pietje, and a 19-pound 5-year-old. Price right.

KOLANEKA FARMS
J. S. Lehman, Johnstown, N. Y.

Three Bulls For Sale

No. 1—Bright Prince's Gentleman 192454, seven months old. No. 2—Plymouth's Bright Prince 192452, six months old. No. 3—Stena's Bright Prince 192453, four months old. All of them are well grown and backed by good R. of M. breeding. Write for further information.

GEORGE KNOWLES, Route 4, Plymouth, Wis.

FOR SALE—CLOVERDALE JERSEY BULLS—$125—Age 15 mo.—$125.

Backed by R. of M. records and National Dairy Show Winners.

Bull No.	Jr. 7 Nearest Dams R. of M. Records	Average	Jr. 7 Nearest Sires	National Dairy Show Winners
1	6 R. of M.	646 lbs. butter	5 R. of M.*	1
2	6 R. of M.	620 lbs. butter	6 R. of M.	2

*Dams of 2 bulls not now R. of M., have R. of M. records of 865 and 886 lbs. butter respectively.

E. O. ANDERSON, Shelby, Mich.

20-Lb. Son of Sir Korndyke Bess Pietertje Ready For Service — Price $250

His sire, Sir Korndyke Bess Pietertje, is a grandson of S. P. O. M. His first 4 tested daughters average 19.55 lbs. butter from 401.4 lbs. milk as 2-year-olds. His dam made 20.53 lbs. butter as a junior 4-year-old, milking 73 lbs. her best day. He is very light in color, well grown and an excellent individual. Born February, 1920. Write me today.

S. B. SIMONS - - - Sullivan, Wisconsin

Sequel's Glenwood of Linwood 41767

Sire—Imp. Clara's Sequel with 35 A. R. daughters, 20 of them average 518 lbs. fat as heifers.

Dam—Ideal of Alfalfa Farms. 739.72 lbs. fat.

FOR SALE

6 high class pure-bred Guernsey heifers from 12 to 14 months old. 3 are sired by Sequel's Glenwood of Linwood and out of good A. R. cows. 3 are sired by Dairymaid's Glenwood of Pinehurst 3rd 26948 A. R. One from a daughter of Langwater Frenchman with record of 532 lbs. fat. They are a very nice lot of heifers. They are not bred. Come and see them. Attractive price to any one taking the 6 head. Also a few bulls of serviceable age.

ORE HILL FARM,
Dale E. Rundell. Livingston, Wis.

Pleasant Acres Guernsey Farm Is Offering For Sale

Bull calves of May Rose breeding from 3 to 14 months old. The dams of these calves either have A. R. records or are now on A. R. test.

Clyde E. Fruit, R. 1, Waukesha, Wis

FOR SALE

My Entire Herd of

PURE-BRED

HOLSTEIN CATTLE

consisting of thirty head of all ages, none over 7 years old. Herd headed by Starr Fryslan Pontiac Aaggie, No. 288072. Large producers. Will sell cheap as I am retiring from business. All are healthy and well grown.

THOMAS WALKER SHARP, Carlyle, Ill.

FOR SALE Jerseys and Holsteins

Give the Breed, Age and Sex That You Need

DAIRY DEPARTMENT,
University of Tennessee, Knoxville, Tennessee

Washington Holstein Breeders Organize

HOARD'S DAIRYMAN:—A movement for the closer organization of Holstein breeders of Washington which started about the time of the state fair of 1920 culminated March 1 in the first annual meeting at Seattle of the Washington State Holstein-Friesian Association, Inc., a going concern with a membership representing about one-third of the pure-bred black and whites in the state; with a paid field secretary; and with $5,000 in the treasury.

Early in January, President D. D. Aitken of the Holstein-Friesian Association of America arrived in Washington to make a two weeks' tour of the state in the interest of the association's membership campaign, and the executive committee appointed Stanley V. Butchart, a young breeder of Sunnyside, temporary executive secretary to accompany Mr. Aitken and to work on membership and organization until the annual meeting.

Local clubs have been organized in fourteen different counties in the state, some of them including more than one county, but all of them conforming to the requirements of the state and national associations for affiliation therewith. They were all represented at the recent meeting, by from one to seven delegates each, the total of 49 delegates indicating a total membership of about 225, one delegate being allowed for each five members, or major fraction thereof, in good standing.

President F. S. Stimson was unanimously re-elected, as were Vice-president H. C. Davis of Granger, and Treasurer R. L. Rutter, Jr., of Ellensburg. The following men were elected to the board of directors which will handle the affairs of the association when it is not in session: Dr. H. K. Stockwell, H. A. Shoultes, Alex Todd, J. L. Smith, T. G. Lockhart, William Bishop, and T. J. Owens. The president is ex-officio member of this board, which decided to continue Secretary Butchart in office for the coming year. He will be on salary and will spend all of his time looking after the business of the association under the direction of the board.

A sales committee consisting of J. L. Smith, William Bishop, A. M. Ghormley, Ed. Hoem, and Alex Todd was appointed to have general supervision of sales which will be held under state association auspices, and at once made arrangements to handle the first under these auspices, the dispersal sale of Van Woerden & Acheson at Mt. Vernon, April 9. The committee is charged with enforcing the requirements for the dispersal, consignment, breeders' and guarantee sales which the association will hold, and its membership is well scattered over the state to facilitate inspection of animals intended for these sales.

A committee on claims and adjustments, consisting of George Gue, W. B. Auld, and Mr. Smith was appointed. To this committee will be submitted all claims arising from sales, regarding non-delivery of papers, tubercular reaction, non-breeders, etc., and members have entered a "gentlemen's agreement" to abide by the decisions of this committee as final. It is hoped to unite the consignments from Washington herds to the National sale at Syracuse this year into one association consignment, and some work is planned in connection with the fall fairs, though the activities of the association will be limited until it is on a sound financial basis.

Permanent membership in the association costs $5, whether the member is an owner of cattle or merely

interested in the dairy industry. Annual dues are assessed against each owner member, on the basis of 20 cents per head for each grade female over one year old in his herd; and $1 per head for each pure-bred male or female one year old or over, when the herd consists of not more than 24 head; $1.50 per head if the herd consists of any number from 25 to 49, inclusive; $2 per head from 50 to 99; and $3 per head from 100 or more. This sliding scale was adopted at the suggestion of the larger breeders, though their pocketbooks are most affected, in order to insure a large membership of men handling small herds.

Only a little over 4 per cent of all the pure-bred Holsteins in the country are on the Pacific coast, a recent census shows, and Washington has only about 4,500 of them. Some remarkable records have been made by Washington cows, however, several world records having been broken within the past year, and breeders of the Evergreen State are ahead of the backers of all other breeds in their efforts at organization. Both Guernsey and Jersey breeders have state associations; there is a Guernsey field man at work in a territory which includes several western states; and the appointment of a western Jersey field man is being considered; but the Holstein breeders of Washington are the first to have a state field man, and with his help they expect to put the state association in a class which the excellence of their cattle warrants.

Washington. CHAS. N. ANGELL.

Michigan Cream Pools

Co-operative cream pools for Michigan dairymen as the first step toward improving the dairy products of Michigan were urged by the Committee of Fifteen on dairy affairs in Michigan, meeting March 3rd in Lansing.

The committee adopted a resolution recommending "that the dairy department of the Michigan State Farm Bureau promote and assist in establishing such cream pools in the various dairy communities of the state for the purpose of collective marketing on a quality basis of the cream produced by the dairymen of a given community."

The Committee of Fifteen, comprised of five leading milk producers, five co-operative creamery men, and five farm bureau dairy authorities, met to devise some means to pull the dairy industry of Michigan out of the chaos which is said to exist in that state. It was agreed that immediate improvement of the quality of cream marketed by the dairy farmer must precede all other steps for betterment of the farmers' lot.

Committeemen agreed that poor butter, not oleomargarine, was the dairy farmer's worst enemy and that the gradual deterioration of creamery butter throughout the country was due to the cream station system, where the same price is often paid for both poor and a high quality cream, thereby removing any financial incentive for the farmer to produce a better product, according to the farm bureau.

"No educational campaign to improve dairy products in Michigan or in any other state will work," said H. C. Wendt, chief of the dairy division of the Michigan State Food and Drug Department, "unless it is accompanied by a universal system of grading cream that will make a substantial difference in the price paid for a poor and a high quality product." The committee agreed that Mr. Wendt's statement pointed the way for proposed reforms in Michigan dairy practice.—Michigan State Farm Bureau.

PORTER
"Dependable Since Sixty-Eight"
Money-Making Cost-Cutting Labor-Saving Barn Equipment

Some Exclusive Porter Advantages You Will Want in the Barn Equipment You Buy

¶ The "little things" about your barn equipment installation often prove most important in point of continuous, satisfactory service. A stanchion latch, a track coupling or a drinking bowl connection may seem insignificant in itself. If it is right you never give it a thought. But if it is wrong it causes endless inconvenience and annoyance. The Porter line is characterized by a careful regard for important details. Here, for example, are a few of the valuable features to be found only in Porter Products:



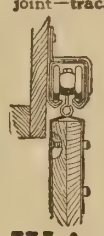
Fig. 15—Stanchion—with Cow-Proof Latch

¶ The craftiest old cow in your herd can't work this combination—two latches that must be squeezed at once, like the handles of a pair of pliers. Easy for the human hand but absolutely proof against horns. That's just one outstanding feature of this Porter single-chain-hung swinging stanchion. Interesting folder on request.



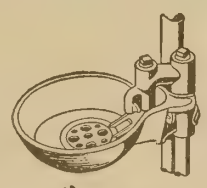
Columbian Double-Bead Steel Track

¶ All Porter litter carriers, feed carriers and hay carriers operate on this sturdy, one-piece track. Strongest built—carries 3000 pounds safely. Two set screws in the track coupling fit into notches in ends of track and make a tight joint—track can't pull apart.



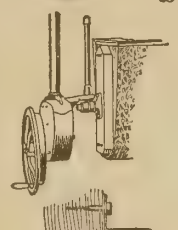
"Double-V"—A Better Barn Door Hanger

¶ The "Double-V" tread is an exclusive Porter principle, which reduces friction to the minimum and makes the track wheels run true. Roller bearing four-wheel trucks run smoothly and easily. Track is storm-proof, trash-proof and trouble-proof; keeps the trolleys dry and free from rust.



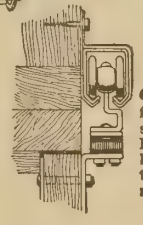
A Drinking Bowl That Won't "Wobble"

¶ There's a lot of satisfaction in a stall post connection that enables you to remove or replace each drinking bowl in an instant, yet holds it so firmly that it becomes a part of the stall when the connection has dropped in place. That's a Porter improvement—one of several distinctive features in this excellent automatic drinking bowl.



Porter "Geared" Hoist Litter Carrier

¶ The geared hoist principle is found only in Porter Carriers. It is remarkably simple and so designed that it combines power with speed in raising the loaded tub. Entire mechanism enclosed. We also make a chain-lift carrier.



"Straight-Away" Garage Door Set

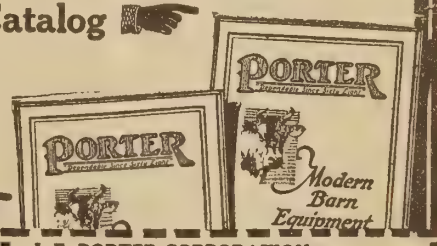
¶ The offset swivel eliminates the necessity for a curved track and lets the door fit snugly into the door opening—an exclusive Porter feature. Complete set, track, hangers, hinges, handles, latches and screws, comes to you in a single package—at a very moderate cost. It's worth investigating.

Write for The New Porter General Catalog

¶ It contains 144 pages of labor-saving, money-making barn equipment information and gives you all the latest developments in

Steel Stalls and Stanchions
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Everything for the Barn

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¶ A new Porter publication is now ready for the press—a book of valuable barn planning and barn construction information; treats the subjects of drainage, lighting, ventilation, roof construction and a score of other important subjects.

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To Lessen Loss of Cans

In an effort to lessen the losses of cans in the shipments of milk and cream in Ohio, a committee has been appointed which will seek to adjust complaints and to improve the service in returning cans to shippers. The committee appointed represents the Ohio Dairy Products Association and the several transportation lines on which milk and cream are shipped. A committee was appointed following a conference between representatives of the carriers and of the dairy association, following complaint filed by the Ohio Dairy Products Association before the Public Utilities Commission of Ohio against the Ohio carriers to require the issuing of waybills and receipts for shipments of milk and cream and the return of empty cans. The committee will hold regular meetings in different cities in the state and inspect the facilities for handling dairy products on the carriers to those cities. At these meetings the dairy interests in the localities are invited to attend the conference and to aid in correcting the evils of transportation service which are now alleged to exist.

Empire FEEDING MOLASSES
TRADE MARK REGISTERED
Makes milk. Quickens growth. Fattens faster.
Reduces costs. Write today for low price and No-Risk Trial Offer.
Chicago Molasses Co.
1131 East 77th St.
Chicago. - Illinois

Chance For Stock Man With $20,000 Cash

360 A. Finely Improved Stock and Dairy Farm in Central Michigan; prosperous, thickly settled neighborhood; near city with high school and state normal school; buildings alone worth $40,000; rich clay-loam soil. 240 A. in cultivation and meadow, balance blue grass pasture. Reliable men say this farm will make $35,000 per year clear profit as a stock breeding and dairy business. Trucks from two milk factories pass the farm daily. Worth $200 per acre; will sacrifice for $169. Will sell half interest to good stock and dairy man with $20,000 cash and give easy terms on balance. Will invest half the money needed to stock and equip the farm. Will make reasonable terms on entire farm. Address
HOWARD L. HYATT, Rooms 28-31 Swope Block
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6 Pairs Ladies' Cotton Lisle at..... 1.25
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Send money order, send correct size and color. We pay postage. Ask for our price lists.
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VETERINARY

Advice is given free in this department. Inquires must be signed by the writer, and should pertain to veterinary Matters only. Where an immediate reply and prescription are desired by mail, the inquiry must be accompanied by a fee of one dollar. In every instance it will be necessary to give a full description of the symptoms present.

Contagious Mammitis

Cows' udders often are permanently ruined for milk secretion by a malignant form of mammitis caused by germs and which tends to remain in a stable and infect cow after cow. Germs are the cause and the one most commonly to blame is the pus-forming micro-organism known as streptococcus. The disease is practically incurable and the infection is difficult to get rid of. Prevention, therefore, is of paramount importance.

There are several types of the disease, but an owner may take it for granted that the malady has invaded his herd when cases of incurable, destructive mammitis crop up one after another at every season of the year, but especially when the cows are stabled during the winter months. In one type of the disease boils form at the base of the teats and others follow when the first one has ruptured and healed. In some instances these boils do not at first cause any marked change in the consistency of the milk, but eventually the udder may become involved and lose its milk secreting function. It is much more common, however, for the disease to start from sores which form on the tips of the teats and interfere with milking. Scabs form on the sores over night and have to be picked off before starting to milk. This aggravates the condition and soon a milking tube is brought into service and unless the greatest possible care be taken scrupulously to cleanse and sterilize the instrument by boiling each time before use it will be certain to carry infection into the udder. That is indicated by a thickening of the mucous membrane lining the duct of the teat so that a hard core can be felt when the teat is rubbed between the fingers. When the disease infects the true mammary gland tissue (parenchyma) the condition corresponds to that present in a lung affected with pneumonia. Milk at once becomes whey-like and full of clots. Then pus forms and a muco-purulent fluid comes away, is brownish or even greenish in color and often has a foul odor. The gland tissue now loses its milk secreting function and tumor, scar, or cicatrical tissue gradually replaces gland tissue and may be felt as a hard lump. In many cases, however, abscesses form and discharge pus into the chambers and ducts of the udder or externally, and in some instances gangrene or death of the parts invaded results from the disease. This may quickly kill the cow or the affected part sloughs out, or has to be cut out by the surgeon. He may even find it advisable to amputate a quarter of the udder or the entire udder, that being a quite possible operation in such cases.

A severe attack of contagious mammitis is ushered in by all of the symptoms noted in our previous article on acute mammitis and treatment is practically the same as prescribed for that disease. The udder should be irrigated with a milk-warm 3 per cent solution of boric acid twice daily and milked out clean 15 minutes afterward. Campho-phenique should be rubbed in at first and mercurial ointment later. Treatment with mastitis bacterin should be given by the veterinarian. Affected cows must be isolated and the stables perfectly cleansed, disinfected, and whitewashed under supervision of the veterinarian, and should then be kept clean. Udders should be cleansed before milking with clean, dry hands, and where milking machines are used all parts must be sterilized after each milking. New bought cows should be quarantined until known to be free from disease.

Leaking Teats

Two years ago one of my heifers was troubled with an obstruction at the end of her teat. I opened it with a teat slitter and ever since when her udder fills up, it leaks steadily. Is there any known remedy for this?

Warren Ctr., Penn. F. R. P.

This trouble possibly may be remedied by immersing the teat for five minutes after each milking in a strong solution of alum. If not, then coat the end of the teat with melted wax or paraffin and if that fails, use flexible collodion.

Wart

1. Have a 2-year-old heifer that will calve in April. She has a very large wart on one of her teats. Is it possible to remove it before she makes much bag?

2. Have also a fresh cow, 8 years old, that has sort of a sack near or at the base of one teat and before beginning to milk it is hard but softens as I finish milking. It seems to be very sore of late as the calf sucks. Calf is three weeks old, but sack was there before she had this calf. It acts something like a rupture.

Wisconsin Rapids, Wis. G. W. A.

1. The wart may safely be snipped off with scissors if it has a narrow neck or will drop off after a time if tightly ligated with a fine cord. Rub the base lightly with a lunar caustic pencil if the wart starts growing again.

2. A little iodin ointment rubbed into the affected part of the teat every other day may prove beneficial, but a personal examination would be necessary to exact understanding of the condition present.

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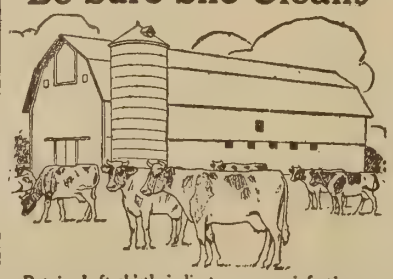
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How, When, and What of Soy Beans

(Continued from page 359)

Other tests are to be carried on this coming season with several varieties of soy beans, finding out more concerning the merits of certain varieties for hay crops. A small stemmed leafy plant is desired for hay purposes and I am confident that so far our medium Wisconsin grown beans come as near filling that requirement as any outside grown bean, but as yet we don't raise enough seed of these varieties to supply the demand. Many farmers have used the Mammoth Yellow soy beans for hay with results not at all satisfying because of lack of pods and quite coarse stems, but in the absence of a supply of other earlier beans, these were the best that could be had and gave a large supply of forage.

Until just recently some of our seedsmen were unfamiliar with varieties of soy beans and were just as likely to send out Mammoth Yellows for Ito Sans as not, or a late black or brown for early ones, so farmers have found accidentally that there are some merits to the more southern grown beans in adverse dry years on very light soil, in that quite a tonnage of green feed could be produced even though the plant had not even blossomed. Most farmers, however, like to have some pods form on the plants by hay cutting season, so these extreme late varieties do not meet with favor as well as those that set pods quite heavily.

For Silage Crop

What has been said of soy beans as hay will nearly suffice for the silage crop. If the soys are planted with the corn crop a variety that will grow well up with the corn is desired, and the little black many times does this. However, most farmers prefer planting a later variety, as Ito Sans or others in that class for this purpose. On Mr. Ristow's farm no difference could be observed between Ito San, Black Eyebrows, and Manchus. When planted in corn they all stood up about thirty-four inches. Also at Green Lake, Ito Sans seemed about four feet high in the corn, but in Waukesha and Juneau Counties in trial tests the Black Eyebrow and Greens seem to be far ahead of the Ito Sans. In some counties the Mammoth Yellows have been very popular as a bean to plant with corn, and until we can get more of our standard varieties it may take a regular place in our silage system. In our variety tests, however, the Mammoth Yellow showed up about the poorest of any of our varieties, the Mongol, Ohio 9035, Greens, and Haberlandt all being much better, while the Wilson, Ebony, Virginia, and many others had large tonnage, but had poor standing qualities and lodged quite badly.

It may be the best practice to plant soy beans by themselves and mix with corn at time of putting in silo, but in case they are planted with corn a separate attachment can be used on the planter to plant the beans, dropping two to four in each hill, or they can be mixed with corn, in which event the driver must stop occasionally and thoroughly mix the beans and corn. If corn is drilled in, beans can be dropped about as often as the corn. In many cases where help is available the beans are planted directly beside the hill with a small hand planter, the planting being done about the time the corn is just coming up.

Wisconsin farmers are finding that on light soils soy beans are winners every time. They find that on heavy soils nothing can be lost by planting them in with their corn or in some of the timothy meadows so as to have some real hay. Soy beans are a new crop though and it is only by actual experience that the needs of the crop can be learned.

Delaware Holstein Breeders Meet

The second winter meeting of the Delaware Holstein-Friesian Association was held last month at Winterthur Farms. Professor R. E. Hunt of Virginia discussed the work which has been done in that state with Holsteins. Professor T. A. Baker of Delaware called attention to the leading families of Holsteins and indicated that all of the well known families are descended from some particularly noted individual. Dr. W. G. Middletown reported the progress of tuberculosis eradication in New Jersey. A resolution was adopted protesting against any change in the existing laws of the state which provide for indemnifying owners of animals reacting to the tuberculin test.

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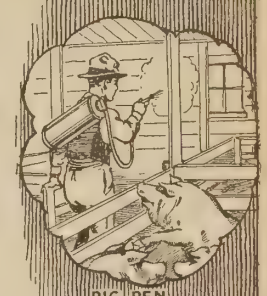
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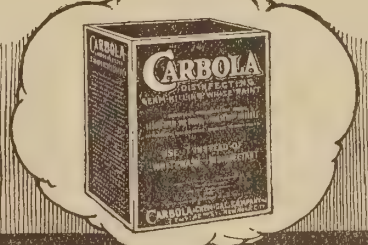
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High Grade Holstein and Guernsey calves. $25 crated. Safe delivery guaranteed. BROWN & COLLINS, Lima Center, Wis. 16*

Serviceable grandsons of Lola Segis Pontiac Homestead for sale, he a 34-lb., 1,000 lb. son of Piebe Laura Ollie Homestead King. Their dams are daughters of Joe Oak De Kol Fobes. Well grown, good individuals. Your choice, $150. R. W. MEAD, Stillwater, Minnesota. 10*

High Grade Holstein calves 6 to 8 weeks old, $30.00 each. We pay express and ship C. O. D. SPREADING OAK FARM, Whitewater, Wis. 11-tf.

For Sale—30 high grade Holstein milkers and springers. Will sell one or all. FRED JOHNSON, Waupaca, Wisconsin. 23*

Closing out herd of grade Holsteins, $100.00 each. H. A. KUHTZ, Waukesha, Wisconsin. 24*

For Sale—My entire herd of choice high grade Holsteins, mostly bred to and sired by thirty-pound bull. There is one full load of the best large heifers in southern Wisconsin, uniformly marked, about three-fourths white. C. L. SIMMONS, Belmont, Wis. 1*

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Holsteins—37-lb. herd sire, young bulls, cows, heifer calves. PHILIP LEHNER, Princeton, Wisconsin. 6*

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For Sale—A fine lot of Holstein bull calves from two to six months old, from two sires, both of which are from world's record dams. All of these calves are from tested dams. From $150.00 to $600.00. Send for extended pedigrees. PAUL REED, Oconomowoc, Wisconsin. 7-3

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Seven registered Holstein bulls of serviceable age sired by Carnation McKinley Korndyke whose two nearest dams average thirty-five pounds of butter and over 600 lbs. of milk in seven days. These youngsters are well grown, fine individuals, tuberculin tested with privilege sixty-day retest. FERGUSON FARMS, Dyersburg, Tenn. 9-2

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My entire herd of grade Guernseys for sale. Also a few choice heifer calves at $30.00 delivered. SHADY HILL FARM, Whitewater, Wis. 23*

Guernsey heifer calves. Can ship you 10 at once about 4 weeks old. Calves out of my own herd, so know what I am shipping. $30 each crated. F. O. B. Waukesha. WERN FARMS, Waukesha, Wis. 18*

Guernseys—All ages, both registered and grade. H. A. MAIN Sec'y, Jefferson Co. Guernsey Breeders' Association, Fort Atkinson, Wisconsin. 20*

Guernseys—High grade Guernsey calves, either sex, four to six weeks old, bred for production of milk and butter. Thirty dollars apiece delivered to any station, express charges paid here. Send orders or write. LAKE VIEW GUERNSEY PLACE, Whitewater, Wisconsin. 26-tf

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For Sale—Registered Guernsey bull calves, good producing dams at farmers' price. OTTO KRUEGER, 427 East Broadway, Toledo, Ohio. 24*

Guernseys for Sale—From Federally Accredited herd. Bull calves, two bulls ready for service, sired by Clara's Sequel and out of high testing dams. Also ten pure-bred females. LLOYD RUNDELL, Roberts, St. Croix County, Wisconsin. 26*

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For Sale—Two May Rose Guernsey bulls, age 4 months. Sired by Langwater Frenchman, a half brother Ne Plus Ultra. Dams' Advanced Registry records 710 and 660 lbs. fat. HOMER RUNDELL, Livingston, Wisconsin. 4*

STOCK FOR SALE

Registered Guernsey bulls and heifers. FAIRVIEW FARMS, Brodhead, Green County, Wisconsin. 2-9

For Sale—Registered Guernseys. Both sexes. Herd under Federal Supervision and free from disease. CLOVERNOOK FARM, Whitefish Bay, Milwaukee County, Wisconsin. 6-10

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Guernseys—Registered males and females, all ages. Breeding and type unexcelled. Grade cows, yearling heifers, heifer calves. No better quality anywhere. Tuberculin tested. Prices reasonable. Why not buy through an association and from breeders in the business to stay? Write your wants today. F. E. FOX, Secretary Waukesha County Guernsey Breeders' Association, Waukesha, Wisconsin. 6*

3 Registered Guernsey heifers for sale, coming two years old. Daughters and granddaughters Imp. Clara's Sequel and from A. R. dams. Bred December to Langwater Frenchman. Federal Accredited herd. HOMER RUNDELL, Livingston, Wisconsin. 7*

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Ayrshires—One registered bull 10 months old. Also choice grade heifer calves. ALBERT JAHNKE, Neenah, Wis.

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Brown Swiss bulls of serviceable age. A. C. BOODY, Hudson, Wisconsin. 4*

Pure-bred Swiss bull eighteen months old. Write for prices. D. A. WAGNER, Brimfield, Ill. 9-2

Jerseys—Fresh cows, bred heifers, heifer calves, one bull ready for service. L. R. KUNEY, Adrian, Michigan. 9-2

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Wanted—To buy for fall delivery, 25 heifer calves, 20 bred heifers and a few cows, all to be of the best registered Holstein strain that can be had. FRANK KOTE, care National Steam Laundry, Sherman, Tex. 8-6

Wanted—Lists of registered and grade Holstein cows and heifers for sale. Report to any bank in Wisconsin or write to BANKER-FARMER EXCHANGE, 1822 Chadbourne Ave., Madison, Wisconsin. 7-spl

Wanted—Carload or more registered Holstein heifers in exchange for first mortgage farm loans. EDWIN THORN, Binford, North Dakota. 9*

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Wanted—To buy fourteen head high grade Holstein cows. LAKELAND STOCK FARM INCORPORATED, 705 Pittsburg Bldg., St. Paul, Minn.

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Commission basis—One hundred and fifty head in our own herd for sale. Holstein and Guernsey, registered and grade. Large barns for centralizing and testing shipments of any size. Private yards for shipment. Every herd near here known by us. Write your demands. EDGEWATER STOCK FARM, Fort Atkinson, Wisconsin. 9*

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Baby chicks $12.00 per 100 up. Postpaid. Catalogue free. FARROW-HIRSH CO., Peoria, Illinois. 9-16

Baby Chicks—Barred Rocks, Wyandottes, Reds, White, Brown, and Buff Leghorns. From unusual, utility stock. Write for Circular—A. CHICKADIE HATCHERY, Fort Atkinson, Wis. 9-3

Hatching eggs—S. C. White Leghorns. "English Barron." Heavy laying strain. Quality stock, $7.00 100, $1.50 setting. MRS. A. B. STRAUB, Campbellsport, Wisconsin.

HORSES

For Sale—Belgium stallion bay 2,200-lb. 9-year-old or will trade for Guernsey or Holstein cows or heifers. W. C. WILLIAMS, Anderson, Indiana. 6-4

SEEDS

Farmers, ranchmen and dairymen. Order your Grimm and Cossack alfalfa seed direct from the grower. All seed recleaned and guaranteed. Ask for samples. WM. H. K. WILLIAMS, Triangle Ranch, Cottonwood, South Dakota. 26*

Jacques' Seed Corn—Early maturity, high yield, perfect germination. Grown in Clark County, North Wisconsin twelve years. My Golden Glow ripens in 100 days, yields 60 bushels shelled corn per acre. My North Wisconsin Yellow Dent ripens in 90 days, yields 50 bushels shelled corn per acre. Picked before frost, thoroughly fire dried. Careful tests show 98% to 100% germination. Money refunded if corn is unsatisfactory. Write for folder and prices to WM. H. JACQUES, Neillsville, Wisconsin. 1-13

Send for attractive price list of our select home-grown seed corn. Finest quality, several varieties. Fully guaranteed. Largest trade in Northwest. JOHNSON & ARNESON, Dassel, Meeker County, Minnesota. 3*

Seed Peas—Buy Northern grown Canada field peas direct from the grower, cleaned ready for seeding, 1,000 bu. for sale, 1 bu. $3.00; 2½ bus. $7.00; 5 bus. $12.50; 10 bus. or more at $2.25 per bu. Sacks included. Send for sample or order direct from this ad. L. P. MARTINY, Chippewa Falls, Wis. 4*

New Advance Wisconsin Pedigree barley, Iowa and other leading oats. Pure seed. Write for circular. KRUEGER'S SEED FARM, Beaver Dam, Wis. 4-6

Clovers, alfalfa, free from weeds. Soy beans, kiln dried corn. Everything guaranteed. HENRY MICHELS, Fond du Lac, Wisconsin. 5-5

State Fair. Sweepstakes clover seed, pedigreed barley, oats, corn, wheat, timothy, alsike, alfalfa, potatoes, flax, sweet clover, soy beans, peas. Write for prices. ARTHUR POPP, Jefferson, Wisconsin. 6-4

"Hoico" ensilage seed corn, extra early, grows tall, leafy and full ear. Write for prices. HOLMES-LETHERMAN, Canton, Ohio. 7-3

Morse Soy Beans. 100 bushels good quality. ROY GUYER, Linncus, Missouri. 7-3

Pure, scarified, white blossom sweet clover, $15.00 per cwt., sacks included. FRANK DOBMEIER, Grand Forks, North Dakota. 8-2

For Sale—Albemarle Prolific Ensilage Seed corn. Wonderfully high producing ensilage, stalks 12 to 18 feet tall, well bladed, 2 to 7 ears of corn to the stalk; 12 to 20 tons of ensilage to the acre. High germination test. Price on request. E. L. GOSS, Somerset, Virginia. 5-spl

Seed Corn—5 best varieties 98 per cent germination $2.90 per bushel; timothy, bushel, $3.75; clover, $14.90; sweet clover, $8.90; clover and timothy, $4.75 per bushel. Bargain list free. BECKMAN'S SEED FARM, Cokato, Minn. 9-3

New cold-resistant Early Golden Glow seed corn for the north and higher altitudes. Finest quality Wisconsin No. 7 and No. 1 oats. New Advance Pedigree barley. Bright, clean timothy seed. Medium Red and Mammoth clover. Genuine Grimm alfalfa. It will pay you to secure my samples and prices before buying. NOYES RAESSLER, Beloit, Wisconsin. 9*

DOGS

German Shepherd, airedales, collies, and old English Shepherd dogs. Brood matrons, puppies, farm helpers. 10 cents for instructive list. W. R. WATSON, Box 520, Oakland, Iowa. 20*

Shepherd Pups—Heel working parents. FAIR OAK FARM, Norwood, Minnesota. 5-6

SWINE

Duroc-bred gilts and boar. Prize winners. PHILLIP LEHNER, Princeton, Wisconsin. 5*

LIGHTNING RODS

Lightning Rods—Exclusive agency and quick sales to live dealers selling "Diddie-Blitzen Rods." Our copper tests 99.96 per cent pure. Write for agency. Prices are right. L. A. DIDDIE CO., Marshfield, Wis. 9*

WANTED TO RENT

Wanted—To rent good farm near Bloomer, Wis., on 50-50 basis, owner to furnish stock and part of the machinery. Renter must be hustler, a good feeder and be able to produce results from cows. For further particulars write A. J. MARTIN, Bloomer, Wis. 9-2

EXCHANGE

Wanted—To exchange 50 acres river bottom alfalfa land in ideal fruit and dairy section of California at $10,600—3,000.00 down—for small farm in central states as second payment. R. W. SHARP, 601 N. Fourth St., Fresno, California. 2*

Wanted—First-class dairy cows in exchange for eighty acres irrigated land on famous Sun River Project. ELMER LEPP, Eden, Montana.

FARMS FOR SALE

Dairy Farms—Clark and Taylor Counties, Wisconsin. Good soil. Send for list of farm bargains. OWEN REALTY CO., Owen, Wis. 9-5

Cut This Out—Learn today how settlers with farming experience can get new made-to-order dairy farms with buildings, stock, tools, etc. First payment $300, balance 30 years. Location famous Chippewa Valley, heart of Wisconsin. Close neighbors, markets, railroads, schools, creameries, best soil, pure water. Greater opportunity than homestead. Several farms ready to move on now. Send today for free information. CHIPPEWA VALLEY COLONIZATION CO., A C-201 Plymouth Bldg., Minneapolis, Minn. 9-2

Improved and unimproved farms in southern Aitkin County. 20,000 acres of beautiful lands, well located and cheap. List free on request, also details of famous "Land Service," which puts homeseeker on his feet. A great chance. Write ERNEST O. BUHLER, McGrath, Minn. 9-4

"Made-to-order" Farms. 30 years' time. Send for free booklet. WISCONSIN COLONIZATION CO., Box G., Ojibwa, Wisconsin.

120 acres, Waukesha County, thirty miles from Milwaukee; good clay soil; good house, basement barn, new cement silo; stocked with high grade Holsteins, two span of horses; full set of farm machinery. GEO. W. ADAMS CO., 330 Caswell Block, Milwaukee, Wis.

A money making equipped dairy and general purpose farm. 160 acres very productive level clay loam land. Overlooks Little Traverse Bay. Only 2 miles to modern city of 7,000 population. Good house, furnace heat. Fine orchard, telephone, mail delivery. Two large barns, one with full basement, other buildings. Neverfailing spring brook in pasture. Milk sold at door for 8 cents per quart. A money maker. Price $16,000.00, easy terms, including cows, horses, hogs, etc., and complete farm equipment. Plenty feed and seed. Write direct to owner, get full description and photos. MEADOW BROOK FARM, Route 1, Petoskey, Michigan.

For Sale—My dairy farm without equipment, four miles from this splendid city, improved road, wood, orchard, hydraulic ram, seven-room residence, several out buildings. Milk, active, eighty cents gallon. 110 acres at $100 per acre. RICHARD COATES, Danville, Virginia.

Look—On account of sickness, I offer my beautiful dairy farm for sale, located near Grand Rapids, Mich., 108 acres, new barn with cork brick stalls, running water, holds 40 head, also horse and young stock barn with granary, milk house, 3 large tile silos, grist mill, electric light plant, chicken and hog house, large tool shed, corn crib, and large 8-room house, clay loam soil. Price $20,000. Easy terms. GEO. E. WALKER, Grand Rapids, Michigan. 9-2

Real Bargain—76½ acres including 24 cows, 4 registered, 3 horses, 4 pure-bred sows, full line machinery; good buildings, deep rich clay loam soil; 12 miles from Milwaukee; ideal stock farm, excellent location, don't miss this. D. H. UTTER, Lake Beulah, Wisconsin.

FARMS FOR SALE

Farms, ask French if he has what you want. Write him and state your wants. Reference any bank here. J. R. FRENCH, Cortland, N. Y. 24-13

Landology special number just out, containing 1921 facts of clover land in Marinette County, Wisconsin. If for a home or as an investment you are thinking of buying good farm lands where farmers grow rich, send at once for this special number of Landology. It is free on request. Address SKIDMORE-RIEHLE LAND CO., 47 Skidmore-Riehl Bldg., Marinette, Wisconsin. 25-12

Rose Valley Farm—137 acres; 17 miles macadam roads to City Hall, Philadelphia; owner's residence, electric lights, hot water heat, open fireplaces; beautiful lawn and shade; extended view; large stable and carriage house; modern cow barn, 48 head; tenant houses; purest water in abundance; all necessary buildings; macadam roads each side and through farm; $50,000 less than cost of buildings. FARM 2024 N. 10TH ST., Philadelphia, Pa. 26*

Free Wisconsin Bulletins, soil, climate, crops. IMMIGRATION BUREAU, Wisconsin Dept. of Agriculture, Capitol Drawer 125, Madison, Wisconsin. 26-13

Hardwood cut-over land, silt loam, clay sub-soil. Neither sandy nor gravelly; close to town; good roads; good schools; in the heart of the dairy country. You deal directly with the owners. No agents and no commissions. Easy terms. Also improved farms. Write for map and Booklet No. 4. NORTH WESTERN LUMBER CO., Land Department, Stanley, Wisconsin. 1*

For Sale—165-acre farm, 30 cows, fine buildings; on macadam road, near city; $16,000, $2,000 cash, balance 5%. CHAS. PETERS, Castle Creek, N. Y. 5*

New York State dairy farms for sale. Fully stocked. Fully equipped. Catalogue free. HILLIS FARM AGENCY, Hobart, Delaware County, N. Y. 7-6

For Sale—200-acre well improved farm in finest location, full set of new buildings, all fenced, half in cultivation, 75 acres clover; stock, crop, good machinery, $24,500.00. Owner FRANK NOVACEK, Route 2, Wheeler, Wisconsin. 7-3

160 acres 2 miles from Wisconsin town of 1,000 population. 80 acres cleared, part plowed; fine pasture, good heavy clay loam soil, no sand or pine, lot of maple timber; on state R. F. D. and telephone line; new buildings worth over $9,000.00. Will include 35 head high grade Holstein cattle, 14 cows, pure-bred bull, rest heifers up to 2 years old, good heavy team, all new machinery, 50 hens, tools, feed, etc., for $28,000. $5,00 cash, rest at 6% long time or take smaller farm, clear wild land, good income property, or pure-bred Holstein cattle as part payment. What have you? Address BOX 668, care Hoard's Dairyman. 7-3

Clover, alfalfa sugar beet prairie. Owner's price, easy terms. Submit trades. GESELL, Thief River Falls, Minnesota. 7-4

Cloverland Bargain—Improved 154-acre farm for sale. 90 acres clear and under cultivation. The balance in pasture land, of which most can be cleared. Soil, clay loam mixed. Springs and running water on all land, also city water in all buildings. Electric lights in all buildings. Modern 10-room brick house, with all conveniences. Large cattle barn with 160-ton silo. Room for 50 head of cattle. New modern hog house, 30x60. Room for 100 head of hogs. Hay barn with basement, 30x40. Large repair shop. Garage. Poultry house. All of the above land is fenced and cross fenced, and is located just 1½ miles north of the city of Norway, Michigan, population about 5,000, and nine miles from Iron Mt., Michigan a city which is predicted to become the Detroit of Cloverland. Large Ford plant now under construction. This farm must be seen to be appreciated. Must sell as I cannot attend to same. Write U. F. ASSELIN, Norway, Michigan. 8*

For Sale—130-acre farm 1½ miles to town and New York Central depot. All state road, high school, churches and milk station. Soil gravel and sandy loam. Plenty of good water. Good house, barn and silo. Large maple orchard. Sightly place in Montgomery County, New York. Price $5,500. $1,000 down and the balance in mortgage. Address (Owner), A. W. SNELL, Syracuse, N Y. 8-3

For Sale—2,000 acres fine hardwood timberland, birch, white ash, maple, white pine, spruce. Sawyer County, Wisconsin. Logging would pay handsome profit. Land delightfully situated for stock ranch. Two trout streams, six springs. Also 130-acre dairy farm, buildings new, on lake shore in Barron County. M. B. MARVIN, Freeport, Illinois. 7-spl

One good move will make your fortune in wealthy western New York. Fine farms cheap. NEW YORK FARM AGENCY, Westfield. 2-spl

Big farm bargain in New York. 396 acres. Fine land. Big crops. Good buildings. Forty cows, four horses, machinery, hay, grain, everything goes for $17,000.00, $7,000 gets possession. U. G. DAVIDSON, Route 1, Oneonta, New York. 5-spl

Happyland in Upper Wisconsin offers greatest year 'round profits. Here is America's Cloverland—wonderful dairy country. Crops always big. Plenty of rainfall. Good water, lakes and rivers everywhere. Fine, seasonable hunting and fishing. Splendid roads. Congenial neighbors. Schools, co-operative societies and churches. Healthful climate. Large cities nearby. Terms easy—small cash payment—balance in ten years. We help you locate and prosper—show you how to build a home and clear land. You can make good money and enjoy ideal living conditions while paying. Be independent for life. Write for free booklet "A Farm and Home in Happyland." Gives complete information and U. S. Government certified figures on crops, soil, rainfall, and climate. EDWARD HINES FARM LAND CO., 1313 Otis Bldg., Chicago. 1-spl

Good dairy farms in the fertile Mohawk Valley. TURTELOT, Frankfort, New York. 9-5

Virginia offers wonderful opportunities to farmers. Best of markets, crops and climate. Write for particulars, act at once. J. J. WATESEK, Lake Forest, Illinois. 9-2

When you buy land buy the best. We have choice hardwood land in one of the very best sections of Central Wisconsin for sale on easy terms. Best of clay loam soil. Good roads, climate, water and markets. No rough, stony or sandy land. Write for information. JOHN S. OWEN LUMBER CO., 112 Mill St., Owen, Wisconsin. 9-8

$1,400 secures 210 acres with horses, 25 dairy cattle, and modern machinery, produce, etc.; buildings estimated worth $8,000; income last year $5,000; wood and timber to nearly pay for all; convenient all advantages; 100 acres machine-worked, 3 tons hay, 350 bushels potatoes, 125 bushels corn to acre; apple orchard; equipped sugar grove; fine 9-room house; 100-foot barn, etc.; prosperous owner wishing to retire, sacrifices; $6,500 gets everything; easy terms. See page 32 Spring Catalog 1,100 bargains. Just out Free. STROUT AGENCY, Manning Chambers, Toronto, Canada, 150DL Nassau St., New York City.

300 Acres—One mile outside city; 60 acres woodland—rest tillable. 18-room house with all improvements. Tenant house, large horse and cattle barns, all in good repair. JAMES H. SHAMAN, Glens Falls, N. Y.

200-acre dairy and fruit farm, near Cornell University and good markets. Good buildings, 15-acre apple and pear orchard, very productive soil. One mile from village and state road. J. T. TUPPER, West Danby, N. Y.

Delaware County farm, 310 acres. Ninety head cattle, 3 heavy teams. $11,000 milk yearly. No agents. With stock and equipment, $25,000. LEE P. GRANT, Bloomville, N. Y. 9-2

For Sale—404-acre splendid dairy farm 3 miles from city Oneonta, 300 acres clear fields, 100 black loam bottom, 10-room dwelling, fireplace, running water, main stock barn, 40x80, silo, garage, wagon house. Tie up main barn 60 head, will carry 60 milkers. Price $12,500, cash $5,000. CAMPBELL BROS., Oneonta, N. Y.

One large farm 400 to 600 acres, all or part under plow. Must have good buildings and be fully stocked. WALTER MILLER, 320 Brumder Bldg., Milwaukee, Wisconsin.

PARTNER WANTED

Partner Wanted—Experienced dairyman with own help, good business man with some money, to take charge of 200 acres good land, with plenty of good houses, pastures with plenty of cold spring water, within ten miles of Atlanta. Good proposition with rare opportunity—would sell half interest to right man. MARCUS L. BROWN, P. O. Box 375, Decatur, Georgia.

Dairyman wanted for a partner. We will start in business June 1st with 50 cows or more. We want a man who understands business thoroughly and who will have enough money to invest in half of the milk cows and manage the business. We have an irrigated farm of 1,500 acres five miles from the city of Albuquerque, 300 acres in cultivation. Two silos, 1,000-ton capacity, water works, sheds and corrals. On Ocean to Ocean Highway. Paved road to city of Albuquerque. Milk selling here now at 50c gallon wholesale; 80c retail. Seven residences for manager and working men on place. Horses, tractors, wagons, and all farming machinery necessary for cultivation of the land. Ideal place for 300 milk cows with big demand for milk. Write for further details and if interested it will pay you to come and investigate. References First National and State National Bank of Albuquerque, New Mexico. FRANK A. HUBBELL COMPANY. 9-4

MACHINERY

Want the cheapest, handiest belt power? Then ask me about my Little Twister Power Transmitter for Ford and Dodge cars. FRANK R. WEISGERBER, Salina, Kansas. 16*

For Sale Cheap—A small lot of standard make Swedish Cream Separators, 400 pounds capacity, $29.-00, 500 pounds capacity, $34.00, 700 pounds capacity, $39.00. These are all new machines, wonderful bargains. THOMAS TAFFEE, Box 355, Lansing, Mich. 18*

For Sale—Or will trade for dairy cows—one two-cylinder forty H. P. Case tractor, eight roll McCormick shredder, fourteen-inch Climax silo filler. L. A. ABBOTT, Dover, Minn. 8-3

Higman Milker, two-unit, complete for 20 cows. Price $75.00. First check for $25.00 takes it. Balance on delivery. SLOMAN BROS., Pawnee, Ill.

Empire double unit. Perfect condition. New rubber parts. Cost $145.00. $60.00 takes it. W. MORCK, 2531 Grand Ave., Minneapolis, Minnesota.

For Sale—Hinman Milker 2 units, complete to install, extra pail, teat cups, etc. Price $100. NELS STEPHENS, Scarville, Iowa.

Have two Fond du Lac Ford tractor attachments. Want to sell one, good order, price $70.00. My 9-year-old boy put all my corn and beet land in shape with one of these attachments last year and thought it a picnic. A. CHAS. INNES, Route 1, Zion City, Illinois. 9-3

For Sale—Sharples Milker, 2 single units and pump. Perfect condition. Used four months. $150.00. C. L. MOORE, R. D., West Chester, Pa.

For Sale—Six-unit Hinman Milker, complete—$150.00. F. O. B. Russell, Ill. MURRIE BROS. JR.

Hinman Milking Machine, two units with extra pail, stall fixtures for 12 cows, in good condition. First check for $75 takes it. S. L. WEST, Pleasant Hill, Ohio.

For Sale—Four unit Sharples Milker. Cheap. WALTER BOSSELMAN, Bassett, Wis.

Our inexpensive pneumatic fuel pump enables the farmer to fill fuel tank on tractor or auto with hose from steel or wood drum or large storage. Prevents dirt, water, etc., from entering fuel. Comes by parcel. Write for circulars. BUCKEYE CO., Thornville, Ohio.

Three-unit Hinman Milker, complete 160 ampere Delco battery. Three Delco motors. All good as new. D. OFFRINGA, Ames, Iowa.

Wanted—Small bottling machine, bottle washer and washing vats. Must be in good condition and cheap for cash. GUY BARBO, Lenora, Kansas.

HAY

Alfalfa and prairie hay for sale. Prompt shipments. Personally inspected loading. Wire or write GUNN HAY CO., Lexington, Nebr. Reference Lexington State Bank. 11*

Number one and choice alfalfa hay and seed ready for shipment. Address A. L. DAMON & COMPANY, Inc., Rapid City, South Dakota. 8*

Alfalfa Hay for Sale—Write or wire for delivered prices. ALBERT MILLER & COMPANY, 192 North Clark St., Chicago. 17*

Hay for Sale—Any kind in carloads. Can furnish choice alfalfa. GEO. L. FREDERICK, Beaver Dam, Wisconsin. 7-3

Alfalfa—Baled and ready for shipment. Write for bargain price delivered. MATH MICHELS, Fond du Lac, Wisconsin. 8-3

FEEDS

For Sale—Mangle cattle beets, carload lots. Ask for quotations. JOHN L. SCHULTZ SONS CO., INC., Syracuse, New York. 6-4

Molasses—Richest feed, lowest cost. Write for special price. CHICAGO MOLASSES COMPANY, 1131 East 77th St., Chicago, Illinois. 25-spl

FEED BAGS

Ship your bags to LARIMER BAG CO., Washington, D. C. 11-spl

TOBACCO

Homespun Tobacco—10 pounds, $3.00; 20 pounds, $5.00; 100 pounds, $20.00. FARMERS' UNION, Mayfield, Kentucky. 6-4

Tobacco—Kentucky Natural Leaf, mild smoking. 10 lbs., $3, 20 lbs., $5 prepaid. DORON FARMS TOBACCO ASSOCIATION, Mayfield, Ky. 9-2

SILOS

12x24 Washington Fir Kalamazoo stave and tile silo. Kalamazoo ensilage cutter. ALBERT C. WOLLIN, Johnson Creek, Wisconsin. 5-spl

BUSINESS OPPORTUNITY

Wanted—Buttermaker with two or three thousand to invest, and ability to manage small creamery in growing community. Send full information age, salary, experience. FIRST STATE BANK, Lyford, Texas.

CREAMERY WANTED

Wanted—A successful creamery man with years of experience, and also capital, is looking for a creamery opening. Prefer a town of 20,000 to 40,000 population. Might consider executive position with large, responsible concern but prefer to own business. Address giving particulars, K. C. ELDRIDGE, (Personal), Medford, Oregon. 9-3

AGENTS WANTED

Yes Sir, we have a special opportunity for you during spare time, an opportunity to do some good work in your neighborhood, for the betterment of dairy farming, that will pay you in cash for the effort you put forth. Write for our "Special Opportunity Getting Together" folder. Address HOARD'S DAIRYMAN, Fort Atkinson, Wis. 2-tf

Agents make big money selling our silos. Write today for catalog and big commission proposition. NAPPANEE LUMBER & MANUFACTURING CO., Nappanee, Indians. 3-spl

Agents—Mason sold 18 Sprayers and Autowashers one Saturday. Profit $54.00. Square deal. Steady work. RUSLER COMPANY, Johnstown, Ohio. 3-spl

STANCHIONS

Crumb's Stanchions are guaranteed to please the purchaser. They are shipped subject to trial in the buyer's stable. They are right. Send for booklet. WALLACE B. CRUMB, Box H, Forestville, Conn. 2-10

TANNING

Let us tan your hide: Cow, horse, or calf skins for coat or robe. Catalog on request. THE CROSBY FRISIAN FUR CO., Rochester, N. Y. 1-52

PRINTING

Hoard's Dairyman Art Department designs your letter head free. Just tell us your breeds of stock. Book of 5,000 Farm, Ranch and Cottage names 25 cents. Ask for samples of letter heads, envelopes, shipping tags, cards, milk tickets, etc. Poor stationery is more of a damage than a help. Be sure and give correct post office address, including state. Address HOARD'S DAIRYMAN, Art Dept., Fort Atkinson, Wisconsin. 8-tf

MISCELLANEOUS

Wanted—Railway mail clerks. $135—$195 month. List positions free. FRANKLIN INSTITUTE, Dept. J 115, Rochester, New York. 8-4

For Sale—Hedge posts, carlots. E. W. MELVILLE, Eudora, Kansas. 9-2

Pure maple syrup direct to consumer, $13.50 six-gallon case. E. L. NEWBERRY, Chardon, Ohio. 9-2

Abortion—As breeders and dairymen we are now ready to give out information of real value on abortion; our success from years of study and experience in a number of herds. Send stamped envelope for particulars. CRANE FARMS, Zionsville, Ind.

Landscape gardening. Arrangement and beautification of farm buildings. Graduate landscape architects at your service. FRANK M. EDWARDS, Landscape Architect, Fort Atkinson, Wis. 9-11



Advertising in this department is 7c per word. Remit in advance.

HELP WANTED

Wanted—Married man for small dairy farm and orchard at Bayfield, Wisconsin. Write J. DAVID SMITH, Albia, Iowa. 4*

Wanted—Good calf raiser and feeder. Must thoroughly understand feeding calves. PAUL DAHLKE, Austin, Minnesota. 7-3

Wanted—Working herdsman and farm manager, sober, capable, and reliable, to take charge of dairy farm and registered Guernsey herd of forty animals, some on A. R. test. Must be married, wife willing to board some help, and both not afraid of long hours. Give full particulars including training, experience, age, habits, size of family, references and salary expected in first letter. No socialist or cigarette gentleman need apply. E. S. PERSON, Minot, N. D. 7-4

Wanted—April 1st, a good single herdsman, one with experience in A. R. work to take charge of herd consisting of about 45 head registered Holsteins. Must have experience in milking test cows, balancing rations, be a good calf raiser and come well recommended. Best wages to right man who will have complete charge of herd. Address BOX 678, care Hoard's Dairyman. 7-4

Wanted Women—Become dress designers. $45 week. Learn while earning. Sample lessons free. FRANKLIN INSTITUTE, Dept. J982, Rochester, N. Y. 8-4

Wanted—Working dairy farm manager, preferably with own help. Must be expert in care and feeding pure-bred Holsteins for maximum milk production and raising heifer calves. Farming consists of cultivating necessary crops to feed herd. Acreage 225. Herd fifty to sixty head. Buildings and equipment modern and up-to-date. Near Chicago. Address C. E. DAVIS, 305 South State St., Chicago, Illinois.

Wanted—At once, maids at Wisconsin School for the Blind, Janesville, Wisconsin. 8-3

Wanted—A reliable man to take over our small heavy milking herd Holsteins. Pure-bred and grades headed by one of the best bulls in the state. Top notch herd big type Poland China hogs. Full equipment, new modern machinery. Small cash payment, balance long time. Farm has good buildings, new silo. Cheap rental. A real opportunity for the right man. Address BOX 681, care Hoard's Dairyman. 8-2

Wanted—Man or good strong boy for general farm work. State age, wages, experience. Steady position. RIVERVALE FARM, Nashotah, Wisconsin. 8-3

Wanted—Married herdsman to take charge of small herd of Jerseys and Holsteins. Milking machine used. State experience, references and wages desired. RAY McCAULEY, Hicksville, Ohio. 8-2

Wanted—Single, young man to work on Holstein farm. State experience, wages and references. No cigarettes. J. H. PESTER, Whitewater, Wis. 8-2

Wanted—General dairy farm hand. Must be good milker and have general knowledge of farm and milk-house work. Must be a hustler and willing to do anything. Hours about 4 a. m. to 5 p. m. Steady job. Room, board and washing. State full particulars and wages expected. Remember the war is over and everything is down and going lower. JOHN W. HARMS, 6 Miles Post, White Bluff Road, Savannah, Ga.

Herdsman Wanted—Competent of producing high grade milk; feeding for R. of M. and successful calf raiser. Jersey herd bred for production. Only worker with brains and experience wanted. THOMAS DYER, Springfield, Massachusetts.

Married couple to work on small dairy farm. Write for particulars. W. H. PARKER, Sauk Center, Minn.

Wanted—Married man and wife to work on farm. Must be experienced and both willing to milk. Please state wages. LOCK BOX NO. 8, Barneveld, Wis.

Single man wanted on dairy farm, for general farm work. Pure-bred Holsteins. State experience and wages. Address BOX 691, care Hoard's Dairyman.

Wanted—Strong, elderly, experienced couple to work on farm. No children. Everything furnished. State wages, also give reference. H. WOLF, Sun Prairie, Wisconsin.

Wanted—Experienced herdsman for registered Holstein-Friesian herd where A. R. O. work is done. Give references and salary expected in first letter. SERRADELLA FARM, Oscoda, Michigan.

Wanted—An experienced man for general farm work at once. State wages in first letter. ROY F. LYNCH, Barneveld, Wis.

Wanted—Herdsman, single. Entire charge. Modern equipment. 25 cows, Jerseys. Apply, stating salary. Maintenance furnished. N. DAK. TUBERCULOSIS SANATORIUM, Dunseith, N. D.

Wanted—A man to do chores, gardening and odd jobs. Give experience, age and wages in first letter. A. B. HAWKINS, Cascade, Iowa. 9-2

Wanted—Married herdsman, who is willing to work and produce results on seven-day and semi-official work, to take charge of Holstein herd. Address BOX 687, care Hoard's Dairyman.

Wanted—Housekeeper for two bachelors on farm. Must be neat and good cook. State all particulars in first letter. BOX 652, Bloomer, Wis.

Wanted—An experienced farm hand, sober and reliable. EARL J. BRAY, Elkhorn, Wis.

Wanted at Once—Married couple without children for work on farm. Wife to have charge of house. State ages, experience and wages expected in first letter. JAMES HAIGHT, Poynette, Wis.

Wanted—Reliable and steady man and wife on 120-acre farm 6 miles from Racine (no children). Man must be experienced farmer and understand feeding and breeding of stock. Good wages. Give references and state if Protestant. Address BOX 688, care Hoard's Dairyman.

Wanted—A good milker to do some general farm work in addition to milking Guernsey cows. Give experience and wages expected in first letter. BROWNELL BROS., Grand Meadow, Minn.

Wanted—First class dairyman to work under herdsman. Must be good milker and calf feeder. Give references and state wages expected first letter. Address STATE SCHOOL AND HOME, Redfield, South Dakota.

POSITIONS WANTED

Superintendent dairy farm wishes position. Practical, scientific, energetic, good habits. I can make the farm pay, if you furnish feed and things needed in general. Can grow calves to bring real money and keep herd in the best possible shape. Salary with share of profit or straight salary. Mention same when writing, also full particulars as to location and general surroundings. Prefer good Christian home, must have good room. Not over particular but wish to be with real people who appreciate a man who works for their interest. Can come any time. Address BOX 690, care Hoard's Dairyman.

Superintendent, college graduate. Married. Open for position. Thoroughly experienced in constructive farming and stock raising, dairying, A. R. O. work. Only large proposition where results are appreciated. Address BOX 664, care Hoard's Dairyman. 7-3

Energetic married man wishes position as farm manager or herdsman. Experienced stockman; can operate tractors, etc. State best proposition in first letter. Illinois or Central States preferred. Address BOX 685, care Hoard's Dairyman. 8-2

Farmer, single, 45, would like permanent job on farm owned by a woman, anywhere. Temperate, agreeable. JOSEPH T. PROCTOR, 51 Bank Street, Stamford, Connecticut. 8-2

Position wanted as farm foreman on dairy or general farm by graduate of Wisconsin Agricultural School. Can furnish best of references if required. Address MORRIS SHEA, Campbellsport, Wis. 8-3

Position Wanted—Married man, experienced dairy farmer, semi-official testing, crops, machinery. Good habits, capable of taking charge. Would consider position calf raiser on large breeding farm. Wife willing to board two or three men. Minnesota, Iowa or Wisconsin. State full particulars and salary. Address BOX 680, care Hoard's Dairyman. 8-2

Position Wanted on dairy farm or private place. First-class farm and dairy hand, vegetable gardner, automobile and truck driver and a fair mechanic. Understand the care and feeding of all kinds of stock, dry hand milker. Married, two children. Wife is first-class buttermaker, good with chickens and A-1 housekeeper and cook. E. S. PORTS, 54 Church St., Clifton Forge, Virginia.

Position wanted by experienced herdsman and farmer. Agricultural school graduate. Married. State particulars and salary with allowances. Address BOX 693, care Hoard's Dairyman.

Position wanted by single, middle aged man to care for cows, good with calves. D. G. CROWLEY, Camillus, New York. 9-2

Position wanted as dairyman for some large farm. Eleven years' experience as pure-bred dairy herdsman. 28 years old. Best references. T. B. DRIVER, R. 3, White Hall, Illinois.

Wanted—Position as farm superintendent, agricultural graduate. Always lived on farm. Prefer stock farm. Address BOX 686, care Hoard's Dairyman. 9-2

Experienced tractor mechanic and operator familiar with general farming, poultry, and dairying, desires position on modern farm in United States or Canada. References. HARRY PRICE, Chambers Prairie, Wash.

Experienced dairyman, age 36 will handle modern dairy farm on percentage, or salary. State full particulars. Southern states given preference. Address BOX 114, Ranson, West Virginia.

Working Manager—Available on three weeks' notice. Protestant, married, age 29, college graduate, life experience, farm accountant, know farm management, feeds and feeding, live stock management, soil fertility, skilled with motors and machinery, I can manage the labor problem. References given and required. Middle west. Write BOX 689, care Hoard's Dairyman.

Official cow tester. Experienced, Southwest preferred. Inquire PROF. IVERSON, Dairy Dept., Ames, Iowa.

"It Might Have Been"

HOARD'S DAIRYMAN:—Such were the feelings of all true Idahoans when the recent world's record of Segis Pietertje Prospect No. 221846 was announced. Not that we begrudged any praise to the cow herself or to Mr. Cockerell or to the Carnation Farms. All deserved great credit for the truly marvelous performance of the wonderful cow. Nevertheless the feeling of regret still remains and cannot be entirely downed for Segis Pietertje Prospect is an Idaho product. On the farm of George V. Leighton of Boise, Ida., on April 10, 1913, she first saw the light of day. Not only that, but to Mr. Leighton belongs the credit of breeding her. It was in his herd that King Segis 10th No. 71153, who bids fair to be hailed as one of the great Holstein sires, was used. This bull of good individuality and exceptional quality weighed well over a ton. More important than individuality of the bull, is the type that he impresses upon his offspring. In this regard, King Segis 10th was markedly successful, his daughters being of excellent quality, large, and milky. While unfortunately too many of his offspring have left Idaho there still remains a sprinkling. A son or two are in service, one at the head of the dairy herd at the Caldwell Substation of the University of Idaho has been very successful although only used on grade cows. At the University dairy herd at Moscow a double grandson, a son of Matador Segis Walker, perhaps the most famous son of King Segis 10th out of a daughter of King Segis 10th, was formerly in service and has left a very promising group of heifers which are now on official test.

There are always regrets in life and Idaho regrets that the record that will be heard around the world should not have been made in the state where the champion was bred. We take off our hats to Washington in the making of records, but you see we can still feel pride for our breeding makes it possible.

Idaho. H. P. DAVIS.

Recent Jersey Importations

B. H. Bull & Sons of Canada and W. R. Spann & Sons of New Jersey have recently received a consignment of 99 head of Jerseys from the Island of Jersey. Among those received by the Canadian farm was Jersey Volunteer, which won second on the Island of Jersey in 1920 with his progeny, being judged by five daughters in milk. Ten head of the Spann shipment are daughters of Golden Fern's Noble and seven others are daughters of Fern's Oxford Noble, making up some of the best specimens of the Noble family imported to the Spann Farm.

Uncle Ab says that the world would be about one hundred per cent better if the time spent in gossipin' were put on the readin' of good books.

For Sale—260-acre stock farm, ideally located extensive buildings. Estate will consider renting for cash, or on shares to practical stock-breeder-farmer with herd, or means to join in purchase of.

Wanted—50 A. R. dairy cattle and 50 pure-bred milking Shorthorns or Herefords.

Will Sell—Mammoth bronze turkeys, vigorous wild strain foundation stock out-cross White-Leghorn (Super-Layers) poultry plant.

Address full particulars, references in first letter to ESTATE, Route 5, Box 100, West Allis, Wis.

Build Now-with DENISON

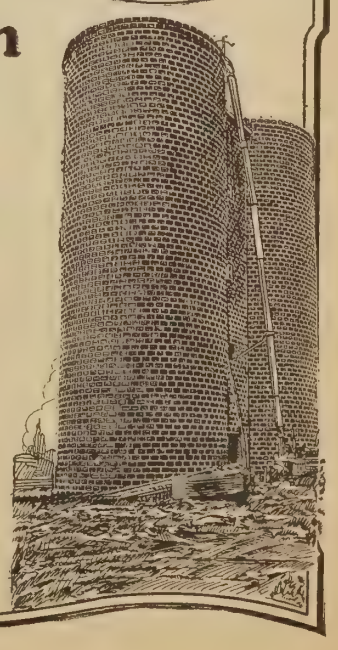
Mat Faced Hollow Building Tile

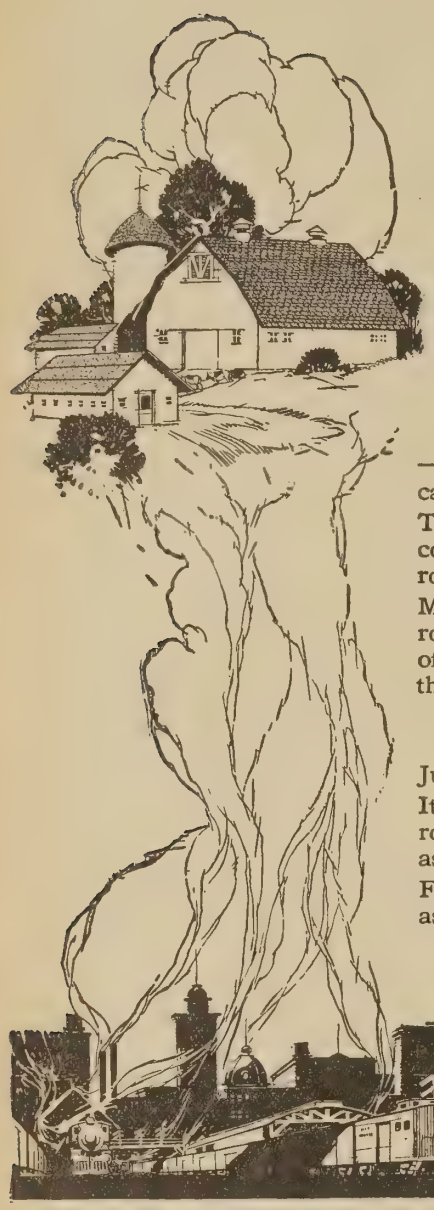
—and you'll have a permanent silo—one that can't blow down, buckle, warp, twist or collapse—one that gives you the utmost protection against fire, frost, storms and decay.

Your silo will be frost-proof. Dead air spaces prevent freezing through the body of the tiles. Insulating pads prevent freezing through the mortar joints—a patented feature of this Silo Tile. *Tile prices are down*—the supply is low—cars are available now—it's the best time to order. If you wait, you many not be able to get any this year. Write for further information. Denison Hollow Tile is sold by the best lumber dealers.

Mason City Brick & Tile Co.,
830 Eighth St., Mason City, Ia.

Largest Manufacturers of Clay Products in the World.





MULE-HIDE
"NOT A KICK IN A MILLION FEET"
ROOFING AND SHINGLES
Reg U.S. Pat Office

MULE-HIDE Roofing and the World's Greatest Railroad*

—"And after a field investigation by the Railroad engineers and master carpenters, MULE-HIDE Roofing was given a rating of 100%."

This rating was determined by a comparison of the service records and costs of three roofings which this Railroad designated as their "Class A" roofings. The wearing averages were 98%, 96%, and 94% respectively. MULE-HIDE with a wearing average of 96% ***cost 30% less*** than the roofing averaging 98%, and for this reason was given a combined rating of 100%—this after being in use for nearly fifteen years—again justifying that unusual service record—

"Not a Kick in a Million Feet"

Just what does this 100% rating mean to building owners the country over? It means there is available for the greater protection of their possessions a roofing so well made, so long lived, and at such a comparatively low cost as to practically place it in a class of its own.

For durability, for less cost per years of service, use MULE-HIDE, just as 90% of all Railroads entering Chicago use it year after year.

THE LEHON COMPANY, Mfrs.

44th to 45th Street on Oakley Ave., Chicago

*Name on request

MULE-HIDE

Ready Roofings and Asphalt Shingles

Barn Blue Prints Worth $10.00 FREE

Made Especially for Your Needs

Just specify on the coupon below the number of cows, young stock and horses you want to house and the experts in our Plan Department will send you a practical set of blue prints (elevation, floor plan and outside) of a barn suited to your requirements. And it doesn't cost you a cent. This is our "get acquainted" offer.

320-Page Bound STAR EQUIPMENT Catalog FREE

This big, handsome catalog is mighty useful to refer to when you're planning new buildings, or improvements — contains a world of valuable information. We want you to have one.

HUNT, HELM, FERRIS & CO. B-8
Harvard, Ill.

Gentlemen:—Please send me free a special set of barn plans.
I am thinking of BUILDING / REMODELING ? a barn

.....ft. by.....ft.

I have.....cows.....horses

Name.....

Address.....

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

NOTICE THE POINT

IT'S A NEW FEATURE

Found only in The PIERCEASY Bull Ring

No more tearing of the nostrils, because it is now so simple and easy. Just pass the ring thru the nostril, put in one small screw and the work is done quickly, making a clean hole thru the nostril.

CUTS A CLEAN HOLE

Made of a SPECIALLY PREPARED METAL and in SEVERAL SIZES

The Pierceasy Bull Ring is the latest and most durable ring on the market. More simple and efficient than the old style bull ring and many times more practical.



Buy them from your dealer or send **$2.00** for No. R.B.3, which is our large size, postpaid.

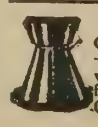
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Dept. W. Burlington, Wisconsin

KING SEGIS PATENT LOCK

Ear Tags, Bull Staff and Rings. Description and prices sent on application. 300,000 of these ear tags have been sold without adverse criticism. 500 of these BullStaffs are used by the best breeders in the business.



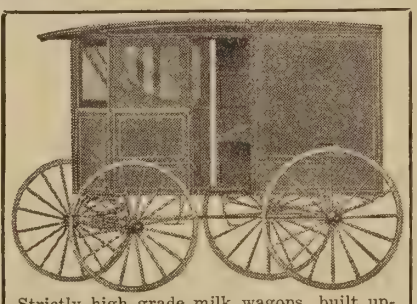
H. A. Moyer, Syracuse, N. Y.



GENUINE CHAMPION Improves Milk Quality

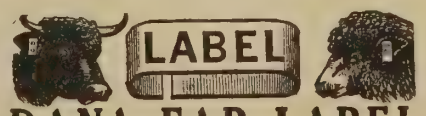
Cools milk—removes odors—halts germ growth—stops waste and loss—saves its low cost in one week. If your dealer cannot supply you, write for free folder.

Champion Milk Cooler Co., Dept D, Cortland, N. Y.



Strictly high grade milk wagons, built upon honor and fully guaranteed. Ask for free catalogue showing styles for every requirement. Suitable terms and liberal cash discounts. Pioneers in milk wagon building with sanitary bottled milk equipment. Also builders of metal panel wagons at low prices.

De Kalb Wagon Company,
P. O. Box E, De Kalb, Ill.



DANA EAR LABEL

Stamped with owner's name or address and serial numbers. Send for free samples.

C. H. Dana Co., 55 Main St., W. Lebanon, N. H.

Power and Production

(Continued from page 360)

in fact, negro labor is very often employed in a great many of the garages in that section of the country. The negro takes to machinery and enjoys working with it.

Every farm operation is a mechanical one. The process of plowing, planting seed, cultivating growing crops; the process of harvesting, threshing, grinding, hauling, and elevating are all mechanical operations, and it stands to reason that mechanical power must be used in accomplishing such jobs. In fact, mechanical operations are more accurate than those dependent upon manual labor. The corn planter, the grain drill, the manure spreader, the lime sower, the fertilizer distributor—all are far more accurate in their distribution of grain and fertilizer in the fields than is possible by hand labor. Machines have been developed to accomplish almost every farm job, and the only thing lacking, until recently, in farm operation is the lack of mechanical power to operate these various farm machines.

When the gas tractor first came on the market, it was a large, cumbersome, slow-moving piece of mechanism, and rather too large and too expensive to be operated with profit on the small farm. During the early days of tractor development, the possibilities of the tractor in farm work were limited mainly to belt work and plowing. However, with modern design applied, a tractor has been produced to be used in connection with almost every farm machine; therefore its versatility is almost as great as the demands of the modern farm.

A brief discussion of the tractor is not complete without looking into the vast amount of improvement and refinement which has been found necessary in the building of a successful agricultural tractor. To reduce the weight of the machine to the point where a large part of the energy of the engine can be applied directly to the operation of the tractor drawn implements, it was necessary to make the tractor light weight and yet strong enough to stand up under field work. To make the tractor a road proposition, several manufacturers have experimented with changing from the steel wheels to rubber tired wheels and so far the experiments indicate that the tractor may, through the change of wheels, be used on the road with good success.

Undoubtedly within the next few years the operations on almost every modern American farm will be by mechanical power. If the manufacturing concerns or the railroad companies should begin their operations on a unit of one man directing two horse power, as on our farms, our transportation and freight rates would be many times what they are at present, and our manufactured goods would be much higher in price. With the vast population of the cities and suburban districts of the United States, the unit of farm labor, to supply agricultural products to the nation at a reasonable cost, has got to be changed from one man plus two horses.

Missouri Jersey Calf Club

Recently a Missouri Jersey Calf Club was organized in Audrain County, Missouri, in which 25 head of Jersey calves are now being cared for. These calves vary in age from six months to 22 months, each club member stating age of animal he desired. Notes were given to a local bank for the calves which will be sold a year later.

Mold in Silage Due to Dryness

The usual number of complaints are coming in regarding the presence of mold in silage. Mold can grow only when air is present. Air generally gets in as the result of the silage being too dry when put into the silo. If water was added not enough was used. Poor packing may cause the same trouble. Mold around the doors and against the wall is the result of poor construction of the silo which allows air to enter. Nothing can be done now to remedy the conditions. At the next filling time special care should be taken to see that the corn contains enough moisture and that it is well tramped. It is always safest to reject moldy silage, especially for horses and sheep, although for cattle there seems to be little danger.—C. H. ECKLES, Chief of the Division of Dairy Husbandry, University Farm, Minnesota.

Uncle Ab says that you can call him a pagan if you like, but he bows to the twin goddesses of health and happiness.

DON'T PUT OFF

Seeing your friends and having them join in for a club of subscribers.

SWINE

Cedar Crest Farms

have never possessed a finer lot of

BERKSHIRES

than at present. Let us name you prices on fall and spring boars and young gilts.

J. K. Dering, Owner, Lake Villa, Ill.

AYRSHIRES

Orchard Lodge AYRSHIRES

Stock for sale, all ages.
Both sexes, prices reasonable.

G. W. STOLLER, Johnstown, New York

Pure-bred Ayrshire Cattle For Sale

Best of breeding. Calves sired by a Grandson of Brown Kate, record 1,080 lbs. butter in year.

Wm. Nisbet & Sons, Richland Center, Wis.

Linndale Farm Ayrshires

"Are bred for Production"

Bull calves out of A. R. cows and sired by sons of World Record cows, for sale.

Our { Breeding, Conformation and Prices } are right.

See what we offer before you buy.

JOHN LINN & SONS,
Manhattan, Kansas.

Metropolitan Farm

For Sale—Bull calves from our best A. R. cows. These calves are from one month to one year old. Priced for quick sale.

Write for pedigrees and prices.

METROPOLITAN LIFE INS. CO.,
Neil J. Parker, Farm Supt.,
Wilton, New York.

South Farm

250 Registered Ayrshires

Stock of all ages for sale.
Write for prices.

George A. Cross, Mgr., Willoughby, Ohio.

Ayrshire Stock

of all ages for sale. Satisfaction guaranteed

L. W. McCONNELL, Wellington, Ohio

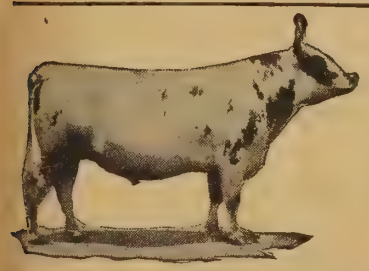
Weymouth Farms

"Ayrshires of Quality"

All cows on Advanced Registry Test. Herd Tuberculin Tested.

We can supply you a herd sire of choicest breeding.

MARTIN A. TOWLE, Mgr.
NORTH WEYMOUTH, MASS.



We Have For Sale

the well bred Ayrshire bull, Bargenoch "Drexel" (18474) Imported. Bred by John Logan, Bargenoch, Scotland. Born Feb. 2nd, 1919. Color white and red. Sire, Bargenoch Magnificent (9579). Sire of Bargenoch "Royal Champion" sold at Bargenoch sale, 1919, for $7,267.00.

Dam, Bargenoch Victoria (37003). Scotch record: 9,221 lbs. milk, 4.23% fat in 43 weeks; 11,070 lbs. milk, 4.50% fat in 47 weeks.

BARCLAY FARMS, John Cochrane, Manager, ROSEMONT, PENNSYLVANIA

Monstone Farm Ayrshires

"Production — Size — Individuality"

Bull calves out of dams with A. R. records of 10,000 lbs. (and better) of 4% milk—Winners in show ring—Sired by Lessnessock Gem's Good Gift Imp.—Winner in show ring and proven prepotent sire—Weight 2,250 lbs. in breeding condition—Whose dam made 8,930 lbs. milk, 4.05% fat, in *36 weeks* (Scotch record)—Sire's dam 10,342 lbs. milk 365 days (Scotch record)—Prices $100 to $1,000. If you want class and a square deal, correspond with us. We can supply your wants at your prices. Nothing but the best. Herd Federally tested.

MONSTONE FARM, John Chalmers, Manager, IPSWICH, MASSACHUSETTS

Middlesex Meadows Ayrshires

We owned *CAVALIER'S NETHERHALL CHANCELLOR* who sired the winning bull calf at this year's National Dairy Show. We have two young bulls ready for service by this sire and out of cows with official A. R. records of better than 12,000 lbs. of milk and 450 lbs. butterfat. Both these youngsters have excellent conformation but we must have room and the first check for $400 takes either one. We have also some younger calves by this bull out of A. R. cows at $250 and up.

A. Henry Higginson

South Lincoln, Mass.

Delchester Farms Ayrshires

Tell us your wants and we can supply them at prices you can afford to pay.

Aged cows, bred to Glenury, an A. R. son of Finlayston.

Aged cows, bred to Rena's Baron of Highland, an outstanding son of Baron's Best of Bargenoch.

Heifers, bred to these two great sires.

Young heifers.

Bull calves.

All the above stock carries some of the best producing blood of the breed with A. R. ancestry on both sides.

Herd free from tuberculosis

DELCHESTER FARMS
Edgemont, Del. Co., Penn. - Thomas W. Clark, Supt.

World's Champion Ayrshires

Fully Accredited Tuberculosis Free — 200 Head in Herd



AUCHENBRAIN WHITE BEAUTY 2D

A. R. 14,721 lbs. milk, 4.33%
In 13 years, 112,486 lbs. milk and 13 calves
110 animals in herd are descended from this cow

The 1st, 2nd, 6th and 7th highest records were made here. Four cows average 22,823 lbs. milk, 1,046 lbs. butter. 100 A. R. records made here average 13,246 lbs. milk. Choice stock of all ages for sale at prewar prices. Special — Young bulls line bred to Auchenbrain White Beauty 2d.

PENSHURST FARM, Narberth, Pa.
(7 miles from Philadelphia)

Bensalem Ayrshires

For Sale:—Bull Calves from our best A. R. Dams, and sired by "Queen's Favorite", whose Dam, "Bloomer's Queen", holds the World's Record as an Ayrshire Four-year-old with 21,820 lbs. milk, 1,009 lbs. butter. Grandam of Sire, Auchenbrain Brown Kate, Ex-world's Champion, 23,022 lbs. milk, 1,080 lbs. butter.

FRIENDS HOSPITAL, Frankford, Phila., Penn.

BLACKBURN FARM

HOME OF

Addington's Champion

Grandfathers—Nox'emall and Finlayston
Father—Rena's Champion, 17 A. R. Daughters
Mother—Addington Queen 3d, two Mature Records each over 19,000 lbs.

For Sale —

4-year-old cow—Fresh Dec. 12, 1920
2-year-old heifer—Fresh Jan. 16, 1921
Also Young Stock

Tuberculin Free Herd

Sewickley, Pennsylvania

JERSEYS

HERE'S YOUR OPPORTUNITY

Bull calf born March 4, 1920, sired by a grandson of Majesty's Western King and out of a R. of M. daughter of Ibsen's Chief. For full pedigree and price write

E. E. HILL & SONS, Tomah, Wis.

Valley Farm is Offering

Several bulls, 6 to 12 months old, from R. M. cows. Sired by Golden Maid's Viscount and Kilda's Royal Majesty, two of the best Island bred bulls living. At prices to sell. Write

FRED STUBLEY, Black Earth, Wis.

JERSEYS—DUROCS

Just one bull old enough for service and a few young calves. Hood Farm breeding.

F. R. Constance & Sons, Waupaca, Wis.

Hillcrest Jerseys

Bull calf born March, 1920. Sired by Imp. grandson of Golden Fern's Noble. Priced right for quick sale. Write

ROLLIE VANDERVORT, TOMAH, WIS.

Jersey Cows For Sale

FROM FEDERAL ACCREDITED HERD

I have six cows for sale with Register of Merit records from 400 to 500 lbs. butterfat, age from 3 to 8 years. Prices from $250.00 up. One of these is a daughter of Noble's Fawn Prince, record 493 lbs. Five will freshen between January 5th and April 15th. These are all good individuals of right type.

P. G. WARMINGTON, Honey Creek, Wis.

Register Merit Jersey Herd

At Head, Mona's Jacoba Premier grandson: Pogis 99th of Hood Farm. Dam, Mona's Jacoba, record 806 lbs. butter: Granddaughter Jacoba Irene, young stock; St. Lambert breeding for sale. **R. C. Green & Son, Albion, Wis.**

Ten Splendid Jersey Bulls

Good type, 6 to 18 months old. Heifers bred and open. Hood Farm Torono, King Sappho King, Loretta D. Bright Prince, etc. blood lines. Free from abortion. Dams are in the R. of M. or on test. Accredited herd. Address: **J. Q. Emery & Son, Edgerton, Wis.**

Sophie 19th of Hood Farms

World's Champion Long Distance Dairy Cow

9 years R. O. M. records total 110,918.1 lbs. milk, 6,356 lbs. fat, 7,945 lbs. butter 80% fat. Now on tenth yearly test in sixteen-year-old form. Has made in four months 5,137 lbs. milk, 295 lbs. fat. We offer grandsons of this World's Champion cow. They will sire size, production, constitution, longevity. Write for description and pedigree of bulls and bull calves. Prices from $200.00 and up.

HOOD FARMS, Inc.
Lowell - - Mass.

N. B. Over a quarter century breeding Jerseys for large size, heavy production, strong constitution, longevity and profit, enables us to offer you a bull that will sire profitable producers. Our correspondence is very large, to save time and correspondence, we would appreciate your writing us priced bull you wish to purchase, and we will send full information on more than one for your consideration.

JIMMY DODGE, Mgr.

Increase Size and Production

Buy For $500
Jersey Bull — Tattoo 335
Dropped January 25, 1919

SIRE—Carry On of Ayredale 164012. His dam and two grandams average 17,151.1 lbs. milk, 928.3 lbs. fat. He combines the blood of the Champion Sophie 19th of Hood Farm, Pogis 99th of Hood Farm, Sophie's Bertha and Lass 66th of Hood Farm.
DAM—Merry Maiden Frances 5th 349568. R. O. M. record as a 3-year-old 9,713.9 lbs. milk, 544.2 lbs. fat. A big cow of grand type, with the kind of udder and teats we like.
The bull is solid dark fawn, black points, and bred in the lines that breed better each generation. He will sire profitable cows.

AYREDALE STOCK FARM,
F. W. Ayer, Box 713, Bangor, Me.

BELSWOOD FARM

Financial Bred Jerseys

We are offering for sale a splendid lot of bulls and bull calves out of R. of M. dams with records of 500 lbs. butter. Also several heifer calves. Send for illustrated catalog, containing pedigrees and delivered prices.

A. F. Block, Mgr., Norwood Park, Illinois.

JERSEY BULL

Ready For Service

Dropped July 25, 1919. Solid dark fawn, black tongue and switch. SIRE—Sigma's Raleigh Majesty 156131, by a R. of M. grandson of Royal Majesty, out of Raleigh's Sigma 241848. Champion Jersey butter cow of Iowa, in R. of M. 1,011 lbs. butter in 1 year—1,951 lbs. in 2 consecutive years, out of a daughter of Raleigh's Fairy Boy, by a son of Mabel's Raleigh. DAM—In R. of M. 448.35 lbs. butter at 3 years old. A prize-winning granddaughter of Oxford You'll Do, out of a cow of Champion Flying Fox and Golden Fern's Lad breeding.

Price $175.00 F. O. B. Forest Lake, Minn.
M. D. MUNN, ELMS JERSEY FARM
Forest Lake, Minnesota

Montpelier Jerseys

Three young bulls ready for service. Trace three times to Oxford Lad. Fine typy individuals. Right in every way.

Montpelier Manor Farms, Laurel, Md.

POLLED JERSEYS

Breeders' names and Spillman's "Inheritance of the Poll Character in Cattle" mailed free.

CHAS. S. HATFIELD, Secy, R4, Box 5, Springfield, Ohio.

Fifteen Jerseys For Sale

Heifers, rich in the blood of Sophie 19 and Hood Farm Torono. Bred to Pogis 99th Duke 8, directly bred from Pogis 99 and Sophie 19, Hood Farms greatest producers. Will freshen in May and June.

GUY C. HAYWARD, Scotts, Mich.



STRAIGHT ISLAND BRED BULL

Ready For Service

Dropped June 21, 1919, solid fawn color in fine condition. Sired by Mabel's Noble King 146293, whose dam (Maltilda's Mabel) was 1st prize cow Illinois State Fair 1916, also 2nd prize aged cow, National Dairy Show 1914. The dam of this bull (Eminent's Katharine 268077) has a R. of M. record of 485 lbs. 15-oz. butter, also dam of a R. of M. daughter. If in the market for a good bull at a bargain price, write or come and see him. U. S. Accredited Herd.

W. W. KNIGHT, Oak Grove Jersey Farm, • • • Eagle, Waukesha Co., Wis.

Milk is a cheap source of body fuel and it isn't scarce like coal and wood; it keeps the body engine running, charging the human dynamo with strength.

10 Guernsey Females FOR SALE

YOUR CHOICE

of **Any Ten** out of a herd of twenty, consisting of A. R. cows, cows now on test, springing heifers, or yearling heifers. Most of them granddaughters of Gov. of the Chene. Everything bred or will be to a May Rose bull out of a 785-lb. dam. Also bulls of serviceable age, grandsons of Gov. of the Chene and Itchen May King.

Federal Accredited Herd

Come and see them.

Harvey Longley, Dousman, Wisconsin

BARRON

The Only

COUNTY

in the world to complete **tuberculin test.** 68,000 head tested. Less than 1% reactors.

Guernseys For Sale

2 CARS GRADE HEIFERS
1 CAR GRADE COWS
30 PURE-BRED BULLS

Barron Co. Guernsey Breeders' Ass'n

FRANK D. OTIS, Secy. **Barron, Wis.**

Koshkonong Place Guernseys

Herd Bull: ANTON'S KING CECIL
(6 May Rose crosses).

BULL CALVES 6 mos. to 1 yr. old from A. R. daughters of

Jury and Gilt-Edge of K. P.

Herd on Federal Accredited list.

A. R. HOARD, - Fort Atkinson, Wis.

GORDONDALE

Guernsey bulls of serviceable age offered for sale, also younger ones. They carry May Rose breeding, are from A. R. dams and have splendid A. R. backing Ask us about them.

Herd under Federal Supervision.

L. E. GORDON, JR.,

Nelsonville, Portage Co., Wisconsin.

Tilden Farms Guernseys

FOR SALE: Several typy, May Rose bulls out of A. R. cows and sired by Hope's May Rose of Maple Hill (35903), whose dam is a class leader with 776 pounds of butterfat at 3 years. Also several choice pure-bred females and a few excellent grade cows. Herd on Federal Accredited list.

TILDEN FARMS

James H. Murphy, Mgr. Delavan, Wisconsin

Fond du Lac County Guernseys

100 choice bull calves, by best sires of the breed out of dams with records up to 850 fat.
20 choice heifers, 6 months to 1 year old.
Grade cows and heifers. Send for sale list.

B. F. SHERIDAN, Secy.,

Fond du Lac, Wisconsin.

CityViewFarm GUERNSEYS

FOR SALE: Typy May Rose bulls out of A. R. cows or cows on test with records up to 615 lbs. fat AA Sired by Bell Buoy of Linda Vista. 17 A. R. daughters, and Langwater Good News. Some of these bulls trace 18 times to May Rose II and are priced to sell.

O. R. SCHWALEN, Roberts, Wis.

8 Registered Heifers For Sale

5 of them are from 18 to 20 months old and in calf to a good son of Langwater Cavalier. Of these, 3 are granddaughters of Langwater Hambro and of Bob Rilma's Monogram. They are well grown and good individuals.
The other 3 are from 5 to 8 months old.

Write or come and see them.

Ralph Tratt, Whitewater, Wis.

Wern Farm Guernseys

I am offering for sale 20 head of choice Grade Guernsey springers coming with first and second calf. Also have two bulls highly bred along May Rose lines just ready for service, that I will sell. For full particulars, write, wire, or come and see the stock.

Wern Farm, Waukesha, Wis.

MAPLE HILL FARMS

May Rose bulls for sale from 2 to 16 months old with A. R. backing.

Fruit Bros., - Waukesha, Wis.

Waukesha — The Guernsey County

Nearly two hundred members in our Association. Many of the best sires of the breed are being used. We can supply your wants. Pure-breds or grades, male or female, all ages. Prices will interest you.

Come to the County or Write

Waukesha County Guernsey Breeders' Association

F. E. Fox, Secretary Waukesha, Wisconsin

MR. GUERNSEY BREEDER

we are offering bulls of May Rose, Glenwood and Yeksa breeding out of A. R. cows. Our records range from 450 lbs. to 864 lbs. of fat; ages from 2 months up to serviceable age for $100 and up.

Can spare a few fine females.

CORIUM FARM, F. J. Rueping, Owner, Fond du Lac, Wisconsin

LONE TREE FARM

GREEN LAKE, WIS.

Has in its Herd 15 A. R. Guernseys and 11 R. of M. Jerseys

And Carries About 16 Cows on Test.

To inquiries for BULL CALVES we give full, honest particulars and stand behind every animal sold.

Jersey Sire—A Son of Pogis 99th. Guernsey Sire, Langwater Islander.

Guernsey Sale, West Salem, Wisconsin

Wednesday, March 30, 1921

La Crosse County Guernsey Breeders' Fourth Annual Sale

100 Head the CHOICE of La Crosse and adjoining counties. 60 pure-breds, 40 high grades. Sons and daughters of such sires as King of Chilmark, Langwater Frenchman Holden 4th, Queen's Golden and other great sires. *Catalog ready, send a card for it at once.*

H. W. GRISWOLD, Sale Manager, West Salem, Wis.

FIRST ANNUAL CONSIGNMENT SALE OF

Registered AND Grade Guernseys

Calumet County Guernsey Breeders' Association

Fair Grounds Chilton, Wisconsin, March 31—April 1

THURSDAY, MARCH 31—SIXTY REGISTERED GUERNSEY FEMALES AND MALES. Exceptionally fine individuals are included in this offering. Choice Advanced Registry cows are listed, also splendid young stock.

SOME OF THE CHOICE OFFERINGS:

Model May A. R. 4783. Milk 11,310.8 lbs., butterfat 541.3 lbs. at 4 years. (Full sister has record of 445.9 lbs. butterfat at 2 years).

Lady Sly of Homestead No. 38976, on test, in 236 days has produced 7,527.0 lbs. milk, 336.39 lbs. butterfat.

Lady Alice of Clover Lea A. R. 4786. Milk 7278.1 lbs., butterfat 384.9 lbs. at 2 years. (Full sister has record of 434.16 lbs. butterfat at 3 years).

Marcella's Queen No. 71413, on test, in 112 days has produced 3,404.2 lbs. milk, 177.38 lbs. butterfat. Dam has record of 548.3 lbs. butterfat.

Captain of Calumet No. 69289 (Male). Dam on official test and will finish with about 600 lbs. butterfat.

Ella Miranda of Cranmoor A. R. 6086. Milk 5,942.3 lbs., butterfat 277.9 lbs. at 2 years). (Full sisters have records of 541.34 lbs. at 4 years and 445.97 lbs. at 2 years).

Tot 3d's Major No. 64308 (Male). Dam—Tot 3d A. R. 5366. Milk 11,827.4 lbs., butterfat 582.75 lbs. at 6 years.

Two daughters of Mable's Sequel of Mound City No. 51224, who is by Imp. Clara's Sequel A. R., and out of Mabel Olive A. R. 2825. Milk 15,253.6 lbs., butterfat 836.1 lbs.

Granddaughter of Beauty Eagle A. R. 2680. Milk 16,144.0 lbs., butterfat 846.3 lbs.

Liberty Bluffer's Queen A. R. 6535. Milk 5710.1 lbs., butterfat 330.33 lbs. at 3 years. Dam's record: 12,941.6 lbs. milk, 580.74 lbs. butterfat.

Dairymaid's Hero of Fox Valley No. 44572 (Male). Sire—Dairymaid's Criterion of Iowa 28187. Dam's record: 661.8 lbs. butterfat. Dam—Bell's Milkmaid of Fox Valley A. R. 7062. Milk 9097.9 lbs., butterfat 401.6 lbs. at 4 years.

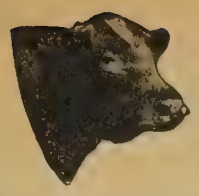
FRIDAY, APRIL 1st—TWENTY-FIVE PURE-BRED MALES WILL BE SOLD. Increase the production of your herd by placing a **Pure-bred Sire** at the head of it. The Guernsey Bull is the winner in the battle with the scrub. Have a winner to build up your herd.

TWENTY-FIVE GRADE COWS AND HEIFERS ARE OFFERED. Many of these have cow testing records and are capable of high production.

Sales Committee — A. W. Weiting, Edward Hass, H. J. Duecker, L. H. McGrath, Frank G. Bowe. Auctioneers — Love and Benjamin.

A BANQUET will be served to breeders and prospective purchasers at Chilton, Wis., Thursday Evening, March 31st, at 6 o'clock. PROF. D. H. OTIS WILL BE THE SPEAKER. Welcome extended.

For Information and Catalog write F. E. FOX, Sales Mgr., Waukesha, Wis.



Economy in Production ← GUERNSEYS → Quality of Products



10 per cent on $3,104 for 12 years was what one Guernsey cow, purchased for a moderate price, netted one breeder. This was not an unusual Guernsey, just a persistent, rugged, and productive Guernsey cow, such as any one can buy. Write for free information.

THE AMERICAN GUERNSEY CATTLE CLUB, BOX H 39, PETERBORO, N. H.

Guernsey Bulls

All ages, sired by a son of Beda's May King, out of dams who are daughters of Governor of the Chene (1297) P. S., Langwater Raritan, Prince Charming and others. Write for prices.

Peter Simon, Elba, Minn.

Guernseys

Best May Rose breeding. Both sexes and all ages from an Accredited Herd. Write your wants and send for lists.

E. S. Person, Minot, N. D.

May Rose Bull For Sale

VISCOUNT OF EDGEMOOR No. 49389

21.09% May Rose

Sire: Imp. Itchen May King 25174
Grand Champion N. D. S. 1920.

Dam: Manoa's May Rose 25269
545 lbs. fat.

Born February 1, 1918, well grown, very good type, and a sure breeder.

Also offer two younger bulls, one ready for light service and one September calf by above sire.

F. C. MEYER, Lancaster, Wisconsin

Young Bulls For Sale From A. R. Dams

I am offering several young sons of Golden Noble of Craigmoor A. R. He is a son of Langwater Raritan A. R. and from Imp. Daisy Moon 4th (639 lbs. fat).

These bulls are from A. R. dams with records up to 648 lbs. fat.

They are from 3 months to a year old. For prices and pedigrees call or write

Maple Heights Guernsey Farm

Frank E. Swan, Wauwatosa, Wis.

Federal Accredited Herd.

Special Low Prices To Move

Guernsey bulls by Beauty Eagle's Bonny Boy 42893, he by Bonny Boy of Riverdale 29070 (noted show bull), and out of Beauty Eagle 18117, 846 lbs. fat, or a son of Glenwood's Champion 15639 (24 A. R. daughters) out of daughter of Langwater Demonstrator 16451. Splendid high producing dams. Send for sale list.

LA BELLE KNOLL FARM, Oconomowoc, Wis.

Homestead Farm

Offers for sale bulls from 11 to 13 months of age from A. R. dams. Also a few young bull calves of excellent breeding, and three A. R. cows. Write for sale list or come and see them.

JAMISON BROS., Appleton, Wis.

Guernsey CATALOG Prices

These prices include compiling the pedigrees from one of the most up-to-date Guernsey files in America.

Our standard size catalog is 7x10 inches and is best adapted for printing four generation pedigrees. We can also make attractive prices on catalogs of larger size containing five and six generation pedigrees.

500 7x10 Catalogs - $3.75 per page
750 7x10 Catalogs - 4.38 per page
1000 7x10 Catalogs - 5.00 per page

Prices on Single Pedigree Orders

4 gen. typed in two colors—1 copy $1.00, 2 copies $1.25

4 gen. Mimeo—one color, 25 copies $2.00

4 gen. Mimeo—two cols. 25 copies $3.00

Prompt efficient service guaranteed

Guernsey Department of the Wisconsin Live Stock Advertising Company

Pioneer Bldg., Madison, Wis.

642 Pounds Fat

is the average on the A. R. daughters of Bellfounder, the sire of Countess Prue, the World's Champion Guernsey and My Fancy, eighth in Class A.

We offer bull calves carrying 15%—50% of this consistently high producing blood.

Prices $225.00 to $600.00.

The demand is keen; write today.

FALCON'S FLIGHT FARMS, Litchfield, Connecticut.

GRASSLAND FARMS GUERNSEYS

Choicely bred males and females for sale. (The natural increase of the herd.)

Herd federal tested for tuberculosis. Send for sales list. Satisfaction guaranteed.

Taconic, Conn., Litchfield Co., (C. N. E. R. R.)

Guernsey Females

bred to an outstanding son of Ne Plus Ultra, one of the greatest sires of the breed. Fifty head from which to select.

MEADOWLAND FARM, Litchfield, Conn.

Green Meadow Farms

NOW THE HOME OF

Langwater Steadfast

We are now offering *a fine Yearling Bull* sired by *Langwater Renown* and out of a fine Imported Dam with a record of 16,510.90 milk, 717.79 fat. We offer with him *ten fine Imported heifers* old enough to be bred. Anyone wanting to start a small herd, this is a rare chance.

We also have *a few two-year-olds* of May Rose and Golden Secret breeding that will be fresh this coming spring. Also *four yearling bulls*, old enough for light service of the above breeding. Our herd is now in the third year Federal Accredited List. For price and particulars address

GREEN MEADOW FARMS
Walter Jauncey, Mgr., Williamstown, Mass.

Sons of

Langwater Fisherman

Serviceable Age and Younger

They are from A. R. daughters of Yeoman's King of the May and of Langwater Demonstrator, with records from 500 to 700 lbs. fat. Strongly bred May Rose calves carrying 15% to 20% of the blood of May Rose 2nd. Priced from $150 to $500. Guaranteed to be as represented.

We will answer your inquiry promptly.

MIXTER FARMS,
J. S. Clark, Supt., Hardwick, Mass.
300 Guernsey Females

Hillswold Farm

Shrewbury, Mass.

Registered Guernsey bull calves for sale. Dams in Advanced Registry and tuberculin tested. Prices right, and animals guaranteed to suit. W. A. Cloues, Mgr.

Thorn Hill Farm Guernseys



Have several well bred young Guernsey bulls for sale at reasonable prices. All my own breeding. May Rose and Glenwoods, out of A. R. cows with records from 500 to 750 lbs. of fat. Write for sales list to

AUGUST ZIESING, Deerfield, Ill.

Do You Want A Guernsey Bull

Closely related to Pergue's Crescent A. R. with a record of 13,316.9 lbs. milk and over 582 lbs. fat in Class EE and dropping two calves within the year, entitling her to second place in her class? Some excellent young bulls closely related to Pergue's Crescent ready to head your herd. Write for descriptive circular, or come and see them.

Ernest W. Sass, Box H, Streator, La Salle County, Illinois

Langwater Traveler

Carries 50 per cent blood of Imp. King of the May, greatest bull of the breed.

His dam is Langwater Lustre, A. R. 806.10 lbs. fat, fifth cow in Class C. She is the second highest testing daughter of King of the May. His sire is Langwater Holliston, sire of Langwater Levity, sold for $6,000.00 and leading cow in Class EE. Traveler's daughters are averaging over 500 lbs. of fat with their first calves. His first daughter to freshen will be a class leader in FF. We offer some excellent bull calves by Traveler out of May Rose cows with fine records. Federal Accredited Herd.

CHICONA FARM GUERNSEYS
A. L. Gile, Prop., Chinook, Washington.

Guernsey Bulls

GET A BULL, with Langwater, Pencoyd, May Rose or Haye's Cherub breeding. Prices reasonable, quality considered. Grade cows in carload lots.

Fox River Valley Guernsey Breeders' Association,
Harry Leppla, Secy. Appleton, Wis.



"Get" of Pencoyd's Secret Marose

This bull won first prize, senior and grand championships at the New England Fair, Connecticut and New York State Fairs. His "get" (4-mo.-old calves) was first at The Eastern States Exposition and fourth at the National Dairy Show with thirteen "gets" shown. His heifer calf, Appletree Point's Dolly Dimple, was Junior Champion at New England Fair, first prize at Eastern States Exposition, and was Junior and Grand Champion female at Connecticut State Fair. His bull calf was unbeaten in all eastern shows and won at Waterloo and National Dairy Show. Write for prices on May Rose calves that combine type and production.

U. A. Woodbury, II **Burlington, Vermont**

HONESTY PRIDE OF BIRCHFIELD 44580



Sire — Langwater Warrior 26509
Dam — Langwater Honesty 49479

10,536.9 lbs. milk, 517 lbs. fat, at 2 yrs. and 5 months

We are now offering a few splendid sons of Honesty Pride of Birchfield. From cows with A. R. records or now on test. Everyone is a straight backed, growthy, vigorous youngster. These young bulls will put type and production in your herd. Prices range from $150 to $300.

Quality Guernseys **HIGHLANDS** *Tuberculin Tested*

NYE H. FREEMAN, Herdsman, Linwood, New York

For Sale— Twenty Registered Guernsey Heifers

Twelve to twenty months. Seven bred to own son of King of the May, with world's champion daughter to his credit.

Lowell Gable, Paoli, Pa.

Guernsey Bulls

Our last 9 official records average over 510 lbs. fat, including all ages. Our herd sire has 8 A. R. daughters, including one with 572 lbs. fat in Class GG. His three nearest dams average 822 lbs. fat. Send for pedigrees and prices on young bulls with this barking.

Folly Farm, Box 587, Libertyville, Ill.

Herd Bull For Sale

Billy of Clover Lawn 44913

Sire—Gloriana's King Masher 27645. Four A. R. daughters and four others on test. Sire—King Masher 11084 A. R. Dam—Glendett's Dairymaid of C. L. 52237 A. R. Milk 9202.70 lbs.; butterfat, 444.67 lbs. Class D. On retest 85 days, about 146 lbs. fat. Sire, Glendett of Pinehurst 3rd 19208 A. R.

Lady Rose of C. L., 678 lbs. butterfat. Beauty of C. L. on test 62 days, 148 lbs. fat. Write for full particulars.

Elmer Wirt. Lewiston, Minn.

Iowanola Guernseys

We are offering

A Very Fine Son

born July 25, 1920, out of Imp. Kitchener's Express 43925, his dam has 592 lbs. of fat, and out of Franseca of Homa Della who has 12,855.2 lbs. of milk and 640.09 lbs. of fat in Class D. This is a very typy calf and should appeal to any one in need of a bull. Correspondence solicited.

MOUNTAIN BROS.,
Carrier 403, Des Moines, Iowa.

Harbor Hill Guernseys

Masher's Galore 8572 A. R.

Increased the Average Production Credit of 12 A. R. daughters out of A. R. dams by 181 lbs. We offer his double grandson out of another daughter also making a better record than her dam.

C. H. Hechler, Superintendent
Box 30, Roslyn New York

Forestdale Farm

3 Bully Baby Bulls 8 Handsome Healthy Heifers — 2 to 18 months

from Superior Standard Sires, also a few A. R. matrons. May Rose Breeding. Tuberculin tested. $250 lowest price.

R. D. DeForest, Amsterdam, N. Y.

SAUGERTIES FARM GUERNSEYS

For Sale Bull Calves sired by Ultra May King, 27600. A. R. breeding. May Rose strain. Send for Sales List. Federal Accredited Herd No. 1511.

SAUGERTIES FARMS,
Saugerties, New York.

Guernsey Bulls For Sale

Polly's Anchor No. 42845, born August 24, 1916, and Imp. Bluebird of Lakeside No. 45329, born June 15, 1917. Good, straight bulls, very gentle and sure breeders.

For Sale by
RADISSON FARM, ANOKA, MINN.

Major Oliver S. Johnson



The Dairy Auctioneer

Tipton, Ia.

"Maj. Johnson has conducted twenty-five Sales for me."—Dr. M. B. Wood, Mankato, Minn.

Sudan Grass and Cowpeas

Two Grazing Crops Which Combine well as a Mid-summer or Dry Weather Pasture

HOARD'S DAIRYMAN:—My experience in the pasturing and grazing of Sudan grass and cowpeas combined for cattle, for beef and milk cows, may interest others who have suffered losses when the common summer pastures fail during periods of drought.

I have tried these new crops out on a small farm for the past three years and find the combination a perfect success. I have run a dairy for ten years on my farm in Kentucky. Every year about July we have the regular summer drought, some seasons much more than others, but always enough to dry up and make a shortage of pasture. Then the cattle that have been in thriving condition show at once that their pasture is gone or is not sufficient to keep them in a thrifty condition. At this time my Sudan and cowpeas field is ready for business with plenty of good green pasture from 5 to 7 feet high and as thick on the ground as you sow and want it.

The way to prepare this pasture is as follows: Break the ground the same as for corn or oats. When the time comes to plant corn, sow Sudan broadcast, 20 pounds to the acre, and three-fourths bushel of cowpeas or soy beans per acre. Sow them at same time but separately so as to get an even distribution. Then double disk the seed in and the work is all done. You sow one acre per head, if large cattle, and three-fourths per acre per head for six or eight hundred pound size. For the best results the pasture should be sown in two separate fields, equally divided, and then change from one to the other every ten days. The first field grazed will sprout new growth at first joint below where the cattle bite it off, also at root, and will gain much of the loss from grazing while the cattle are on No. 2 and the same will be true with No. 2 when the cattle are turned back on No. 1. This change should be made every ten days.

The cowpeas are sown for three reasons: First, it gives a little variety or change; second, it gives more in quantity; and, third, it takes care of the soil proposition.

Sudan grass was brought to this country from Africa only a few years ago. It is a drought resisting grass, will stay green until the frost kills it. Cattle of all kinds like it and will eat in preference to any other grass as long as they can get it. Milk cows will stay fat all summer, drought or no drought, and will be beef fat at close of season. It is quite different with milk cows that go through a drought season without it.

The time has come for the farmer to find new and better methods along many lines of farming so he can produce better, cheaper, and more produce for less money than he has in days gone by; and to produce more and better grazing, for less cost, is one of the first important steps in that direction. Grazing is one-half the value in farming. There is much more that can be said about the value of the new and valuable crop. It makes on good soil about three times as much feed or pasture as a good clover field, so you can see at once the value of the new crop. Sudan grass will make a good hay crop and can be cut twice during the season, making from five to six tons per acre. After using Sudan and cowpeas combined as pasture for my dairy for three years and knowing the value of it I would quit the dairy business if I could not get it.

If farmers and dairymen will provide themselves with this pasture and have it ready to turn their milk cows and beef cattle on at the beginning of the drought season they will not be forced to rush them on the stock yard markets and force a glut of cattle and also a low price on account of not having sufficient pasture at home to graze them through the dry season. Many a good milk cow is sacrificed and sold as a canner because she has lost her flesh and is not able to give a sufficient quantity of milk for the lack of sufficient green feed to carry her through the season. There is nothing that is more discouraging for a cattle man than to have a lot of cattle and nothing to feed them.

Kentucky. I. F. JEWEL.

BROWN SWISS



BETTY OF LAKE VIEW

Breed Brown Swiss Cattle

As producers they are worth every cent you pay for them. Cows are easily sold at reasonable prices. Their earning power has not been capitalized. Brown Swiss meet the ideals of working farmers.

BROWN SWISS CATTLE BREEDERS' ASS'N
IRA INMAN, Secretary, Beloit, Wis.
William B. Hale, Pres., Aqueduct Bldg., Rochester, N. Y.

JUBILEE FARM
Brown Swiss Cattle
Young stock for sale. Individuals of Quality. The best producing blood lines of the breed.
BOX 747, PEORIA, ILL.

Brown Swiss Cattle
Stock For Sale
Correspondence Solicited
HULL BROS., Painesville, Ohio

FOR SALE
Five Brown Swiss heifers bred in November, December and one in February. Two of these heifers are First Prize National Dairy Show winners. Also a few bulls of serviceable age, from granddaughters of College Bravura, world's champion cow and sired by Stasi's Boy and College Carl. Write prices and pedigrees. Federally tested.
L. S. Marshall & Sons, Leslie, Mich.

Fariview Dairy Farm
Brown Swiss Cattle
FOR SALE
Both Male and Female
F. P. MINNETTE & SON, Sauk Center, Minnesota

HOLSTEINS

SONS
of Sir Echo Sylvia Johanna—
⅞ Brother to the $106,000 Bull
From high bred fine individual A. R. O. cows up to 30 lbs. Several on test now. All good, straight individuals, backed by lots of milk and butter. Some are ready for service. Priced very low. Write for catalog.
(*Herd Under Federal Supervision*)
CHESTNUT HILL FARMS,
G. A. Burdick, Mgr., Gibsonia, Pa.

Registered Holstein Bulls
4 Yearlings, 7-4 to 6 months old
$100.00 and up if taken soon
All sired by 30-pound bulls. Out of A. R. O. dams with records made on the farm running from a 17-lb. two-year-old to 21-lb. two-year-old, and aged cows from 22 to 30 pounds. We have 13 granddaughters of King of the Pontiacs in our herd and one of his sons out of a 30-lb. dam. Also a grandson of Pontiac Korndyke out of 1,105-lb. dam, 30 pounds, 7 days.
C. A. PARKS, Mgr. Assumption, Ill.

BULL CALF FOR SALE
Sire is a 27-lb. son of Johanna McKinley Segis, the 40-lb. bull that sold for $25,000. Dam is a granddaughter of Pearl of the Dairy's Joe De Kol with 78 A. R. O. daughters. Marking ⅔ white.
Long Distance Phone 389.
DUETT ROBINSON, R. 3, Capron Ill.

Buffalo Creek Farm Holsteins
This yearly record bull calf for sale, born Nov. 28, 1919.
Name, King Lavera Ormsby No. 297926. Sire: King Pietertje Homestead Ormsby No. 221488. Dam: Lavera Hortensia Bawn 2d, No. 124734, with a record of 26,010.2 lbs. of milk and 1,050.55 lbs. of butter in a year. Write for price and pedigree. This calf won 5th premium at the Dairy Show.
Herd under Federal Supervision.
H. L. BINGHAM, Supt., Arlington Heights, Ill.

Edinboro Lake Farm
Show Type **HOLSTEINS** Production
Six state yearly record champions 1918-19.
We offer bull calves by Sir Paul Veeman Hengerveld and Sir Ormsby Skylark Fredericka, out of yearly record dams with type.
Edinboro, Pa.

WORLD'S RECORD HOLSTEINS
Two bull calves born November 19, 1920, sired by Carnation Denver Segis, an oustanding son of Matador Segis Walker, sire of three world's record daughters and half-brother to the world's record cow—Segis Pertiertje Prospect.
Fredmar Matador Colombo De Kol, evenly marked, out of Nezi Pontiac Rose Beets, a three-year-old on yearly test, milking over a ton a month and getting better each month. Price—$150.00.
Fredmar Matador Canary Paul, seven-eighths white, out of Francis Burke Homestead, a six-year-old on her first test, but milking over 2,100 lbs. a month, ranked 4th in over 300 Missouri Dairy Cows last month, this month she increased milk nearly 200 lbs. over last month and is getting better every day. Price—$200.00.
Both calves are sturdy, vigorous, healthy and will make splendid sires, growing in value every day on account wonderful records being made by Matador's sons and daughters.

Two Other Good Ones
Sir Fredmar Ormsby Rag Apple, born Oct. 21, 1920, sired by Sir Ormsby Akkrummer Hengerveld, grandson of the only 1,500-lb. cow. Dam, a show heifer of great size and splendid conformation, will be shown at State Fairs and National Show this year. She is on yearly test. This bull is a beauty, fit to show in any company. Price—$250.00.
Fredmar Calamo Hengerveld, son of the famous show bull, Joe Calamo Hengerveld, born Dec. 9, 1920, out of a two-year-old daughter of King Segis Pontiac, the famous bull with hundreds of famous sons and daughters. This heifer was first prize winner at New York and Ohio State Fairs in 1919 and her son will repeat as he is beautifully marked.
Will ship any of the above, carefully crated on receipt of check. Fuller details cheerfully furnished on request.
FREDMAR FARMS
City Office—3556 Lindell Ave.
ST. LOUIS, MISSOURI

Whitehurst Farms
BULLS FOR SALE FROM SEMI-OFFICIAL DAMS. Priced Right.
A. F. Randolph, Prop., Canton, Ill.

ORIGIN FARM
HORNLESS HOLSTEINS, Registered and A. R. O. Animals, all ages, for sale. Federally Tested.
GEO. E. STEVENSON, Scranton, Penna.

H. J. GOELZER'S SIXTH BIENNIAL SALE
Friday, April 1st, 1921
Plymouth, Wisconsin
100——Pure-Bred Holsteins——100
30 Mature Cows. 25 Two-year-olds, bred to our 34-lb. Junior Herd Sire. 15 Yearling Heifers, not bred. 5 Yearling Bulls, one with May Echo Sylvia breeding. 20 Heifer Calves and 5 Bull Calves.
Cattle to be sold at this sale constitute my offerings from my three Holstein herds. I will dispose of all the cows that I reserved at my previous sale, two years ago. Also every cow over four years of age, and every calf, male or female, born between April 1st, 1920, and April 1st, 1921. This gives you an opportunity to buy the best that I have.
Write for Catalogue.
H. J. GOELZER, - - - Plymouth, Wisconsin

A SERVICEABLE SON
Of the 1235-lb. Yearly Sire
Sir Korndyke Bess
His Dam has a remarkable 305-day record.
R. E. BENSON, - Dousman, Wisconsin

A GRANDSON OF S. P. O. M.
And a ¾ Brother to the 36-lb. Daughter of "37th"
This youngster was a year old March 3rd. He's light in color, well grown and an excellent individual. His dam, a 24-lb. cow, is also the dam of the 36-lb. 4-year-old daughter of "37th." His sire, one of the good sons of S. P. O. M., is a brother to "37th." First check for $400 takes him. Write us.
SPRING BROOK FARM - - - - Burnett, Wis.
Herd under Federal Supervision.

A. R. O. BULLS—2 Weeks to a Year Old
At Bargain Prices
They are sons of Rag Apple Pontiac, a 30-lb. grandson of King of the Pontiacs, from well bred dams with records up to 27 lbs. in 7 days. Write today for prices and pedigrees. I'll answer your inquiry promptly.
W. W. Quackenbush, - West Salem, Wis.



Colantha Changeling Lad
Whose dam made 30 lbs. at 4 years, has daughters making up to 32 lbs. at 3 years old. On them a 30-lb. son of 37th whose daughters are now making 23 and 24 lbs. as 2-year-olds. On them we are using a 30-lb. son of 41st. We are clearing our stables at bargain prices on bulls up to serviceable age. Also a bunch of females for immediate sale. Bulls $150 up.



Badger Stock Farms, Hartford, Wis Lawrence F. Murphy

Send For Our Bull Sales List

Three bulls of serviceable age—four others will be old enough for service in a month or two—others three months old and older. Almost all of them sired by SIR ORMSBY BEAUTY PONTIAC SEGIS, the son of a 37-lb., 1112-lb. three-year-old daughter of KING SEGIS PONTIAC COUNT.

If it will be of an accommodation to the purchaser, we will accept a six months' note in payment, WITHOUT INTEREST, or will accept payment on installment plan basis.

Pinehurst Farms Co., Sheboygan Falls, Wis.

Cows and Heifers

A Few Good Bulls

Because I am overstocked, I am offering some very good registered females for sale. They either have A. R. O. records or are from A. R. O. dams.

Can also offer some excellent young bulls by a 33-lb. sire and from A. R. O. dams with records up to 28 lbs.

Every animal sold is guaranteed to be as represented.

Write or come and see for yourself.

J. D. McDonald West Salem, Wis.

$100 to $200 Buys A Bull From A Good Record Dam

Am offering several for those prices sired by a 26-lb. bull and from A. R. O. dams with records up to 25.46 lbs.

Write at once. They'll go fast.

H. W. Crawford, R. 5, Campbellsport, Wis.

Wayside Lawn Farms

offer

Young Bulls Ready for Service

sired by 31-lb. bull, Hengerveld Banostine Gudultje, whose two nearest dams average 30.65 lbs. butter in 7 days and 848 lbs. butter in one year. The bulls are from tested and untested dams. They are well grown and right in every way. Price $100.00 to $200.00. Herd Federally Accredited.

WALTER SORGE, Reedsburg, Wis.

1000---HERD---1000 Quality Holsteins

GRADES AND PURE-BREDS

Just now we have a splendid lot of grade heifers. Write for our pure-bred bull list.

Jefferson County Holstein-Friesian Breeders' Association,
A. F. Gafke, Secretary, Jefferson, Wis.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

100 Registered Holsteins—35 Grades

TO BE SOLD

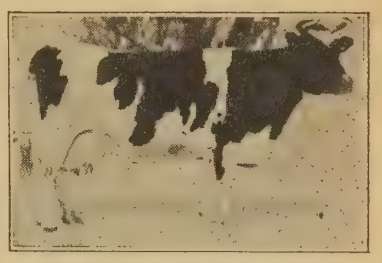
March 28, 29, 30, 31, at Plymouth, Wis.



K. B. P. HENGERVELD PENOPA
A yearling heifer to be sold by Hand & Traxler. Sire, King Burke of the Pontiacs from a 32-lb. dam. Her dam a 25.56-lb. 4-yr.-old.



KING ORMSBY OF FAIRFIELDS
Weight 296 lbs. at 2 months. His dam a 33-lb. cow. His sire a son of the highest record daughter of King Segis Pontiac Count. His 2 nearest dams average 35 lbs. A show calf to be sold by Isaac DeMunck & Sons.



VIOLET OF SPRING VALLEY
One of the good ones to be sold by Isaac DeMunck & Sons. She is a 25-lb. cow with 986.37 lbs. butter from 22,843 lbs. milk in a year.

March 28 — A Complete Dispersion of Lone Ash Stock Farm Herd of 50 Registered Holsteins

Located on Interurban line between Sheboygan and Plymouth. Get off at stop 26.
The sale includes some splendid Holsteins, among them Fairfield Inka De Kol Korndyke a 33-lb. cow, and her son sired by a son of the highest record daughter of "Count." Also our herd sire, a 31-lb. 3-year-old bull, his sire a 32-lb. grandson of Pontiac Korndyke. Violet of Spring Valley, a 25-lb. show cow with a yearly record of 986 lbs. butter, will be sold as will her son sired by Pabst Korndyke Cornflower, a full brother to the $30,000 heifer. Many more good ones we cannot mention due to lack of space. Sold subject to a 60-day retest.

March 29 — Dispersion of the Fred Gessert Herd

3 miles north of Plymouth—4 miles south of Elkhart Lake. Every animal in the herd will be sold except 9 yearling heifers which are to be kept for a future herd.
This is a herd of good producers and includes Lady Pinehurst Johanna, a great 2-year-old, fresh at sale time; May Johanna Dale, a splendid young cow, granddaughter of Albina Johanna Fayne; Beauty Korndyke Segis, an excellent individual, granddaughter of Johanna McKinley Segis; and others equally good.

March 30 — Sale of the Roland M. Goelzer Herd

located 2 miles north of Plymouth on the Elkhart Lake road. The entire milking herd—everything above 2 years old—will be sold. At the head of this herd is Neith Witteen De Kol Prilly, a grandson of Admiral Walker Prilly from a 31-lb. cow that produced 1,127 lbs. butter in a year.
The sale includes Lady Mechthilde Dale, a 19-lb. show cow (502 lbs. milk in 7 days); a 20-lb. cow; Jessie Carmeline Johanna Fayne, a 14.98-lb. 2-year-old granddaughter of Albina Johanna Fayne; a 16.4-lb. cow and her 21-lb. daughter; and a 15-lb. 2-year-old granddaughter of Albina Johanna Fayne. Sale commences at 1 o'clock.

March 31 — Hand & Traxler Dispersal — 24 Registered Holsteins, 35 High Grades. (Sale at the Farm, 1¾ Miles South of Plymouth)

It includes a wonderfully good yearling bull—a 34-lb. double grandson of King of the Pontiacs. He's a real show bull. Also 2 granddaughters of King of the Pontiacs, one from a 23-lb. 4-year-old, one from a 25-lb. 4-year-old. Our senior herd sire, King Longfield Pontiac Daisy, will be sold. He is by a son of Pearl Longfield De Kol, 1,215-lb. cow with over 28,000 lbs. milk. This is a breeder's herd.

This is an excellent opportunity to select what you want from 4 of the best Herds in Sheboygan county

Write Today for your Catalog to see just what is offered

Isaac De Munck & Sons, R-1, Plymouth, Wis.

BUY DIRECT

Reasons for Buying Holstein Cattle in Waukesha County:

1. You can buy direct from the breeder through the breeders' association, organized by the breeders to promote the breeding of more and better Holstein cattle and to assist in a fair marketing of the same.
2. There are over 50 pure-bred Holstein sires in service in Waukesha County whose dams have records of over 30 lbs. butter in 7 days or 1,000 lbs. butter in a year.
3. There were 1,307 long-distance tests made on Holsteins in Waukesha County during the past year, which is more than the total in the next four leading counties in the state.
4. There are more tuberculin tested cattle in Waukesha than in any other county in the world.
5. The breeders' organization is in a position to put you in touch with "bred-for-production-stock" at reasonable prices.
6. When buying through the Association, you obtain the services of men who devote their entire time to the Holstein industry. It saves you time. You get more for your money.

Write or Wire for information

Waukesha County Holstein-Friesian Breeders' Association
254 Broadway, Waukesha, Wisconsin

Holsteins For Sale

PURE-BREDS 161 Cows, 134 Heifers, 19 Heifer Calves, 290 Young Bulls
GRADES 93 Heifer Calves, 127 Heifers, 418 Cows

Some good carloads at reasonable prices. Listed for sale through Wisconsin banks. Other Live Stock: Breeders are listing with us other dairy cattle, beef cattle, horses, sheep, and swine. Write us if you want stock. We will answer promptly.

BANKER FARMER EXCHANGE
D. H. Otis, Director, 1822 Chadbourne Ave., Madison, Wis.

HOLSTEIN BULLS AND HEIFERS!!

To make room in our barn we offer a dozen or more heifers from 1 month to 3 years of age. They are backed by some of the best families of the breed. Also a few bulls sired by King Korndyke Veeman, whose two nearest dams average age over 37 lbs. butter in 7 days. Come and see them or write to

WISCONSIN STAR STOCK FARM, ED. M. SCHULTZ, HARTFORD, WIS.

Serviceable Bulls For Sale

Sons of

King Pontiac Artis Sadie Vale
34-lb. Son of The Great K. K. S. V.
and of
Sir Pietertje Ormsby Mercedes 41st
Son of S. P. O. M. and Spring Brook Bess Burke
From
Well Bred Dams With 7-Day and Yearly Records

Gustave Pabst's Hollyhock Farms
Fred J. Southcott, Manager Dousman, Wisconsin



Yearly Records

Choice Young Bulls

from one to fourteen months old for sale. Sired by Cloverlawn Johanna Piebe whose five nearest dams average 1,070 lbs. of butter, 23,809 lbs. of milk a year. Herd numbers 140 head, forty cows with yearly records. State exactly what you want.

JOHN PULS, - HARTFORD, WISCONSIN

March 29th and 30th

Two Big Days at Watertown, Wis.

125 Head of Pure-bred Holsteins



A son of King Hengerveld Pietertje Ormsby from a 24-lb. Jr. 2-yr.-old daughter of S. P. O. M. 37th. Consigned by Wuethrich Bros., Doylestown, Wis.



A son of a 24-lb. cow and sired by King Canary Oak De Kol, a 34-lb. sire. Consigned by Fred Albrecht, Watertown, Wis.



One of the real foundation kind. Due about sale time. Consigned by Fred Albrecht, Watertown, Wis.

Why Watertown, Wis., Sales Attract—

Because the Watertown Sales People have always shown the same enthusiastic interest in their patrons after the sales that they manifested prior to the sales.

Because Watertown Sales have been in operation sufficiently long to withstand the rigid test of public scrutiny.

Because Watertown cattle are not gathered indiscriminately; they are accepted only on the approval of competent inspectors.

Because Watertown Sale offerings are GOOD offerings.

We realize furthermore, that each succeeding sale must either decrease or increase the confidence the Holstein going public has in our proposition.

Let us give you an idea of the quality of our offerings!

We have a good 25-lb. three-year-old, a 19-lb. three-year-old, both bred to Hunter Bros. well-known 37-lb. son of Champion Echo Sylvia Pontiac; we have a daughter of a 25-lb. cow due sale time by a son of 37th's only 30-lb. daughter having 1,000-lb. yearly record; we have a 25-lb. cow making 800 lbs. on yearly work—a two-year-old daughter of a 24-lb. cow, a yearling daughter of an 18-lb. two-year-old, these bred to a 33-lb. bull. We also have an 18-lb. two-year-old as well as another good daughter of a 24-lb. cow. We have a daughter of a 25-lb. 4-year-old. We have two daughters of Beauty Pietertje Prince bred to a son of Matador Segis Walker out of a full sister to Segis Pietertje Prospect. Bear in mind that in addition we have some very choice individuals, untested, well along in calf to some of Wisconsin's very best sires. They come from long established herds and clean herds.

Our bull offerings are exceptional !

We have a yearling son of the well-known 31-lb. heifer that sold in the State Sale for over $4,000.00 last spring. This sensational heifer has just completed a 265-day record of 1,010 lbs. butter and 20,170.8 lbs. milk. He is sired by a good son of Sir Pietertje. You'll also find in our catalog a son of a 24-lb. junior two-year-old daughter of 37th, sired by Mr. Erickson's well-known full brother to Pietertje Maid Ormsby. Just the combination many breeders are trying to locate. We have a choice yearling son of a 31-lb. show cow, sired by a 33-lb. son of King of the Sadie Vales. We have a good yearling son of a 29-lb. cow; this fellow is bred strong in the Homestead Jr. strain. We have also listed a good 27-lb. yearling and a 26-lb. yearling. These bulls are the kind you often drive over the country, to no purpose, to locate.

COME TO WATERTOWN

— A good place to buy. We have started many a breeder on the right road to success

All animals tested either by Federal or State authorized Agents

Write for Catalog to Francis Darcey, Sec'y

Watertown Holstein Sales Co., Watertown, Wis.

Bull Calves

by

SIR BESS ORMSBY FOBSE

out of

Cows with 7-day records now on semi-official; two-year-olds milking as high as 70 lbs. and mature up to 92 lbs.

LINDEN LAWN STOCK FARM

B. W. RABENHORST, Jefferson, Wis.

Holstein Service Bulls

sired by

King Bess Burke Ormsby

whose 5 nearest dams average 36.56 lbs. butter in 7 days, 1005 lbs. in 1 year.

PRICED TO SELL
TUBERCULIN TESTED

Milford Meadows Stock Farm

Lake Mills, Wisconsin

Serviceable Bulls For Sale

Sired by Pabst Pontiac Hengerveld, a son of King Pontiac Champion from Pabst Hengerveld Colanthus (31.5 lbs. butter in 7 days, 1,057 lbs. in a year.

These are nicely marked, well grown youngsters out of good producing dams. Several are ready for service, others are younger.

Write today.

John Alexander, Baraboo, Wis.

GREENBUSH FARM

REGISTERED HOLSTEINS

Offering a service son, by a 1225.67-lb. sire, from a 657.1-lb. senior 4-year-old dam. Good individual. Price $400. Several others at $150 and up. Herd under federal supervision. For complete information address

GREENBUSH FARM,

R. Turano, Herdsman, Glenbeulah, Wis.

Sons of a 36-lb.—1315-lb. Sire

They are sons of Dutchland Creamelle Denver Prince. His sire is a 30-lb. 1,028-lb. grandson of Colantha Johanna Lad and his dam, the highest record daughter of the same sire, with 36 lbs. in 7 days, 1,315 lbs. in a year.

They are from tested (records up to 20 lbs.) and untested dams — Good producers rich in the blood of Mooie Mutual De Kol and King Segis Pontiac.

The calves are from 2 to 8 months old. Priced right.

Jefferson County Asylum, Jefferson, Wis.
W. E. Voigt, Supt.

Bull Ready For Service

Nicely marked and a good individual. Dam 20 lbs. butter at just 3 years. Next dam a 23-lb. 4-year-old. Two nearest dams of his sire average over 32 lbs. and ten nearest dams over 29 lbs. in 7 days Not a break in a three-generation pedigree. Priced to sell. Call or write

Halsey J. Sedgwick, Limeridge, Wis.

A BULLY CHANCE

to get a serviceable sire—born March 15, 1919. A fine individual—well bred—well marked—well grown. Sire, a son of King Segis Pontiac out of a 26-lb. daughter of Juliana King of Rock. Dam, A 26-lb. daughter of King Korndyke Veeman Wayne, he out of a 31-lb. daughter of Sir Veeman Hengerveld. Will trade for pure-bred Holstein females, liberty bonds or cash. If you want a herd sire—what have you got that you don't want? Write or call for price, pedigree, photo. Also have some younger bulls. Herd tuberculin tested.

RIDGEHURST STOCK FARM.

Glen C. Ramsey, Ft. Atkinson, Wis.

ORMSBY BULL - Born Feb. 28, 1919

Sire, King Ormsby Pontiac De Nijlander, whose two nearest dams average over 30 lbs.

Dam, Aaltje Hengerveld Tritomia Segis. A. R. O. 17 lbs. at 3 yrs., next dam 29.68 in 7 days. Color light, fine individual. Ready for service. Price $300.

Fairview Stock Farm Whitewater, Wis., W. G. Marshall, Prop.

Grade Heifer Calves—$20

Good grade Holstein heifer calves by pure-bred sires $20 f. o. b. cars. Pure-bred bull calves $40 and up. Good, registered heifer calves at reasonable prices.

J. C. BOLGER, Waterloo, Wis.

BULL CALF

Sire's dam, butter, 1 yr., 848 lbs.; her daughter, 1,055 lbs. Grandsire's dam, 987 lbs. at 11 yrs.; her full sister, 1,344 lbs.; another, same dam, 1,322 lbs. Dam, Miss Pietertje Alexina 3d, sister to Miss Pietertje Alexina 2d, 1,290.91 lbs. A dandy calf, priced right. Write quick to

McKAY BROS., - - CADDOA, COL.

His 7 Nearest Dams

Average 29.895 Lbs.

We are offering this splendid 10-month-old youngster to any breeder looking for a first-class herd sire prospect. His dam is a 16-lb. 2-year-old daughter of a 34-lb. cow. His sire is a 38-lb. grandson of College Belle Wayne. Write or wire today for price, pedigree, etc.

BROWN BROS. Waverly, S. D.

Iowa Holstein-Friesian Breeders' Association

Second Annual Guaranty Sale

MARCH 28th, At WATERLOO, IOWA

65—of Iowa's Best to Be Sold—65

Sale Held in Pavilion at Cattle Congress Grounds

Including:—A splendid 4-year-old with an 850-lb. yearly record; an 800-lb. cow; a 28-lb. cow, 2 of her daughters, and one granddaughter,—two of them bred to King Piebe, one of the best sons of King Pietertje Ormsby Piebe.

A 20-lb. yearling heifer; 5 yearling daughters of a 1,290-lb. sire; 3 daughters of a 35-lb. sire that now has a 1,080-lb. 4-year-old daughter and 8 others doing remarkably well on yearly test. Three daughters—just fresh—of King Segis Pontiac. Several 23-lb. 3-year-olds.

Two cows bred to a son of Creator from a dam that has a 925-lb. 305-day record. Six cows bred to a 7/8 brother of Segis Pietertje Prospect, Carnation's world record cow, and 7 bred to a 1,000-lb. son of K. P. O. P.

There are several good bulls, among them an 1,100-lb. 2-year-old son of K. P. O. P., a 24-lb. son of Woodcrest Sir Clyde, a son of a 20-lb. 2-year-old sired by a son of a 37-lb. 3-year-old that has almost 1,200 lbs. in a year, and a son of an 850-lb. cow.



Auctioneers: Mack and Krause. B. D. Scott in the Box.

Your catalog is ready. Write.

Iowa Holstein-Friesian Breeders' Association

C. F. Jenness, Secretary, Waterloo, Iowa

A Son of K. P. O. P.

From A World Record Dam

He is Friend Piebe, a splendid individual and one that is backed by good individuals. His dam is Lady Mutual Friend, former world record 41-lb. cow that made 1,129.95 lbs. butter in 305 days and 1,281.46 lbs. from 23,388.90 lbs. milk in a year. She has 4 A. R. O. daughters, 2 above 30 lbs. and one with 948.81 lbs. in a year as a 2-year-old. His sire is King Pietertje Ormsby Piebe, recognized as one of the greatest sires of the present time. This fellow is priced to sell on easy payment terms.

Hargrove & Arnold, **Norwalk, Iowa**

Herd under Federal Supervision



FRANSJE BEAUTY FAYNE

—$400 Buys

A Son of this Cow

Milk	504.90
Butter	23.45
In 7 days	
Milk	21,770.00
Butter	876.00
In 365 days, not yet reported	

She is a daughter of SIR JOHANNA FAYNE, who now has 12 daughters over 20,000 pounds, 20 daughters average over 20,000 pounds milk and 850 pounds butter.

Her calf, born Feb. 23, 1920, sired by a 21-pound son of Admiral Gelsche Hamilton, with 41 A. R. O. daughters, is a well grown calf about 2-3 white.

Send for pedigree and photo. Herd under FEDERAL SUPERVISION.

IOWANA FARMS, **Davenport, Iowa**



SADIE CORNUCOPIA EIBERTJE

Her Son For Sale—

This cow was 2nd prize A. R. cow and 3rd prize 4-year-old at Dairy Congress, 1920. She is by the best son of the 1st 30-lb. cow and has a 20-lb. 2-year-old record with 510 lbs. butter in 345 days. Now on test as a 4-year-old with 400 lbs. butter in 1st 6 months. Her dam 530 lbs. butter in 10 months; next dam 516 lbs. butter 365 days at 2 years. Calf is by Woodcrest Sir Clyde, who is from a 33-lb. and 970-lb. dam; born May, 1920. More black than white. Given a Federal Certificate of Health.

Write for photo and pedigree today.

W. B. BARNEY & SONS, - - - **Chapin, Iowa**

AT THE BRENTWOOD

Rosni Tweede White Ragapple

Sire 30 lbs.; dam, one of first six tested daughters of Long Distance Bull averaging Milk 17,092, Butter 704

JAVA FARM, - - **Annapolis, Md.**

U. S. Tested High Producing HOLSTEINS	They Will Keep You	*Immunized Prolific* BERKSHIRES



A Few Splendid Young Bulls

for sale that have show ring type, that are backed by 7-day and yearly records and by the best productive breeding in Ohio. They are from an accredited herd, are guaranteed right and are priced to sell.

Zehringhurst Farm, Germantown, O. **Oscar O. Zehring, Prop.**

HOLSTEINS LEAD

In Consistent Production

We offer a bull born July 29th, 1920, grandson of Sir Pietertje Ormsby Mercedes; dam a granddaughter of Colantha Johanna Lad. Mighty good individual, rugged with perfect top line. This calf will be a snap for somebody. Write for price and photo.

Cerro Gordo Farms, **Mason City, Iowa.**

Herd Under Federal Supervision

Yearling Bulls

From 21-lb dams. One has 662 lbs. butter, over 17,000 lbs. milk at three years. By proven bulls with daughters up to 30 lbs. Best of Ormsby and yearly record backing. Good size and type. Guaranteed to please and stand a 60-day retest. Priced to sell. Write

RIVAL STOCK FARM, **Laurens, Iowa**

Bull Calves

One calf: Born October 5, 1920. Dam: 16.76 lbs. butter, 7 days. Sire: A grandson, Sir Piet. mostly white. Calf born November 20, 1920. Dam: a dam of a 35-lb. sire. Sire: a son of Miss Pietertje Alexina 2nd, 42.42 7 days, 1290 year and making 3rd yearly record.

Hubert Stuckart, **Raymond, Iowa.**

Fairhurst Herd

On the Accredited List

We offer young bulls, fine individuals and well grown. Sired by 33-lb. bull and from dams with records up to 30 lbs. Write for pedigree and price.

KITTLE BROS., **Holland, Ohio.**



A Son of LIEUTENANT RAG APPLE

from a 7/8ths sister to a 948-lb. junior two-year-old daughter of a 1,281-lb. cow. $100.00. Let us tell you about him. Serviceable.

BLUEBELL FARM, **Riceville, Iowa**

When writing advertisers please mention Hoard's Dairyman.

THE TRAVERSE HERD

We have what you want in

BULL CALVES

the large, fine growthy type, guaranteed right in every way. They are from high producing A. R. O. ancestors. Dams' records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.

Traverse City State Hospital, - Traverse City, Michigan

The Pontiac Herd

"Where the Champions come from"

Offer Bull Calves sired by sons of *Pontiac Korndyke, Hengerveld De Kol, Pontiac Dutchland, or Admiral Walker Pietertje.*

Do you want a Pontiac in your herd?

PONTIAC STATE HOSPITAL, Pontiac, Mich.

HERE IS YOUR CHANCE

Bull calf born Aug. 17, 1920. Mostly white and a good individual. His sire is a 32.7-lb. grandson of King of the Pontiacs. Calf's dam has a 20-lb. record and his 3 nearest dams average 28.47 lbs. A bargain at $200. Send for pedigree and photo.

Have 2 other bulls for sale that are ready for heavy use from a 25.63-lb. sire. They are priced exceedingly low. Females for sale, all ages. Herd under Federal supervision. Write your wants.

UTOPIA DAIRY FARMS

C. I. Reamer, Prop. North Liberty, Ind.

M. & P.

Healthy Holsteins

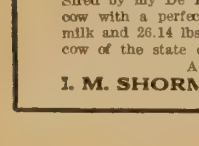
A year ago we sold a bull calf to a Virginia breeder. The dam of that calf has just finished a year's record of 17,600 lbs. of milk, 800 lbs. of butter. Was he pleased? His letter states "The bull is growing nicely, and I am glad his dam made so good a year's record."

We supply this kind at moderate prices. Write

Markham & Puffer

Avon - New York

Good Seed Means Bigger Profits



Better Cattle

Mean More Money

In Dairying

River Meadow Farms

Have, for thirty years, supplied such cattle to appreciative dairymen. On our several farms over 400 head of grade and pure-bred cattle are kept, offering the widest selection to buyers. Quality and Reliability are the foundation of our business.

For beginners in the dairy business we suggest a pure-bred bull calf and as many grade or pure-bred heifer calves as possible. We take pride in supplying such orders.

RIVER MEADOW FARMS, Portlandville, N. Y.

YEARLING BULL

READY FOR SERVICE

Here is a show bull whose dam has a three-year-old record of 23 lbs. butter and 511 lbs. milk. His sire's dam is a 31-lb. daughter of LORD NETHERLAND DE KOL, while his sire's sire is by a son of KING OF THE PONTIACS.

Write for pedigree.

G. BURLINGAME, Cazenovia, N. Y.

A $1000 Bull For $500

Count Segis Lyons 281218—Our Jr. Sire 2 Yrs. Old

His sire, King Lyons, nine 30-lb. daughters. His dam, Julia Lyons Pontiac, a 24-lb. 3-year-old granddaughter of King of the Pontiacs. His 7 nearest dams average 30.27. His 15 nearest dams average 28.28. He is ⅞ white, gentle and sure, will put you on the Holstein map. Terms to purchaser if desired. Several other high record service bulls $100 to $200. All animals tested in February with triple test.

Henry J. Karpinski, R. 7. Oswego, N. Y.

Holstein Bull

Tuberculin tested and ready for service. Sired by King of the Changelings, a 33-lb. son of King of the Pontiacs. Dam, a daughter of a 33-lb. sire and has an A. R. O. record of 15.57 lbs. butter in 7 days at two years of age, averaging almost 4%. He is well grown and a splendid individual. First check of $175 takes him.

HARRY W. PETZOLD, Owego, Tioga Co., N. Y.

THE MARK OF QUALITY



King Hengerveld Korndyke Eureka

A bull of excellent line breeding. 9 months old, will make an ideal junior herd sire for some breeder. Especially owners of sons of Count or breeders of Ormsby blood.

King was sired by Sir Ormsby Hengerveld Korndyke a son of Pietertje Maid Ormsby 35.56 butter, 535.40 milk in 7 days. His sire was Sir Korndyke Hengerveld De Kol sire of 45 A. R. O. daughters including Miss Korndyke Akkrummer Ormsby 39.53 butter in 7 days.

The Dam Eureka Melissa Segis is by a full brother to Count. She traces back to Old King Segis and King of the Pontiacs on the sire's side. On the dam's side, her grandsire was Paul Beets Walker sire of Spring Brook Klara Beets, Spring Brook Aaggie Walker and Spring Brook De Kol Klara. Eureka herself has a 7-day record of 25.08 and is finishing her year well over 750 pounds.

This young bull is for sale to some breeder who has a herd that he will fit into. Write us and we will send you his complete pedigree and let you be the judge of his worth. Better still, come to the farms at Blooming Prairie and see him.

OAK DALE FARMS

INCORPORATED

BREEDERS of HOLSTEIN FRIESIANS

Austin Minnesota

4 Holstein Bullsfor Sale

All by King Segis Pontiac Cor-Will, 190512, whose sire is King Segis Pontiac, 44444, and whose dam is an A. R. O. daughter of Pontiac Korndyke. Also two fine young registered cows, one a granddaughter of Pontiac Korndyke.

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offers serviceable young bulls of the highest individuality, several of them by 30- to 40-lb. sires, and from 30- to 34-lb. dams, part of them State Fair prize winners. In individuality they can not be easily excelled. Lakeside also offers a very choice lot of yearling and two-year heifers and young cows.

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A handsome, large, straight bull calf born Nov. 8, 1920. White in color except a few black spots. Sired by my De Kol Hengerveld Burke bull, and out of a very large, straight, square, handsome cow with a perfect udder and teats. This cow recently made in a 7-day official test 552.0 lbs. milk and 26.14 lbs. butter. Her sire is the best son of Pontiac De Nijlander, the champion butter cow of the state of Michigan. $300.00 will buy him.

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PIEBE JOHANNA HOMESTEAD—A beautiful cow now on yearly test as a four-year-old. She began her test with a seven-day record of 22.51 lbs. butter. Her dam is De Kol Piebe Burke, 1,086 lbs. butter and 27,611 lbs. milk in a year as a ten-year-old. Her sire is from a 29-lb. daughter of Homestead Junior De Kol and Johanna Fayne Rue, a 31-lb. daughter of Sir Johanna Fayne.

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The only bull in the world with five 20,000-lb. two-year-old daughters.
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out of A. R. dams and sired by our two richly bred herd sires — **King Piebe Ormsby Mercedes**, a 35-lb. son of Sir Korndyke Bess and every dam in pedigree over 22 lbs. and **King Pietertje Mercedes Ormsby**, a son of Sir Pietertje Ormsby Mercedes and out of a 19-lb. senior two-year-old dam.
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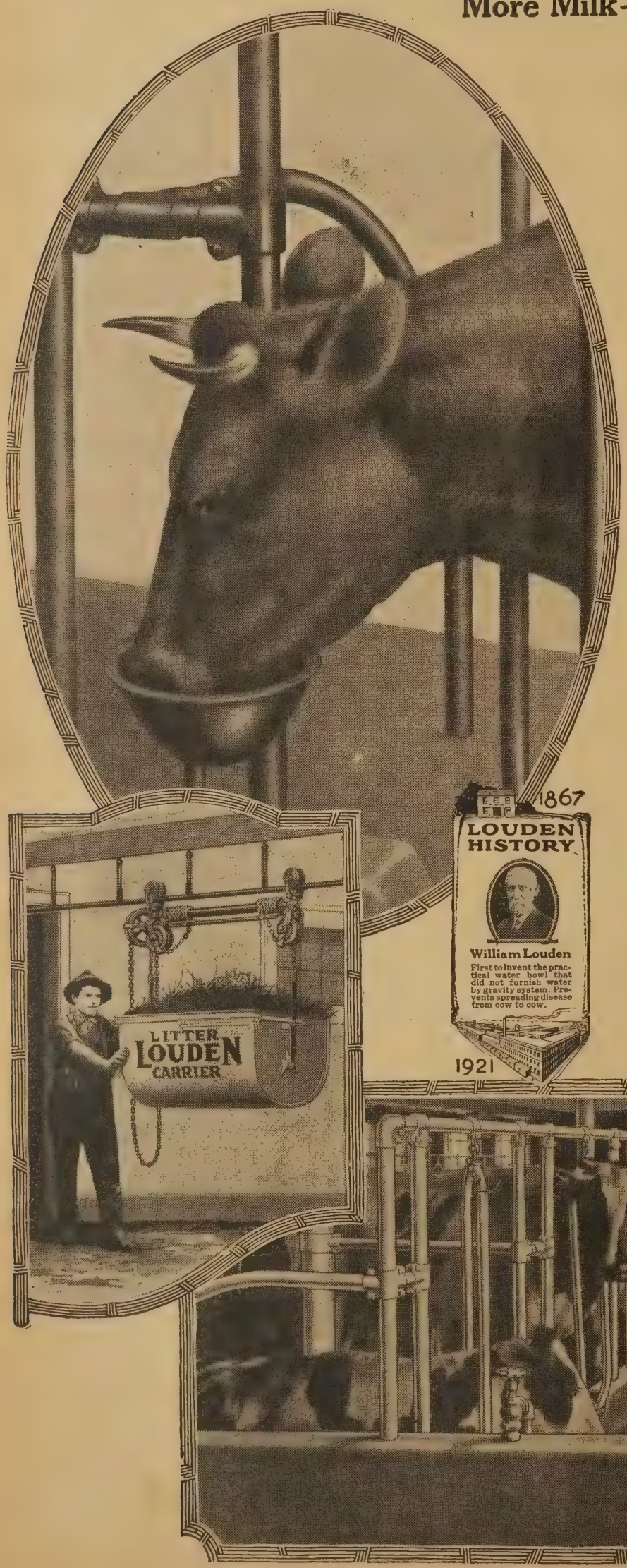
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Frank W. Morrison, Worcester, Mass., reported 40% more milk from his herd right in the dead of winter after putting in Louden Bowls. Hundreds of dairymen show from 2 to 5 lbs. increase per cow per day. And it's reasonable too, for milk is seven-eighths water. While it is true that every cow produces milk from two things—feed and water—you will agree that most cows get all the feed they need even though feed costs money, but did you ever stop to think how few get all the water they want—and it costs practically nothing.

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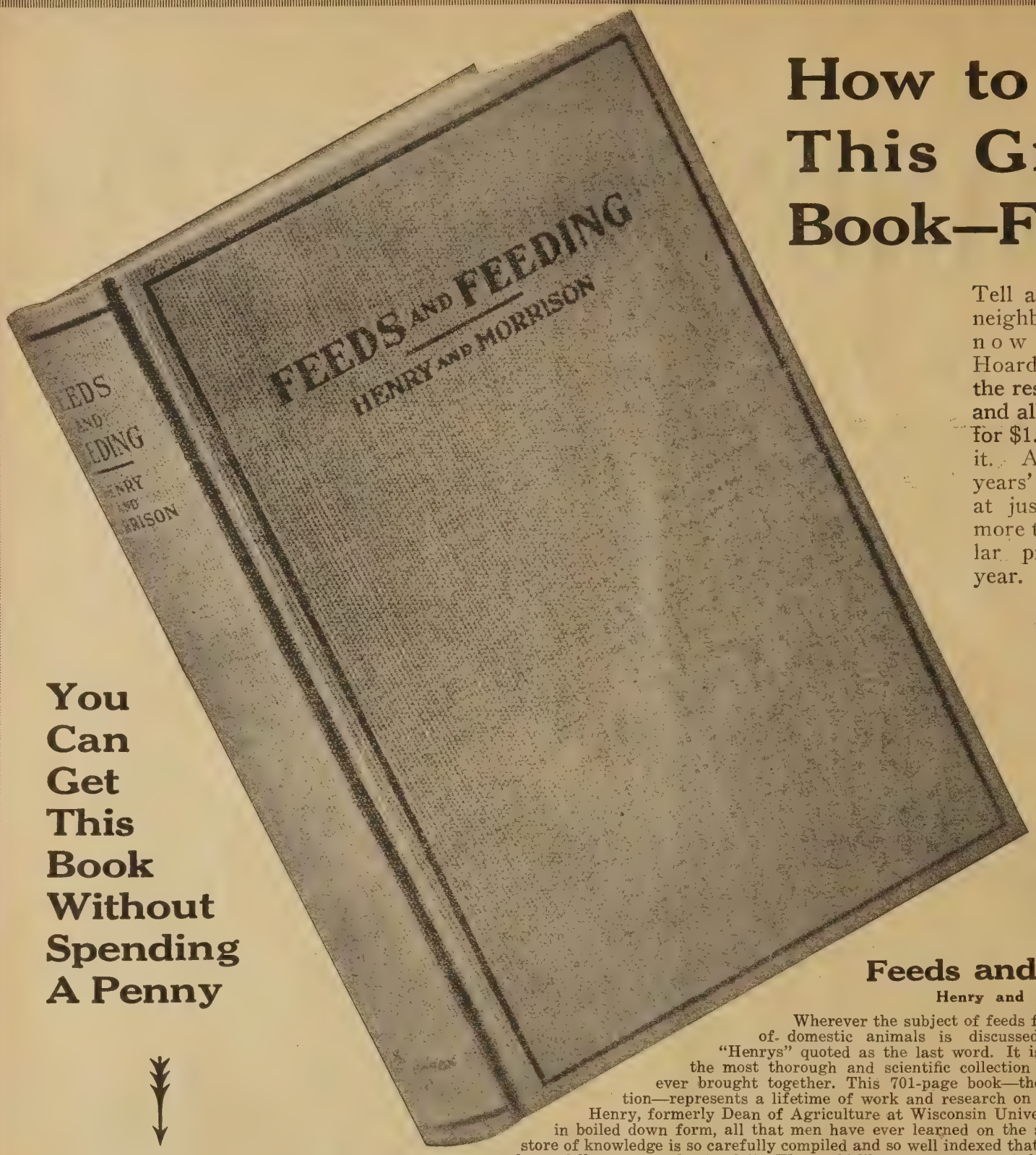
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A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING



Fort Atkinson, Wisconsin Volume LXI, No. 10 March 25, 1921



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HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING

Volume LXI — FORT ATKINSON, WIS., MARCH 25, 1921 — Number 10

Dairying in England

A. C. McCANDLISH, IOWA

THE proverbial nourishment of the English is roast beef and Yorkshire pudding. Without a doubt their consumption of beef is miraculous, but they do give some consideration to dairying. The average Englishman is not a good dairyman, however, and we find that in a good many of the districts, which produce large quantities of milk, the Scot is not unknown. There are a few localities, however, where the Englishman has been allowed to remain undisturbed. The dairying of England is not by any means a business of small proportions, but with the material advantages which that country possesses, in the way of temperate climate and luxuriant pastures, milk production should be emphasized to a greater extent than it is at present.

Dairy Cattle

England has evolved more breeds of beef cattle, sheep, hogs, and horses than any other country in the world and yet she has not developed a single distinctive breed of dairy cattle of her own. Though Scotland to the north and the Channel Islands to the south have produced dairy breeds of note, yet England, the most prosperous division of the United Kingdom, lags behind her neighbors. The reason is evident—prosperity. English farming has generally been, comparatively speaking, prosperous, and when bad times did occur there were always enough Welshmen and Scotchmen to step in and succeed where the Englishmen had failed. The peoples who had prospered easily have never developed dairy breeds.

England is recognized as the home of the Shorthorn and it is by far the most common breed, yet few would have suspected the extent to which it does preponderate had it not been for data accumulated by the British Ministry of Agriculture in 1915. These show that of the 6,904,774 cattle in England and Wales in that year, 4,413,040 were Shorthorns, and only 440,000 were Ayrshires and 101,233 were of the Channel Island breeds.

The real breeds of dairy cattle are not a large part of the cattle population of England. The Channel Island breeds only make a small proportion of the total and the Holsteins, or, as they are known there, the British Friesians, though increasing rapidly now, were very small in numbers in 1915. A noticeable fact, however, is the increase of Ayrshires in England, and they are now far more numerous than all the other true dairy breeds combined. The great preponderance of the Shorthorn, which includes the Irish cattle which are simply grade Shorthorns imported from Ireland, deserves special notice, as they constitute about two-thirds of the total cattle of England. They produce a very large part of the milk supply of England, unfortunately, but that problem needs greater consideration than can be given in a hurried review of general conditions in England.

The Englishman has not in the past given the attention to his milking herds that his neighbors have and consequently the average production per cow is not as high as it is in Scotland or in some of the Continental European countries such as Holland and Denmark. This problem is now receiving attention and the cow testing associations though still in their infancy will do much to improve this if they are properly pushed by the Ministry of Agriculture which has them under its control.

There has been much talk about the depletion of breeding herds during the period of the war and, though much of this is true regarding Continental Europe, it does not apply to England. The Englishmen have been shrewd enough to maintain their breeding herds of both beef and dairy cattle even though they suffered—and they did suffer—from a meat shortage for considerable periods.

Labor

Labor is one of the important considerations on the dairy farm and the shortage of it was felt in England for a considerable time even after peace was signed. It was alleviated to a considerable degree by the fact that large numbers of women work on the land and many more turned to this during the war. Most of the farms made cheese, the great proportion of the cheese and farm butter being made by women.

The man shortage was very apparent, though less so than in some other industries. The building trades suffered severely and are not recovered yet. During last summer a government representative stated that while there were 73,000 brick layers in 1914 there were only 53,000 in 1920, or a shortage of 20,000 men with 6 years of arrears in building to make up. This is a serious condition and housing facilities are totally inadequate at present, though landlord profiteering was prevented by act of parliament.

Labor troubles, as all know, have been frequent in England and they have affected agricultural conditions more there than in any other part of the British Isles. This is mainly due to the fact that no agricultural district of England is far from a large industrial center and the unrest which generally starts in such localities spreads to the farming communities. Farm laborers' strikes did occur and, although we tried to get into one which was widely heralded in a Liverpool paper on the day we landed, we found it too elusive.

The Feed Supply

The dairy herds of Central England have the best pastures in the world. There is nothing to equal the meadows of Cheshire and many other districts are almost equally well favored, though the South of England quite frequently suffers from drought. In winter roots supply the succulent feed, mangels being more popular than turnips and swedes as they are easier to grow in many sections and give larger yields. In many districts some use is made of the pasture throughout the winter and some of the herds are never housed except during stormy weather.

Silage has been known in England for centuries and a considerable amount of it is used at present though the typical American silo is practically unknown. One of the favorite methods of making silage is to cut the hay crops and stack them green. The outside of the stack spoils but the material in the center is excellent feed. Corn is now being grown to a limited extent though mainly for soiling, and, though it does not mature, remarkable heavy yields of green forage are obtained. Soiling is a fairly common practice and such crops as green barley, oats, and vetch, and cabbage are generally used.

The dry roughages used are generally oat straw, clover or mixed hay, and a little alfalfa, or, as it is known there, lucerne. Another legume, sainfoin, is also in use.

Practically the only home grown concentrates used are oats and beans, both of which are ground for feeding. The bean meal is an exceptionally good protein concentrate. Barley is also used to a small extent. The other concentrates are all imported and amongst them are corn from the United States and Argentine, bran from the United States and from imported wheat which is locally milled, soy beans from the Orient, beans from Egypt, and cottonseed from the United States, Egypt, and India. The cottonseed is generally used in cake form and there are two varieties—the decorticated and the undecorticated. These are made from the hulled and unhulled cottonseed respectively.

The Englishman is a liberal feeder, in fact frequently too liberal to get the most economical milk production. During war times their allowances of feed were restricted owing to the difficulties of importation and even during last summer their feeding was not as liberal as formerly, owing to the high prices prevailing for feeds. Such conditions are rectifying themselves.

Dairy Products

The largest part of the English milk supply goes as market milk owing to the density of the population, and practically every train has one or more "milk vans". Considering the size of the country some of the milk is shipped long distances. For example, some of the London supply is drawn from the midlands and a considerable amount is shipped from the Southwest of Scotland

(Continued on page 433)



ENGLISH MILKING SHORTHORNS

Grow More Clover Seed

CLARENCE M. BAKER, OHIO

TWENTY years ago when almost every farmer grew his own supply of seed—the seed coming from the aftermath after the first crop of clover was taken off for hay. In those days hulling clover seed had a season all its own. In fact the local threshermen were busy with custom work in clover seed hulling soon after the bulk of the grain crop was threshed.

The yields of clover seed formerly were as high as four bushels per acre. In those days farmers concerned themselves little about the amount of seed sown per acre for they always had a home-grown supply.

The situation at this time, however, is typical of a declining agriculture in which possibly the most prominent legume is slowly losing out, the evidence first showing in the failure of the red clover to produce a seed crop; secondly, in a diminished acreage and yield of a legume. At the present time, according to crop statistics, Ohio grows but one acre where she grows nine other acres of corn, wheat, oats, timothy, and potatoes. There is no doubt that the proportion of clover should be closer to a third than a ninth, perhaps a number of natural agencies have made this reduction. Farmers would gladly grow clover if they could do it easily.

Practically all of western Ohio is underlaid with limestone, while the eastern half of the state has but very few deposits. Naturally farmers of western Ohio have been able to "clover-farm" more extensively. However, during the past decade there has been a falling off of the clover acreage in the western half of the state.

Red Clover Difficult to Grow

It is the opinion of most farmers that red clover is more difficult to grow than any other of our common farm crops. It is also their opinion that red clover can not be grown successfully or used to advantage on poor soils. At the Ohio Experiment Station where experiments under field conditions are carried out, the yield of clover has been maintained at 3½ tons per acre for 25 years. The land received 10 tons of manure and 320 pounds of acid phosphate in a 4-year rotation of corn, oats, wheat, and clover. Growing clover under these conditions has not been difficult. The land in these experiments has also been limed at the rate of 2 tons of ground limestone per acre in each rotation.



SEEDING CLOVER ON WHEAT WITH A DISC DRILL AT THE OHIO EXPERIMENT STATION



CLOVER PLANTS AFFECTED WITH ROOT ROT DISEASE

Professor Firman E. Bear, of the Ohio State University, points out that red clover will not grow on worn-out soils and the soils must be supplied with plenty of available plant food in just the same way as for large yields of corn, oats, and wheat. The use of acid phosphate on wheat is especially beneficial for the clover crop following.

In all of the orchard fertilizer experiments conducted in southern Ohio, a liberal use of acid phosphate has brought about a good growth of the clovers even though no seed was applied to these hilly orchard soils. The aim in this case was to stimulate the growth of grasses for mulching hay. However, where acid phosphate is used the clovers have been found to quickly crowd out the poverty grasses. Where acid phosphate is used regularly in connection with lime, the growing of clover becomes easier and it is altogether probable that the clover seed production is influenced directly by the phosphorus content of the soil.

Manner of Seeding

The manner of seeding may have some influence upon the successful growing of clover in Ohio. The mortality of young clover plants is very high so that any means that aids the growth of young plants will be effective in securing a good stand of clover.

It is a common practice to sow red clover broadcast allowing the seed to be covered by freezing and thawing weather. Others when following oats with red clover sow the clover when the oats are seeded.

The use of a seeding drill has an advantage in covering all the seed so that very little seed is killed after germinating. It is necessary to delay grass seeding in the wheat until the

(Continued on page 432)

"Give and It Shall be Given Unto You"

E. G. THIEM, ILLINOIS

"GIVE and it shall be given unto you; good measure, pressed down, and shaken together, and running over shall men give into your bosom, for with the same measure that ye mete, withal it shall be measured to you again."

The message carried in the above quotation from the Scriptures is no less true now than it was in the time of Christ. It works equally as well in the care and management of a dairy herd as it does in man's relationship to his fellow men, and it further proves the point through the story which follows that one's returns from any work, project, or enterprise are commensurate with the amount of energy, enthusiasm, time, and good judgment invested.

H. E. Downing of Illinois, whom this story concerns, was born and raised in the dairy business, and therefore by right of birth and early training grew in wisdom and knowledge in the way to handle cows for best results. He tells this story about his early life: "I was born and raised on a little farm just out of Princeton, Illinois, where my father, as early as I can remember, kept a herd of Jerseys which supplied the small town of Princeton in those early days with the richest of milk and cream. Since I was old enough to hold a pail between my legs, I have milked cows. Instead of growing to dislike the dairy business, as many do, my love for the good old dairy cow increased as I learned more about her likes, dislikes, and possibilities. When I grew older, I was given charge of delivering the milk about town—a job which taught me much about one of the important phases of the dairy business—but which never appealed to me so much as working about the barns and feeding the animals that kept us in business."

Several years after Mr. Downing was married, he moved to Iowa on a farm about two miles away from the state college. "That's where I got my first Holstein cow," Downing often has told me, "and this is how it happened. After moving out to Iowa, and finding that the college offered a good market for milk, I determined to buy a bunch of cows and get back into the dairy business. One day a neighbor and myself started a general conversation about cows. He told me about an old black cow at home that he wanted to sell because she gave so much milk when she freshened that he got tired of milking her, and moreover she persisted in milking heavily right through the hot summer when he didn't have the time or the inclination to bother with such cows. I went around to see that cow and succeeded in buying her for $80, a good price in those days for a grade cow. This cow was Blackie, the first Holstein cow I ever owned. Blackie was a medium sized cow, with lots of length, an unusually great spring of rib, a straight topline, a neat, cleancut head, mild yet alert, watchful eyes, long, slim neck, and an udder that a good judge stops to look at a long time to admire its great capacity, squareness, and high quality, with the teats coming out perpendicular from each corner of the base of the bag."

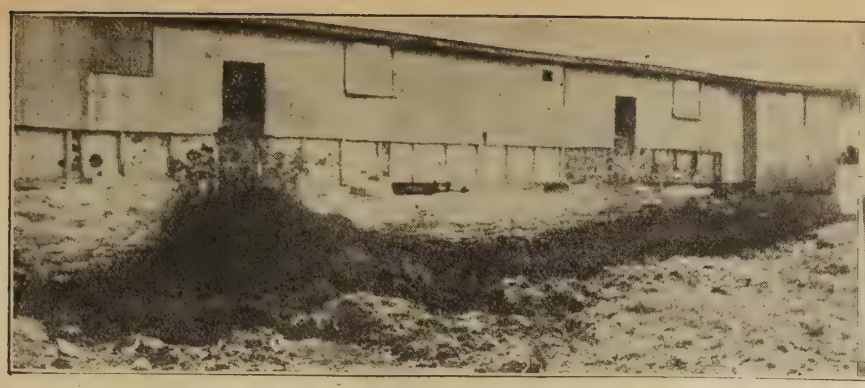
"I always believed before I got Blackie," said Downing, "that Jerseys were the only kind of cows worth having, and I will always have much respect for that wonderful little breed, but after I had milked Blackie a few times I determined to get a few more of her kind, if possible. By carefully looking around, I picked out enough black and white cows to make a small herd. My first bull I bought for $75, a young white animal sired by Kopsteak's old show bull and out of an 18-lb. two-year-old heifer, her first calf. This young bull I used for my first cross. He proved to be a good one."

Three years ago the call to come back to Illinois, his native state, became so great that Mr. Downing moved back to Whiteside County, bringing with him two of the older cows from his herd in Iowa including Blackie, several of the heifers out of the first cross from the young white bull, and also a young bull from the Iowa State College Herd, and known as Ames Alcartra Pietertje Pontiac, out of a 26-lb. cow in the college herd. The white Iowa bull was left in his native state due to his tendency to become vicious and dangerous. During the spring and summer of 1918, Mr. Downing gradually added the best high grade cows he could find in the new dairy community in which he had settled. By the fall of the same year, the new herd containing Blackie, who was producing better than ever; Swiftie, the other mature cow brought from Iowa; and two heifers, Spec and Snowflake, the former out of Blackie and the latter out of Swiftie, and both by the white bull left in Iowa, had been assembled. During December, 1918, the Palmyra

(Continued on page 420)



H. E. Downing and "Daisy", a grade Holstein whose Cow Testing Association record for 1920 was 16,711 lbs. milk, 565.03 lbs. fat.



NO GREATER WASTE OF VALUABLE PLANT-FOOD COULD BE MADE THAN TO THROW IT THROUGH PORT HOLES LIKE THIS WHERE WATER FROM THE EAVES WASHES IT TO THE SEA



WHERE BARNYARD MANURE IS ALLOWED TO ACCUMULATE IN CARELESS HEAPS, IT IS IMPOSSIBLE TO GATHER AND USE MORE THAN TWO-THIRDS OF THE BULK

DOUBLE RETURNS FROM FARM MANURE

Reducing, Handling and Using Where Most Needed Brings Results

C. A. LeCLAIR, WISCONSIN

IF there is any one thing which farmers throughout the length and breadth of the country are agreed upon, it is that, under any system of farming, manuring of land pays. Men who are working land just cleared from the virgin forest manure their fields as systematically today as do those who cultivate soil which has produced crops for several generations. If farmers in any community caught one of their neighbors moving his farm buildings to get away from the manure piles which had accumulated in the barnyard, or saw him hauling the fertilizer to the river in order to dispose of it, they would take steps to see that the man was placed in an asylum for the feeble minded. Yet men with supposedly sound judgments have done these things within the memory of the writer. All of which goes to prove that times do change our ideas and ways of doing things.

Now, in spite of the fact that every farmer in the country hauls what animal manures are made on the farm to his fields, the best agricultural authorities keep saying that there are billions of dollars worth of home grown fertilizer lost on the farms of the United States each year through improper handling of manures and crop residues and these experts have figures to prove the extent of this fertility loss. Are the experts right, or is what they say just plain "bunk"? It is my firm belief that until more farmers earnestly concern themselves in more than simply dumping farm manures on their land, they will fail to enjoy double the returns from the use of this material, which it is in their power to obtain.



WHEN THE SNOW IS TOO DEEP FOR THE OPERATION OF A SPREADER, MANURE CAN STILL BE DISTRIBUTED IN THIS FASHION

Prices of farm products have increased considerably and the fertility of the land from which they came has in general decreased. Thus an efficient use of farm manures is more important than ever before in the history of the nation. The more farm animals one has, the greater the gain to be derived from a proper use of the fertilizing by-products of the farm. It is true that manure is put to better use today than has ever been the case heretofore and yet it can be made to yield far greater returns.

No better index as to the value of farm manure could be offered than the results obtained at the Kansas Agricultural Experiment Station where but very light dressings were made. In tests conducted in the Sunflower State, it was found that two and one-half tons of farm manure, applied to land growing wheat continuously, gave 7.2 bushels more wheat than where no fertilizer was applied. The same amount of manure applied to alfalfa increased the crop to the extent of 2,384 lbs. of hay to the acre. Even on the rich prairie lands of Iowa, farm manures give handsome returns. If you want to figure out the value of a ton of manure when applied to the best land that lies outdoors, just add up the value of the following crop increases which were attained at the Iowa Agricultural Experiment Station and divide by eight. There on land where eight tons to the acre of manure were applied once in four years, an increase of 11.4 bushels of corn, 17.1 bushels of oats, and .7 of a ton of hay were harvested over what similar land unfertilized produced.

A Perishable By-product

Farm manure is a fertilizer of an extremely perishable nature when accumulated in quantities of considerable size. On the other hand, if the same material is collected under approved conditions it will yield its full fertilizing value. When manure from farm animals is piled in a heap which is exposed to the weather for six months, it loses one-half of its bulk and more than a third of the plant food which it contains. It would not therefore take a mathematician long to figure the number of months of exposure that would be required to make the fertilizer valueless. In speaking of this matter, Professor F. L. Duley of the Missouri Agricultural College says:

"Not many men deliberately neglect farm manures but the better methods of handling it have not been adopted by the majority of farmers of Missouri. At a conservative estimate they lose at least $20,000,000 a year, an amount equal to sixty cents for each acre of cultivated land in the state, because of their failure to use the best known methods of handling and utilizing the fertility in manure."

Missouri farmers are representative of the nation and it is safe to say that the same conditions prevail in other states. Under any system of farming, it is always necessary to let some of the farm manure accumulate in the barnyard. For this reason farmers can well afford to take every precaution in stacking the material so that the pile has square sides, a flat top, and is well compacted. If the fertilizer is stored in this manner, decay is postponed but not entirely prevented. But the solid portion of manure is only the small half of the whole fertilizing value of the animal excrement. Careful tests at the Ohio Agricultural Experiment Station to determine the plant food losses which occur in the handling of the product reveal the astonishing truth that when the droppings fall on anything but a water tight floor, it is impossible to collect more than three-fourths of it. They gathered 12 tons of liquid manure from 25 well bedded cows in 125 days. Likewise when feeding steers, it was found that fully $4.50 worth of plant food per hundred weight of live stock escaped in the drains. It is because of this that we find such up to date farmers as the late Charles Wilder, Massachusetts, Conrad Kruse, Wisconsin, Metcalf Bros., Wisconsin, strong adherents to the European Jauche system of collecting and distributing liquid manure. These men not only make the best use of the solid manure produced on their farms but they have cisterns to collect the liquid fertilizer not absorbed by the bedding they employ. From the cisterns the manure is pumped into a tank distributor and conveyed to the fields. According to Mr. Kruse, the Jauche system has a place on the farm even where animal manures are daily carted to the fields. He finds that the liquid manure is particularly adapted to the top dressing of grass land.



TO SAVE FEED AND FERTILITY, NOTHING BEATS A CEMENT FEEDING FLOOR

The Easiest Way the Best

Appreciating that the safest way to avoid loss of plant food in manure is to get it on the land as soon as possible after it is made, some farmers place their spreader so that the fertilizer can be dumped into it and hauled to the fields as soon as a load accumulates. When this plan is followed a maximum amount of plant food contained in the product is made available to crops. Strange to say the same manure which practically evaporates when carelessly stored dissolves much slower when spread in a thin layer over the land. The sun's heat does not spoil it, neither is it spoiled by freezing when distributed during the winter, opinions to the contrary notwithstanding. In fact, barnyard manure becomes available to plants so gradually that cases are on record where benefits to crops have been measured as many as forty years after the fertilizer was spread. This is why market gardeners compost manure before using it and general farmers supplement manure with immediately available commercial fertilizers to get best results.

It is a big job and takes considerable time to haul manure onto the land. To get down to concrete figures, it costs no less than a dollar a ton to load and spread the stuff. This dollar can be added to the profits from the material if farmers permit live stock

(Continued on page 424)



PASTURING SHEEP AND OTHER LIVE STOCK ON THE BORDERS OF THE FARM IS PROBABLY THE BEST WAY OF MANURING SUCH LAND



At the Price of Two Eggs

At the cost of the price of two eggs a big Jell-O dessert can be served—and it will serve from five to twelve persons, according to the manner in which it is prepared.

If plain, it will serve five or six persons; if whipped, Bavarian cream style, ten or twelve may be served.

There are so many possibilities—so great a variety of delightful dishes made without cooking or fussing—that every farmer's wife is urged to send her name and address in order that she may receive (free) a copy of the Jell-O Book, which has everything on the subject that any woman could wish. Among other things it tells how whipped Jell-O takes the place of eggs and cream in desserts.

Jell-O is put up in six pure fruit flavors: Strawberry, Raspberry, Lemon, Orange, Cherry, Chocolate, and sold in all general stores and groceries at **25** cents for **2** packages.

THE GENESEE PURE FOOD COMPANY
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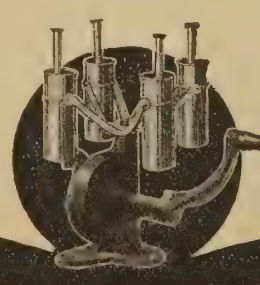
$6.95 BUYS A CREPACO Babcock MILK TESTER

Don't Keep Boarder Cows!

Appearances are deceiving. The cow you think is best may be unprofitable. The man who **knows** is the man who succeeds. The Crepaco Babcock Tester shown below will point out the unprofitable cow. It will enable you to buy cows with open eyes. It will enable you to secure adequate remuneration for your milk and cream.

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For $6.95 we furnish a high grade, accurate, 4-bottle testing machine, one acid measure, pipette, two brushes, one bottle acid, and instruction sheet. Everything complete for testing.



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SOPHIE'S AGNES, TYPICAL OF THE INDIVIDUALITY OF THE AMERICAN-BRED JERSEYS ON AYREDALE STOCK FARM, MAINE. SHE WAS THE FIRST COW OF THE BREED TO MAKE 1,000 LBS. OF FAT IN A YEAR

American-bred Jerseys in Maine

"GOD and nature first made the Jersey cow for production. Her beautiful qualities to please the eye are a secondary consideration." These words form the basis upon which a great breeding establishment has been founded well up in Maine, far from the usual haunts of famous Jerseys. When F. W. Ayer said further of the breed, "The future development depends upon the fullest use of the animals that have proven their ability to transmit great production," he outlined the plan he has put in operation at Ayredale Stock Farm. There American-bred Jerseys are raised—a herd in which those Jersey qualities are developed which appeal to the American farmer who milks cows for profit. There progress is measured, not by form alone, but by the standard of the text, "By their fruits, ye shall know them."

At Ayredale have been brought together representatives of the best production families. The herd throughout probably excels any other of the breed in average productive capacity—fulfilling the testimony of a recent breeder-visitor that it is "the best herd of producing Jerseys in America."

Concrete evidence of the merit of the herd where Plain Mary, the breed's champion, was owned is found in the Register of Merit work now being done. One hundred sixty-eight records completed average 10,594 lbs. milk, 588 lbs. fat. More than half of these were made by cows not yet mature. Forty yearly records made in 1920 average 10,481 lbs. milk, 586 lbs. fat, almost half of them being made by heifers with their first calf. In January, 1921, five cows completed records averaging 11,000 lbs. milk, 628 lbs. fat.

The sire to which these cows are bred is Carry-on of Ayredale, whose dam and two grandams have an average of 17,151.1 lbs. milk, 928.3 lbs. fat. He is a grandson and a great grandson of Sophie 19th of Hood Farm, his dam being Sophie's Bertha, ex-champion junior three-year-old, with three records, all begun at less than mature age, averaging 14,799.7 lbs. milk, 825.3 lbs. fat.

Ayredale Jerseys have size, capacity, and the inherent vitality to stand up under hard work. They have plenty of spread for handling much feed, with capacious middles; deep, wide chests; and large udders full of active, healthy tissues for the manufacture of milk. They have keen appetites and the ability to make a satisfying accounting for all feed consumed. They are cows of marked energy and vigor. At Ayredale are Jerseys without daintiness, which are not delicate; cows neither fawn-like nor beautiful, in the sense of prettiness.

These cows have too much scale and substance to fit present day showing requirements; the fancier's demands are ignored for working form. Here are cows which have the stuff from which profits are made—the qualities necessary on the dairy farms of America.

Official Testing

HOARD'S DAIRYMAN:—It is with great interest that I have been following the various articles in your paper in regard to official testing and prompts me to contribute some of my own observations and opinions.

In the first place, when speaking of what is natural and what is against nature in regard to the dairy cow, we must use that term relatively only. For the modern dairy cow is not a natural cow but has been bred up by man's genius and selection, so that in many ways she does not follow the same laws her ancestors did when they roamed the fields. We know that in nature a female does not mature as early as in our dairy breeds, more so in some than in others, and no one would suggest breeding a heifer the first time she came in heat, though it is nature's outward sign that she has reached that stage of her development. Again, in nature in its wild state, the mating season came but once a year so that the young would always be born at the time when nature furnished abundance of feed. And cows in those days only gave enough milk to properly nourish their young.

These things have all been changed to a great extent but with all we have learned some lessons, and we say it is against nature to do or not to do them. For instance, we have learned that if we put off breeding a cow after she has freshened we lessen the chances of her ever breeding again, and many a high producer has proved barren and thereby unable to transmit her good qualities through her offspring. Still breeders will persist in taking this chance and make a big record; they are sacrificing reproduction to production. This very thing has led one of our dairy breeds to adopt the slogan "a calf with every record" and it has been a great step in advance, but there is still the opportunity for

breeders to push cows through the year's record without giving her a resting period. I believe all will agree with me that, for a cow to be at her best year after year, she should have a resting period before dropping her young, and while there are some exceptions they only prove the rule. The rule is, that no cow has made a good Advanced Registry record several lactation periods in succession without having a reasonable resting period between each one. If this is true, and authorities seem to agree that it is, then why make arbitrary requirements for the Advanced Registry that do not conform with nature's limitations as they exist at present? There is only one logical answer and that is, a 305-day testing period with the requirement that the cow must drop a living calf within 365 days after entering the test.

You say that some one suggests that "the relative efficiency of cows would be measured by the time required to make the official requirements rather than the quantity of fat produced in a year." What are the official requirements but arbitrarily established figures that can be increased or decreased at any time without effect on the cow. A good many people have felt that the present requirements are not high enough, and my suggestion would be to leave the requirements where they are but have the cow make them in 305 days, besides a calf, as above suggested. I fail to see the logic in comparing a race horse with a dairy cow. The former is a creature of sport and used for that purpose only, the latter is one upon whom the human family depends for essential nourishment. Besides, what good would a horse be that could make a mile a minute, but could not do a full day's work in the harness? If the Advanced Registry rules were applied like that I am afraid that cows would be dry for two or three months, would be pushed to the limit without breeding them, to see in just how few days they could make the present A. R. requirements, even though they were dried off as soon as the test were finished.

The cry all along has been not how much will a cow give right after she freshens but how long will she keep it up. It is not always the cow that makes a lot the first month or two that rolls up the big totals for the year's work. We have to feed cows the year round, so why not keep track of their work, at least what is considered a year's work for the average dairy cow, viz., milk ten months, drying up and dry two months, then a calf? The trouble is, things are getting so now that unless a man's cows produce 700 lbs. fat or more per year, he is not considered at all.

Just a few days ago a breeder told me that A. R. records of 600 lbs. fat or less were worse than none at all. He has got good pure-breds, which would make from 400 to 500 lbs. fat on twice a day milking, but he veals his bulls just on account of such fool notions. I can take you to breeders who have world record cows and the majority of their herds look as bad as scrubs; a few cows are getting the care, and the rest can go hang. Is not the man who milks his cows under farm conditions and makes records up to 500 and 600 pounds of fat with calf, doing more good for the breed than the other man? This leads me to say just a word in regard to the number of times a cow should be milked. I cannot see any harm in milking a cow three times daily that is giving from 45 to 70 pounds of milk per day, and some of our heavy milkers should no doubt be milked four times. But I draw the line on milking a cow three or four times a day that gives only 5 and 6 lbs. to the milking, like some cases I know of. Such methods disgust the average farmer.

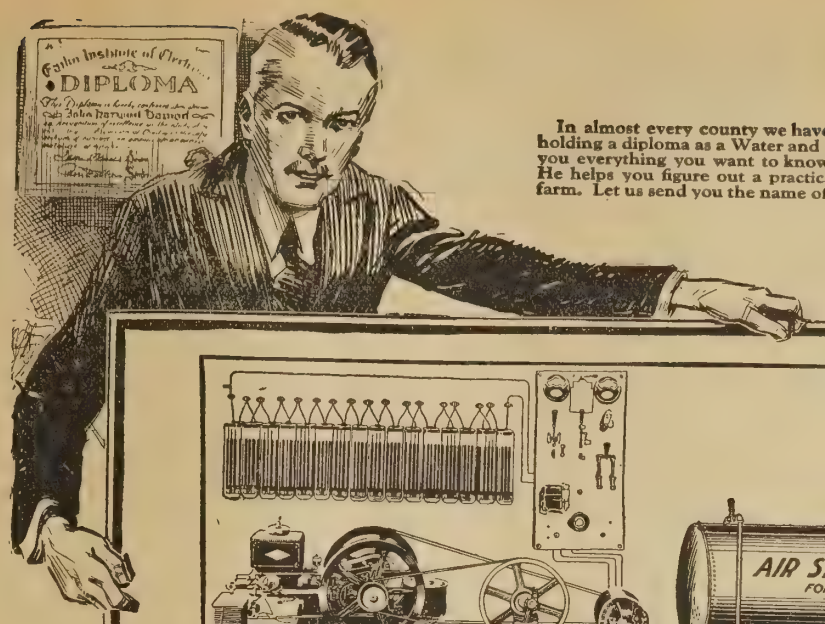
A few days ago I was looking through some of our breed papers and I re-read an article by one of the great constructive breeders of our country. I want to quote: "All breeds are bred for a distinct economic purpose and a breed stands or falls on its ability favorably to impress itself on and improve the non-pedigreed animals of the country, for when all is said and done this is the only excuse and reason for the existence of the pure-bred." All Advanced Registry records are made with the intention to prove the economic purpose and the individual merits of the different breeds and to recommend them to the man who milks just cows. If we let these truths lead us we cannot err in selecting the 305 days' test period.

Oregon. OCTAV VOGET.

Jersey Cattle Notes

For week ending March 4:

Number of animals registered: Bulls, 245; cows, 677; total, 922. Number of transfers recorded: Bulls 191; cows, 499; total, 690.



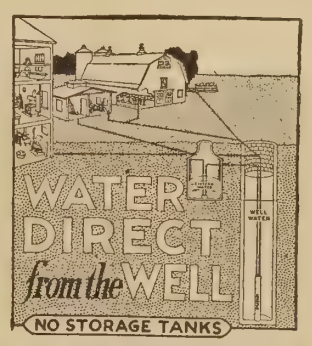
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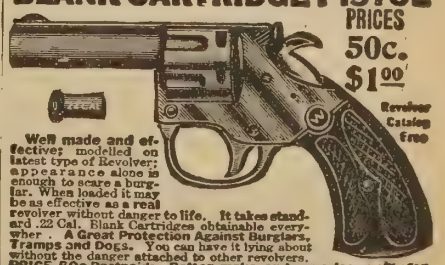
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All seams are smoothly flooded with solder
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Strongest possible concealed or open breast hoop construction
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Cow Testing Associations

RECORDS, PRICES OF FEEDS, FAT, AND MILK

Following is the summary of reports received during the week and up to the time of going to press of this issue:

State	Association	Tester	Month	No. of cows tested	No. of cows producing over 40 lbs. fat	Fat production of high cow	Owner
Vt.	Waterbury—Waitsfield	P. E. Bassett	Feb.		33	56.9	Vt. State Hospital
N. J.	Salem Co.	F. A. Tuoti	"	443	35	75.5	Chas. R. Hires
Pa.	Lebanon Valley	Paul S. Bubp	"	262	42	66.9	A. G. Boger
Ohio	Barnesville	Clyde F. Lewis	"	214	34	64.8	L. J. Taber
Tenn.	Rutherford Co.	W. H. Oliver	"	101	16	63.4	Chas. Pearson
Wis.	Unity	Carl D. Smith	"	380	35	61.3	A. Groelle
"	Luck—Milltown	C. M. Johnson	"	680	100	67.5	A. L. Rasmussen
"	Polk Co.	F. Christopherson	"	333	30	51.4	M. H. Shortess
"	Amery	L. Otterson	"	308	12	53.2	A. H. Olds
"	Ellington	Matthew Nelson	"	344	32	50.3	D. P. Halloran
Minn.	Blue Earth Co.	O. Erickson	"	210	78	97.3	Marlow & Randall
Mich.	Kent Co. Co.-op.	Mavoric Farmer	"	310	32	64.7	A. Clark & Son
Ill.	Knox Co.	J. B. Countiss	"	249	28	54.9	E. V. Moberg
"	DeKalb Co.	Earl R. Jackson	"	315	59	73.1	J. Hulmes & Son
Ia.	Monona—Farmersburg	Ernest Lihn	"	347	62	78.6	W. J. Allert
"	Winneshiek Co.	Carl Wennes	"	188	12	51.9	C. C. Pelgrim
"	Delaware Co.		"	295	14	57.3	H .C. Neiman
Cal.	Riverside Co.	E. Bahler	"	387	73	96.2	N. L. Browning
Wash.	Wahkiakum Co.	R. J. Savage	"	334	47	78.4	O. P. Dosland

Association Notes

Salem County, New Jersey:—The majority of farmers purchase their feed through the South Jersey Farmers' Exchange, an organization owned by the farmers. Home grown corn, ground into corn and cob meal, enables the farmers to keep the cost of their rations down reasonably. The average cost of the grain ration for February was $2.26 per cwt. Unprofitable cows are sold for beef. Veal calves bring 14c per lb. The secretary of the Salem—Cumberland Holstein-Friesian Association is of great assistance to the farmers in supplying them with good bulls. Several herds in the association are being tuberculin tested. February market milk testing 3.5% sold for $2.92 per cwt. and 4c per point above. Hotel milk sold for 10c to 12c per quart. Feed prices are: Silage, $8.50 per ton; alfalfa, $30; clover, $28; mixed hay, $25; gluten feed, $48; linseed meal, $50; cottonseed meal, $45; dried brewers grains, $45; beet pulp, $45; bran, $38; hominy feed, $33; corn and cob meal, $27; oats, $40.

Barnesville, Ohio:—February market milk testing 3.5% sold for $2.70 to $3.20 per cwt. and 5c per point above. Feed prices are: Larro, $2.75 per cwt.; bran, $2.10; oil meal, $3; cottonseed meal, $3; hominy, $2.25; beet pulp, $2.50; gluten, $2.75; oat middlings, $2; Cow Chow, $2.70; oats, 70c per bushel; corn, 90c.

Unity, Wisconsin:—Purchasing a carload of mixed feed co-operatively at a saving of $200 resulted in a reduction in prices of feeds by the local dealers. Three members are A. R. O. testing with fine results. Farmers' institute was well attended. A three-reel picture on the Babcock test and one on Ayrshire cattle were shown. Two unprofitable cows were sold during February. Market milk testing 3.6% sold for $2.30. Milk retails for 10c per quart, butter for 53c per lb., and cheese for 23½c per lb. Feeds sold as follows: Gluten, $38—$55 per ton; bran, $28—$33; oats, $29; barley, $30; oil meal, $45—$50.

Luck—Milltown, Wisconsin:—A meeting was held during February for the purpose of determining the actual cost of producing a pound of butter in the two local creameries. This association is "one hundred per cent" in the use of pure-bred sires. All but two of the 55 members have silos and water systems. Two carloads of feed were ordered.

Polk County, Wisconsin:—The last scrub bull has been sold, making this association "one hundred per cent". Eleven unprofitable cows were sold during February. The creamery paid 51c per lb. for fat. The following prices were paid for feeds: Silage, $6 per ton; hay, $12; oats, $25; barley, $27; corn, $18; bran, $32; oil meal, $48.

Amery, Wisconsin:—Several members have fed ready mixed dairy feed, but find that they prefer rations prepared from home grown feeds. Members feeding only timothy and wild hay are beginning to realize the importance of having some legume hay. All members deliver their cream to a creamery. During the first eight months of the association year 28 unprofitable cows have been sold.

Ellington, Wisconsin: — During February two cows were sold for beef and 23 for dairy purposes. These 23 cows were not of the best in the association, as farmers know that cows whose values are proven are hard to replace, therefore the best animals are kept in the association. The condensery paid 41.6c, the creamery 48c, and the cheese factory 58.8c per lb. for fat. Milk retails for 12c per quart. Bran is rated at $30 per ton; middlings, $29; oil meal, $46; gluten, $54; cottonseed meal, $50; clover hay, $16; oats, 42c per bushel; barley, 60—65c; corn, 65c.

Blue Earth County, Minnesota:—Several unprofitable cows were sold in February. The owner's profit from his herd is as large without these cows, which proves that they did not pay their board. The installing of drinking cups in two herds and the feeding of better balanced rations has helped to increase the milk flows in the association. Milk retails for 10c per quart and butter for 53c per lb. The creamery paid 60c per lb. for fat. Feed prices are: Oats, $18 per ton; bran, $24; oil meal, $45; corn (shelled and ground), 45c per bushel; silage, $6 per ton; clover hay, $18; alfalfa, $18—$20.

Knox County, Illinois:—Three pure-bred bulls of excellent breeding have been purchased recently by members. Nine members are keeping daily milk records of their cows and none are using grade or scrub bulls. At present over 50 per cent of the cows in the association have been tested for tuberculosis, and 34 reactors were shipped to Chicago during February. Mr. A. R. Landon, a pioneer in his association, has been made a member of the Dairy Committee of the Illinois Agricultural Association. Market milk testing 3.5% sold for $3.25 per cwt. and 5c per point above. The condensery paid 48c and the creamery paid the same price per pound for fat. Milk retails for 15c per quart and butter for 50c per lb. Feed prices are: Corn and cob meal, $1 per cwt.; ground oats, $1; wheat bran, $2.15; oil meal, $58

per ton; cottonseed meal, $49; Cow Chow, $34; molasses, $38; alfalfa, $22.50; clover, $18; corn silage, $5.

Monona — Farmersburg, Iowa:—This month there were 62 cows on the honor list as producing over 40 lbs. fat, as compared with a maximum number of 30 for any month last year, and a maximum of 21 for any month the year before.

Riverside County, California:—The five highest cows for February average a production of 77.54 lbs. fat. N. L. Browning has two pure-bred Holsteins which gave him a herd average of 74.04 lbs. butterfat. Four per cent milk sold for $4 per cwt. in February. Milk retails for 16c per quart, butter for 60c per lb., and cheese for 35c per lb. Feed prices are: Bran, $44 per ton; coconut meal, $40; cottonseed meal (40%), $40; beet pulp, dried, $48; ground barley, $38.

A Washington Association Finished Fourth Year's Work

The Stillaguamish Valley Cow Testing Association, Washington, has finished four years of work. Of the 792 cows tested during the past year, 475 completed the year with the following averages: milk production, 6,715 lbs.; butterfat production, 292.4 lbs.; value of product, $204.97; feed cost, $107.53; return over feed cost, $97.44. A herd of Guernseys owned by Valley Gem Farms reached the highest average production, the 24 cows averaging 412.4 lbs. fat and 8,870 lbs. milk. Valley Gem Farms also own the four highest fat producers and the three highest milk producers. The tester, Mr. M. C. Hong, makes the following observations: "The six highest herds have been testing continuously since the association started four years ago. They have also had a pure-bred sire at the head of the herd. Of the six lowest herds, four have tested for the first time last year, while none of them have tested more than two years. The ten high cows for butterfat production are from herds that have been in the association for four years. It may be stated that four of the cows in the high herd were on semi-official test, and were milked three times a day for nine months. However, to offset any advantages that may have been gained in this way, there was a loss of feed and barns by fire over three months before the testing year was finished.

An example of what may be accomplished through testing and right breeding is furnished by William E. Pew, a cow tester in Ohio. He cites the accomplishment which has been made on the farm of Mr. R. H. Anderson in the period of four years. In 1916 Mr. Anderson's herd included "all kinds of cows". The first registered Jerseys were purchased in September, 1917, when the results of the cow testing association had indicated the need for better cows. One of the animals purchased, Homestead Dairy Queen, now on her second year of testing, is producing an average of 70 lbs. monthly. Eighteen Register of Merit records have been completed and ten more cows are on test at this time. Of the two-year-olds which have finished their records, only one has made less than 400 lbs. fat. "This," Mr. Pew says, "is only one example of what has been accomplished in three years by starting right and breeding and testing for better cows, because only by testing can one determine the kinds of cows he owns."

With spring house cleaning at hand, the farm woman who hasn't running water in the house casts envious glances at her more fortunate neighbor. Keep at the men folks.



Is your sink 36 inches high? Most kitchen sinks are so low that they cause endless discomfort and back strain. "Standard" kitchen sinks have adjustable legs, so that they can be set from 32 to 36 inches high, as desired. Measure height of sink from top of rim to floor.

Write today for copy of catalogue "Standard" Plumbing Fixtures for the Farm." It is illustrated in colors, shows many styles of sinks, complete bathrooms and fixtures, model kitchen and laundry.

Standard Sanitary Mfg. Co., Pittsburgh

A Successful Milk Company

HOARD'S DAIRYMAN:—In looking over the reports of prices for milk in different towns and cities I do not see any that is any better than our own in Connellsville, Pennsylvania. Our plant is owned by the Farmers' Co-operative Co. Stock was sold to farmers who were milk producers, the company agreeing to take all their milk and pay on a butterfat basis. The company rented a suitable building, put in a pasteurizer, milk cooler, refrigerating plant, and separator and churn. It sells milk, cream, cottage cheese, and butter and in January paid the farmers $4.41 per 100 lbs. for 4 per cent milk. Instead of 12 or 14 wagons going over the same route daily, 3 make the deliveries and a better grade of milk is furnished. The plant did a business of over $56,000 last year which was our first in business. We would not go back to the old way of selling to dealers who would stop their supply when milk got cheap and plenty and some one come along and offer it at a lower price. We retail milk at 17 cents a quart which is a higher price than many towns are paying, but we try to give them a good milk and good service. We find co-operation among the farmers pays as the state of Pennsylvania is buying fertilizers this year for the farmers and we are to have 16 per cent phosphoric acid for less than $17 a ton instead of $31 asked by dealers.

Pennsylvania. W. W. M.



The Farmer's Concrete Mixer

SHELDON Batch Mixer

Mixer Parts $14.20 up — Complete Mixers $29.85 up

Build for permanence. Put a SHELDON Mixer to work on your farm. Saves time, labor, money. Takes the backache out of concrete. Gives you a better job. Sheldon is the pioneer builder of mixers for farmers. Thousands in use now on farms —in every state. Buy a Sheldon. Build your own concrete tanks, feeding floors, silos, foundations, etc., at a big saving. Costs only $16.80 and upward. Write for book.

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It is the greatest labor saver I have on my farm. Two men can do ten times the amount of work in one day and do it ten times easier than the old way.—HARRY L. WALLACE, Jeromeville, O.

The machine I bought of you in 1916 has given continual service to date *without a single repair*, and at present needs only the small cast wheels that support the drum, and their supports.—ASA A. GOBLE, Huntington, Ind.

Owing to the scarcity of labor the machine is practically indispensable in making farm improvements with concrete.—J. McGRARY, Massena, N. Y.

I am more than busy with my Sheldon Mixer. I have more work than I can do. I get $10 a day when I work out.—JESSE L. WITTER, Wellsville, N. Y.

Last spring we purchased a set of castings to make a concrete mixer. It was constructed per the plans furnished and *it surely worked great.*—D. M. BRUBAKER, Freeport, Ill.

George Hanig of Ackley, Ia., writes that he "put through" 106 yards of concrete in 21 hours. That's more than 40 cubic yards for an eight-hour day.

FREE PLANS

Make your own concrete mixer. Costs so little you can't afford to mix by shovel. With our iron and steel parts we send Free Plans and a permit for building your own. Or, we will sell you a built-up machine, at a very low price.

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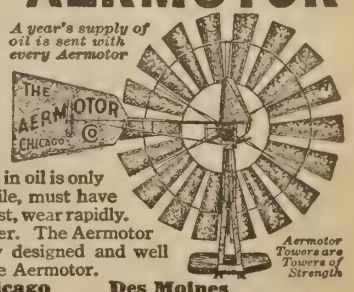
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Oil an Aermotor once a year and it is always oiled. Every moving part is completely and fully oiled. A constant stream of oil flows on every bearing. The shafts run in oil. The double gears run in oil in a tightly enclosed gear case. Friction and wear are practically eliminated.

Any windmill which does not have the gears running in oil is only half oiled. A modern windmill, like a modern automobile, must have its gears enclosed and run in oil. Dry gears, exposed to dust, wear rapidly. Dry bearings and dry gears cause friction and loss of power. The Aermotor pumps in the lightest breeze because it is correctly designed and well oiled. To get everlasting windmill satisfaction, buy the Aermotor.

Aermotor Towers are Towers of Strength

Write today for Circular. **AERMOTOR CO.** Chicago Kansas City Des Moines Minneapolis Oakland



Warm, dry, comfortable stall floors of Circle A Cork Brick in the barn of the Ingle Investment Co., Winslow, Ind.

Cows Are Like Folks

COLD effects cows very much as it does humans. It lowers their vitality, decreases production and increases susceptibility to disease. The most penetrating and harmful cold comes through the floor, since it effects the least protected and most delicate parts of the animal's body. Cold floors, therefore, are unprofitable floors.

Ⓐ Circle A Cork Brick Ⓐ
FOR STALL FLOORS

are warm to the touch—summer and winter. Hence, a floor of Circle A Cork Brick prevents chilling and lowered vitality. It keeps cows comfortable, increases their milk production and protects them from garget, rheumatism and stiff joints. Being also sanitary, non-slippery and durable, a floor of Circle A Cork Brick has money-saving and money-making features which the dairyman and breeder cannot afford to overlook.

The vital importance of warm, dry stall floors is interestingly explained in the 28-page book, "Better Stall Floors," which, with a sample brick, will be sent free on request.

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Farm Land at $15 to $30 an Acre

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—low taxation (none on improvements), healthful climate, good schools, churches, pleasant social relationships, a prosperous and industrious people.

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Keep Tab on Your Cows

Send 5c in stamps for samples and prices of our weekly and monthly Milk Record Sheets. **Hoard's Dairyman, Fort Atkinson, Wis.**

Putting Life Into the Soil

HOARD'S DAIRYMAN:—You no doubt have seen soil that was lifeless, it may turn up in fairly good condition, but after it has been worked a little and cultivated it lacks the looseness and loamy character that it should have and crops do not thrive well on it. A little humus forming material added to it not only increases its productiveness, but gives new life to it. Every farmer has observed the results of plowing under any vegetable matter and will find it worth while to go into the reasons for the change to the better in the soil.

Humus is rotted vegetable matter. There are a number of ways to get this humus into the soil. We don't have to rot material to make humus, the soil is benefited more by having this vegetable matter decay on or mixed in with the soil. A ton of straw rotted in the soil will improve the texture and fertility of the soil much more than will the simple addition of a ton of already rotted straw.

I have seen this proven a number of times, and the results are more marked in clay ground. Perhaps that is because the clay gets a little tighter than does our black ground which makes the effects of added vegetable matter more noticeable. Some of our clays given as much as three or four tons of fresh straw, wheat or oats or rye straw, and soy bean or clover chaff undergo a great change when the straw is worked into the soil, and make the difference between an unprofitable and profitable crop. The results of the addition of the straw can be seen for several years in the finer texture of the soil.

It is usually the crop on the clay ground that suffers most in periods of drouth. Where we have added a few tons of humus forming material and it has rotted in the soil, the crop will stand more dry weather than where the vegetable matter has been omitted. It will retain moisture longer and hold more moisture, and this advantage often means the difference between success and failure. If the soil has been neglected or is pretty well run down a great deal more vegetable matter will be needed and should be provided. A neighbor got splendid results by discing and plowing under four to five tons of very strawy manure, planting to soybeans, threshing the soybeans, and then putting the soy bean chaff back on the ground. By sowing a little less than a hundred pounds of acid phosphate with his corn, he got a much better crop of corn off that clay soil than had been raised there in years. Humus was no doubt the foundation of success with that soil.

I have noticed also that where our clay soils are tilled they respond better to the addition of humus. The decay of the straw or whatever is used is more rapid. They warm up a little earlier, because they are looser and absorb the heat of the sun and air faster. When you turn up a clay that crumbles behind the plow and the loose dirt runs back down into the furrow you are pretty sure to have a clay in good tilth, that will hold moisture and warm quickly.

It is an accepted fact that if we removed all the humus from the soil we would have only mineral matter such as finely ground rock, so it will be seen why the humus is what gives "life" to the soil. Every time we grow a crop of corn, hay, or wheat some humus is added to the soil through the stems and leaves left on the ground and the roots in the soil, but these are not sufficient.

One of the best practices we can make is to get all the humus in the soil we can, consistent with good farming methods, plowing under straws, manures, grass, and stalks. Clover

Abortion



due to a germ infection is prevented and eliminated from the herd by treating with

B-K Bacili-Kill

B-K kills these germs without irritating the tissues and restores the reproductive organs to normal. It is a very powerful disinfectant, a pure sodium hypochlorite that many Veterinarians and doctors prescribe—well known to most scientists and used by the best breeders for years.

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Madison, Wisconsin

Don't take a chance and be without it. You will surely need it—for calf scours, barreness, retained afterbirth—or any germ infection.



And B-K is **always ready.**

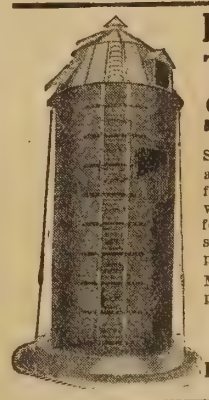
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Save your temper, your cows, your milk. Does not excite the cow, nor disturb the flow of milk. Indispensible for breaking heifers, cows with sore teats, or vicious kickers. Cannot wear out. Put on or off in 15 seconds. Guaranteed to be an absolutely perfect anti-kicker, or put on loosely as hobble for cow, horse or mule. Price $1.15 Postage extra. Weight 2 lbs. Send for it **today**, when you need it you won't have time.

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INDEPENDENT TRIPLE WALL SILOS

strong, permanent and durable, 2x6-inch staves forming inner wall. A center wall of acid-proof insulating felt and outside wall end-lock siding. Air-tight, warm, and practically Frost-proof.

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GREEN MOUNTAIN SILO

has five feet more capacity, size for size, than any other. Selected creosoted fir staves make it weather proof and add years to its life.

Secure anchorage to concrete foundation makes it wind proof. Many other exclusive features.

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Will last forever. You will never have to rebuild it! Neither will your grandchildren.

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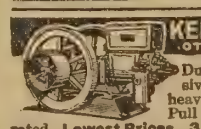
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1521 King Street, OTTAWA, KANSAS

sods are very valuable, the rotting roots opening the soil and loosening it in a most desirable manner. Alfalfa and sweet clover roots go deep into the soil and leave, when turned under, a great mass of stems and roots that is soon converted into humus by the action of bacteria working on it.

Indiana. J. L. JUSTICE.

Sunflower Silage

HOARD'S DAIRYMAN:—In your February 18 issue D. H. A. gives his experience with sunflowers for silage and you invite a report of the experience of others who have grown and used sunflowers for this purpose. I am therefore offering my experience with the crop.

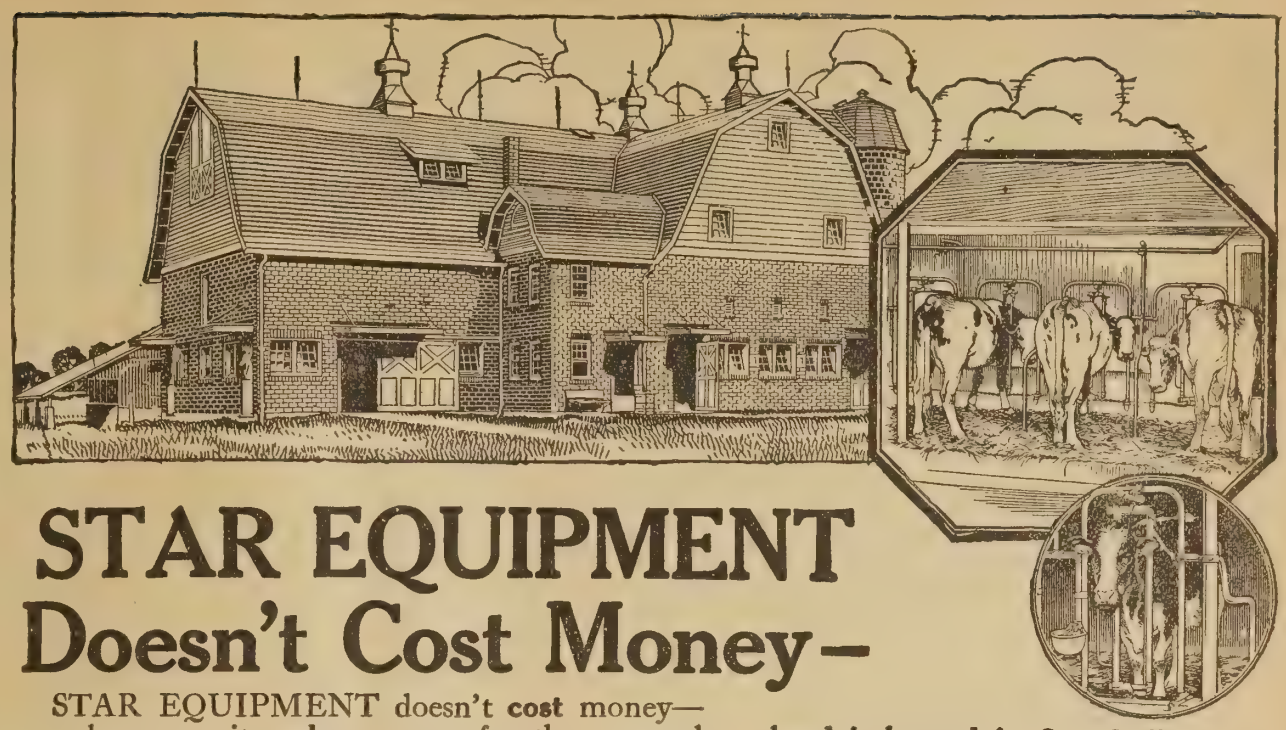
Sunflowers have been grown in Minnesota for the past three or four years as a crop that would escape frosts and that would give a satisfactory silage product. To learn the value of the crop it has been grown at University Farm in comparison with corn. The crop has usually been planted between May 15 and 25, or just at the late corn planting time. It has been planted in rows 36 to 42 inches apart, using 16 to 20 pounds of seed per acre. The aim is to have the sunflower plants 2 to 4 or 5 inches apart in the row. The crop has been cultivated just as a crop of corn planted in drills would be and the crop cut for silage when well in blossom and when the lower leaves are beginning to dry up and fall off. Cut at this time it gives a sappy silage. Frequently liquid will drain out of the bottom of the silo but the silage has kept perfectly and appears to be of good quality. It is my belief that the late blossoming stage at least should be reached before the crop is cut for silage. It would be better yet if the seed were allowed to mature to some extent, though this usually results in quite a large loss of leaves and more dense and woody stalks.

The yield of silage at University Farm has varied from 8½ to 12 tons per acre. In this respect it compares favorably with corn as that is about the average yield of that crop over a period of years. Much higher yields are reported from other places. The weights at University Farm are accurate as every load put into the silo was first driven over the scales. Since sunflowers yield no more and make no better silage than corn there would seem to be no particular object in growing sunflowers where corn can be successfully grown. Sunflowers proved a very acceptable silage crop in the northern part of the state where the season is shorter and where severe frosts come early in the fall. Yields in St. Louis County and Itasca County where the crop has been tried to some extent are slightly larger than they are at University Farm.

There has been no difficulty whatever in getting the cows to eat the silage. When first offered they sometimes hesitate but after a feed or two of the sunflower silage they take it as readily as they do corn silage and it seems to be quite as effective in keeping up the milk flow.

At the North Central Sub-station at Grand Rapids a silage combination has been made by mixing corn, sunflowers, and soy beans. The proportions are 3 parts corn, 1 part sunflowers, and 1 part soy beans, by measure. Of this mixture 20 pounds of seed per acre is sown. The result is a mixed crop with a somewhat larger yield than is obtained of either crop alone and a very desirable quality of silage. This mixture is highly recommended by Superintendent Bergh and I believe that others will do well to try it out. ANDREW BOSS.

Minnesota College of Agriculture.



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STAR EQUIPMENT doesn't **cost** money—
—because—it **makes** money for the man whose herd is housed in Star Stalls.

Healthier cows—cows that give more milk—less work for you and the hired hands to do—don't those things represent more money in your pocket?

Well, that's what the STAR EQUIPPED barn means. Dairymen who have housed herds the old way and the modern way—the STAR way—say that the equipment pays for itself the first year it's in or soon after.

It isn't a question of whether or not you can afford it—the question is can you afford to be **without** it?



1—Star Alignment Device
Instantly lines cow at gutter after she is in stall—keeps stall, bedding and cow clean.

2—StarStanchionAdjustment
Narrows or widens stanchions to exactly fit cow's neck. Safety and comfort.

3—Star Curb Clamp
"Sets a stall in 60 seconds"—permits of concrete work being finished before stalls are set. Cuts time of installation in half.

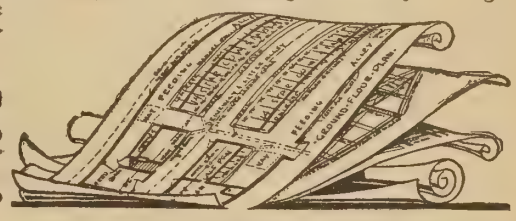
4—Star Unit System Stall
Each stall assembled before shipment, ready to go in place the moment it arrives.

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Hard maple lining forced in U bar, anchored so it won't come out.

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On every item of STAR Equipment, you'll find patented features, exclusive with this line, that mean added convenience, longer life, labor saving and money making.

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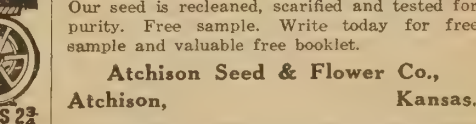
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EDITORIAL COMMENT



IS THE COW DOOMED?

There are those who believe that the synthetic method of making milk will replace the cow. Every few years new enthusiasts are found making this claim. They hold it is a simple matter to take the cereals and the roughage of the farm which the cow eats and convert them into milk. This has never been successfully done. A product has been produced which resembles milk but it has never had all the qualities and the refinement and the delectableness of milk. Leading scientists do not hold that there is any immediate danger of replacing the cow.

It is well known that for years scientists have tried to create life but so far they have not unravelled this secret. Since milk is so important to the welfare of the human race it may be considered a life-giving substance for without the properties characteristic of milk, proper growth of the young is not made. We can consider milk as wonderful a product as life itself. When scientists shall have been able to create life, then we will believe that science will be able to manufacture a product equal to milk from the feeds which the cow consumes. Until that is done, we will have little concern about statements to the effect that the scientist is capable of producing milk from cereals and roughages.

LESIONS ON POST MORTEM

A mistaken notion prevails concerning the evidence of tuberculosis as furnished by examinations for lesions of the disease in slaughtered animals. The presence of lesions is, of course, conclusive proof of a tubercular condition—but failure to discover lesions by no means proves the absence of the disease. Retest guarantees which require the finding of lesions as proof of the disease place too much of the burden of proof upon the purchaser and in no way constitute the guarantee implied.

In the first place, packing house inspection is made to determine whether or not meat is fit for human consumption—not to search minutely for lesions of tuberculosis in the small and inaccessible glands or in meat parts that cutting would injure. Microscopic examinations are impractical, and even they are not certain unless extensively made. Lesions in the parts not used for food may not be noticed, except when special examination is provided for. Moreover, it is now known that an animal may be tubercular without having lesions—that blood tests will evidence the disease in reactors in which lesions cannot be found. The fallacy of requiring the finding of lesions in animals which have been guaranteed is seen when it is known that as high as 15 per cent of tubercular animals may not have developed lesions. All reactors in which the disease is in its incipient stages are likely to show no evidences of tuberculosis upon slaughter. If the seller who has guaranteed an animal for retest is satisfied that the test has been properly administered, he can in fairness ask no more. To require the finding of lesions in the slaughtered animal makes the "guarantee" constitute no guarantee at all.

READJUSTMENT

Results of war are bad, and they affect the farm, the shop, the merchant, in fact, all industries. The greater the war the greater the disorganization of our economic conditions. Homes cannot be destroyed, land laid waste, industries turned toward the manufacture of munitions of war without disrupting our economic relationships. This period through which we are now passing is very similar to that which followed the Civil War. At that time prices rose beyond reason, then they receded rapidly, labor was thrown out of employment, prices of farm products declined until there was no money in farming. It does not seem possible at the end of a great conflict to return industries to peaceful pursuits, to the production of necessities of life, without passing through a period of depression when everything is out of alignment. At the close of every war there is a shortage of commodities that brings a demand which stimulates production everywhere. During the time of shortage there is opportunity for those who would demand the "pound of flesh". This condition creates discontent. The people strike back, attempting to save themselves from extortions. Then follows the period which we call readjustment, which means bringing about proper relationship between our several industries.

We are so constituted or have so little conception of providing plans to avoid these periods that they follow every war and the best way to pass through them is to accept the conditions as they are, knowing full well that in time we will be back to normal. What we need at present is greater confidence in all business activities. We should not be discouraged, for out of our present situation is coming a better understanding of our affairs and a more equitable relationship. Farmers everywhere are thinking and this means that changes will be instituted which will be of value not only to agriculture but to the nation as a whole.

BUYING SEED

The quality of the seed planted this spring will be one of the most important factors for the success or failure of the farm to produce a profit. We spend considerable labor and money in preparing a field for planting, and much of this is often wasted through carelessness or ignorance in sowing seed that does not grow well or that contains noxious weeds that will harry and worry us for years to come.

For some reason we are easy prey for the seller of "gold brick" seeds. He always promises phenomenal yields and extremely low prices. His "Splendiferous Oats" yield 150 bushels of 40-pound oats; his hay always goes ten tons to the acre, and the corn for silage never yields less than thirty tons. He is a master word painter and salesman, possibly because he does not feel bound by truth as is the man who expects the business next year.

A reliable seed house is under much expense to make sure of supplying its trade with good, clean seed that has quality in line with the best of the variety. We do not say that high price means quality. Price does not determine quality, good or bad; but quality does control price. What we wish here most to impress is, buy your seeds from reliable people. Buy the seed for your soil with the same responsibility that you feel in buying a bull for your herd. It is what your selection produces that makes the purchase wise or unwise, not the price. What we say of seed houses applies to individual growers. Know what you are buying and who it is from—then talk price.

When buying a seed mixture, know the relative quantities of the seed. If it is "alsike and timothy", don't be too certain the alsike predominates. Possibly the word has gone out, "spurlos versunken", and the alsike seeds will be conspicuous only for their few numbers in the midst of the cheaper timothy. Buy separately and mix, or get a guarantee of the quantities of each seed in the mixture. A sample of "mixed clovers and timothy" inspected by the Wisconsin Laboratory was found on examination to contain 16 per cent of the cheap and inferior annual yellow sweet clover. The really valuable clovers were not in the majority.

A. L. Stone of the Wisconsin Seed Inspection Service sends the following statement concerning a certain "bargain" seed house:

"A sample of red clover sent in to the Wisconsin Seed Laboratory by a Wonewoc farmer as coming from one of these companies was found to contain the seeds of buckhorn, Canada thistle, and wild mustard in the proportion of one noxious weed seed to approximately 170 crop seeds! Another sample from the same company, sent from Oconomowoc and labeled as mixed seeds, contained the seeds of quack grass, buckhorn, ox-eye daisy, Canada thistle, Indian and wild mustards—all noxious weeds! A sample of timothy from Janesville contained one buckhorn seed to approximately 879 timothy seeds, or at the rate of 99,717 per bushel. If sown at the rate of eight pounds per acre 7,032 buckhorn seeds would have been seeded per acre! Many more similar instances might be given, but these should make it plain that 'Bargain' seeds may be 'dear at any price'."

Look out for the new varieties sold at a long price. Some may be good and may fulfill their promise. If tried, make small seedings or wait until the price declines. If good, it will not be long before seed will be produced in sufficient quantity to reduce prices to reasonable limits.

We seem to be attracted by extremes in buying. We buy at a low price as a bargain, while a very high price whets our desire for something unusual. Either may be a good buy, but more often they are not.

CO-OPERATION AND KNOWLEDGE

We have long appreciated that the farmer working individually has not been in position to prepare and market his products to the best advantage. In our close study of successful co-operative enterprises we have been led to believe that if co-operation were developed to a larger extent there could be extended to the farmer such relief as he seeks in marketing his products. The trouble with co-operation is that not a sufficient number of farmers understand what it means to co-operate. Co-operation is not something to be adopted and accepted, but rather something to be learned and acted. Countries with the most successful co-operative enterprises have had the greatest obstacles to overcome. Necessity forced farmers to co-operate in some countries as there was no other way for them to succeed. At the present time the farmers in this country are turning their attention toward co-operative enterprises that they may improve the methods of marketing their products.

The president of a recently organized co-operative marketing company writes us: "Our affairs are not as satisfactory as I would like to see them for the reason that the farmer fails to see the economic adjustment period through which we are now passing, and I suppose blames conditions to his organization more than he should. But we are getting on a very sound foundation and I believe we are going to make a great success in the end." We believe if a survey were made among the men in this co-operative marketing company we would find that only a few members are informed upon the causes for the decline in the prices of farm products; that only a few thoroughly understand the economic forces which determine the market prices of farm commodities; that only a few know what a tremendous task it is to bring about a change in the handling of their products.

We know from investigation that this particular marketing company is organized upon a sound basis and it will succeed in its co-operative efforts if the members will inform themselves upon market conditions and what constitutes good business practices. Too much effort is being expended in complaint of conditions or circumstances, and not enough constructive effort is put forth to improve the methods of preparing and marketing farm commodities. It is not enough that a few leaders be interested in correcting the evils in marketing farm products, but a large number of farmers must also understand economic conditions and the principles upon which business is carried on. It is far easier to sit back and complain and find fault with those attempting to bring about improvement than it is to become an informed and active worker in bringing about the desired results.

Co-operation can only succeed when every member is willing to make some sacrifice and to do his part in making his organization a success.

Damages for Injury

A takes some stock in pasture from B without accepting any other responsibility. B sells farm and stock to C and most of them are left in pasture on same conditions. Shortly after one of the heifers comes with the milch cows to the barn and being in heat attempts to ride a cow just being milked inside the door. The milker gets up just in time to avoid being hurt and with his light pine milk stool raps the animal in the face. It rears out the door but slips on the wet planks and falls suddenly. It makes a quick jump to get up but falls back again. A veterinarian is quickly summoned but too late to do anything. He testifies that death was due to internal injury sustained in falli- and not the slightest mark is left under the skin where the blow was struck. The owner is called and told everything in detail. He gets the hide, free pasture for the remaining stock, and the veterinarian's service paid, amounting to about $18. He makes no further claim then, but over a year after he makes an additional claim of $40 on the grounds that A did "kill" that heifer. To what extent is A liable to C?

Polk Co., Wis. SUBSCRIBER.

We dislike, as a rule, to act as an arbitor in difficulties such as reported. This is not, as might first be assumed, because we do not want to take the responsibility for a decision but because in matters of this kind it is quite essential to get stories from both sides and all the additional evidence that is obtainable. There is often involved in such disputes a question of law and legal procedure which is a matter largely to be determined by a competent court; and when we see how often courts disagree, we fear the layman is quite likely to go far astray.

However, assuming that the information given is identical with that which could be secured by broader investigation, it is our opinion that A, on several counts, is not liable to any damage. As we understand, he merely allowed these cattle to be kept in his pasture with a definite understanding that he was not to be responsible in any way for them other than to furnish the pasture. It does not appear whether he received any remuneration for this, but it is doubtful whether even payment for the use of the pasturage would make any difference, providing it was understood that he was not to accept any responsibilty for such accidents or disabilities as might occur.

From the statements made, it would appear that the injured heifer was not maliciously handled by A and that he may have acted either in self defense or as any other individual might have acted under similar circumstances. It does not appear that even a blow might be given in anger that this was immediately and definitely responsible for the injury to the heifer. She might have fallen and slipped even when spoken to quickly or driven in any other manner from the barn. Added to all this, is the delay of the aggrieved C in seeking redress for the injury. Indeed, the acceptance of the tender previously made would seem to indicate that he was perfectly satisfied with the matter as it stood at that time.

It is our final conclusion that A is not liable to C under any condition. Indeed, we question whether there was any necessity of his paying the veterinarian's fee or allowing free pasturage to the stock, other than may have been dictated by his own desire to be more than fair in this matter. This opinion, as previously stated, is based upon a complete acceptance of the details as given.

Sorghum for Silage in Tennessee

Please tell me if corn and sorghum mixed make better ensilage than corn alone. What is the best kind of sorghum and ensilage to plant in Tennessee? Would it be better to plant the two together in alternate rows or in separate fields? Would the corn and sorghum both be ready for silo at same time if planted at same time?

Greenville, Tenn. W. E. N.

We see no advantage in mixing corn and sorghum for silage. In fact, we would prefer to seed these two forage crops separately and ensile them separately. This is because of the difficulty of getting the two plants to reach the proper stages of maturity at the same time, with both of them containing the maximum number of feed units that will permit of proper ensiling.

The particular desirability of the use of sorghum is that it will stand dry weather better than will corn. This will hold particularly true of the grain sorghums such as kafir, milo maize, etc. These are especially adapted to the drier sections of the United States and it is somewhat doubtful whether they would be suitable for growth in the state of Tennessee. The sweet sorghums, however, will do well in humid climates and, in some sections, are thought to make better growth than will corn. They will make an excellent grade of silage but it is doubtful whether it is superior to corn under most conditions.

Our suggestion is that the corn and sorghum be planted in separate fields and ensiled at the time when each reaches the proper maturity. For the sorghum, this is when the seeds are in the hard dough stage. The choice of varieties will depend largely upon those which do best in the particular vicinity and it is somewhat questionable whether it is desirable to introduce varieties from other states. In selecting a corn variety, we would take that which will produce the largest quantity of mature field corn and at the same time make the largest growth of stalk. The same would hold true as to the variety of sorghum to use.

Use of Complete Fertilizer on Sugar Beets

HOARD'S DAIRYMAN:—Sugar beets are chiefly grown on farms as a money crop. The success or failure in growing the crop largely depends upon the stand of beets and the yield harvested per acre. Yet it does not require much more effort to raise a good crop than a poor one, if a good stand is secured early in the season.

The writer made tests with commercial fertilizer which analyzed 2-7-10 on the growth of sugar beets which were planted on sandy-loam soil. The field was in potatoes the previous year and was plowed in the fall. The fertilizer was broadcasted on two plots May 25, then disced and thoroughly mixed with the soil. The beet seed was planted the following day. The commercial fertilizer was secured at $60.00 a ton.

The trials were made on acre plot basis as follows:

	Cost of Fertilizer
Plot 1—Check, no fertilizer	
Plot 2—2-7-10, 810 lbs.	$24.30
Plot 3—2-7-10, 660 lbs.	19.80

	Root lbs.	Leaves lbs.	Total lbs.	Increase roots lbs.	Increase leaves lbs.
Plot 1	20049	7248	27297		
Plot 2	29199	15903	45102	9150	8655
Plot 3	26326	10920	37249	6277	2672

The beets were sold at $10 a ton to sugar factory F. O. B. on board of cars at the nearest loading station. On the second plot, there was an increase of 9,150 lbs. over check or a gain of $21.45 over cost of fertilizer. On the third plot there was an increase of 6,277 lbs. of beets over check at a gain of $11.57 over cost of fertilizer. There was also an increase of 5.66 tons of sugar beet leaves on the two plots due to the use of commercial fertilizer. It will also be noted that on plot two 22½ tons of roots and leaves were grown, while on the Check only a little over 13½ tons were raised.

Wisconsin. J. F. WOJTA.

Why Silage Spoils at Bottom of Silo

I have a ten-foot silo with 20 feet above ground and a 6-foot pit. This year my corn was well dented when a light frost hit it. I used three men inside of silo and ran ½-inch stream of water into the distributor pipe at elbow. Silage was of the best until we reached two feet from top of the pit, when it started with moldy spots and got worse as we went down. At 2 feet from bottom it is 90% moldy. The pit is plastered with two coats of mortar and the bottom is a kind of hard pan. Please advise if you or any reader of Hoard's Dairyman can tell how I can insure against this in the future.

Nampa, Ida. L. P. B.

The reason for the formation of mold at the bottom of the silo is seemingly unexplainable from the information given. The general rule for avoiding mold is a tight receptacle, corn in such condition that it will ferment in 24 hours, proper distribution in the silo, thorough packing, and a silo with straight sides which will permit the silage to settle evenly.

The majority of molds, and possibly all that are deleterious, grow only in the presence of air. The spoiled silage may be due to the difficulty in moistening the first corn ensiled either because sufficient water was not used or because the corn would not readily absorb moisture. Fermentation in this case would not take place quickly and so sufficient air was left in the silage to permit mold to start. Indeed, for proper fermentation there seems to be nothing that will quite take the place of the natural juices of the corn.

Another possible cause, particularly if the spoilage was at the outer part of the silo, may be due to the fact that the pit is not perfectly circular or else may not be joined to the super-structure so that the two walls are even one with the other. We have known of several silos of the latter character where there is always a considerable spoilage from the opening of the pit and down for a considerable distance.

Definite explanation of reasons for silage spoilage in given cases is difficult. If any readers have had the experience noted above we shall be pleased to have them write us.

A West Virginia Pasture

I have about 5 acres of sandy loam hillside with a southern slope. It hasn't been tended for twelve or thirteen years but has been pastured every year. This is very good soil, but it is grown up in bushes and briers. I wish to get a set of grass on this piece of ground this year.

Nolan, W. Va. G. D. H.

If the land is steep hillside best results will be secured by cutting off the briers and brush, burning this and then seeding to 1 lb. of white Dutch clover, 5 lbs. Canadian blue grass, 3 lbs. alsike clover, 5 lbs. Kentucky blue grass, 7 lbs. orchard grass, and 2 lbs. of redtop per acre. If the ground is not too steep to harrow, such operation will help to cover the seed. Excellent results have been obtained without any covering at all, simply seeding the above mixture in ashes or other trash that remains after burning the brush in early spring.

If the land can be plowed to advantage without danger of washing, the above mixture may be seeded in oats and harrowed in, but not plowed in. If the shovel plow is used in preference to the harrow because the land is too steep and rough, I doubt the advisability of breaking it at all

If desired to pasture lightly the same year as seeding, or to get a crop of hay from this next year, there might be added 3 lbs. of red clover and 4 lbs. of timothy, reducing some of the other grasses in case the seeding is made with oats—otherwise I would not add the red clover and timothy. Seeding in the last working of corn has been successful in a number of cases but is not to be preferred to the above plan.

West Virginia College of Agr'l. D. R. DODD.

Dehorning and Showing

I have a yearling Jersey bull that is a fine individual and promises to make a good show bull. Would it injure his sale to take his horns off? Would it be a serious drawback to him in the show ring?

Rolla, Mo. H. E. B.

Show ring standards, particularly for Jerseys, pay more or less consideration to the horns. While most judges will say that they are not influenced by the absence of horns, yet when horns are taken off, it narrows the appearance of the head and the animal does not show up quite as well. Of course, if the horns are poorly placed or coarse in quality, it would be preferable to remove them.

If we expected to show this animal or hoped to sell him on the basis of conformation rather than the records of his ancestry, we would hesitate to remove his horns unless it became essential.

Comparing Carbohydrates

Please tell me what is the analysis of molasses and how does it compare with corn and barley, with barley selling at $.60 a bushel, corn meal at $1.65 a cwt. and molasses at 2 2-5 cents per pound.

Appleton, Wis. A. B. K.

In 100 lbs. of blackstrap molasses, there are about 58.2 lbs. of carbohydrates and 1 lb. of crude protein, making the total of digestible nutrients in 100 lbs. equal to 59.2 lbs. In 100 lbs. of corn meal there are 6.9 lbs. crude protein, 69 lbs. carbohydrates, and 3.5 lbs. fat, making the equivalent in total digestible nutrients, 83.8 lbs. Barley is somewhat lower than corn, having 9 lbs. protein in 100 lbs., 66.8 lbs. carbohydrates, 1.6 lbs. fat, and an equivalent of 79.4 lbs. of digestible nutrients.

From these analyses, a feeder can judge the value of these three carbohydrate feeds from the standpoint of their nutrient contents. At the present market price, corn is a very cheap source of carbohydrates. We question whether it can be substituted to advantage by either of the others. At the prices listed it is considerably cheaper.

Hoard's Dairyman

Fort Atkinson, Wisconsin

Founded 1885 by W. D. HOARD

W. D. HOARD & SONS CO., Publishers
H. L. HOARD, A. R. HOARD, F. W. HOARD
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We solicit advertisements of meritorious articles needed by the farmer. We try to keep our advertising columns clean and wholesome, that they may merit the patronage and confidence of our readers. Unwholesome, immoral, and quack medical advertising are excluded. A sincere effort is made to exclude frauds, irresponsible and unscrupulous firms. We will always take it as a favor to be notified whenever any advertiser's dealings with a subscriber are in bad faith or evidence a lack of business honor. Advertisers generally recognize the readers of Hoard's Dairyman as an up-to-date class of farmers, who farm with business-like methods, and we hold our columns for the patronage of only those with whom our readers can deal with profit and satisfaction.

ADVERTISING COPY must be received eight days previous to the date of publication. Advertising to be classified or changes in advertising must reach us twelve days previous to date of publication.

Entered at Fort Atkinson, Wis., as second class matter.

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Coming Events

March 29-30—Cloverland Farmers' Institute will be held at Menominee County Agricultural School, Menominee, Mich. Superintendent, R. N. Kebler, Menominee, Mich.

May 23—Missouri State Holstein Association first Annual Show of Sale Cattle at Sedalia, Mo.

Farm Bureau Signs

The American Farm Bureau Federation announces that it has adopted an official farm bureau sign and also an official farm bureau button. Any member who is interested in either the sign or button may secure it through his state farm bureau federation.

Whey Butter Experiments

Whey butter is not in good favor with many and Wisconsin has recently re-affirmed its legislation requiring that it be labeled. There are many who hold that this is discrimination, that whey butter is of like quality and keeps as well as creamery butter.

To determine the quality of these two butters the Wisconsin College of Agriculture is conducting an experiment, as follows: Four thousand pounds of whole milk will be divided into two lots of 300 lbs. and 3,700 lbs. The 300 lbs. will be used for the manufacture of butter; and the 3,700 lbs. for the manufacture of cheese, the resulting whey to be skimmed and the whey cream to be made into butter. This process will produce two ten-pound jars of butter which can be scored and compared in keeping quality. The experiment was started early in March and will be repeated at frequent intervals so as to permit of several comparisons.

Professor Sammis extends an invitation to interested parties that they will be welcome to investigate the work at the Dairy School in Madison at any time. The several lots of butter will be judged at the scoring exhibition on March 29th and the results then published. He would welcome suggestions or questions about this experiment.

Milk Horizon Brightens in New York

HOARD'S DAIRYMAN:—The past six months have been about the most trying that dairymen have had in a considerable share of League territory, but it has brought out the fact that any persecution at all possible for dealers to put upon farmers cannot break their spirit, or their pocket books entirely. I do not know how many co-operative plants have been developed from this hold-up by the condenseries, but you will find many of them. In some cases old buildings have been purchased and fitted up, and milk has been handled in various ways. The farmers have lost money where they have had to manufacture, but they have stood the loss remarkably well. In certain places they have finally been able to get in position to get as much or more than is asked by League price. Today there are few places where such concerns as Nestle's can get farmers to deliver League milk to them any more than has been done all winter. Nestle's now pay substantially the same as the League asks, but they are referred to the League to buy.

Some curious conditions come out of it. In one town the Nestle's price is higher than the League, but the local League refused to sell unless the milk was bought in the regular way through the League. In another town the dairymen had worked hard and secured a market that brings them more than the League price, but the dealer decided to buy milk of the League and did so. As it was the Borden Condensed Milk Co. that wished to buy for its many plants, it was necessary to sell this milk even though the farmers of the one locality might have realized more for it. The local men agreed at once that it was proper that the League sell the milk and they commenced to deliver it on the first of the month. It left them in bad just a little, for they had a debt to face, but some way will be worked out to meet that. In another Nestle's town where the League could not sell but the company offered to pay rather more than the farmers could realize from operating the plant, only one patron changed to the Nestle's and in turn they lost two others.

We have a report that seems authentic that this company has now asked for a hearing with the directors of the League. Many things indicate that those concerns who have carried on the siege for months have had enough of war and would like to make peace if they could do it gracefully and save their faces. As I understand it, all the leading concerns save one have indicated that they will not oppose pooling when the time comes to put it into effect. I know nothing of the time when this is likely, but if I were to make a guess it would be May first.

We are almost to a certainty so near to pooling that we better think of what that means in many ways. One of these is that an entirely new business of such gigantic magnitude cannot run with absolute smoothness at the first send-off. Let no man expect it. I don't know where the hitches will be found, but they will be found and they will cause annoyance. The fellow who opposed will have the chance of his life to say, "I told you so. Take your medicine." All the same, we are going to take the medicine and will get a permanent cure. The man who has hindered in the recuperation may have a chance to want some of the medicine yet for himself. If he does, he ought to be made to pay for it.

I do not know what is to be the attitude of the League toward the opposition. It may be left to the locals to deal with them, for the local people know the conditions. It may be that ignorant and misguided men who are poor have been led to oppose and some of them are entitled to some sympathy. In many cases men of education and of wealth have done most to hold off the campaign. It would only be just that such pay the price before they get under cover again. They have caused heavy losses to many who could hardly afford to take them, and have done it with all possible opportunities to inform themselves. Some of these have seemed to hold that they could dodge in when the thing became sure and not be under the necessity of taking any of the risks. It would be justice to let these pay well if they conclude to come along with the rest. We do not want to create antagonism but we do want justice.

Since writing the foregoing, the League has sent out an estimate of April first when we may expect to see pooling in operation. They are in much better position to know than I am, and my estimate of May first may as well be discounted. From my own horizon my guess is good but from theirs it may be bad.

New York. H. H. LYON.

Health of the Herd

Every stock keeper is vitally interested in the health of his herd. His profit may be determined by this factor alone; and, as an ounce of prevention is worth a pound of cure, it is well to look ahead and plan to avoid loss.

We are making splendid progress in fighting the dreaded tuberculosis and if we can keep up the fight we have reason to expect a large reward in the future. Having had experience for many years in fighting bovine tuberculosis, I have some ideas which may be of value. In buying stock, see that it is tested, and then fol-

Cows That Pay

SKILLFUL dairymen endeavor to get a full yield from their cows at the least possible cost for feed and most of them do it with a corn protein ration.

One of many examples is a test of two lots of nine cows each, both averaging the same milk yield at the start—and the cost of each ration was practically the same.

Both received the same amount of feed per day, yet one lot produced 50% more milk for 131 days—on account of only 4⅓ lbs. of corn gluten feed per cow daily being substituted for 4⅓ lbs. of corn.

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low this test in sixty days with a retest. Test your own herd at least once a year, and absolutely keep reactors out. Fresh air and sunshine in the barn are important items of prevention, and good ventilation is essential. A cement floor and open steel stalls make a safer barn and allow for circulation of the air. Closely boarded pens, where neither light can get in nor air circulate, are dangerous, hard to keep clean, and are too apt to harbor disease germs.

The water tank should be emptied often; never use a float valve; it is the best way in the world to encourage a filthy tank. Make it necessary for someone to go each day to the water tank and turn on the water. This will insure inspection. Arrange for definite days to clean and scrub out the tank; use a little copper sulphate solution in the last water, which will prevent green slime and will disinfect the walls and bottom of the tank.

There are a great many other ailments which are liable to affect the dairy herd and cut into the profits. Many of these troubles can be avoided by using a little care. Udder blemishes are often caused by allowing some vicious animal with sharp horns to gore the various members of the herd. Don't be sentimental; cut off the horns if this is the case. It will be humane and certainly more profitable. Many udders are damaged by poor stalls, causing the animals to have difficulty in lying down or getting up, when they are liable to bruise their udders. It may be that they are obliged to walk over walls or bars and become bruised by so doing. A great many udder troubles are caused from bruises. Colds from forcing animals to lie in damp, wet places also bring on garget.

Hardware disease—I will venture to say this is new to most cow keepers; at least they are not familiar with the term. I must confess that I never heard anyone else use it; but the hardware disease cost me more losses than any other one ailment during the fourteen years I had charge of a large herd. By this disease I mean the results which come from the animal swallowing or taking in all kinds of hardware, such as nails, wires, needles, bolts, jack knives, and railroad spikes. A great many animals which mysteriously die after a long illness, I believe die from hardware trouble. If a post-mortem were made, probably some spike or nail would be found in a vital organ. The best way to prevent this danger is to give care each day that the mangers are thoroughly cleaned out.

Calf mortality is another serious matter. Every cow should be provided with a pen at least eight to ten feet square for a lying-in stall. Both floor and bedding should be clean, dry, and even disinfected. Calves are often abused by forcing them to occupy damp and closely shut-in stalls or pens. A calf pen should be open, allowing the circulation of air and light and sunshine. Fresh water should always be at hand, and sick calves should not be allowed to occupy the same pens with well calves. In building the barn, care should be taken to provide a good place on the south side for the calves. Remember they are the baby cows, and should be so treated. A little care will often save a valuable calf, and the per cent of calf crop will largely determine your success in the breeding business.

Nebraska. A. L. HAECKER.

Feeding Sunflower Silage

HOARD'S DAIRYMAN:—We commenced feeding the sunflower silage two weeks ago. The silage was in the bottom of a 40-ft. silo and was penetrated at first somewhat with the juice of the corn silage that had been on top. The cows did not refuse to eat it, but they do not like the sunflower silage as well as the corn silage. We give them only half the amount of the latter, otherwise they would not clean it up. In order to keep the milk yield from falling off the grain ration was increased.

I shall not raise sunflowers again, in fact I am glad that my second silo is full of corn silage. Considering the enormous yield and the climatic conditions under which sunflowers can be grown, I would recommend it for stockmen that have to feed range cattle during the winter.

Miles City, Mont. W. S.

Jersey Cattle Notes

For week ending March 11:

Number of animals registered: Bulls, 269; cows, 533; total, 802. Number of transfers recorded: Bulls, 235; cows, 625; total, 860.



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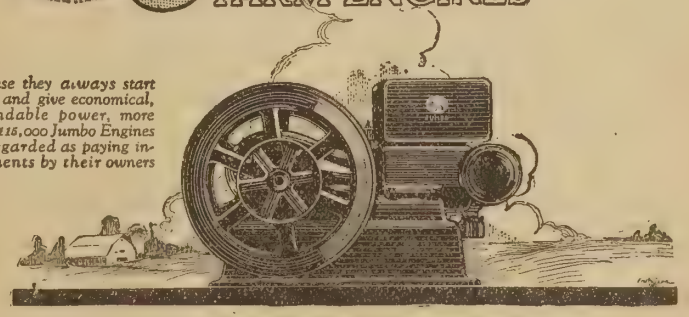
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And so it goes with the Hinman the country over. 50,000 are doing twice-daily duty, providing better and cleaner milk while saving one-third labor cost.

They are the lowest in price.

Easiest to use and clean.

Write for catalog—and with it we will include copy of "The Hinman Handshake" that gives facts you'll like to have.

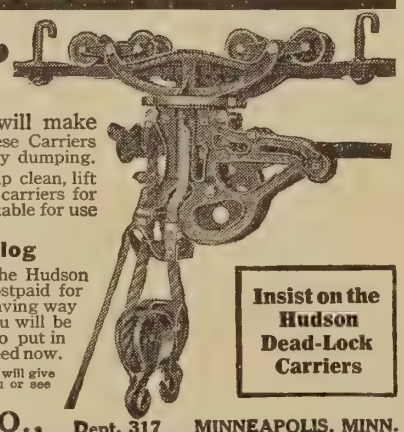
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"Give and It Shall Be Given Unto You"

(Continued from page 408)

Co-operative Cow Testing Association of Lee and Whiteside counties was reorganized with the writer acting as the new tester, and with Mr. Harvey E. Downing as one of the new members. This tells the secret of the story.

On the 5th day of January, 1919, about 4 o'clock in the afternoon, I drove into the yard of Mr. Downing and was cordially received by him and his wife. Before I had talked to Downing very long, I knew that he was in the dairy business because he loved cows. A little later when I walked out to the barn with "Harv", fourteen uniformly good Holstein heads each containing a pair of alert and watchful eyes turned in harmony to greet the stranger—fourteen of the best animals that I have ever seen assembled in any grade herd. The first impression I received from looking at that herd was a lasting one. Fourteen beautifully marked, uniform, straight-backed, deep-bodied, hard-working Holsteins—a sight fit for a king—with neat and comfortable, though plain and inexpensive, surroundings. On my first and subsequent visits to Downing's I always noticed that the cow barn was fairly cool, probably between 45 and 50° Fahrenheit, and that the air was fresh.

That night as I entered each member of the herd in the new herd book, Mr. Downing discussed each animal telling me how he had brought Blackie and Swiftie from Iowa; how Swiftie got her name because she moved her right hind leg very freely and forcefully and swiftly when things were not as they should be; how Speck promised to follow in the footsteps of her illustrious mother, Blackie; how much more peaceable little Snowflake was than her mother, Swiftie; and how fortunate he had been in buying Grandma and Daisy at a neighbor's sale the spring before. We talked about dairy cows long into the night before each of us had tired of listening to the other's experiences, beliefs, and practices. I went to bed feeling happy and contented, a feeling that exemplifies the life of a cow tester.

The following morning, Downing and I learned that his was a high testing herd. To make a long story short, Harv's herd finished around the top of the list with the pure-bred herds that first month, and in practically every succeeding month his herd was either at the top or else giving the leaders a close race for the honors. How did he do it? Here's where the "giving" part of the story enters. "Give and it shall be given unto you." When a little change in the herd ration was suggested, Downing tried it out. His herd rose considerably in production the first month, although it had been excellent before any changes were made. He gave his cows a balanced ration, he fed them accurately according to each individual's appetite and production. He gave them alfalfa hay, warm water in winter, good silage, plenty of clean straw bedding each night, kind treatment, and careful consideration for their comfort. When summer came and the neighbor's cows were out starving on burnt, brown pastures, Downing's cows were in the yard eating freshly cut green alfalfa out of a rack, and at milking time a little ground oats and barley. Twice a day the overflowing milk pail and the full milk cans proved the rest of the quotation, "it shall be given unto you again".

At the end of the year, Downing's herd of grade Holsteins stood at the top of the list, although one of the

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original fourteen cows had been sold because she didn't quite measure up to Downing's high standards. It is interesting to note here that Blackie returned more profit over the cost of feed than any other cow in the association. Here is the average production for 1919: Number cows, 13; average milk produced, 9,542 lbs. average test, 3.7%; average amount fat produced, 351 lbs.; value milk, $313.32; value of feed, $122.31; return over feed, $192.55.

On my last trip around the route in January, 1920, I put this question to Mr. Downing: "Don't you think you would have been just as good a dairyman and would have made your herd produce just as well had you not joined the cow testing association?" Evidently Downing had thought the question through before it was asked for he came back at once with this statement: "I might have been just as good a dairyman but I never would have fed my cows quite so well; I never would have taken quite so much interest in my herd; and, moreover, there wouldn't have been so much pleasure in my work last year if my herd hadn't been tested regularly each month. That's why I signed up to have my cows tested another year."

Before I left the association, "Harv's" parting words were these: "George, I'll bet you I can make my herd average 12,000 pounds of milk and over 400 pounds of fat this year." This statement I thought an extravagant one, but time proved that it was not made in vain. That first month in 1920, Downing put eight of his best cows on three milkings a day, doing all of the feeding and milking himself besides the other farm work. The only change made in the ration was the addition of wet beet pulp fed twice a day, and a little higher protein ration made up of ground oats, corn, bran, cottonseed, and oil meal. The result was that the average production for January was well over 50 pounds of fat per cow with Daisy, Blackie, Grandma, and several of the other cows milking from 60 to 80 pounds per day and yielding an equivalent amount of fat for the month.

On the first of February, G. E. Dickson, a graduate of the University of Illinois, full of enthusiasm and sound practical knowledge, was hired as tester. The results which follow show how efficiently and effectively Mr. Downing and "Dick" worked together to reach the goal which "Harv" had set for himself:

Average Herd Production for the Years 1919 and 1920

Yr.	Milk Lbs.	Test %	Fat Lbs.	Value milk	Value feed	Return above feed
1920	12,396	3.8	475.87	$400.67	$159.49	$241.32
1919	9,542	3.7	351.00	313.32	122.31	192.55
Gain	2.854		124.87	$ 87.35		$ 48.77

During the year several more members of the original herd were sold to neighbors, several of whom owe a successful beginning in the dairy business to the blood drawn from Downing's herd, and to his help and advice in purchasing the right kind of stock. Blackie died early in the year from "compaction", leaving Speck and a promising yearling heifer daughter to maintain the family reputation. Downing's record for 1920 stands high among the cow testing association records of the state. It represents a job carried to completion; it preaches the gospel of better dairying more effectively than words can preach it; and it emphasizes the point, that what we receive is usually proportionate to what we give. This is the story of Downing's record herd.

If I could change the quotation at the beginning of the story to make it apply here I would word it this way: "Give and it shall be given unto you, good measure and running over will good dairy cows fill the milk pail, if you will give them according to their needs and comfort, for with the same measure that ye mete, withal it shall be measured to you again."

"Now why this old potato taste,
And why this acrid bite?"
"'Tis partly age, but mostly this—
"You stored me in the light."

"Why do you blacken at the heart
And seem a total loss?"
"Too many spuds are piled on top
You've got me smothered, boss."

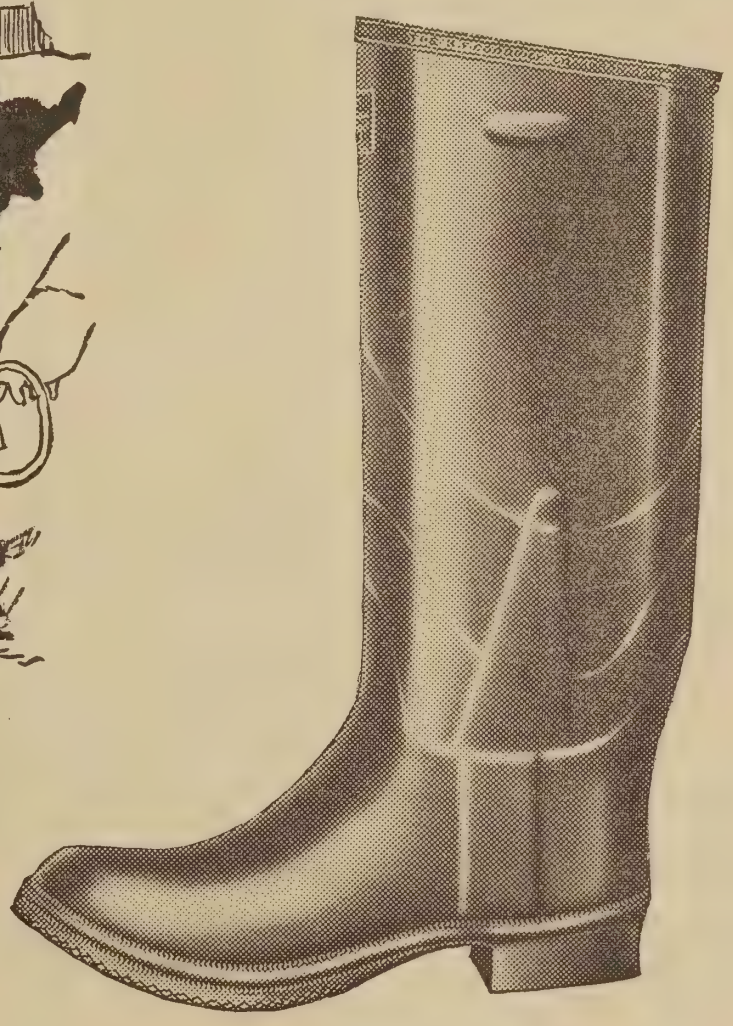
"Why do you rot within the bin
And smell so very dead?"
"You didn't spray, you didn't spray,"
The sad-eyed Murphy said.

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What makes your boots wear out, you dairymen? Is it grease from the cream or simply downright hard everyday usage? Maybe it's both—but whatever it is you won't find it "getting to" your Goodrich Boots or Shoes. Goodrich won't buckle, peel or come apart—but it will give you remarkable service just like a tire or a piece of belting or anything with *Goodrich* Rubber in it. The word means half a century of experience, and a square deal policy. Cut down your footwear bills with Goodrich. 60,000 dealers—ask *yours.*

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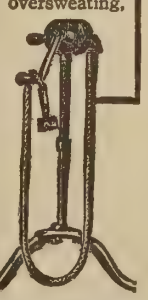
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DAIRY MARKET NEWS

New York Butter Market

New York City, March 15:—The market, which for some time has been cleared of Danish butter, is again flooded with that butter, and additional large quantities are expected within the next ten days. The freighter, Hellig Olaf, bearing 10,870 casks and 800 boxes of that butter docked on Saturday of last week and the butter is now available. Another boat is due at any time and carries about 6,000 casks of Danish butter. Cable reports from Copenhagen state that the Oscar II left that port on March 11 bearing approximately 19,000 casks of butter. The dumping of 4 million pounds of Danish butter on this market within a period of two weeks very naturally tends to cause dealers to be apprehensive of market conditions in the near future and is resulting in a very nervous condition. The price tendency is constantly downward and there is little hope that there will be a reaction for some time. A small quantity of Argentine butter, 3,500 boxes, was unloaded during the past week. However, that butter is of such quality that its influence is not felt.

Receipts of domestic butter are showing a moderate increase. One pleasing feature of present receipts is the improvement in quality that is apparent. Some of the lots are beginning to show grass flavor, which is evidence that in some sections herds are already being placed on pastures. Unless there should be a radical change in the weather conditions, it is expected that the make will increase very rapidly during the next two or three weeks. Because of the influx of Danish butter, the increase of domestic receipts, and the constant tendency for butter prices to decline, receivers are very anxious to keep their stocks moving. That also tends to make it a buyers' market which accelerates the downward trend to prices. There is ample reason for butter prices to be 20c lower than at this time one year ago.

Storage butter is moving very slowly and holders of it are so anxious to clear their holdings that they are offering it at very low prices. This has been an unfortunate year for speculators in butter as they purchased their stocks last June when butter prices were 52@56c. In addition to the original cost they have had to face carrying and storage charges which aggregate fully 2c per pound. At no time have they been able to get the original cost of the butter from their sales and they have been forced to sell at times at prices fully ten cents per pound lower than what the butter cost them However, the present storage condition is not bad in this market as the aggregate holdings in storage warehouses is at present only 5½ million pounds as compared to 6½ millions at this time in 1920. The aggregate holdings of butter in cold storages throughout the country is about 2¼ million pounds greater than one year ago.

Since last week Monday butter prices have declined 6½c. On that day extras were quoted at 52½@53c. On the following day there was a drop of 1½c, which was followed by successive declines of 1½c, 2c, and 1c on the three following days. On Saturday, however, there was a more active demand and there was a price recovery of ½c, but on Monday of this week, while there was no change in quotation, the market suddenly became very passive, which undoubtedly was the result of the arrival of the large shipment of Danish butter. Today, the market has been very weak and prices declined 1c. A further decline is expected tomorrow. The Danish butter is not in active demand and is being held for prices of 45½@46½c. Established quotations today are: Extras (92 score), 46¼@46½c; higher scoring than extras (93 score or higher), 47@47½c; firsts (90—91 score), 45@46c; firsts (88—89 score), 42@44c; and seconds (83—87 score), 37@41c.

There will be no cessation of shipments of Danish butter for several months. With Danish exchange low, with the duty on butter at but 2½c, and transportation charges but 1c per pound, the Danes would be poor business men to curtail their shipments of butter under conditions that prevail at present. It is possible that less butter will be received from Denmark during warm weather as there are insufficient cold storage facilities on boats plying between Denmark and this country to accommodate shipments as large as have been shipped during the present winter. The Danes realize that in case their butter arrives here in bad condition it means an injury to the good will toward their butter that has been built up during the past few months.

W. B. LIVERANCE.

Butter Prices Back to Low Point

[Report by U. S. Bureau of Markets.]

The weakness which developed on the butter markets the middle of the previous week continued into the week ending March 12. The opinion of many traders that the market would find a level around 50c for fine butter proved to be wrong, because increased buying failed to materialize and the receipts of fresh butter showed a tendency to increase and accumulate. Sentiment was more pessimistic during the week than it has been for some time, but a little better tone was noted at the close, especially in eastern markets.

Telegraphic advices from San Francisco state that the remainder of New Zealand holdings on that market are being shipped east. Offerings of fresh California have been made at relatively low prices but it is believed that in view of the condition of eastern markets, these have attracted but little buying.

The average wholesale prices on 92-score butter at five of the principal markets for the week ending March 12, 1921, and the corresponding week last year, were as follows:

	Week ending March 12 1921	1920
	Cents	Cents
New York	49.5	66.7
Chicago	47.2	68.0
Philadelphia	50.2	67.7
Boston	49.4	67.5
San Francisco	39.7	59.5

The receipts of butter at these markets were 7,799,214 lbs. as compared with 7,543,708 lbs. last week and 7,666,686 lbs. a year ago.

Western Cheese Markets Lack Firmness

(Report by U. S. Bureau of Markets)

Cheese markets were steady to firm during the week ending March 12. The new season of production is at hand, but the immediate outlook is regarded differently by various groups of the trade. There are those who feel that prices should be lower, but on the other hand business in certain local markets has

Carload Prices of Hay and Feed at Important Markets March 12

(In dollars per ton)

Commodity	New York*	Philadelphia	Baltimore	Atlanta	Savannah	Jacksonville	Memphis*	New Orleans	Cincinnati*	Pittsburgh*	Chicago*	Minneapolis*	Omaha*	Kansas City*	San Francisco
HAY															
Timothy and clover:															
No. 1 Timothy	30.00	25.00	.....	30.00	30.50	30.00	27.00	29.00	23.00	23.50	26.00	20.00	.....	†20.00	.....
No. 1 Clover, mixed	25.50	....	20.00	29.00	.....	28.50	.....	.....	20.50	20.50	21.00	16.00	.....	†16.75	...
No. 1 Clover	23.00	.....	24.25	.....	.....	.....	.....	.....	21.00	20.50	20.00	16.00	.....	†16.50	.....
Alfalfa:															
No. 1 Alfalfa	.....	.....	.....	30.00	32.00	32 00	28.00	30.00	26.00	.....	24.00	21.00	19.50	20.50	19.00
Standard Alfalfa	.....	.....	.....	26.00	....	30.50	25.00	27.00	24.00	.....	21.00	18.00	15.50	19.00	.....
No. 2 Alfalfa	.....	.....	.....	28.00	27.00	.....	20.50	25.50	18.00	.....	19.00	17.00	10.50	16.00	.....
FEED															
Wheat Bran:															
Spring	32.50	32 00	31 50	33.00	....	33.00	.....	.....	27.50	30.50	25.75	23.00	.....	.....	.....
Soft Winter	33.00	34.00	34 00	33.00	31.00	34.00	25.00	....	29.00	33.50	.....	.....	.....	.....	41.00
Hard Winter	33.00	32 00	.....	33.00	34.00	.....	.....	30.00	28.00	31.50	26.00	.....	21.00	22.50	.....
Wheat Middlings:															
Spring (Standard)	31 50	31.00	30.00	33.00	.....	33.00	.....	.....	29.00	29.50	25.00	22.50	.....	.....	.....
Soft Winter	.....	36.00	32.00	34.00	....	36.00	.....	.....	31.00	33.00	.....	.....	.....	.....	39.00
Hard Winter	.....	.....	.....	33.00	36.00	.....	.....	.....	29.00	32.00	.....	.....	.....	.....	.....
Rye Middlings	27.00	27.00	26.50	.....	.....	.....	.....	.....	27.00	26.00	26.00	.....	.....	...	.....
High protein meals:															
Linseed	47.00	46.00	.....	.....	.....	.....	.....	.....	44.00	43.00	43.50	41.00	43.00	45.00	.....
Cottonseed (41 per ct)	.....	37.25	36.75	.....	.....	.....	.....	33.00	.....	34.50	34.50	37.00	.....	30.50	35.00
Cottonseed (36 per ct)	36 50	34.50	34.00	29.00	25.00	30.00	25.00	31.00	27.75	32.00	.....	34.00	.....	.....	.....
No.1 Alfalfa me'l (med)	.....	.....	34.00	30.00	.....	30.00	23.00	28.00	25.00	....	23.00	.....	18.50	18.00	26.00
Gluten feed	.....	42.20	43.00	.....	.....	.....	.....	.....	40.30	41.43	37.00	.....	.....	.....	.....
Hominy feed (white)	30.00	30 00	30.00	33.00	.....	.....	.....	30.00	27.00	29.00	25.50	24.00	19.00	.....	.....
Ground barley	....	41.00	.....	.....	.....	.....	.....	.....	40.00	.....	35.50	23.00	.....	31.00	30.00
Beet pulp	32.00	36 00	35.00	.....	40.00	40.00	.....	.....	36.50	.....	.....	46.00	.....	.....	.....

*Hay quotations represent average of cash sales at these markets. †Nominal.

Straw—Quoted prices are: Rye straw—$19 New York, $17 Baltimore, $15 Cincinnati, $15 Pittsburgh, $14.50 Chicago, $8.50 Minneapolis; wheat straw—$14.50 Baltimore, $8 Cincinnati, $14.50 Pittsburgh, $12.50 Chicago, $8 Minneapolis, $8.50 Omaha; oat straw—$18.50 Baltimore, $8 Cincinnati, $14.50 Pittsburgh, $13.50 Chicago, $8.50 Minneapolis, $9.50 Omaha.

ever warranted slight advances on an occasional style.

The New York market continues to show a more or less firm feeling. Competition from other markets, notably those in the West and South, as well as a lower production, has resulted in light receipts of New York cheese, for which there is a heavy local demand, and has caused prices to advance ½ to 1c on the larger styles. Export business is certainly lending no support. There has been some movement to Canada in odd lots of old cheese, some being sold as low as 5 to 12c per pound.

At Chicago the apparent firmness of Wisconsin primary markets was accepted with more or less doubt, and buyers failed to show even ordinary interest in offerings. Continued dullness in trading and a feeling that country markets would soon be lower caused some weakness, and concessions in price toward the close of the week were general enough to reduce quotations on Twins ½c.

Sales at Wisconsin primary markets during the week were mostly small lots. The general tendency of buyers was to take on no more stock than could be disposed of readily. Receipts at warehouses are said to be increasing rapidly, partly because many factories which have been making Brick cheese are now changing over to the American type. The market on Brick cheese is responsible for this, as fancy Brick has been worth less than 20c at factories.

The average wholesale prices on American cheese (style Twins) for the week ending March 12, 1921, and for the corresponding week a year ago, were as follows::

	Week ending March 12	
	1921	1920
	Cents	Cents
New York	27.7	29.5
Chicago	26.9	28.4
Boston	25.0	31.5
San Francisco	20.7	30.5
Wisconsin	26.9	28.9

The total receipts of American cheese at these markets were 2,960,551 lbs. as compared with 2,748,757 lbs. a week ago and 3,055,056 lbs. a year ago.

Dairy Markets

CHICAGO, Mar. 18—Butter—Creamery, extras, 43½c; extra firsts, 40c; dairy, firsts, 37@42c; seconds, 30@35c.

Eggs—Ordinary, 26½c; firsts, 26½c.

Cheese—Twins, 25c; Young Americas, 25c.

MILWAUKEE, Wis., Mar. 18—Butter—Creamery, tubs, 46c; prints, 47c; extra firsts, 44@45c; firsts, 40@42c; No. 1 packing stock, 20@25c: off goods, 12@18c.

Eggs—Miscellaneous receipts, country candled cases included, 28½@29c; cases returned, 27½@28c; seconds, 26@27c; checks, 25@26c.

Cheese—Twins, 25½@26c; Daisies, 26@26½c; Young Americas, 25@25½c; Longhorns, 26½@27c; buck, 24@25c; Limburger, 27@28c.

NEW YORK, Mar. 18—Cheese—Dull; state milk, common to specials, 18@29½c; skims, common to specials, 5@19½c.

Butter—Easier; receipts, 2,824 pkgs.; creamery, extras, 44¾@45c; state dairy, tubs, 28@44c.

Eggs—Weaker; receipts, 30,920 cases; nearby white fancy, 42c; nearby mixed fancy, 28@37c; fresh firsts, 29@34c.

Ohio Holstein Association Increases Membership

On March 11, the Ohio Holstein Breeders' Association completed its series of meetings in a most successful membership campaign. Some work will yet be done by breeders in their own communities in bringing into the association the Ohio owners of Holsteins not reached in the 130 meetings scheduled but the returns now in put the organization in splendid shape.

The campaign, put on under the direction of Secretary H. C. Barker, gives a three-year membership by which annual dues are collected through the members' banks. The annual fee is one dollar for purebreds and twenty-five cents for grades. This basis is fair to large and small breeders alike, since the fee is proportioned to the number of cattle, just as are the benefits from the organization. Twenty per cent of the dues are returned to the county associations.

In the meetings over the state, effort was made to bring breeders in closer association in each community and to emphasize the benefits open to all through the state organization. Besides the strong membership which was built up, a great deal was done toward developing a state-pride in Ohio Holsteins which will foster the keeping of better bred animals and giving them improved feeding and management.

DODGE BROTHERS
BUSINESS CAR

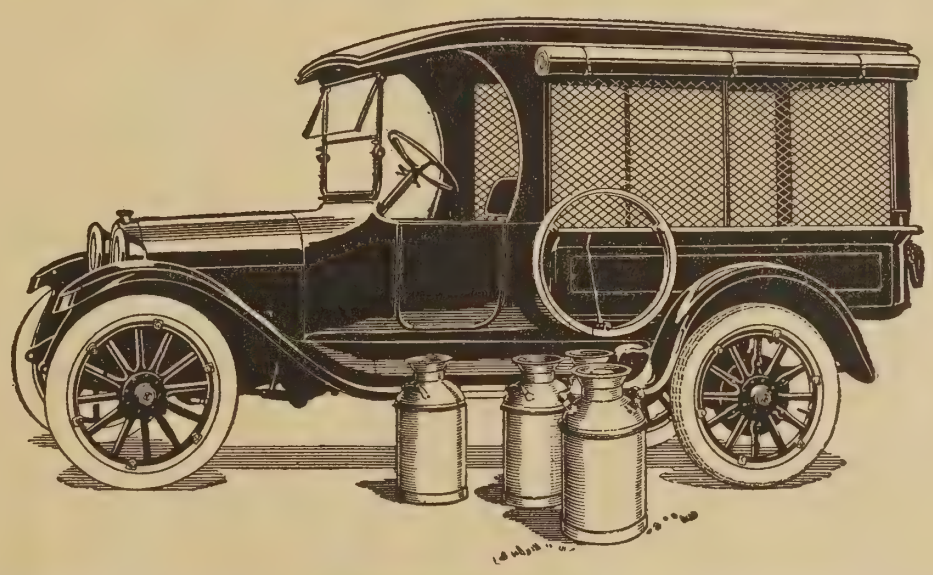
It is the hauling mainstay of most of the farmers who employ it

It saves them money, because of the outstanding economy made possible by the strength and soundness of its construction

It saves them time and labor for the same reasons; and it serves satisfactorily from year's end to year's end

The haulage cost is unusually low

DODGE BROTHERS, DETROIT





GEHL

An Ensilage Cutter that is remarkable for its fine clean cutting capacity, durability, safety and light power requirements.

Give us the height of your silo, size of engine and size and speed of pulley and we'll forward complete information about the right size of Gehl Cutters.

Any 8-16 Tractor Runs a Gehl 17

Due to its separate control of cutter head and blower speeds the Gehl Cutter never wastes power on any silo—has six fan low speed blower, heavy all steel frame, positive safety device, and a self feeder that

2-21

Requires No Man at the Feed Table

Here is an example of economy—a machine that not only fills your silo, but can also grind alfalfa hay—dry corn stalks, soy beans, sweet clover or any other form of dry roughage. This means a saving of from 20 per cent to 50 per cent.

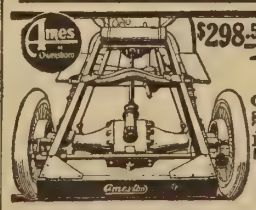
Our new catalog gives complete information about Gehl Cutters and some useful ideas about conserving and getting more profits out of dry feeds. Write today.

GEHL BROS. MFG. CO.
402 SOUTH WATER STREET
WEST BEND, WIS.

SAVE MONEY
On Your Silo Roof!

PRICES SLASHED! Here is a roof that will fit any make of silo. Price only a little over half what it was last year. Neat and attractive in appearance. Strongest roof made. Can be put on in a few hours time. The sliding top makes it the most convenient roof for filling, on the market. If your silo dealer does not handle it, write us direct. Do not buy until you have seen our description and prices. Write today if you wish to save money.

PIONEER MFG. CO.
101 S. Main, Middlebury, Ind.
Makers of Roofs, Chutes, Cribs, Bins, Tanks, Troughs, Feeders and Fountains.



$298.50 Amesbilt
Worm Drive Truck Unit

Convert your old passenger car into a sturdy 1½ Ton Guaranteed Worm Drive Speed Truck.

F. A. Ames Company
Incorporated
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Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

BANK YOUR CORN

In These Better Cribs





Here is a view of the famous Buckeye steel rib framework. Note the heavy vertical steel ribs--the supporting steel circle at top and bottom. Consider what a backbone of rugged strength this adds.



Note the perforation. It is made to shed the water away from the opening. The metal is pushed away from the opening far enough to give the full area of the perforation. You get 25 per cent more ventilation in the Buckeye than in any other crib on the market.

THE moment you shovel your corn into a BUCKEYE you have deposited your crop in a place as safe as any bank--a storage house that is ***weather-proof and pest-proof.***

And you are drawing interest on it all the while. For your corn comes out of the BUCKEYE sound, dry, thoroughly cured -- worth a great deal more than when you put it in the crib.

One reasen for the wonderful success of the BUCKEYE is its perfect ventilating system. You get ***25% more ventilation*** than in any other crib. Add to this the strength and rigidity of the famous steel rib construction -- and you have a fair idea of this better metal crib.

There's not an investment that would return you bigger profits than the purchase of a BUCKEYE corn crib or grain bin. It will last a lifetime. Easy to erect. A screw-driver and wrench are all the tools you need. All sizes and styles--round, oblong and double-shed types. Your dealer will give you the complete facts on BUCKEYE. Or write us direct.

The Thomas & Armstrong Company

108 Main Street **London, Ohio**

BUCKEYE "The Crib with the Steel Rib"



No Silo Too High for

Dick's Blizzard Ensilage Cutter

—*says H. B. Collom,* of Seven Mile, Ohio. His barn and silos are pictured above. "We used 75 feet of pipe," says Mr. Collom, "and the corn went over the top like a shot. It is the easiest running cutter I have ever used or seen." The Blizzard is

Self Feeding

Saves at least one man. No poking or pushing. Throw the whole bundles on the table and the self feed carries it direct to the knives for a fine, even cut. Blizzards are easy running—simple, safe, long lasting and economical of repair expense. They will deliver more work per H. P. used than any other machine. Let us prove this. Write for catalog and name of nearest dealer.

THE JOS. DICK MFG. CO.
Box 202, Canton, Ohio



WRITE FOR CATALOG TELLS ABOUT WONDERFUL DOUBLE FEED

Double Returns from Farm Manure

(Continued from page 409)

to do the distributing. What I mean is that since it is best to get farm manure on the land as soon as possible, a greater use of the pasturing system than is common should be made. In the case of hogs, for instance, the manure from these animals is the richest in plant food of that from all classes of live stock. Hog manure contains a comparatively large amount of the much needed phosphoric acid in addition to some ammonia and potash. Yet on most farms little if any of its value ever reaches the fields from which the crops fed came. I have a neighbor farmer who has had the same hog lot for at least ten years and why? Simply because his present yard is handy and he has failed to invest in enough more hog proof fencing to give the animals a wider range. For years this man has not only poured valuable fertility into his hog lot through the crops fed but at the same time he has lost an opportunity to make cheaper pork in an easier way.

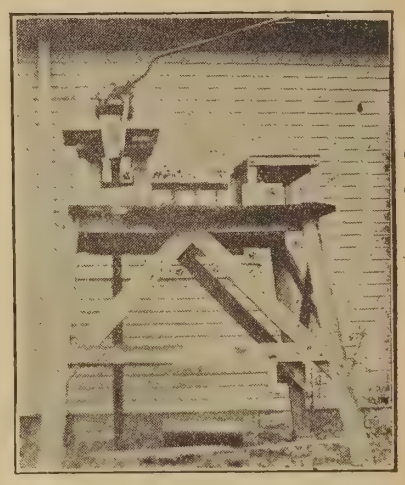
Investigations have shown time and again that one of the most economical ways of making gains is to permit pigs to "hog down" corn. The time available for this manner of feeding ranges from a month in the North to two or more months of each year in the southern part of the corn belt. No elaborate equipment is necessary; just enough woven wire tied to the standing corn stalks to block off successive parts of the field is all that is needed. All the labor of cutting, shocking, snapping, and carrying the corn to the hogs is eliminated—the animals wait on themselves. The feeding can be concentrated on the thinnest parts of the field for reasons which are self evident. Feeding in this manner eliminates entirely the necessity of handling the manure, but better than this the entire fertilizer value of the material is utilized.

A wider employment of sheep, steers, and dairy cattle to pasture down crops should likewise be made for the same reasons. One need only visit the farms of Henry E. Krueger, world's champion grain grower, Wisconsin, to see the benefits from this practice. Mr. Krueger has pastured as many as thirty-five head of dairy cattle for three weeks on fifteen acres of sweet clover sown in corn at the last cultivation. The manure of the animals that graze in this manner plays no small part in making record yields of grain the following years. Where facilities are not at hand for a wide use of the pasturage system of manure distribution, the least one can do is to provide a concrete, brick, or other water tight feeding floor from which a large part of the manure can be collected and hauled to the fields.

It is the nature of every one to do things in the easiest way. That is why fields near the barnyard ordinarily get manured more frequently than those forty rods away. A good way to keep the fringe of the farm in good tilth is to have the pastures on the borders of the farmstead. It is about as easy to go forty rods to get the cows as it is to travel half that distance. In other words, the simplest way to manure this land is to use it for grazing purposes as much as is practical.

Spread the Right Time and Way

About the only drawback to the practice of pasturing down crops and fertilizing soil by this means is that the system cannot be made use of all through the year. Under any system of farming, therefore, a large part of the manure invariably accumulates at times in the barn or barnyard around the strawstack. It pays to store this fertility in a water tight pit. Such a solid floor not only prevents a sloppy barnyard but makes loading of the manure much less of a task. In a permanent system of agriculture straw as a feed and manure beats cash in hand for the product. If the straw piles are still sizeable when the time comes to make new ones, every ton should be hauled to the field. An inexpensive spreader will facilitate making every pound of the material benefit the land. Weight for weight, straw is equal to farm manure in crop producing value. It is excellent as a protection for winter grains in addition to the plant food it supplies. One of the most famed potato growers of the country, Mr. C. G. Kuney, Wisconsin, who produced 12,000 bushels of Ro-



Utilization of liquid manure is simplified by a handy pumping device to load it into the distributing cart.

sen rye on 300 acres last year will return every straw that produced a head back to the land.

Now, although it has probably never before been called to the attention of farmers in this way, I project the hardly disputable statement that the time is at hand when it is just as important that every one should know just what application of manure will give best results on the different fields of the farm he works as it is to figure out a balanced ration for dairy cows. What is the economy of calculating how to save ten per cent on the daily feed bill if at the same time fifty per cent of the fertilizing value of the manure of the animals is being lost? If one goes to the trouble to have his land tested for its need of lime, isn't it just as reasonable that he should determine how many tons of the more costly farm manure he can afford to spread per acre in order to reap the biggest net return? All of the manure on the farm must of course be used.

The big thing each man should work out and can work out is how can the available supply be most effectively used. The question naturally arises—How can this be determined? Fortunately much of the experimenting a farmer might have to do has already been done for him by others. Tests made at the Pennsylvania Agricultural Experiment Station and by many farmers have shown beyond a doubt that where an abundance of farm manure is available, maximum acre returns on most soils will be obtained when the material is applied as heavily as 16 tons to the acre in the case of the staple field crops. With potatoes and truck crops, even larger dressings pay best.

However, except in the case of a few dairy farms, there is seldom more manure produced in a year than sufficient to fertilize the cultivated land

with more than one or two tons to the acre. In other words, the big majority of farmers haven't near enough barnyard manure to go around. Under these circumstances, the investigations mentioned above show that the return per ton is from one-fourth to one-third greater when eight tons as compared with double the amount are applied once in four years. Stating the matter perhaps more clearly, a light dressing over several acres is better than a heavy application over a smaller one. Bringing this home to one's own specific case these mean that greatest profit from farm manure will undoubtedly be obtained when less than eight tons to the acre is spread over the farm during each round of the rotation. Whether less than eight loads to the acre over a larger number of acres would give even more profitable returns it is up to the individual to find out.

Experience has shown that manure and fertilizer give far greater returns when applied to the thinnest lands than is the case when spread on more fertile fields. It should also be more generally understood that various crops differ widely in their response to manuring. Again, the employment of a manure spreader is a material aid in making manure available to more acres. It is an absolute fact that eight loads will go as far as twelve if, rather than apply the material by hand, a spreader is used. The manure spreader aids in making the plant food of the fertilizer quickly available by pulverizing and more evenly distributing it. Hence the purchase of such an implement not only increases the returns by reducing the labor cost of application but it gives the fertilizer a chance to yield at least a third more in the crop increase that it makes.

Crops to Manure

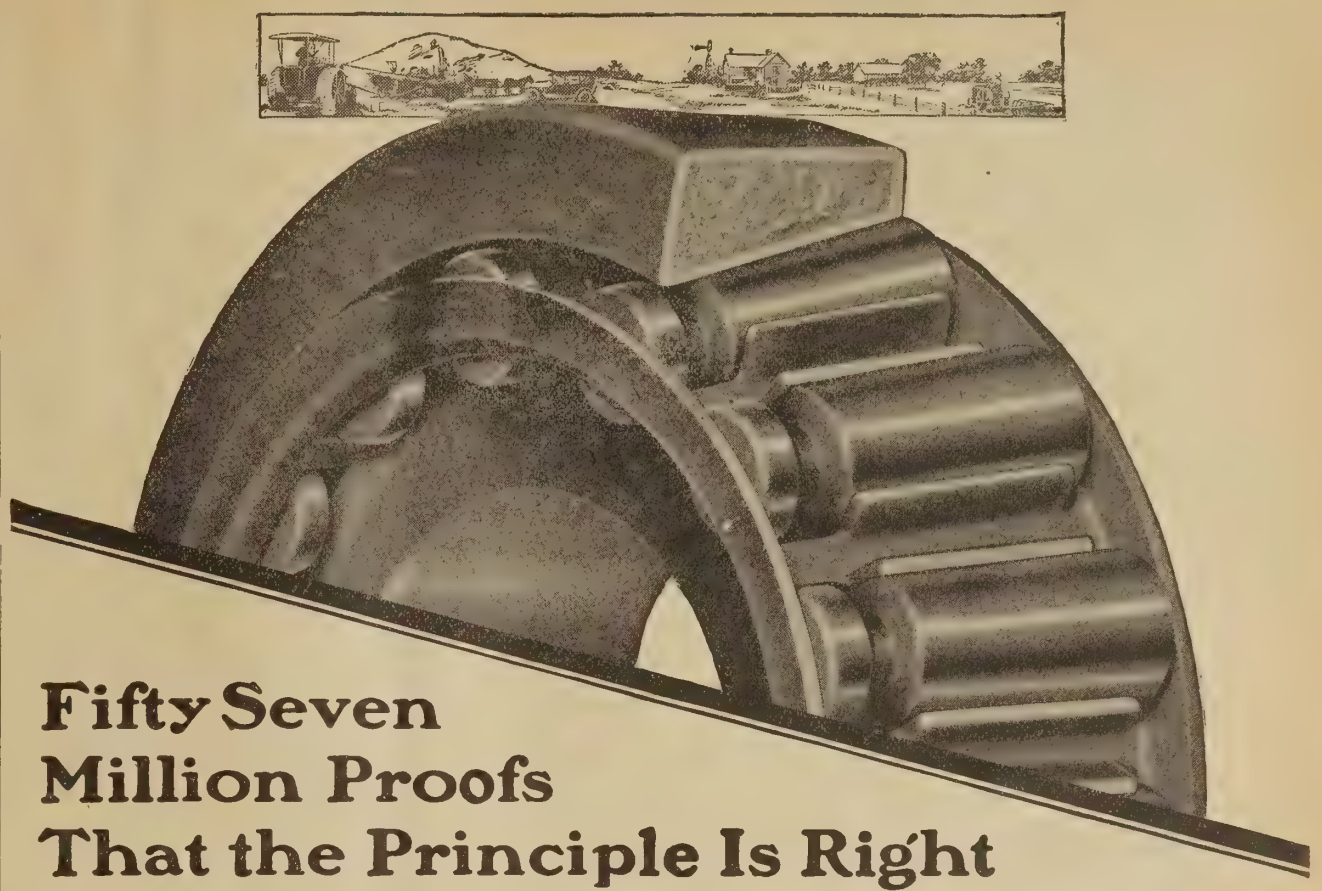
Most farmers manure grass land which is to be plowed for corn. This is a good place to distribute manure, but worse than no returns are frequently secured when the land is spring plowed. This is for the reason that such heavy manuring starts the crop out with rapid growth but as the season advances and the land dries out, the vegetable matter wadded up under the furrows stops the rise of moisture from the subsoil, with the result that the corn often receives a setback, from which it does not fully recover. By discing the manure into the land, and plowing it under in the fall, nothing but benefit from the application will result. Manure always gives good returns when applied prior to the planting of cultivated crops such as corn or potatoes.

Where the better plan of dressing the land twice rather than one heavy application is made in the rotation, part of the manure can best be distributed on winter grains which are seeded down to clover and grass. At the Pennsylvania Agricultural Experiment Station, six tons of farm manure per acre used in this way gave one dollar more return per ton than ten tons applied to equally fertile land. When winter grains are top-dressed with either straw or manure, not only will a handsome increase in the nurse crop result, but the new seeding which is the backbone to every farm rotation will get a good start. The manure can be applied either before or after the ground is frozen. Early fall top-dressing is preferable in that the plants can make use of a part of the fertilizer to make a vigorous growth before winter. This assists them in withstanding the cold weather which follows. However, from the standpoint of ultimate utilization of the plant food in the fertilizer during the rotation, it is just as advantageous to spread the material in winter or early spring. In either case, the dressings delay premature thawing of the ground in the early spring and thus heaving out of the plants is minimized.

In the face of a general shortage of home grown fertilizer on the average farm, it is good business to put in practice the slogan, "Use fertilizer to grow more crops to feed more stock to make more manure". This idea has been projected by the Soil Improvement Committee of the National Fertilizer Association and it represents a sound basis for a permanent system of land enrichment. For example, at the Ohio Agricultural Experiment Station, where 320 lbs. of phosphate fertilizer was applied to land with eight loads of manure to the acre, once in a four-year rotation of corn, oats, wheat, and clover, the returns were in favor of the system. The year following the treat-

Continued on page 437)

TIMKENS MEAN - MORE and BETTER FARMING - BY POWER



Fifty Seven Million Proofs That the Principle Is Right

Since that day more than twenty years ago when a Timken Tapered Roller Bearing was first installed in a motor vehicle, the principle of Timken Taper has remained unchanged.

Yet during those years, American and European manufacturers have used more than fifty-seven million Timkens. And, as far as we know, not one of those fifty-seven million Timken Tapered Roller Bearings has ever been replaced by any other bearing.

Fifty Seven million Timken Bearings! Twenty years of service! Not a single Timken that we know of replaced by any other make! Hardly a tractor, truck, or automobile in America today that does not boast of its Timkens!

Could one ask for more convincing evidence of the correctness of the principle, design, and construction of Timken Tapered Roller Bearings?

Because of their superior ability to carry *all* loads no matter from what angle they are applied–

because they carry those loads with *negligible friction loss*—

and because, when the inevitable wear that *must* follow motion does come, a simple adjustment or take-up easily and quickly made, makes them function as if they were new, Timken Tapered Roller Bearings increase efficiency and reduce upkeep whenever and wherever they are used.

Thus do they play their vital part in the development of More and Better Farming by Power.

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Timken Tapered Roller Bearings for Tractors, Farm Implements, Trucks, Passenger Cars, Machinery, Trailers, and Industrial Appliances

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Farmers Favorite Feed Cooker

Give Cows warm water. Watch the Milk increase in quantity and quality. Give hogs warm feed; grow larger frames and more solid meat. Give hens warm feed if you want winter eggs. Render lard; boil water, sap, sorghum, spray-mix, etc. Burn chunks, long sticks, cobs, anything. Guaranteed. Write for prices.

CHAMPION MILK COOLER CO.
Dept. 204, Cortland, N. Y.
Successors to Lewis Mfg. Co.

Cow Waters Herself



with this wonderful new Libbey Automatic Water Bowl. Animal moves lever, opening water valve, when it starts to drink. Lever swings back, closing valve, when animal stops drinking.

15% More Milk

Milk is 87% water, and cows cannot give their greatest yield unless they have plenty of water constantly within reach. Farmers who use Libbey Bowls report an increase of 15% to 20%, which soon pays for the bowls.

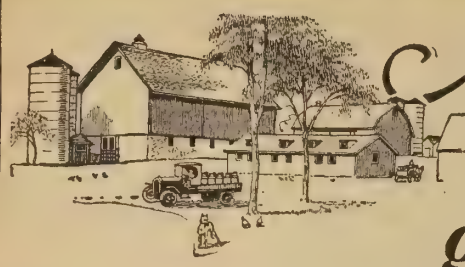
Libbey Automatic Water Bowls

are the most sanitary and successful ever invented. Each bowl controls its own water supply, operated entirely by cow, and may be put at different heights, or in any stall or pen. No float tank required. Cannot overflow; cannot get out of order. Almost no water left in bowl to become stagnant. They save labor and feed and increase milk. Prevent spread of contagious diseases, as each cow has her own bowl and no water can pass from one to another, as with old-style bowls. Very simple and easy to install. Write for circular and prices, also FREE DAILY MILK AND FEED RECORD.

If interested in Stanchions, Stalls, Carriers, etc., ask for free General Catalog.

C. A. LIBBEY COMPANY
195 Marion Street Oshkosh, Wisconsin

Arcady Farms



A practical test farm that pays good profits

Near Lake Forest, Illinois, is located our Arcady Farm, operated by a practical dairy farmer on a strictly business basis.

On Arcady Farm are 100 head of grade Guernsey and Holstein cows, producing from 30 to 35 pounds of milk daily per cow—over 1000 quarts of certified milk are shipped to Chicago daily.

Arcady Farm has raised as high as 103 bushels of oats and 60 bushels of barley to the acre, yet every pound of this grain was sold. Arcady Feeds were bought and used at a profit in place of the home grown grains.

This profitable farm tests and uses every Arcady Feed—if any other feed had proven better, it would now be in use.

You will find Arcady Scratch and Egg Mash Feeds equally productive. Write NOW for full information and name of local dealer.

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208 South La Salle Street · Chicago
Dealers Everywhere



awarded to the ARCADY FARMS at Lake Forest, Illinois

Highest scoring Illinois certified milk and cream at Illinois National Dairy Show.

1912—second highest scoring United States and Canada certified cream.

1914, 1916 and 1919—highest scoring certified milk for Illinois.

1917—Gold Medal certified milk United States and Canada.

Panama-Pacific International Exposition, honorable mention, score 92 certified milk. Second prize, score 95 certified cream.

—where only Arcady Feeds are used



"Try It Out Yourself"
says the Good Judge



And you will find how much more satisfaction a little of this Real Tobacco gives you than you ever got from a big chew of the ordinary kind.

The good, rich, real tobacco taste lasts so long you don't need a fresh chew nearly as often. So it costs you less.

Any man who uses the Real Tobacco Chew will tell you that.

Put up in two styles

W-B CUT is a long fine-cut tobacco
RIGHT CUT is a short-cut tobacco

Weyman-Bruton Company, 1107 Broadway, New York City

Washington, D. C., Weekly News

[SPECIAL TO HOARD'S DAIRYMAN]

Washington, March 14—Representatives here of the dairy interests are awaiting news of the action of the Internal Revenue Commissioner on the adulterated butter ruling, with interest and impatience. No appointment of a new commissioner to succeed W. M. Williams has been announced although there are strong rumors that former Governor White of West Virginia is to be named. In some quarters it is now believed that the present commissioner, if he continues to hold the office, will retain the antagonistic attitude he has assumed from the first, and not take any steps to either clearly define or modify his ruling. This will force the creameries affected to either await action by the internal revenue agents and stand a test case involving seizure and arrest, or else move in a legal way to prevent action by internal revenue agents. This can be done by an injunction proceeding. There appears to be another way out of the dilemma, inasmuch as there are now new heads of both Treasury and Attorney General's offices, and that is by presenting a fair statement of the matter to Secretary Mellon of the Treasury Department, and inducing him to propound a new set of questions to the new attorney general or in some other way seek a new and enlarged opinion from the head of the legal branch of the government.

⚜

James M. Oyster was nominated and confirmed as a Commissioner of the District of Columbia. Mr. Oyster is the largest milk dealer in the city of Washington, and bears a high reputation as a business man, financier, and public spirited citizen.

⚜

Information is now at hand confirming and filling in the details of the brief telegram sent last week to Hoard's Dairyman telling of the dismissal of the indictments against the officers of the Louisiana Dairymen's Co-operative Association. The indictment was brought by a Federal Grand Jury against the secretary and two directors of the association for violation of the anti-trust laws in increasing the price of milk in New Orleans. So far as known it is the first case ever brought against a farmers' co-operative association, organized on a non-stock, non-profit basis. The demurrer was filed in the most general terms raising the issue that under the provisions of Section 6 of the Clayton amendment, the officers of the Louisiana association were fully protected and did not violate any law. The demurrer was argued in open court, and there decided from the bench, so no written opinion is available. The Federal District Judge for the New Orleans district held specifically that Section 6 of the Clayton amendment covered the case, and that no law had been violated by the defendants.

⚜

Evidences here point to an early meeting of the preliminary committee named at the Dairy Show, to begin work on the World Dairy Congress, authorized by Act of Congress, passed and signed March 3. Professor Van Norman is the man most considered for the permanent chairmanship of the organization which will be necessary, provided of course that he can accept and give the necessary time, and proves satisfactory to the bigger commercial interests whose co-operation is required for the full success of this great enterprise.

⚜

Milk campaigns, in which the experts of the Dairy Division are co-operating, are now in progress in Michigan and South Carolina, with the Iowa campaign just closed, and one almost ready to begin in Ohio. Miss Jessie Hoover, department specialist in milk campaign work, is at Greenville and Columbia, South Carolina, and the campaign there is reported as very successful. Her assistant, Miss Louise G. Hoolbrook, has just finished her work in Iowa, and will be in the campaign work in Michigan the coming fortnight or longer. Both are expected to take part in the Ohio campaigns which are being planned on an extensive scale. These campaigns are worked out in great detail, with producers, distributors, consumers, state and local health officers, and state and federal dairy officials working in co-operation, using schools, community organizations, and newspapers in the campaigns.

⚜

The Washington officer of the National Dairy Union reports work at present compiling the statistics of the dairy industry in the states. From Alabama, for example, the figures show that the dairy industry in that state in 1920 produced more money than the cotton industry. Favorable reports come from Tennessee and North Carolina, and only one state at this time reports pessimistic dairy prospects. That state is Georgia. The complete report will be compiled as soon as the final census figures are available.

Waukesha County Holstein Breeders'
Annual Spring Sale
April 25 and 26
150—Purebreds—150
THERE WILL BE:
BULLS with record dams up to 30 lbs. in 7 days or 1,000 lbs. in a year.
FEMALES of all ages, of the best of breeding.
TESTED and sold subject to retest.
WAUKESHA COUNTY HOLSTEIN-FRIESIAN BREEDERS' ASSOCIATION
254 Broadway, Waukesha, Wis.

Holstein Bulls, from $100 to $500
We have a few exceptionally good bulls from tested and untested cows that are sure to develop into excellent herd sires. They are priced very reasonably at $100 to $500, depending on breeding, age and individuality.
We also have a few exceptionally good young cows for sale at bargain prices.
Our herd is under Federal and State supervision. For full information write
BERTLEY FARMS, Glenwood, Ill.

W. Kaul, AUCTIONEER
Graduate of Jones' National School of Auctioneering (Chicago). Ten years' experience. Sales made anywhere. Wire or phone at my expense. Hustisford, Wis.

When writing advertisers please mention Hoard's Dairyman.

Larson Appointed Chief of Dairy Division

HOARD'S DAIRYMAN:—Carl William Larson has been appointed chief of the Dairy Division, United States Department of Agriculture, succeeding B. H. Rawl, whose undivided effort in future will be pledged in the performance of duties connected with the office of Assistant Chief of the Bureau of Animal Industry. The confirmation of the change is of recent record, the promotions being a recognition of experience and valuable service rendered in previous capacities.

Doctor Larson, recruited from an assistant professorship of agriculture and agricultural economics in Columbia University in May, 1917, when the world conflict emphasized the urgency for a multiplied output of dairy products, applied himself diligently to the pressing tasks. The effectiveness of his activities in a war-torn period, supported by an intensive and continuous previous contact with dairying and dairy management, placed him in good standing with the Dairy Division. He assumes his new position with a grasp of dairy problems as well as having earned the reputation of being a man of excellent business qualifications.

Doctor Larson is a native of Iowa. His early boyhood years from the time he was twelve years old until he matriculated in college, were spent on a farm in the neighborhood of St. Ansgar. His vacations, outside of academic walls, were likewise identified with life of the countryside. He was graduated from Iowa State College in 1906, receiving the degree of bachelor of science. Degrees of M. S. from the Pennsylvania State College in 1913 and Ph. D. from Columbia University in 1916, suggest his accomplishments in pursuit of a collegiate training. His major studies at these institutions consisted of animal husbandry, dairying, and general economics.

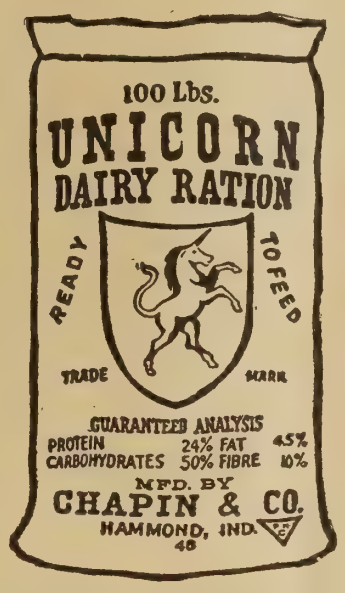
Once beyond the campus of a more or less theoretical educational horizon, he lent his efforts to practical service. For twelve months he identified himself with commercial dairy manufacturing establishments. His succeeding opportunity for service involved duties as an instructor in dairying in the Pennsylvania State College, his affiliation with this institution continuing for an unbroken period of five years. He was head of the dairy department and had active management of the college herd and creamery. These responsibilities were discharged with credit. After being awarded the degree of doctor of philosophy at Columbia University he was assigned the chair of assistant professor of agriculture and agricultural economics in that institution. He occupied this position until coming to Washnington in May, 1917. Dr. Larson is a tireless worker, and whether the immediate problem of the Dairy Division is that of stimulating milk campaigns in cities or that of the formation of a cooperative bull association, his mind works with systematic precision in attacking the varying tasks pressing for solution.

Washington, D. C. S. R. WINTERS.

Wisconsin Bang Farm

The Commissioner of Agriculture calls attention to the fact that neither he nor any of the employees of the department are interested financially, officially, or otherwise in the establishment of a corporation promoted for the purpose of establishing a so-called "Bang Farm", the purpose of which is to raise calves from tuberculous cattle; and if any representation is made to the effect that they are so connected it is made without authority.—Wis. Department of Agriculture.

Inferior Rations Don't Pay



Unicorn can be fed alone if your roughage is deficient in protein.

If you feed home-grown grains with Unicorn, then alfalfa or clover should make up a good part of the roughage.

Many dairymen have been feeding inferior, lower-priced rations instead of Unicorn.

The few dollars saved in price were lost either by lowered milk production or increased use of feed.

Today the price of Unicorn is so low that there is no good reason for the use of an inferior, unprofitable ration.

Start a few cows on Unicorn. Compare their milk and feed records for a month with those of the previous month.

Then you will know that for thirteen years we have been telling you the truth:

"Good cows, fed Unicorn, always make a profit."

CHAPIN & COMPANY
Chicago
New England Office at Boston

PABST SALE
SURPLUS ANIMALS
APRIL 2ND

The Pabst 2nd Semi-Annual Sale

Buy Your Herd Bull — or Some Foundation Cows There

- ¶ 29 Young Bulls
- ¶ 15 Young Cows
- ¶ 15 Sons of Creator
- ¶ 16 Sons of Yearly Record Dams
- ¶ 7 Cows Bred to Creator
- ¶ Several Daughters of King Pontiac Champion
- ¶ Practically every animal bred, born and raised here.

The bulls in this sale are the surplus of our herd since our sale last October. They include the very best we have ever bred. You come to this sale and buy at your own bid the result of fifteen years of constructive breeding. In instances we own the dam, the grandam and the great grandams of these bulls. You see them for yourself, you know what you buy.

Last year Pabst Stock Farms won first place as breeders of prize winners. This means that her animals make good. For those who want to start with foundation animals we say come to this sale. In our last sale 39 bulls went to head different herds. Send now for the advanced sale list and make your plans to attend.

April 2nd At the Farm

PABST STOCK FARM

OCONOMOWOC, (Waukesha County) WISCONSIN

37 Head Registered Jerseys at Auction

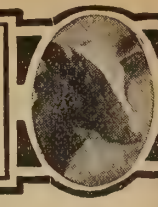
Have sold farm and must close out; 18 cows majority fresh; aged 2 to 9; 3 yearling heifers; 2 bull calves; 13 heifer calves; herd bull 2 years 7 months old, Sans Aloi Tormentor Lad. This bull is superbly bred, a grandson of Sans Aloi and great grandson of Financial Countess, ex-champion butter cow. He is also a cousin of Financial Sensation $60,000 bull. All his ancestors are in the Register of Merit. Cows are all of the St. Lambert and Beechland families. Sale at 2 p. m., March 28, on farm 2 miles north of Anoka, Minnesota. JULIUS SANDERSON, Owner

Keep Tab on Your Cows!

Send 5c in stamps for samples and prices of our weekly and monthly Milk Record Sheets. Hoard's Dairyman, Fort Atkinson, Wis.



HOARDS DAIRYMAN JUNIORS



A DEPARTMENT FOR THE DAIRY FARM BOY

The Making of Bruce Carter

The Carters lived on a large dairy farm. So did the Hornes and Webbs. There was Ellsworth Carter, the father; Marie Taylor Carter, the mother; and Bruce Carter, the only son and heir to the rapidly accumulating estate. Ellsworth Carter was a shrewd type of Yankee farmer and well did he merit the reputation he had of being the best bargain driver of the township in which his farm was located. To deal with him meant that the party of the second part was beaten before the deal was closed, and a favorite expression of those who held down the dry goods box bleachers of the two village stores was: "Look out for Ells, he'll git all you've got and your hide besides." But Ellsworth Carter was not a dishonest man. He made his opportunities and then took advantage of them. In fact he was a born leader, and, in spite of the reputation he had, his friends were many. If there was any one fault that he had for which he might have been blamed it was the one with which many fathers could be charged. Ellsworth was such a busy man that he had little time to devote to the bringing up of his son. But as is usually the rule in such instances, Bruce had about all that a boy of his age could wish for. There was one thing, however, that every boy longs for, but which few have, that Bruce longed for; and that was ownership with the responsibility that goes with it. Of course he had a pony, as you might expect, but beyond riding it, there was little satisfaction in that, for his mother had long since ruled that Bruce was destined to become what she deemed a cultured gentleman, whatever that is. And so it was that Bruce was never allowed to care for Rex himself, in fact it was almost his mother's daily warning to keep away from the barns. That was the place for hired men and not for her cultured gentleman.

And Marie Taylor Carter should not be blamed for her foolish notions. It was perfectly natural that she should have them. Neither did she fit into the community life in which she had been living for the past fourteen years. And this was quite to be expected, too. Born in a wealthy, aristocratic, Kentucky family, Marie Taylor was raised to womanhood with but one idea ever before her and that was that a woman's main function in life is just to look her prettiest and that was the one accomplishment in which she excelled. In fact, the first attempt at real work came to her when she became the wife of Ellsworth Carter. It was then that she found herself the mistress of a home in which she was not to be surrounded by servants and body guards. Ellsworth Carter was too close a bargain driver to even have one servant about the house. And little sympathy did her complaints bring among the gossips of the neighborhood, their one comment being, "Well, she knew what Ellsworth was before she married him."

Bruce came during the second year of their married life and with it came a change which Ellsworth had longed for from the beginning of their matrimonial partnership. No longer did she seem to be the discontented, unhappy wife he had known for a year and a half, for the birth of Bruce had brought with it the finest of all woman qualities, that of motherhood. The hated and but half learned duties of the house developed a new life within, but the false ideals of her girlhood still remained with her and so it was that as Bruce grew from infancy into the realms of boyhood, he found himself living under the unnatural restraint of an altogether too fond mother.

But fortunate for Bruce, he was a regular boy. That quality he inherited from his father and no foolish ideals of an indulgent mother could destroy his masculine instinct for the pranks of the American boy. The trouble was that his mother just didn't understand boys and so it was that instead of developing into the kind of boy his mother was striving to have him be, Bruce was daily becoming more rebellious until finally it became no uncommon occurrence for his father to be called in to settle disputes which had risen between his mother and himself. And, of course, as is usually the case with boys, Bruce was convicted before he was tried. It was on such occasions that it would have been better if he had been born a girl, and more than once had he given utterance to that expression as he wept himself to sleep after being chastised by his father for boyish misdemeanors that no wise father chastises for. But with a wife and a son to please, Ellsworth Carter found life easier for himself to take the part of the former, and so it was that Bruce found life becoming almost unbearable. He wouldn't learn to be a musician nor would he stay dressed up. He was going to be like other boys of the neighborhood. He made up his mind to do as only a boy of fourteen can. He would do the thing he most desired and then take the consequences. Already he had several times been called Sis Carter by the other boys, to be sure not for any feminine qualities that he possessed, but because he was not permitted to mingle freely with them. And so, in spite of all parental restraint, Bruce would get into all of the scrapes that the other boys got into. He had his battles royal with them, and more than once would he return home with a disfigured face, for he usually got the worst of it. In watermelon and apple cooning parties, he always did his share of the damage, but it was fun and that he would have.

But Bruce was not a bad boy. You and I who know boys would just say that he was a real live wire and let it go at that knowing that he would turn out all right in the final as all such boys do. He was a boy good to look at. That he inherited from his mother. With a shock of black, curly hair crowning his well shaped head, and with eyes equally dark that looked you through, he was a type that would win in the long run as he grew into manhood. But what did he care for good looks. That is the least among the worries of fourteen-year-old boys. The freedom of boyhood was what he desired and only those who understand the savage in a boy know what that means.

Bruce wanted to be like Bill Horne and Jimmy Webb. That was the height of his ambition. Bill and Jimmy were members of good, respectable families and it was to the credit of the elder Hornes and Webbs that there were other little Hornes and Webbs to be fed and clothed and so Bill and Jimmy grew up under the natural influences of families that had other cares than those of pampering an only child. Of course Bill was William and Jimmy, James as far as the Bible birth records said, and likewise were they in the one-roomed school which they attended. But to the boys they were Bill and Jimmy, and Bruce was Boo. And we have yet to understand why the Williams and Jameses all over this land are not Bills and Jimmies inside the school room as well as out. Why should the class room not be real in its relations with the boys! That we'll leave for you to settle. Boys have pondered over it ever since schools have been, but still Bill is William and Jimmy is James. Change it and with it will come so much of what we want, but that which we cannot seem to get within the four walls of the school room. Leave it to the boys and it will be settled over night.

Bruce had developed a fondness for Bill and Jimmy that they reciprocated. This, to be sure, did not please Mrs. Carter, who regarded all the boys of the neighborhood as inferior to her Bruce and unfit for him to associate with. She abhorred nicknames and when at last she heard her own dear Bruce being called Boo, she gave voice to her sentiments upon that subject.

"I won't have you spoiled by those two little rowdies," she wrathfully announced to Bruce on one occasion. "It's bad enough to have to bear with your associating with them."

"What do I care what they call me, mother," he blithely answered. "I'm not so sure that Boo isn't better than Bruce anyway. It's shorter and it sounds lots more friendly."

"Just it," she answered irritably. "It's altogether too friendly and I want you to speak of them by their real names or I'll put a stop to your running around with them."

"Won't make any difference, ma," he answered serenely. "They'll be Bill and Jimmy just the same to me. That's the way I'll think about them and so why shouldn't I call them that way! Think of calling that pug faced Bill, William," he laughed, "and it would spoil all the fun of being with Jimmy not to call him that. Mother, they are just the realest kids you ever saw, and I don't see why you don't like them. I'm just crazy over both of them, especially Jimmy. He's a regular guy and, believe me, he's good, too. Nothing bad about either one of them two," he persuaded. "They're just the commonest kind of fellows, not stuck up at all."

"That's just it, Bruce, they're too common for you to be with. I want you to grow up to be a fine gentleman and that's something neither of them will be," and she was almost at the point of bursting into tears as she spoke.

"Well, they'll both be fine men just the same, mother, you wait and see and I think fine men that are real men, are better than gentlemen that ain't," he explained in boyish ignorance, and at that, out he dashed as he heard "Boo! Boo!" called from the road, leaving his mother in nervous anxiety for the fate of her only child.

"Say, Boo, Bill and I have thought up some fun for all of us and we want you in on it," said Jimmy, his big, blue-grey eyes dancing with enthusiasm. "Will you come in?"

"How do I know, you poor fish," he answered. "You haven't told me what it is and, besides, I suppose I'll have to ask mother first. Sure I'll come in if it isn't anything bad," he winked at Bill. "Go ahead and tell me about it."

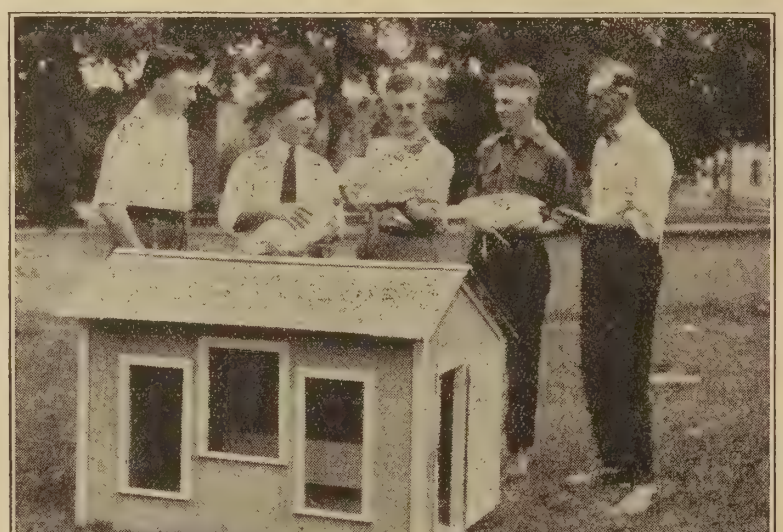
"All right, then," Jimmy answered, as the three dropped into comfortable positions on the ground. "You listen and I'll explain."

"Yes, you listen," laughed Bill, "and don't you do any talking; Jimmy wants to do all of that."

"You do it, then," retorted Jimmy, "if you think you can explain it better than I can."

"Ah, go on, Jim," persuaded Bruce, "don't pay any attention to that big stiff. He's jealous, that's all."

"Well, how would you like to go in the chicken business with Bill and me?" he began. "We'll form a company, a kind of closed corporation, you know, and we'll go at it in a scientific way. You see, the three of



IT WAS AT A MEETING OF THE STATE FAMOUS MOR-EGGS POULTRY CLUB THAT JIMMY AND BILL RECEIVED THEIR INSPIRATION
(Courtesy U. S. Dept. of Agr.)

us will own all of the stock so we can collect all of the dividends," he laughed, "when they begin to come in. Now, of course, if we are going to work as a company is organized, we'll have to have a business plant, a kind of factory where our product will be turned out. Bill and I figured out that we could start in this business with the least expense that we could start anything with, so that is why we have decided to do it."

"Yes, but it will cost something to get started," interrupted Bruce, "and if I ask mother for money to go in on a thing of this kind to get myself all dirtied up every day working on it, she'll give me the dickens and that is as far as I'll get into the game, I'm afraid. "Gee! But wouldn't that be great, fellows, to do something like that, a job where we can really be our own bosses and be responsible for the success of the thing, but I'm awfully afraid to ask mother."

"Ah shucks, Bruce," broke in Bill, "have a little backbone and come in. Don't ask her. Go to your dad, he's been a boy once. He knows what kids like us want to do."

"That's just the trouble, Bill," Bruce answered. "I've got too much backbone and independence to suit mother, and what I really want to do, she never has any time for. But believe me, Jimmy, I'm coming in on this if it costs me a thousand lickings like the last one she made dad give me for helping you two in that dog scrape we got into."

"At-a-boy, Boo," shouted Jimmy. "That's the way to talk. And the licking you got for that dog scrape was worth taking for all the fun we had that time. Wasn't old Bill Smith sore though when he saw that yellow pup of his beating it across lots with that can tied to his tail! It's a wonder we didn't catch it that time, Bill, but dad just sort a smiled when he heard about it from old Bill himself, and then he told Bill to go home and forget it and to think back to the time when he was a boy. That's as near as my licking went," he laughed. "Now let's get back to the business end of this deal," he suggested. "We have an old incubator up in our attic, Boo, that we never use any more. It's old, but it's not worn out. I guess the only reason dad is not using it is because it is not large enough. Now that can be the beginnings of our plant and it won't cost us a single cent. I'll donate that to the firm without expecting any favors in return. It will hold about 120 eggs at a time. That will be our first cost, or at least it should be, but Bill and I figured that expense is entirely unnecessary. We'll each furnish 40 eggs apiece. We'll just save them out, a few at a time, so that they won't be missed, when we gather the eggs each day. And we can do that, too, very well because it happens that we are all keeping the same kind of chickens. They all started from your dad's flock of White Leghorns. So, you see, we can get a uniform lot in that way to start with."

"But I don't gather the eggs," said Bruce, disappointedly. "The hired man has to do that and all the other things that I should be doing."

"Brace up, old kid," Bill jollied him, "and let the hired man in on it. He'll swipe a few for you each day, don't you forget that. He's strong for you and you can bet your last dollar he'll do that much." "What do you say?" came from him and Jimmy in the same breath?

"Why, I've already told you what I would do," he answered. "I am in on it to the finish. I was born a boy and a boy I'm going to be," he added with a vengeance, his black eyes snapping with the fire of triumphant determination.

"All right, then," Jimmy proceeded, "we'll take up the next proposition, now that the firm is organized, or at least agreed to do so. What shall the name of the new firm be?" he inquired of his two ardent listeners.

"Well, since you are furnishing the incubator, I think that Bill and I will agree to having your name appear first in the title," Bruce suggested. "And since Bill was in on the original idea, I would suggest that his name appear second. And as for myself, I am so glad that you are letting me in on the scheme, that I will be satisfied if the firm name is Webb, Horne, & Company. How does that strike you, fellows?"

"Not at all," came in the same breath from both of them. "We want your name along with ours and it is only right to have it there if we are all sharing profits and losses equally," answered Bill. "So, if it's agreeable, I'll make a motion that the name of the company which we are about to organize be Webb, Horne, and Carter Company," he concluded.

"I'll second that motion," quickly interposed Jimmy before Bruce could offer further objections. Following this, he quickly put the motion to a vote and it was decided favorably by a vote of two to one.

"Well, I think it would have been better to have followed my suggestion," said Bruce, "then I could have kept it a secret. Mother and dad would never suspect who the company part of the title stood for. Now I'll have to make a clean breast of it to them."

"That's the way to do, old kid," laughed Jimmy. "It will win for you in the end. And now I am going to suggest that we start saving the eggs today and by the end of the week we should be ready to start on our new enterprise. Bill and I will see to it that the incubator is repaired if any is needed to put it into shape and we will guarantee to have it all regulated and ready by Friday. This is Monday, so that should give us time enough."

"But we'll need a brooder and a coop to put the chicks in when they are hatched," suggested Bill.

"Sure we will," Bruce reiterated.

"Oh, that needn't worry us; we'll have plenty of time to get that ready while the eggs are hatching," Jimmy replied.

Just then Bruce's mother appeared in the doorway, beckoning for him to return to the house. Bruce reluctantly obeyed and his two friends turned to go, but not without Jimmy saying, "Remember, Boo, what we said. Don't keep anything back."

Much to Bruce's surprise he was greeted with what he considered good news, for his mother told him that they would call to spend the evening at the Webb home, not that she cared to, but because her husband had suggested that they do so. "And I want you to be a regular little gentleman, Bruce," she had said. "You can be a good example to the other boys around here if you want to and it will help to make them better men," she advised as she stroked his hair caressingly. "And if they ask you to play a few selections on the piano, I want you to do so without being asked a second time. You are learning to play real well and when people have accomplishments they should give others the benefit of them."

To all of this, Bruce made no reply. He was thinking as to the advisability of telling his mother what he had promised Bill and Jimmy. "No, I'll wait," he said to himself. "If I mention it now, she may change her mind about going there tonight. I'll trust to luck and maybe she'll find it out while we are there. That will let me down a little easier at least," he figured. "She won't dare to raise much of a fuss about it in the presence of the Webbs. Wish Bill could be there," he thought. "That would give us a chance to get off by ourselves so that we could complete our plans."

It was nine o'clock of the evening referred to. Bruce and Jimmy had disappeared upstairs shortly after the Carters had arrived. No one seemed to think anything strange about that, for boys always like to be by themselves on occasions of this kind. And, of course, everyone thought that they were playing at some sort of house game. In fact they had not been very much missed by any one excepting Bruce's mother, until she called attention to the fact that the boys were very quiet about whatever they were doing.

"Oh, they're all right, Mrs. Carter," said her hostess. "Boys like to be by themselves and Jimmy is a great entertainer. I am sure they are not in any mischief."

"Well, it's so quiet up there, that I don't believe they are there," answered Mrs. Carter nervously.

"Surely they are," she was again assured, "and just to prove it and to settle your suspicions, Mrs. Carter, Jennie will go and see."

Jennie was Jimmy's big sister, at least she thought she was, although she was but two years his senior and it is needless to say that the relation between big sisters and little brothers is not always the best when it comes to matters of advisory nature. And Jennie was good at handing out advice to the other members of the family and at times she did not spare her mother and father. Tiptoeing up to Jimmy's room, she found it unoccupied and for the moment she began to think that Mrs. Carter was correct in her judgment. She searched the bed, both in and under. Then she tried the clothes closet, thinking that having heard some one coming, they might have hid there ready to spring out for the usual scare that boys delight in. Just as she was about to leave to report the result of her searches, something glued her to her tracks, for at that moment Bruce dropped the kerosene lamp of the incubator which he had been cleaning and down the attic steps it rolled.

The effect was all that any boy could have desired to produce upon his big sister. She let out a war whoop and down the steps she flew, back to the living room and protection. "I'm nearly scared dead," she gasped. "The boys are not there, but there's some one up in the attic," she said excitedly. "Something making an awful noise fell down the steps leading to Jimmy's room. Oh, it sounded terrible and I don't see how I ever got out of there alive, I was that scared."

"Why it couldn't have been anyone, silly," her mother urged, "unless it is the boys. But what would they be doing up there all this time. There's nothing of interest there."

Of course, Mrs. Carter was all unstrung, as you might suspect, over such an episode as this, and naturally she said a great many things without much meaning to anyone but herself. And it was only after Jimmy's father had returned from an investigation of the attic and reported the boys there safe and sound that she partially recovered herself. Mr. Webb laughed over it good naturedly, for it meant nothing more than a good joke to him.

"Those two rascals are overhauling that old incubator," he told them, "and the noise you heard, Sis, was made when Bruce let the lamp slip from his hand and it rolled to the bottom of the stairs. They are a sight," he grinned straight at Bruce's mother. "They've got themselves smeared with dirt from head to foot, just like a boy delights to be. They are having the time of their lives, and they say they are planning on going into the chicken business. What won't boys think of now days," he winked at Mr. Carter, who in response said: "Just like we were, Axtell, always into some mischief and always ready to be hailed into the court after they are convicted."

(To be continued)

Junior Letters

Hoard's Dairyman Juniors:—I live on a 150-acre farm in the eastern part of New York State along the Mohawk river. Our farm consists of about 20 acres of flat land along the river which is tillable and about 40 acres of clay which is tillable. There are about 30 acres of woods and the rest is in pasture. I quit school when I was in the first year of high school but am thinking of going to an agricultural school now. We set out over 5,000 cabbage plants last spring but they did not sell very well this fall so we fed them to the cows and they milked well on them. We have six Chester White pigs and 60 chickens and 4 horses. We have 13 cows of which 4 are fresh now and the rest will be by April. If any of the juniors wish to write to me my address is Pattersonville, New York. Frank C. Wilcox.

Hoard's Dairyman Juniors:—We are milking fourteen cows at night and five in the morning. Most of the hay in the barn is gone but we have some in stacks. A little over half of our silage is gone but our silo is just a ten by twenty. We have about one hundred sheep. We have eight horses and a pony. I am eleven years old and am in the sixth grade. Our teacher's name is Myrtle Dolan.

Wisconsin. John Holland.

Hoard's Dairyman Juniors:—I have 24 pet rabbits. We have 17 cows, 4 heifers, and 1 pure-bred bull and 4 horses. We had the champion herd in the testing association last year. I live on a 120-acre farm. I am 11 years old and I am in the 6th grade. We have a milking machine so I don't have to milk by hand. I have no brothers or sisters. It seems lonesome sometimes. My work on the farm is feeding the rabbits and chickens and helping to do the chores. In the summer time I clip the lawn and drive horses on the hay fork.

Wisconsin. Orval Hessel.

Hoard's Dairyman Juniors:—Well, I suppose you fellows have forgotten that I am still a junior but I am trying to be one. I am in the pig club, but the first part, the feeding contest, has closed and the sow and litter contest has begun. I won fifth in the breeding contest. I won first on the best kept record, first on the best essay, and tied for first on the cheapest cost of production, largest daily gains being my weakest point The club was composed of Duroc-Jerseys and Poland-Chinas. Mine was a Poland-China. Her name is Wagner Wonder Stamp. I think I will join a calf or poultry club this spring.

At present we are milking only four cows. They are Guernseys.

I would like to see more junior letters from Indiana in the junior department. I wish some of the juniors would write me and tell me how they are getting along in the club work. My address is R. D. 8, Mt. Vernon, Indiana. Carl Russell.

Hoard's Dairyman Juniors:—My pure-bred Holstein heifer freshened the 12th of January with a heifer calf. It is quite small but otherwise is well proportioned. She is quite a small cow but is giving about 25 lbs. milk daily I am feeding her clover hay, corn and pea silage for roughage and a mixture of 2 parts Queen Dairy Feed, 1 part bran, and 1 part ground oats.

Our cows are doing much better this winter than ever before.

The weather up here is fine, a little too warm for this time of the year and not enough snow. The cars are running between here and Barron right along.

We have two sows to farrow this spring and are feeding eight fall pigs. We were offered $30 for the eight pigs awhile ago.

Wisconsin. Paul Krippner.

Hoard's Dairyman Juniors:—I live on a 214-acre farm and go to school every day. I expect to pass the 8th grade this spring so that keeps me studying all the time. We have 15 head of cattle, four are registered Ayrshires. We are going to build up a herd of them. Papa bought a bull from Mr. Strubles in Ohio. He is a dandy and his name is Silverdale. We have four sows and nine horses. For pets I have one big tiger cat and a black dog I call Tony and a white rabbit. We keep 250 White Leghorn and White Wyandotte chickens. I have one sister and her name is Jessie. She is through school. I like to read the junior letters. I am 14 years old.

Papa bought twin Guernsey calves. One of them is mine. He said when it gets big I can sell it and put the money in the bank for myself.

Hoping some of the juniors will write to me, my address is R. R. 3, Oregon, Ill.

Frederick Clausen.



The rate for advertising in this department is 10 cents per word. Count address. Remit in advance. Copy must reach us 8 days ahead of date of issue. Farm labor advertising 7c per word.

STOCK FOR SALE

Holstein heifer and bull calves. Pure-bred, registered and high grade. Splendid individuals and breedings. Delivered to you, $25 and up. Your inquiry will be given our best attention. BROWNCROFT FARMS, McGraw, N. Y. 5*

I have usually 100 head of registered and high grade Holsteins on hand for sale. Also registered and imported Percheron and Belgian horses. RALPH HUDSON, Milton Junction, Wis. 12*

For Sale—At Elmwood Stock Farm, high grade Holstein cows, fresh and springers, by the carload. JOHN MURPHY, Mukwonago, Wis. 3*

"The Willows" offers fifty high grade Holstein cows for sale. S. D. SHAMBEAU, Waupaca, Wis. 12*

High Grade Holstein heifer calves, two to four weeks old, from tuberculin tested herds, $30 each, crated. Will ship C. O. D. WAUKESHA CO. HOLSTEIN-FRIESIAN BREEDERS' ASSOCIATION, Waukesha, Wis. 9*

High Grade Holstein and Guernsey calves. $25 crated. Safe delivery guaranteed. BROWN & COLLINS, Lima Center, Wis. 16*

Serviceable grandsons of Lola Segis Pontiac Homestead for sale, he a 34-lb., 1,000 lb. son of Piebe Laura Ollie Homestead King. Their dams are daughters of Joe Oak De Kol Fobes. Well grown, good individuals. Your choice, $150. R. W. MEAD, Stillwater, Minnesota. 10*

High Grade Holstein calves 6 to 8 weeks old, $30.00 each. We pay express and ship C. O. D. SPREADING OAK FARM, Whitewater, Wis. 11-tf.

For Sale—30 high grade Holstein milkers and springers. Will sell one or all. FRED JOHNSON, Waupaca, Wisconsin. 23*

Closing out herd of grade Holsteins, $100.00 each. H. A. KUHTZ, Waukesha, Wisconsin. 24*

For Sale—My entire herd of choice high grade Holsteins, mostly bred to and sired by thirty-pound bull. There is one full load of the best large heifers in southern Wisconsin, uniformly marked, about three-fourths white. C. L. SIMMONS, Belmont, Wis. 1*

Baby Bulls—Registered Holstein-Friesian by high class sires and heavy producing dams. Price is right. C. S. MULKS & SON, Whitewater, Wisconsin. 3-*

Holstein bull, ready for service, 2 dams averaged 106 lbs. milk 1 day, 40.67 lbs. butter 7 days, $200. Terms. ROY HARRIMAN, Appleton, Wisconsin. 5-6

Yearling bull for sale. From 19-lb. 3-year-old dam. Homestead Junior De Kol breeding. First check $150 takes him. ALBERT C. WOLLIN, Johnson Creek, Wisconsin. 5*

Holsteins—37-lb. herd sire, young bulls, cows, heifer calves. PHILIP LEHNER, Princeton, Wisconsin. 6*

High grade Holstein heifer calves, three weeks old, $18. We ship C. O. D. subject to inspection. YOHN FARM, Watertown, Wisconsin. 7-5

High grade Holstein calves, either sex, $20.00. Registered bulls, $35.00. Registered heifers priced to sell. Shipped C. O. D. safe delivery guaranteed. PAUL McFARLAND, Route 7, Watertown, Wisconsin. 7-4

Registered Holstein bulls, old enough for service. Fine individuals. Best of breeding. $100.00. Also heifers at reasonable prices. DR. BLACKBURN, Cuba, Ohio. 8-5

35 High Grade Holstein cows, springers and milkers. Carload lots a specialty. Also some heifer calves. EHNERD & BIEBAL, Wrightstown, Wis. 8-4

If you want the very best Holstein heifer calves delivered promptly, order from me. Will ship C. O. D. express prepaid at $25 each or $18 F. O. B. Oconomowoc. Also a fancy load of cows and a number of heifers priced to sell. E. F. THOMAS, Oconomowoc, Wis. 9-8

Seven registered Holstein bulls of serviceable age sired by Carnation McKinley Korndyke whose two nearest dams average thirty-five pounds of butter and over 600 lbs. of milk in seven days. These youngsters are well grown, fine individuals, tuberculin tested with privilege sixty-day retest. FERGUSON FARMS, Dyersburg, Tenn. 9-2

Five registered Holstein heifers, well grown, due to freshen about April 15th, four yearlings, also young calves. Federally tested. No reactors. E. W. CHAPLIN, Waldo, Wisconsin. 10-2

I don't want your money until you see my calves. I offer beautifully marked, high grade Holstein heifer calves at almost veal price. Registered bull calves $35.00. I ship C. O. D. and if calves don't suit don't pay for them. Safe delivery guaranteed. J. M. McFARLAND, Watertown, Wisconsin. 10-4

Pure-bred Holstein bull calf, born Sept. 16th, 1920, nearly white, from 22-lb. dam and at one-half the price of year ago. CHERRY VALLEY STOCK FARM, Route 8, Waukesha, Wisconsin.

14 pure-bred Holstein heifers, one from forty-two pound sire, five from thirty-eight-pound sire, several from A. R. O. dams. C. G. JOHNSON, 1159 Godfrey Ave., Grand Rapids, Michigan.

Registered Holsteins. Nice bull, seven months old, high yearly record sire, well marked, $65. Females and bull calves. WARD BROTHERS, Fort Atkinson, Wis.

High grade Holstein and Guernsey heifer calves. Registered Holstein bulls fit for service. Grade cows, both breeds. W. R. GATES, Fort Atkinson, Wisconsin. 10*

My entire herd of grade Guernseys for sale. Also a few choice heifer calves at $30.00 delivered. SHADY HILL FARM, Whitewater, Wis. 23*

Guernsey heifer calves. Can ship you 10 at once about 4 weeks old. Calves out of my own herd, so know what I am shipping. $60 each crated. F. O. B. Waukesha. WERN FARMS, Waukesha, Wis. 18*

Guernseys—High grade Guernsey calves, either sex, four to six weeks old, bred for production of milk and butter. Thirty dollars apiece delivered to any station, express charges paid here. Send orders or write. LAKE VIEW GUERNSEY PLACE, Whitewater, Wisconsin. 26-tf

For bargains on May Rose bulls with type and production, write KUHTZ BROS., Waukesha, Wis. 21*

For Sale—Registered Guernsey bull calves, good producing dams at farmers' price. OTTO KRUEGER, 427 East Broadway, Toledo, Ohio. 24*

Guernseys for Sale—From Federally Accredited herd. Bull calves, two bulls ready for service, sired by Clara's Sequel and out of high testing dams. Also ten pure-bred females. LLOYD RUNDELL, Roberts, St. Croix County, Wisconsin. 26*

Bargains—Four highly bred registered Guernsey bulls. Ages about 3½ and 2½ years and 2 to 9 months. Herd tuberculin tested by Government. A. W. BROWN, Rhinelander, Wisconsin. 3*

For Sale—Two May Rose Guernsey bulls, age 4 months. Sired by Langwater Frenchman, a half brother Ne Plus Ultra. Dams' Advanced Registry records 710 and 660 lbs. fat. HOMER RUNDELL, Livingston, Wisconsin. 4*

For Sale—Good grade Guernsey calves up to 3 months old. MICHAEL RAPPOLD, Route 5, Whitewater, Wisconsin. 8-4

STOCK FOR SALE

Registered Guernsey bulls and heifers. FAIRVIEW FARMS, Brodhead, Green County, Wisconsin. 2-9

For Sale—Registered Guernseys. Both sexes. Herd under Federal Supervision and free from disease. CLOVERNOOK FARM, Whitefish Bay, Milwaukee County, Wisconsin. 6-10

Guernsey calves six weeks old, $20. F. O. B. Knapp. THOMAS HAGERTY, Knapp, Wisconsin. 2*

Guernseys—Registered males and females, all ages. Breeding and type unexcelled. Grade cows, yearling heifers, heifer calves. No better quality anywhere. Tuberculin tested. Prices reasonable. Why not buy through an association and from breeders in the business to stay? Write your wants today. F. E. FOX, Secretary Waukesha County Guernsey Breeders' Association, Waukesha, Wisconsin. 6*

3 Registered Guernsey heifers for sale, coming two years old. Daughters and granddaughters Imp. Clara's Sequel and from A. R. dams. Bred December to Langwater Frenchman. Federal Accredited herd. HOMER RUNDELL, Livingston, Wisconsin. 7*

For Sale—Grade Guernsey cows and heifers. Write WILLIAM LONSDORF, Sec., Athens Guernsey Club, Athens, Wisconsin. 8-3

Registered Guernsey bulls of Advanced Registry breeding, $100.00 and up. Herd federally inspected. HELENDALE FARM, Athens, Wis. 8-4

Guernsey bull, born Oct. 1919, from dam 67.7 lbs. fat a month. $125.00. SUNNYSIDE FARMS, Rockport, Indiana. 9-2

High grade Guernseys—Twenty young cows and heifers to freshen. Some with records. Almost pure-bred. Tuberculin tested. OAKLAND GUERNSEY FARM, Mukwonago, Wisconsin. 9*

For Sale—Six pure-bred open Guernsey heifers. 5 are from A. R. cows. May Rose and Sequel breeding. See ad page 438. DALE E. RUNDELL, Livingston, Wisconsin. 9-spl

May King Vrangue 15430—One of the leading May Rose sires. Sons of his for sale from A. R. Golden Secret and Glenwood dams. E. J. FRUIT, Platteville, Wisconsin. 9-4

Young bulls for sale. Sons, grandsons and double-grandsons by Bell Buoy of Linda Vista 19430 with 20 A. R. daughters, who has six daughters that average 524.55 lbs. fat at two years. O. R. SCHWALEN, Roberts, Wisconsin. 11*

Guernseys—Registered Guernsey bull, 3 high grade cows, 2 high grade yearling heifers and 2 high grade heifer calves. Federal Accredited herd. Will sell separately or make special price on herd. H. M. WALTERS, Dexter, Minnesota. 10-2

For Sale—Several choice young pure-bred Ayrshire cows. DAVID W. WILLIAMS, Lake Forest, Ill. 7-4

Brown Swiss calves for sale. E. H. EISELE, Manchester, Mich. 8-3

Brown Swiss bulls of serviceable age. A. C. BOODY, Hudson, Wisconsin. 4*

Pure-bred Swiss bull eighteen months old. Write for prices. D. A. WAGNER, Brimfield, Ill. 9-2

Jerseys—Fresh cows, bred heifers, heifer calves, one bull ready for service. L. R. KUNEY, Adrian, Michigan. 9-2

Two registered Jersey bull calves and few choice heifer calves. MRS. PHILIP SMITH, Route 1, Box 18, Manitowoc, Wisconsin.

For Sale—Three young Jersey bulls. Excellent breeding. Herd tuberculin tested. H. A. PASSER & SON, Indian Point Farm, Oshkosh, Wisconsin.

STOCK WANTED

Wanted—To buy for fall delivery, 25 heifer calves, 20 bred heifers and a few cows, all to be of the best registered Holstein strain that can be had. FRANK KOTE, care National Steam Laundry, Sherman, Tex. 8-6

Wanted—Carload or more registered Holstein heifers in exchange for first mortgage farm loans. EDWIN THORN, Binford, North Dakota. 9*

Wanted—Lists of registered and grade Guernsey cows and heifers for sale. Report to any bank in Wisconsin or write to BANKER-FARMER EXCHANGE, 1822 Chadbourne Ave., Madison, Wis. 8-spl

Wanted—Registered Guernsey heifer calves or cows. Name price and description. JAMES ABRAHAM, Route 2, Ogdensburg, Wisconsin. 10-3

Guernsey herd bull wanted—Must be a real high class individual not over 6 years old, with good A. R. backing on both sides. Send photo and pedigree with price. Address BOX 694, care Hoard's Dairyman. 10*

STOCK BUYER

Registered dairy cattle bought and sold. EDWARD A. WALTER, 111 Monroe St., Chicago. 18*

Will buy for you, dairy cattle of any breed, grades or pure-bred. DAVID W. WILLIAMS, Lake Forest, Illinois. 6*

Commission basis—One hundred and fifty head in our own herd for sale, Holstein and Guernsey, registered and grade. Large barns for centralizing and testing shipments of any size. Private yards for shipment. Every herd near here known by us. Write your demands. EDGEWATER STOCK FARM, Fort Atkinson, Wisconsin. Breeders and commission buyers. 10*

DOGS

German Shepherd, airedales, collies, and old English Shepherd dogs. Brood matrons, puppies, farm helpers. 10 cents for instructive list. W. R. WATSON, Box 520, Oakland, Iowa. 20*

Shepherd Pups—Heel working parents. FAIR OAK FARM, Norwood, Minnesota. 5-6

SWINE

Duroc-bred gilts and boar. Prize winners. PHILLIP LEHNER, Princeton, Wisconsin. 5*

50 big type, Poland China and Berkshire pigs crossed, also 25 Duroc Jerseys, 10 weeks old, $10.00 each, crated for shipment. Satisfaction guaranteed. EDGEWATER FARM, Whitewater, Wisconsin. 10-2

HORSES

For Sale—Beautiful young thoroughbred Percheron stallion, black. Will sell reasonable as I have no one to handle same for me. ROBERT BEHLING, Route 6, Box 52, Waukesha, Wisconsin.

Beautiful black Percheron mare four years old, absolutely sound and gentle, priced right. CITY LIMITS FARM, Watertown, Wisconsin. 10-3

POULTRY

Highest prices paid for live and dressed poultry, pigeons, veal, hides, etc. Quick returns, fair treatment. C. E. McNEILL & CO., 325 W. So. Water Street, Chicago. 24*

Eggs $1 setting. Parcel post paid. Thoroughbreds. Barred Rocks, White Rocks, Buff Rocks, Anconas, White Wyandottes, Brown Leghorns, White Leghorns, Rhode Island Reds, Buff Orpingtons. PHILIP CONDON, West Chester, Ohio. 5-15

Single Comb White Leghorn eggs from hens with egg records of 200 to 220 eggs in the pullet year. $2.00 per 15. RIVERSIDE FARM, Fort Atkinson, Wis. 8-4

Baby chicks $12.00 per 100 up. Postpaid. Catalogue free. FARROW-HIRSH CO., Peoria, Illinois. 9-16

Baby Chicks—Barred Rocks, Wyandottes, Reds, White, Brown, and Buff Leghorns. From unusual, utility stock. Write for Circular—A. CHICKDALE HATCHERY, Fort Atkinson, Wis. 9-3

Thoroughbred barred Plymouth Rock, White Leghorn and White Wyandotte hatching eggs. SUMMIT FARMS, Stockton, Illinois.

For Sale—Rhode Island Whites—15 eggs mailed, $2.50. Cockerels, $2.50. Ayrshire bull calves, herd Federal Accredited, submit offer. RUFUS A. JONES, Black River Falls, Wisconsin.

Bronze turkeys. MAC CRADIE BROTHERS, Hendrum, Minnesota. 10-2

Baby chicks. Single comb White Leghorns. Ferris 264-300 strain direct. Hogan tested. $22.00 per 100 delivered. Satisfaction guaranteed. Catalog free. R. A. ZIMMERMANN, Dept. H, Mayville, Wisconsin.

Baby chicks, 20 cents. White and Barred Rocks, Rose and Single Comb Reds, White and Brown Leghorns. Catalog free. G. A. MITCHELL, Freeport, Illinois. 10-4

SEEDS

Farmers, ranchmen and dairymen. Order your Grimm and Cossack alfalfa seed direct from the grower. All seed recleaned and guaranteed. Ask for samples. WM. H. K. WILLIAMS, Triangle Ranch, Cottonwood, South Dakota. 26*

Jacques' Seed Corn—Early maturity, high yield, perfect germination. Grown in Clark County, North Wisconsin twelve years. My Golden Glow ripens in 100 days, yields 60 bushels shelled corn per acre. My North Wisconsin Yellow Dent ripens in 90 days, yields 50 bushels shelled corn per acre. Picked before frost, thoroughly fire dried. Careful tests show 98% to 100% germination. Money refunded if corn is unsatisfactory. Write for folder and prices to WM. H. JACQUES, Neillsville, Wisconsin. 1-13

Send for attractive price list of our select home-grown seed corn. Finest quality, several varieties. Fully guaranteed. Largest trade in Northwest. JOHNSON & ARNESON, Dassel, Meeker County, Minnesota. 3*

Seed Peas—Buy Northern grown Canada field peas direct from the grower, cleaned ready for seeding. 1,000 bu. for sale, 1 bu. $3.00; 2½ bus. $7.00; 5 bus. $12.50; 10 bus. or more at $2.25 per bu. Sacks included. Send for sample or order direct from this ad. L. P. MARTINY, Chippewa Falls, Wis. 4*

Seed Corn—5 best varieties 98 per cent germination $2.90 per bushel; timothy, bushel, $3.75; clover, $14.90; sweet clover, $8.90; clover and timothy, $4.75 per bushel. Bargain list free. BECKMAN'S SEED FARM, Cokato, Minn. 9-3

New cold-resistant Early Golden Glow seed corn for the north and higher altitudes. Finest quality Wisconsin No. 7 and No. 1 oats. New Advance Pedigree barley. Bright, clean timothy seed. Medium Red and Mammoth clover. Genuine Grimm alfalfa. It will pay you to secure my samples and prices before buying. NOYES RAESSLER, Beloit, Wisconsin. 9*

Golden Glow seed corn—bred for southern Wisconsin. A. M. TEN EYCK, Brodhead, Wisconsin. 8-spl

Free Sample—Annual sweet clover seed. 2c stamp. JAMES H. KITCHEN, Route 5, Springfield, Ohio.

For Sale—No. 1 alfalfa seed, free noxious weeds, testing 99.40, $10.00 per bushel, sack lots. WILLIAM VEAZIE, Jerome, Idaho. 10-2

Scarified sweet clover seed white, 12 cents, high germination, sacks extra. EDW. CARMAN, Ada, Minnesota.

For Sale—Virginia raised Eureka ensilage seed corn. If you want heavy production of ensilage use the corn that has been a standard ensilage corn for many years. C. E. JONES, Carysbrook, Virginia. 10-3

LIGHTNING RODS

Lightning Rods—Exclusive agency and quick sales to live dealers selling "Diddie-Blitzen Rods." Our copper tests 99.96 per cent pure. Write for agency. Prices are right. L. A. DIDDIE CO., Marshfield, Wis. 9*

WANTED TO RENT

Wanted—To rent good farm near Bloomer, Wis., on 50-50 basis, owner to furnish stock and part of the machinery. Renter must be hustler, a good feeder and be able to produce results from cows. For further particulars write A. J. MARTIN, Bloomer, Wis. 9-2

EXCHANGE

Wanted—To exchange 50 acres river bottom alfalfa land in ideal fruit and dairy section of California at $10,600—3,000.00 down—for small farm in central states as second payment. R. W. SHARP, 601 N. Fourth St., Fresno, California. 2*

To Trade—De Laval clarifier for milk wagon. MATTHEWS & SONS, Caldwell, Idaho.

MACHINERY

Want the cheapest, handiest belt power? Then ask me about my Little Twister Power Transmitter for Ford and Dodge cars. FRANK R. WEISGERBER, Salina, Kansas. 16*

For Sale Cheap—A small lot of standard make Swedish Cream Separators, 400 pounds capacity, $29.00, 500 pounds capacity, $34.00, 700 pounds capacity, $39.00. These are all new machines, wonderful bargains. THOMAS TAFFEE, Box 355, Lansing, Mich. 18*

For Sale—Or will trade for dairy cows—one two-cylinder forty H. P. Case tractor, eight roll McCormick shredder, fourteen-inch Climax silo filler. L. A. ABBOTT, Dover, Minn. 8-3

Have two Fond du Lac Ford tractor attachments. Want to sell one, good order, price $70.00. My 9-year-old boy put all my corn and beet land in shape with one of these attachments last year and thought it a picnic. A. CHAS. INNES, Route 1, Zion City, Illinois. 9-3

For Sale—Two second-hand 12 H. P. Fairbanks-Morse gas engines; one practically new. Cost us $1,500.00. Price $200 and $400. ARDEN FARMS, St. Paul, Minnesota. 10-2

For Sale—New Cleveland Tractor and plow. Exchange for registered and grade Guernseys free from tuberculosis, giving 6,000 lbs. BOX 373, Houghton, Michigan. 10-2

One Waterloo Boy 12-20 tractor, good as new. One Grand Detour Jr. 3-bottom plow, new. Two 16-inch pulverizers, new. H. C. KARSTEN, Huntley, Illinois.

For Sale Cheap—Several 2- to 3-foot cement mixers on skids. Brand new. Well-known make. UNITED ENGINE COMPANY, Lansing, Michigan. 10-2

For Sale—A practically new 15 H. P. horizontal locomotive type Kewanee boiler. Used only six months. Test and inspection guaranteed. Price $400. F. O. B. Moline. F. M. BYERS, Midvale Farm, Moline, Illinois.

TOBACCO

Tobacco—Kentucky Natural Leaf, mild smoking. 10 lbs., $3, 20 lbs., $5 prepaid. DORON FARMS TOBACCO ASSOCIATION, Mayfield, Ky. 9-2

Kentucky Tobacco, natural leaf. Smoking, 10 lbs. $2.50; 20 lbs., $4; chewing, 10 lbs. $3; 20 lbs. $5. R. F. VEAL, Agent, Sedalia, Kentucky. 10-4

FARMS FOR SALE

Farms, ask French if he has what you want. Write him and state your wants. Reference any bank here. J. R. FRENCH, Cortland, N. Y. 24-13

Landology special number just out, containing 1921 facts of clover land in Marinette County, Wisconsin. If for a home or as an investment you are thinking of buying good farm lands where farmers grow rich, send at once for this special number of Landology. It is free on request. Address SKIDMORE-RIEHLE LAND CO., 47 Skidmore-Riehl Bldg., Marinette, Wisconsin. 25-12

Rose Valley Farm—137 acres; 17 miles macadam roads to City Hall, Philadelphia; owner's residence, electric lights, hot water heat, open fireplaces; beautiful lawn and shade; extended view; large stable and carriage house; modern cow barn, 48 head; tenant houses; purest water in abundance; all necessary buildings; macadam roads each side and through farm; $50,000 less than cost of buildings. FARM 2024 N. 10TH ST., Philadelphia, Pa. 26*

Free Wisconsin Bulletins, soil, climate, crops. IMMIGRATION BUREAU, Wisconsin Dept. of Agriculture, Capitol Drawer 125, Madison, Wisconsin. 26-13

Hardwood cut-over land, silt loam, clay sub-soil. Neither sandy nor gravelly; close to town; good roads; good schools; in the heart of the dairy country. You deal directly with the owners. No agents and no commissions. Easy terms. Also improved farms. Write for map and Booklet No. 4. NORTH WESTERN LUMBER CO., Land Department, Stanley, Wisconsin. 1*

New York State dairy farms for sale. Fully stocked. Fully equipped. Catalogue free. HILLIS FARM AGENCY, Hobart, Delaware County, N. Y. 7-6

Clover, alfalfa sugar beet prairie. Owner's price, easy terms. Submit trades. GESELL, Thief River Falls, Minnesota. 7-4

For Sale—130-acre farm 1½ miles to town and New York Central depot. All state road, high school, churches and milk station. Soil gravel and sandy loam. Plenty of good water. Good house, barn and silo. Large maple orchard. Sightly place in Montgomery County, New York. Price $5,500. $1,000 down and the balance in mortgage. Address (Owner), A. W. SNELL, Syracuse, N Y. 8-3

Good dairy farms in the fertile Mohawk Valley. TURTELOT, Frankfort, New York. 9-5

Virginia offers wonderful opportunities to farmers. Best of markets, crops and climate. Write for particulars, act at once. J. J. WATESEK, Lake Forest, Illinois. 9-2

When you buy land buy the best. We have choice hardwood land in one of the very best sections of Central Wisconsin for sale on easy terms. Best of clay loam soil. Good roads, climate, water and markets. No rough, stony or sandy land. Write for information. JOHN S. OWEN LUMBER CO., 112 Mill St., Owen, Wisconsin. 9-8

Delaware County farm, 310 acres. Ninety head cattle, 3 heavy teams. $11,000 milk yearly. No agents. With stock and equipment, $25,000. LEE P. GRANT, Bloomville, N. Y. 9-2

Dairy Farms—Clark and Taylor Counties, Wisconsin. Good soil. Send for list of farm bargains. OWEN REALTY CO., Owen, Wis. 9-5

Cut This Out—Learn today how settlers with farming experience can get new made-to-order dairy farms with buildings, stock, tools, etc. First payment $300, balance 30 years. Location famous Chippewa Valley, heart of Wisconsin. Close neighbors, markets, railroads, schools, creameries, best soil, pure water. Greater opportunity than homestead. Several farms ready to move on now. Send today for free information. CHIPPEWA VALLEY COLONIZATION CO., A C-201 Plymouth Bldg., Minneapolis, Minn. 9-2

Improved and unimproved farms in southern Aitkin County. 20,000 acres of beautiful lands, well located and cheap. List free on request, also details of famous "Land Service," which puts homeseeker on his feet. A great chance. Write ERNEST O. BUHLER, McGrath, Minn. 9-4

Look—On account of sickness, I offer my beautiful dairy farm for sale, located near Grand Rapids, Mich., 108 acres, new barn with cork brick stalls, running water, holds 40 head, also horse and young stock barn with granary, milk house, 3 large tile silos, grist mill, electric light plant, chicken and hog house, large tool shed, corn crib, and large 8-room house, clay loam soil. Price $20,000. Easy terms. GEO. E. WALKER, Grand Rapids, Michigan. 9-2

Taxes don't worry farmers in wealthy Western New York. Cheap farms, best markets, big profits! NEW YORK FARM AGENCY, Westfield. 3-spl

Alfalfa, corn, grain and live stock farms. Best in famous prarie belt for the money. Write me what you want. H. H. HANSEN, Macon, Miss. 21-spl

For Sale to close estate—115-acre dairy farm; river bottom, limestone soil, alfalfa land, 4 modern barns, 2 silos, 12-room house; improvements, buildings first class. Insured, $12,500. Price $13,500.00. Cash $6,000. CAMPBELL BROS., Oneonta, New York.

For Sale—115 acres good land, near Cortland, 24 cows, 8 head young stock, 3,000-pound young team, 200 apple trees, 10 acres of woodland, Fordson tractor, threshing machine, ensilage cutter, full line farm tools, grain, hay, ensilage, etc. Price $13,500, terms. Write for list. GEO. H. METCALFE, Cortland, New York.

100-acre farm one mile from town of 2,600 population. Fences and buildings in A-1 condition. All modern improvements. C. B. HANSON, Goodrich, Wisconsin. 10-2

80-acre farm for sale or trade for forty acres. Highly improved, up-to-date buildings with or without personal property. ORINE BEHNCKE, Route 7, Marshfield, Wisconsin.

Finely equipped dairy farm and country home for less than buildings cost. 135 acres productive loam soil one-half mile from town, brick residence, 16 rooms and bath, cost $11,000 to build. Good barns, silo, orchard, running spring water, 20 milk cows, young stock, bull, 3 horses, farm implements, feed—all for $16,000, part cash. WM. DINGMAN, Buskirk, New York. 10-2

30 years to pay for land. New land settlement plan. Send for booklet. WISCONSIN COLONIZATION CO., Box G, Ojibwa, Wisconsin.

82 acres, half mile from Pewaukee, a well known summer resort, Waukesha County, twenty miles from Milwaukee; good clay soil; house with furnace, two basement barns, sixteen cattle, three horses, and all necessary machinery. GEO. W. ADAMS CO., 330 Caswell Block, Milwaukee, Wisconsin.

Price very low if sold immediately. Modern dairy farm on good road in Waukesha County. 200 acres, comfortable brick dwelling, furnace heat, running water, horse barn, two large connected, modern dairy barns, two silos, tile milk house. Complete breeding establishment. Convenient to Waukesha and Milwaukee. R. E. BENSON, Dousman, Wisconsin. 10*

For Sale or Rent—155-acre farm. Good house and barns, also silo. Near railroad, also macadam 9 miles to city of 13,000. As nice a piece of land as lays outdoors. PHIL LABRE, Bark River, Michigan.

America's best dairy section. Eastern Colorado dairy farms pay for themselves and double in value in few years. Literature sent free. Easy terms. NOAH HOLT, Box 587, Pueblo.

Will sell 160-acre dairy farm, 2 miles from Whitewater, good soil and buildings, $150.00 per acre with good terms to reliable party. Address OWNER, Box D, Whitewater, Wisconsin. 10-2

$800 down secures 105 acres with 7 cows and heifers, hog, poultry, machinery, cream separator, household furniture, crops, etc.; convenient advantages; productive machine worked fields; 15-cow pasture; valuable wood, timber; variety fruit; 300 sugar maples; 8-room house, 12-cow barn, spring water. If taken now $2,500 gets all, easy terms. Details Page 15 New Spring Catalog 1,100 Bargains. Free. STROUT AGENCY, 150 D L Nassau St., New York City.

HAY

Alfalfa and prairie hay for sale. Prompt shipments. Personally inspected loading. Wire or write GUNN HAY CO., Lexington, Nebr. Reference Lexington State Bank. 11*

Number one and choice alfalfa hay and seed ready for shipment. Address A. L. DAMON & COMPANY, Inc., Rapid City, South Dakota. 8*

Alfalfa Hay for Sale—Write or wire for delivered prices. ALBERT MILLER & COMPANY, 192 North Clark St., Chicago. 17*

Alfalfa—Baled and ready for shipment. Write for bargain price delivered. MATH MICHELS, Fond du Lac, Wisconsin. 8-3

FEED BAGS

We buy second-hand bags, pay one-half freight on 200 or more. LINCOLN BAG CO., Springfield, Illinois. 10-spl

AGENTS WANTED

Yes Sir, we have a special opportunity for you during spare time, an opportunity to do some good work in your neighborhood, for the betterment of dairy farming, that will pay you in cash for the effort you put forth. Write for our "Special Opportunity Getting Together" folder. Address HOARD'S DAIRYMAN, Fort Atkinson, Wis. 2-tf

STANCHIONS

Crumb's Stanchions are guaranteed to please the purchaser. They are shipped subject to trial in the buyer's stable. They are right. Send for booklet. WALLACE B. CRUMB, Box H, Forestville, Conn. 2-10

For Sale—24 brand new Louden cow stanchions and stall No. 812. Never been used. Guaranteed O. K. in every way. Have changed my plans, so will have no use for same and will sell at a sacrifice, less than wholesale cost. WM. RUTZEN, Downing, Wisconsin. 10-2

SALESMEN

Salesmen Wanted to sell well-known line of oils, paints and roofings direct to farmers. Men average from $100 to $200 a week. Commissions paid weekly. Bonuses monthly. Wengard made $430 in one week. Callahan made $3,000 first six months. Meyers took 102 orders first month. Fine opportunity for live-wire salesmen. Shipping points—Cleveland, Chicago, Kansas City, Minneapolis. Write for proposition. CENTRAL PETROLEUM CO., Cleveland, Ohio. 10-3

TANNING

Let us tan your hide. Cow and horse hides for fur coats and robes. Cow and steer hides into harness or sole leather. Catalog on request. THE CROSBY FRISIAN FUR CO., Rochester, New York. 10-17

PARTNER WANTED

Dairyman wanted for a partner. We will start in business June 1st with 50 cows or more. We want a man who understands business thoroughly and who will have enough money to invest in half of the milk cows and manage the business. We have an irrigated farm of 1,500 acres five miles from the city of Albuquerque, 300 acres in cultivation. Two silos, 1,000-ton capacity, water works, sheds and corrals. On Ocean to Ocean Highway. Paved road to city of Albuquerque. Milk selling here now at 50c gallon wholesale; 80c retail. Seven residences for manager and working men on place. Horses, tractors, wagons, and all farming machinery necessary for cultivation of the land. Ideal place for 300 milk cows with big demand for milk. Write for further details and if interested it will pay you to come and investigate. References First National and State National Bank of Albuquerque, New Mexico. FRANK A. HUBBELL, COMPANY. 9-4

PRINTING

Hoard's Dairyman Art Department designs your letter head free. Just tell us your breeds of stock. Book of 5,000 **Farm, Ranch and Cottage names** 25 cents. Ask for samples of letter heads, envelopes, shipping tags, cards, milk tickets, etc. **Poor stationery** is more of a damage than a help. **Be sure and give** correct post office address, including state. Address HOARD'S DAIRYMAN, Art Dept., Fort Atkinson, Wisconsin. 8-tf

MISCELLANEOUS

Wanted—Railway mail clerks. $135—$195 month. List positions free. FRANKLIN INSTITUTE, Dept. J 115, Rochester, New York. 8-4

For Sale—Hedge posts, carlots. E. W. MELVILLE, Eudora, Kansas. 9-2

Pure maple syrup direct to consumer, $13.50 six-gallon case. E. L. NEWBERRY, Chardon, Ohio. 9-2

Landscape gardening. Arrangement and beautification of farm buildings. Graduate landscape architects at your service. FRANK M. EDWARDS, Landscape Architect, Fort Atkinson, Wis. 9-11

Firemen, brakemen, beginners $150—$200 later $300 monthly; railroads everywhere. RAILWAY ASSOCIATION, Desk W-5, Brooklyn, New York. 10-4

Western Red Cedar Poles and split posts at reduced prices delivered your station. A. R. DERR, Clark Fork, Idaho. 10-6



Advertising in this department is 7c per word. Remit in advance.

HELP WANTED

Wanted—Married man for small dairy farm and orchard at Bayfield, Wisconsin. Write J. DAVID SMITH, Albia, Iowa. 4*

Wanted—Working herdsman and farm manager, sober, capable, and reliable, to take charge of dairy farm and registered Guernsey herd of forty animals, some on A. R. test. Must be married, wife willing to board some help, and both not afraid of long hours. Give full particulars including training, experience, age, habits, size of family, references and salary expected in first letter. No socialist or cigarette gentleman need apply. E. S. PERSON, Minot, N. D. 7-4

Wanted Women—Become dress designers. $45 week. Learn while earning. Sample lessons free. FRANKLIN INSTITUTE, Dept. J982, Rochester, N. Y. 8-4

Wanted—At once, maids at Wisconsin School for the Blind, Janesville, Wisconsin. 8-3

Wanted—Man or good strong boy for general farm work. State age, wages, experience. Steady position. RIVERVALE FARM, Nashotah, Wisconsin. 8-3

Wanted—Young, single man to operate dairy and care for dairy cows. Must know the business. We are building new equipment and will increase to 200 Holstein cows. GEORGIA—FLORIDA FARMS CORP., Ashville, Florida.

Wanted—Single man for general farm work. Pure-bred Guernsey cattle and Hampshire swine. Board, room, washing, $25 per month. Must be willing to work and interested in work, otherwise don't apply. H. A. KUHTZ, Waukesha, Wisconsin. 10*

Wanted—A single man with experience to take care of pure-bred Guernsey herd and know how to run separator and make butter. A. P. MONTGOMERY, care W. W. Shaw, Lake Geneva, Wisconsin. 10-2

Wanted at once—Single man to work on farm and in dairy. No milking to do. Must be steady and reliable. Steady job to right party. State wages you want in first letter. C. H. HICKS, Marshalltown, Iowa.

HELP WANTED

Single man wanted for dairy work. Must be good milker and worker. Room and board included. State wages in first letter. T. L. KINNEY, Burton, South Carolina. 10-2

Wanted—Single herdsman for Ayrshire herd. Experienced in certified milk production, Advanced Registry work, good calf raiser, willing to take part in developing a herd. State experience, salary, and references in first letter. BOX 157, Willow Grove, Pa.

Wanted—Testers for cow testing associations. Associations in Iowa. $75.00 a month, with board, room, and transportation furnished. Desire men with dairy farm experience. Short special training given for this work at Iowa State College without charge. Apply C. L. BLACKMAN, Extension Department, Ames, Iowa.

Wanted—Good milker in high class Holstein herd doing semi-official work. State experience, wages and references. STARKE FARMS, Red Cloud, Nebr. 10-2

Wanted—Married man with small family on grain and dairy farm. House, garden and milk furnished. State wages first letter. ROY ATWOOD, Grand Ridge, Illinois.

Wanted—Good, industrious single man to work on small dairy farm and take charge of 24 Guernsey milk cows and do other farm work. Only one who likes cows need apply, one who will do honest work without a constant boss. Good buildings. Everything modern. Wages $70 per month year round or one-fourth cream checks. Good room and board included. German preferred. WM. RUTZEN, Downing, Wisconsin.

Wanted—Young dairyman, good dry hand milker and caretaker, who wants to learn A. R. O work under supervision of herdsman. Modern equipment. State salary expected and particulars. ST. ROSE FARM, Springfield, Kentucky.

Wanted—Married couple to work farm on shares. Ninety-four acres, thirty-five under cultivation. Near Mukwonago, Wisconsin. Give reference and when can start. Address reply to V. L. MATTHEWS, 361 East Ohio Street, Chicago, Illinois.

Wanted—Man with own help to run dairy of 25 to 30 Guernsey cows. H. C. HURLEY, Rockville, Maryland. 10-3

Wanted—Single man on Jersey dairy to help milk and deliver. CARL CARVER, Route 4, Marion, Iowa.

Wanted—By April 1st. Man or boy for general farm work. State wages and particulars when applying. R. ROETHLISBERGER, Verona, Wisconsin.

Wanted—Married herdsman to take charge of small herd of Jerseys and Holsteins. Milking machine used. State experience, references and wages desired. RAY McCAULEY, Hicksville, Ohio.

Wanted at once—A dairyman, experienced, capable of caring for 20 to 30 cows in a modern dairy making clean milk. State wages and all particulars in first letter. Must give reference. SARGENT BROS., Brazil, Indiana.

Wanted—Two experienced single men, age 25 to 30, to work on modern farm as teamsters and help with general farm work. Good wages to competent men. State experience and wages wanted. Northern Wisconsin. Address BOX 701, care Hoard's Dairyman.

Herdsman wanted to care for herd of about thirty Holsteins making short time and yearly records. Applicant must be a single man, American, with good references. Position open April first. We pay good wages. E. W. PEAKE, Highwood Farm, Spring Valley, Wisconsin. 10-2

Wanted—Single, experienced gardner at a state institution. No marketing. About 20 acres in garden, some patient labor. Good living conditions. For further particulars write K. N. WHITE, Farm Manager, State Hospital Farms, Warren, Pennsylvania.

Wanted—Experienced farm hand on new farm partly stumped. One thoroughly familiar with raising feed and handling pure-bred stock. C. G. JOHNSON, 1159 Godfrey Ave, Grand Rapids, Michigan.

Wanted—Single man for milk room and creamery work, must be able to drive truck. SPRING GROVE FARM, Fort Wayne, Indiana.

POSITIONS WANTED

Position wanted as farm foreman on dairy or general farm by graduate of Wisconsin Agricultural School. Can furnish best of references if required. Address MORRIS SHEA, Campbellsport, Wis. 8-3

Position wanted by single, middle aged man to care for cows, good with calves. D. G. CROWLEY, Camillus, New York. 9-2

Wanted—Position as farm superintendent, agricultural graduate. Always lived on farm. Prefer stock farm. Address BOX 686, care Hoard's Dairyman. 9-2

Wanted—Steady position on dairy farm April 1st by single man, age 21. Experienced, use no tobacco. References. Wages $65.00 month, board and washing. State privileges in first letter. GEO. RADER, care H. H. Webb, Mulkeytown, Illinois.

Wanted—Work caring for garden, lawn, etc., on large place. ALBERT KELLY, 153 East Terrace, Ishpeming, Michigan.

Married man with family wants position as herdsman or general farm work. Address BOX 215, Lake Mills, Wisconsin. 10-2

Young man wants position on dairy farm. Well experienced and good reference. State full particulars in first letter. Address BOX 695, care Hoard's Dairyman.

Position Wanted—As horse feeder by energetic young man, experienced in this line of work. Willing to learn anything new. Good references if needed. ROBERT N. HOFFMAN, care Cuttin's Farm, Downer's Grove, Illinois.

Situation Wanted—Farm superintendent and dairyman, married, American, 38. Well experienced in dairying and stock raising in all its branches including all kinds of power farm machinery. Can handle all the requirements of a private or commercial farm or institution of any size. Highest references for ability, character. Address SUPERINTENDENT, 4463 North Uber St., Philadelphia, Pennsylvania. 10-2

Wanted—Position by experienced reliable single man, age 24. State wages. C. H. KEENAN, Black Creek, Wisconsin.

Position Wanted—As manager, herdsman or will rent dairy farm on shares where cows are kept for profit and good care is essential. Address BOX 697, care Hoard's Dairyman. 10-3

Position wanted as farm manager by healthy single man, aged 42. 17 years' experience, 5 years with present employer. Can handle men and will work with them. Understand crop rotation, feeds and feeding and care of cattle, either dairy cattle or Shorthorns. Can produce good clean milk. Have made quite a study of the care and feeding of hogs, both for market and breeding. Also understand feeding chickens for egg production, care of sheep, spraying fruit trees, etc. Able to buy and sell, also able to stop the unnecessary leaks that occur on many farms. Will keep records and everything must be accounted for. Have read the best agricultural literature and studied it since 1903. Would like to make connections with a first-class busines man who would give me full charge. First-class reference from my present employer. Address LOCK BOX 334, Waukegan, Illinois. 10-2

Wanted—Position by married man to take charge of A. R. work. No tobacco used. State particulars in first letter. Address BOX 698, care Hoard's Dairyman.

Good steady position wanted on a dairy farm at once by two brothers 21 and 15. Have mother to keep house. In first letter state wages, privileges and conditions and if willing to pay moving expenses. WM. SCHULZ, 5844 Proctor Ave., Detroit, Michigan.

Wanted—Steady position on dairy farm or as milker of test cows. Age 30 years, life experience in dairying. Reference as to my milking ability. Wisconsin or California preferred. Also Catholic place preferred. GEO. J. HESSELBROOK, 2201 Selim Ave., Cincinnati, Ohio.

POSITIONS WANTED

Wanted—Position by married man on progressive Holstein farm. Good milker and years of experience with pure-bred cattle. Would like position as test cow milker, preferably in Michigan. Give particulars when writing. WARD W. BRONSON, Shepherd, Michigan.

Experienced, young, honest dairyman, wishes to correspond with responsible party. Best results. Also furnish all round man. JOSEPH ZIMMER, 85 Lee Street, Milwaukee, Wisconsin.

Wanted position as superintendent or foreman, on grain, dairy or stock farm by man aged thirty-five. Experienced on some of the best farms in Illinois. First-class buttermaker and best of references from former employer and county adviser. Address BOX 700, care Hoard's Dairyman.

Position Wanted—Single man many years in charge of dairy herds as milker, feeder and calf raiser. State your best proposition for attention, salary, board and room. M. L. RILEY, Barrington, Illinois.

Feeding or Breeding—Which First?

HOARD'S DAIRYMAN:—In speaking with a county agent recently concerning the introduction of pure-bred cattle into the county, one fact he emphasized was the need of better feeding methods. And he was right. If a farmer wants to lose money fast, buy high priced pure-breds, and then don't take care of them. Breeding and good feeding have so long been associated in the improvement of live stock that, if you take away the one, you lose the effect of the other. High milk production is a man created development, and, because so, it may be quickly lost. A common cow poorly kept will serve you better than a pure-bred improperly housed and fed. On the other hand, feed them both intelligently and they will both do better; but the pure-bred animal will simply run away from the poorer cow in returns per dollar of feed fed.

But, you say, will not the farmer who puts good money into the better bred animal be encouraged to feed better? Will he not provide better housing, better care, a better balanced ration, more skillful handling? Has he not put more money into this kind of live stock, and will not his interest be greater, resulting in better care? In rare cases, yes, but in the majority of cases, no. The habits of feeding of years may not be changed so radically and in many cases results have been little short of disastrous. It is the poorly fed pure-bred that has kept many more from using better blood, better breeding.

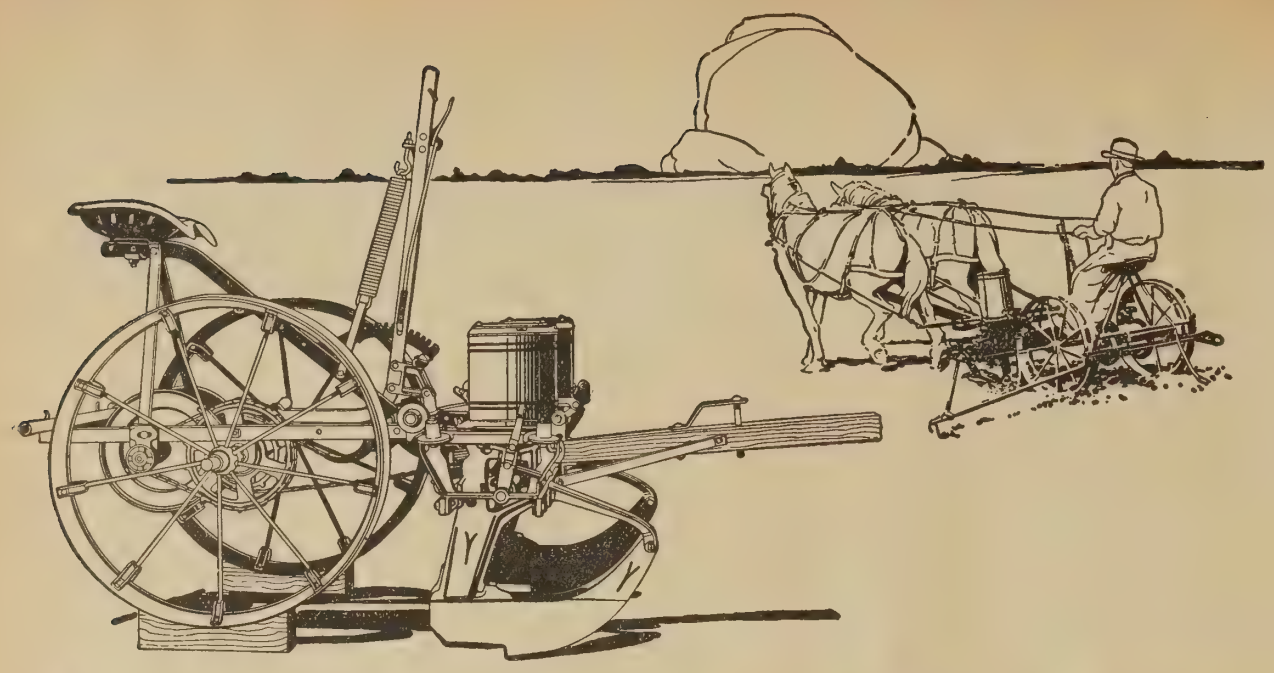
When May a Farmer Buy Pure-bred Cattle?

It would seem wise that before one purchases pure-breds he should have at least foundation for good feeding, I mean good silage and good clover hay with alfalfa as an insurance against clover failure, or possibly other protein feeds upon which he can depend. Given good silage and good alfalfa hay it is hardly conceivable that he can have very poor cattle of any sort about the place. Surely it is not too much to ask that he have this necessary feed before he enters into the production of pure-bred cattle. In other words, if you cannot and do not keep common stock well, the chances are you will not succeed with pure-breds.

This county agent was right. It is not alone better live stock we need. What we really need is better feeders. In rare cases does the purchase of pure-breds make a man a better feeder; but cases may be multiplied where the liberal feeder of home grown feeds carefully stored qualifies as a feeder of the more highly organized pure-bred.

Minnesota. JOHN BAUER.





What the Corn Planter Does is Final

A GOOD stand means extra bushels per acre—and that's what makes your profits, always. You can't get a better stand than your planter permits. If it is inaccurate, it covers up its mistakes as it works. They are not visible until the plants come up and hills with too few or too many stalks show you how your planter failed you. It is too late to overcome the mistakes then. You cultivate the crop, harvest it—spend just as much time and labor on it as you would on a full stand—and get fewer bushels per acre and smaller profits. Be sure your planter is accurate.

JOHN DEERE
999 CORN PLANTER

You can feel perfect assurance that the desired number of kernels is being dropped in the hill when you use a John Deere 999 Corn Planter because it is a natural drop—just as accurate as hand planting—"Natural Cell Fill, edge-delivery seed plates" and sloping hopper bottom—kernels enter the cells in a natural position—not forced—one to each cell and the right number accumulated and checked in the hill.

The highest degree of accuracy is maintained not only when the planter is new, but year after year by the John Deere No. 999 Corn Planter. Repeated tests have proved this. Over fifty years specializing in the manufacture of corn planters has enabled this factory to develop such a planter, and each and every one must pass an accuracy test before leaving the factory.

The Variable Drop Device—a great feature—enables you instantly to change the drop to meet the various conditions of soil in the same field. By merely shifting a foot lever, without stopping the team or leaving the seat, you can vary the drop to two, three or four kernels per hill—always exactly the number desired.

Change from hilling to drilling or vice-versa made instantly by means of foot lever. Nine drilling distances can be secured without changing plate.

Plants great variety of seed without changing cut-off.

Automatic Marker requires no attention after starting in the field.

Fertilizer and Pea Attachments can be furnished—either one or both can be used when planting corn.



FREE BOOKS—"More and Better Corn"—Tells how to select and test seed corn, how to plant, when to cultivate.

"Better Farm Implements"—114 pages, illustrates and describes not only corn planters, but every one of the leading John Deere farm tools—plows, harrows, drills, hay tools, grain and corn binders, shellers, elevators, tractors, engines—also other information of value to you—a reference book you will be pleased to keep on your table. Write today for a copy, address John Deere, Moline, Ill., and ask for package P-414.

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MELOTTE

H. B. Babson, U. S. Manager
Dept. 2863
2843 W. 19th St., Chicago

Grow More Clover Seed

(Continued from page 408)

ground is dry enough to drive over. The wheat is injured but slightly.

When the drill is used, from 5 to 6 pounds per acre are required. For broadcast seeding from 7 to 9 pounds are required. Putting in the seed with a disc drill would undoubtedly be the most economical way.

Clover Insects and Clover Diseases

Clover like other farm crops is not free from disease or insect attack; there is a considerable loss from these attacks yearly. Frequently near harvest time there is a general blighting of the clover. This is caused by the anthracnose disease. As a rule, these attacks reduce the yield and affect the quality of the hay. So far practically the only control remedy is to maintain a good rotation of crops or to plow the infested clover under as soon as the first crop is removed. It is probable that anthracnose spores would be carried through the manure back into the soil again, but so far this has not been the case in practical experience. Neither would it be justified to destroy a crop of clover hay to control the anthracnose alone.

Root rot is more dangerous than anthracnose. It is a soil disease particularly and leaves the clover field full of bare spots after its attack. The individual plants rot off just under the ground and tops of them dry up. Definite crop rotation is an aid in controlling this disease and if the outbreak is severe it is best to plow the first crop under deeply. Or, if the disease appears late in the fall, the ground may be plowed immediately for corn, the idea being to keep the clover out of the soil as long as possible without interfering with the rotation. There is probably no relation between the root rot of clover and the root rot of corn.

Clover is attacked by a number of insects, particularly the clover leaf weevil, clover seed midge, clover seed caterpillar, and clover seed chalcid.

For the clover leaf weevil there is no distinct control, but a fungus disease is known to kill the larvae to some extent. Spraying with arsenicals is hardly practicable.

With the other insects mentioned an effective general control consists in cutting the clover in early June. This practice serves a double purpose of destroying the larvae of the insects in the clover and also makes it possible for the second or seed growth of the clover to get a good start. Early cutting of clover then is an effective management in the control of clover insects.

Clover Seed Harvest

Practically every farmer in our section realizes that it is necessary to cut the first crop of clover early in order to produce a good seed growth. Where the land has been limed and acid phosphate used regularly in the rotation a good growth of aftermath will come on quickly unless the season is unusually dry.

Some farmers make it a practice to pasture the crop during the spring, harvesting the clover with live stock and then allowing the second growth to produce the seed. The fields are clipped sometimes and the seed crop has a better chance than if a complete hay crop were removed.

Where farmers have too many acres of clover for hay the peak end of the clover harvest could be handled in this manner. However, it seems possible to produce a fair crop of clover seed after a first crop has been removed. Early cutting of the first crop is so necessary, however, that it is nearly always essential to sacrifice the hay crop to some extent.

Substitutes for Clover

No crop discussion seems complete unless a list of substitutes is given. For red clover we have the principal substitutes: alsike and mammoth clover.

Alsike has some advantages over red clover in that it will thrive in wet and acid soils. The seed being small, about half smaller than clover, goes farther in seeding an acre, only about half the amount being required. The seed is usually not as expensive as red clover, but this year the quotation runs almost as high.

Alsike produces but one crop, however, and has no second growth. It does not yield as heavily as red clover usually, but it is not so susceptible to anthracnose nor root rot and makes a desirable legume substitute where these diseases affect the clover crop.

Mammoth clover surely deserves more consideration than it gets as a corn belt crop. It produces heavy yields on acid soils and seems fairly immune from disease and insect attack. Because of its rank growth, the stems are somewhat woody, but if cut and cured in the full bloom state it makes desirable hay. It requires more skill to handle big clover successfully but no farmer should allow this legume to escape his attention if he cannot grow alfalfa or red clover easily. Mammoth clover is quite beneficial as a soil improver.

How about flowers around the house? The hardy perennials have many advantages, but the easily grown annuals are not to be despised.

Sunshine and fresh air are good disinfectants.

Dairying in England

(Continued from page 407)

to some of the large English centers.

In spite of this trade England is famed for its cheese. There are perhaps forty varieties of cheese indigenous to England but the best of them all is the famous blueveined Stilton. It takes an artist to make a good one and Stilton-skill is hereditary. These cheese are generally farm made and on a few farms Stiltons have been made continuously for over three centuries. It is perhaps well to state that in some of those places the descendants of the original makers are still employed and that they are using the dairies in which their forefathers worked.

The other cheese vary greatly in type and popularity. The Cheshire is the most important and the dairymaids of the county of Cheshire, where it originated, are perhaps the best cheesemakers in the world. Other pressed cheese of less importance than the Cheshire are the Derby, Leicester, and Gloucester, while the soft cheese are legion.

England has still much to learn regarding up-to-date methods of dairy farming and, though the Englishman is slow to move, there are symptoms of his awakening. Improved methods of production and distribution of milk coupled with the well established cheese industry would render England much more independent of foreign sources for her supply of dairy products.

Bulletins of the Week

Pages of Progress, by H. L. Russell and K. L. Hatch. Annual report of The Agricultural Extension Service, University of Wisconsin, Circular 131, Madison, Wis.

Sunflowers vs. Corn for Silage, by E. L. Anthony and H. O. Henderson. Circular 32, West Virginia Experiment Station, Morgantown, W. Va.

An Agricultural Almanac for 1921. Farmers' Bulletin 1202, published by the U. S. Dept. of Agr., Washington, D. C.

A System of Accounts for Cheese Factories, by C. N. Wilson. Bi-monthly Bulletin published by Division of Markets, Madison, Wis.

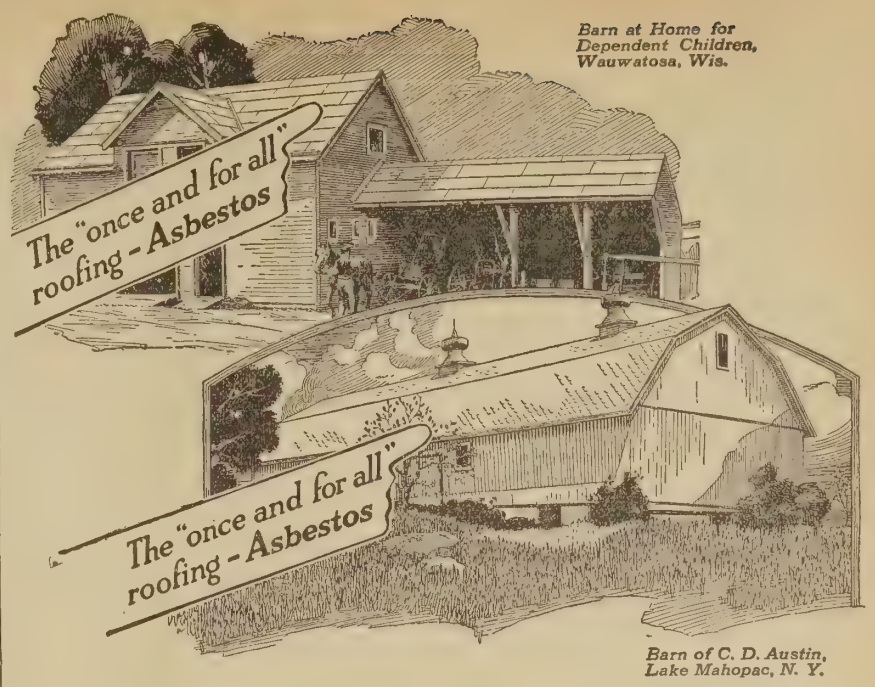
Farm Inventories, by J. S. Ball. Farmers' Bulletin 1182, U. S. Dept. of Agriculture, Washington, D. C.

One-register Furnaces, by A. M. Daniels. Farmers' Bulletin 1174, U. S. Dept. of Agriculture, Washington, D. C.

Velvet Bean Feed for Farm Stock, by J. B. Lindsey and C. L. Beals. Bulletin 197, Massachusetts Experiment Station, Amherst, Massachusetts.

SALE ANNOUNCEMENTS

Mar. 28—Holsteins. Isaac DeMunck & Sons, Plymouth, Wis. I. DeMunck, Sale Mgr.
Mar. 28—Holsteins. W. B. Wickersham, Embreeville, Chester Co., Pa.
Mar. 29—Holsteins. Fred Gessert, Plymouth, Wis. Fred Gessert, Sale Mgr.
Mar. 29-30—Holsteins. Watertown Holstein Sales Co., Watertown, Wis. F. Darcey, Secy.
Mar. 29-30-31—Holsteins. Philadelphia, Pa. Second Brentwood National Sale.
Mar. 30—Guernseys. La Crosse Co. Guernsey Breeders, West Salem, Wis. H. W. Griswold, Mgr.
March 30—Holsteins. R. L. Goelzer Sale at Plymouth, Wis. R. L. Goelzer, Mgr.
Mar. 31-April 1—Holsteins. H. J. Goelzer's Sixth Sale at Plymouth, Wis. E. E. Goelzer, Mgr.
Mar. 31—Holsteins. Hand & Traxler at Plymouth, Wis.
Mar. 31—Guernseys. Goldmead Guernsey Farm First Annual Sale at Versailles, Ohio. Sherman Spillers, Mgr.
Mar. 31—Guernseys. First Consignment Sale of Calumet Co. Guernsey Breeders' Association at Chilton, Wis. F. E. Fox, Waukesha, Wis., Sales Manager.
April 1—Guernseys. First Consignment Sale of Registered males and grade females. Calumet Co. Guernsey Breeders' Association at Chilton, Wis. F. E. Fox, Waukesha, Wis., Sales Manager.
April 2—Holsteins. Pabst Stock Farm Second Semi-annual Sale at Oconomowoc, Wis.
April 7, 1921—Holsteins. Central Wisconsin Holstein Breeders' Ass'n. 13th Semi-annual Consignment Sale at Marshfield Sales Pavilion, Marshfield, Wis. R. A. Peterson, Wisconsin Rapids, Wis., Sale Mgr.
April 15—Guernseys. Anna Dean Farm, Barberton, Ohio. Charles L. Hill, Mgr.
April 15—Holsteins. Virginia Holstein-Friesian Breeders' Club Sale, Richmond. W. L. Kirby, Manager.
April 19-20—Holsteins. Ohio Holstein Breeders' Association Second Annual Sale at Columbus, Ohio. H. C. Barker, Sec.
April 21—Holsteins. Eaton Co. Holstein Breeders' Second Consignment Sale at Charlotte, Mich.
April 21—Brown Swiss. Illinois Brown Swiss Breeders' Association Annual Spring Sale, Morton, Illinois. Chester G. Starr, Pekin.
April 23—Selected Guernseys from the Sunnybrook and Willowbrook Herds at Sunnybrook Farm, Eatontown, N. J. Leander F. Herrick, Sale Mgr.
April 25-26—Holsteins. Waukesha County Holstein-Friesian Association Sale at Waukesha, Wis. W. L. Baird, Sec'y.
May 2—Holsteins. Walworth County Holstein Breeders' Association Eighth Semi-annual Sale at Elkhorn, Wis. Ben Bachhuber, Mgr.
May 3—Holsteins. Clark County Quality Sale at Owen, Wis. J. Wuethrich, Sale Mgr.
May 4—Holsteins. Minnesota Holstein Breeders' Association Third Annual Sale at Faribault, Minn. B. D. Scott, Sec.
May 4—Guernseys. T. C. Norman Dispersal Sale of Registered Guernseys at Lake Crystal, Minn. F. E. Fox, Waukesha, Wis., Sales Mgr.
May 4—Holsteins. Green Co. Holstein Breeders' Ass'n. Semi-annual Consignment Sale at Monroe, Wis.
May 5—Guernseys. Waupaca Co. Guernsey Breeders' Assn. Annual Consignment Sale at Waupaca, Wis.
May 6—Holsteins. Illinois Holstein-Friesian Ass'n. State Sale. R. N. Thompson, Sec.
May 9—Holsteins. Brown County Holstein Breeders' Sale at De Pere, Wisconsin.
May 10—Guernseys. Dispersal Sale of Emmadine Farm Herd at Hopewell Jct., Dutchess Co., N. Y. Leander F. Herrick, Sale Mgr.
May 12—Guernseys. J. L. Hope's Annual Sale at Florham Farms, Madison, N. J. Leander F. Herrick, Sale Mgr.
May 12—Holsteins. Marathon Co. Holstein Breeders' Association Sale at Wausau, Wis. Francis Darcey, Watertown, Wis., Mgr.
May 12—Jerseys. Wisconsin Jersey Breeders' Ass'n. Sale at Madison, Wis.
May 13—Holsteins. Chippewa Falls, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 13—Eastern Guernsey Breeders' Association Combination Sale at Devon, Pa. Leander F. Herrick, Sale Mgr.
May 17—Holsteins. State Fair Grounds, Milwaukee, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 18—Jerseys. Monroe County Jersey Breeders' Consignment Sale at Tomah, Wis.
May 18-19—Holsteins. Manitowoc County Holstein-Friesian Breeders' Association, Manitowoc, Wis. Chas. Hampke, Manager.
May 23-24—Holsteins. Missouri State Holstein Association Show and Sale at Sedalia, Mo.
May 24—Guernseys. Marathon Co. Guernsey Breeders' Ass'n. Second Annual Consignment Sale at Wausau, Wis. F. E. Fox, Waukesha, Wis., Sales Mgr.
May 25—Guernseys. Portage Co. Guernsey Breeders' Association Annual Consignment Sale of Registered Guernseys at Amherst, Wis. R. K. McDonald, Sec'y. F. E. Fox, Waukesha, Wis., Sale Manager.
May 26—Holsteins. Michigan Holstein-Friesian Breeders' Assn. Sale at Grand Rapids, Mich. H. W. Norton, Jr., Secretary, Lansing.
May 26—Guernseys. Portage Co. Guernsey Breeders' Association Annual Consignment Sale of Registered Guernsey males and grade females at Amherst, Wis. R. K. McDonald, Sec'y. F. E. Fox, Waukesha, Wis., Sales Manager.
May 26—Holsteins. Marshfield, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 27—Holsteins. Outagamie County Holstein Breeders' Ass'n. Sale at Appleton, Wis. Edw. O. Mueller, Sec.
June 1—Holsteins. Dispersion of Fairview Stock Farm's Herd at Anderson, Ind. O. L. Janney, Owner.
June 2—Guernseys. Clark County Guernsey Breeders' Annual Consignment Sale at Owen, Wis., C. E. Beck, Manager.
June 3—Guernseys. Fond du Lac Co. Combination Sale. Charles L. Hill, Mgr.
June 9—Holsteins. First Annual Bred Heifer Sale, Thorp, Wisconsin. W. H. Krause.
June 9—Holsteins. First Annual Sale, Holstein-Friesian Co-operative Association of New Jersey, Trenton, New Jersey. J. W. Bartlett, Secretary, New Brunswick.
June 15—Guernseys. First Michigan State Sale at Lansing, Mich. F. E. Fox, Waukesha, Wis., Sales Manager.
Oct. 12—Guernseys. Wm. S. Ormston & Son, St. Johns, Mich., Dispersal Sale. F. E. Fox, Waukesha, Wis., Sales Mgr.



Barn at Home for Dependent Children, Wauwatosa, Wis.

Barn of C. D. Austin, Lake Mahopac, N. Y.

Two barns—different in size, the same in roof integrity

GEOGRAPHICALLY, the owners of these two barns are far apart—Wisconsin and New York.

In business judgment they are right under the same roof.

Each has chosen a roof of Johns-Manville Asbestos. One preferred roll roofing and the other shingles*—*but they both chose asbestos.* They realize the *real economy* of Johns-Manville Asbestos Roofing, either in shingle or roll form.

Roofing economy is not to be measured by first cost, but by total cost over a long period of years. Although the first cost of Johns-Manville Asbestos Roofing is slightly greater, first cost is practically the only cost because Asbestos Roofing, being all-mineral, will last as long as the building it protects.

Balance the first cost of Johns-Manville Asbestos Roofing against the initial cost of cheaper roofings, plus repairing cost, plus painting costs (Asbestos Roofing needs no painting to protect it), plus renewal costs, and you will find an overwhelming balance in favor of Johns-Manville Asbestos Roofing.

A roof of rock

Asbestos rock is blasted from the earth, where it has resisted the destructive forces of Nature for centuries. So, Asbestos Roofing is virtually a roof of rock.

Of course Asbestos Roofing is fire-proof—that word has become almost synonymous with the word "asbestos."

The Underwriters' Laboratories, Inc., give to Johns-Manville Asbestos Roofings the highest ratings.

The singularity of Johns-Manville Asbestos Roofing is not its fire-safety, or its economy, or its weather-resistance, or its durability. Its singularity lies in the fact that all these qualities are combined in their fullest measure, in this one roofing.

Re-shingle for the last time

If there are any shingle roofs in bad condition on your farm, you should talk to your carpenter about Johns-Manville Asbestos Shingles. They can be laid right over the old wooden shingles.

In this way you save not only the labor and expense of tearing up the old roof but you have the additional insulation and protection that the old shingles afford as a base for the new and permanent roof of Asbestos Shingles.

And best of all, you are never bothered by roofing troubles again.

The Johns-Manville Asbestos Roofings are made in various weights of Ready Roll roofing, in Shingles, in Built-Up form for flat roofs or Corrugated for skeleton frame buildings.

* *These Johns-Manville Asbestos Shingles differ from all other Asbestos Roofings in the fact that each shingle is a separate slab of permanence—imperishable asbestos and tenacious cement united under a tremendous pressure. They make a roof of beauty and everlasting service.*

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The Watertown, Wis., Sale March 29th and 30th

Offers a big opportunity for farseeing Holstein enthusiasts. We have **130 Head of Selected Registered Holsteins**—Holsteins that are sure to do for you what our offerings have done for many in the past—started them right. And remember that the start determines your future in the work.

When you go out to buy Holsteins you stand at the fork in the road—spelling both success and failure. Take the path that leads to Watertown, next Tuesday and Wednesday—the road that always insures prosperity to black and white admirers.

We are Consigning to the Watertown Sale—

Two Daughters of Spring Farm King Agatha Pontiac and One Son of King Agatha Pontiac Lass

No. 1. **Harvest Agatha Segis**—This is the handsomest heifer we ever sold from the farm. She will be fresh in May and is in excellent condition for testing. Her dam combines the best blood of Wisconsin with that of Judge Beets Segis. She was born in March, 1919; is due in May to our son of Matador Segis Walker.

No. 2. **Harvest Agatha Pietje**—A full sister to the good heifer bought by Axel Hanson at the State Sale last year. She is a little thin at present and is also bred to Harvest Matador Segis.

No. 3. **Harvest Korndyke Pietje**—A prize winner at the Wisconsin State Fair in the big junior bull class last year. We believe he will go higher in the same show next year. One of our breeders young herd that was second at the same show. Just about ready for light service. All sold under 60-day retest guarantee.

HARVEST FARMS, Mayville, Wis.
J. P. Riordan, Manager

Dodge County Spring Brook Farms —Burnett, Wis.

Offer in the Watertown Sale two choice females, young cows, in calf to Hunter Bros. famous son of Champion Echo Sylvia Pontiac and out of that well-known 37-lb. daughter of Belle Model Johanna 2nd, likewise 37 lbs. These good cows, both individuals of merit and splendidly conditioned, are A. R. O. performers, one having a record of 25 lbs. at three years (sired by Mr. Moscrip's 30-lb. son of Canary Paul Fobes Homestead) the other a 19-lb. three-year-old whose pedigree is replete with good yearly records. You'll single out these cows in the sale barn and make up your mind that they are the kind of foundation stock that will get you "there."

Spring Brook also offers a vigorous, well grown yearling bull sired by their son of Sir Piet. and out of the last State sensation heifer that made 30 lbs. at three years of age and has now come back and in 365 days completed as follows: 1,010 lbs. butter from 20,010.08 lbs. milk. How often has a Wisconsin Sale Co. placed at your disposal a bull of like merit?

Look up Spring Brook's Consignment When You Get to Watertown, March 29

O. H. Erdman, Juneau, Wis., Consigns

DAM OF BULL



RACHEL HOMESTEAD DE KOL PIEBE
Butter 5 yrs..... 30.00
Milk 586.70
2 A. R. O. Daughters

A 31-lb. son of his senior herd sire—a 33-lb. son of King of the Sadie Vales, a combination representing some of the very best breeding obtainable. The dam of this yearling bull is a rare thing, individually. Some of our most competent judges have declared her to be an outstanding individual—a genuine show cow. The sires and dams back of this fellow are all individuals of recognized Holstein type. He himself is positively one of the "typiest" bulls we have ever offered. So if you are emphasizing the individual in your breeding operations this bull should interest you. Type resulting from type is the one safe "bet" in the hazardous work of producing individuals.

Mr. Erdman also offers a 24-lb. cow of large frame, making 800 lbs. butter on yearly work, a granddaughter of Fobes Tritomia Mutual De Kol; a six-month-old calf of good type whose pedigree is replete with popular breeding. Another offering worthy of mention is a yearling son of a 16-lb. two-year-old, now making around 25 lbs., her dam has 27 lbs. from 619 lbs. milk, her second dam 31.25 lbs. butter from 721 lbs. milk. This bull is sired by the Sadie Vale bull mentioned above. Remember that Mr. Erdman has one of Dodge County's choicest herds; that practically all the females are being urged in long and short time work. When you purchase his offerings he continues to make them more valuable to you in the further development of his herd.

Haeger, Mack, Edwards—Auctioneers

Watertown Holstein Sales Co., Francis Darcey, Sec'y

Value of Fanning Mill on the Farm

HOARD'S DAIRYMAN:—The farmer this year needs to use the most efficient methods and employ the best farm practices, so that he may reduce the cost of production of crops and things he has to sell from the farm in order that he may increase his net income. In other words, he must plan wisely and give more attention than ever before to stopping small leaks in his farm operations.

There is probably no farm practice that is being more ignored or underestimated than the seeding of good, clean, vigorous farm seeds of high germinative power. Too often poor, unclean mixed seeds, contaminated with weed seeds, are being sown on good, clean soil and poor results follow. With seed grain it is as with animals, if the parent is healthy and strong, the chances are the offspring will generally be the same. Therefore, select kernels that are plump, heavy, and free from weed seeds and disease, for seeding. The probabilities will be, everything else being equal, that a good crop of good quality and yield will be raised.

Test With Fanned Oats

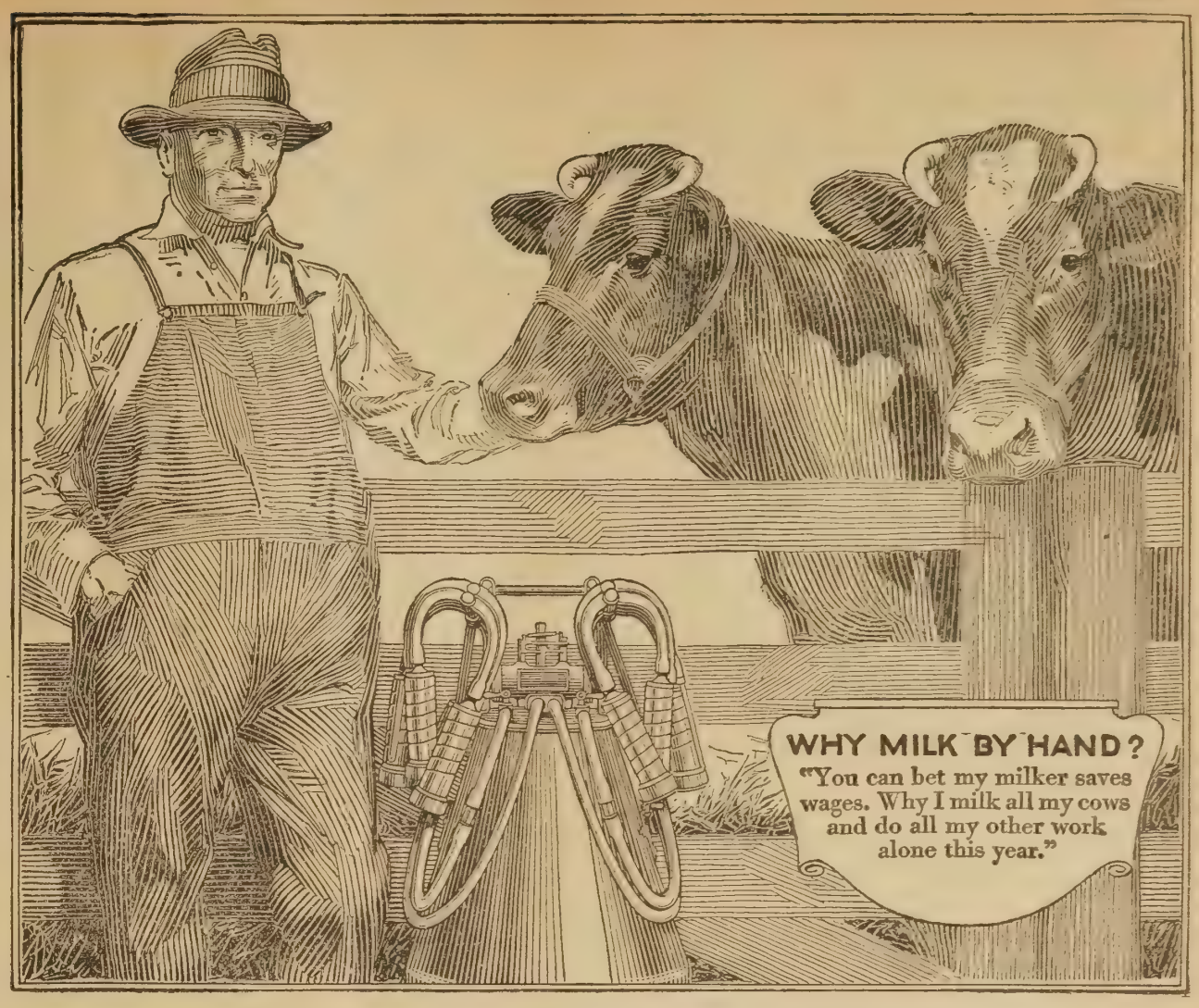
The writer made a test some time ago as to the value of growing cleaned seed oats as against uncleaned oats. The purpose was to determine whether or not additional quantity and quality of oats would be harvested from the cleaned oats over the uncleaned sown just as it came from the threshing machine. A good fanning mill was provided and two men engaged to do the work. It took the two men two hours to fan the oats twice with the use of the fanning mill. Twenty-five bushels of oats were so cleaned. Each man was paid forty cents an hour, representing an expense of $1.60 for the two men, plus the use of the fanning mill. Allow in this instance $1.00 for the use of fanning mill, making it a total expense of $2.60 for the work.

The fields that both the cleaned and uncleaned oats were seeded on were side by side and practically had the same kind of soil, same drainage, and same state of fertility. The oats in the one case as well as in the other were seeded the same day at the rate of two and one-half bushels to the acre, ten acres being devoted to the cleaned and like number of acres to the uncleaned.

After the grain sprouted in the field, it represented a wonderful object lesson. Later, under adverse conditions of weather, the weak, shriveled seeds produced weak plants, many turned yellow and disappeared, while the strong, heavy seeds produced strong plants and grew well. The uncleaned oats apparently were more susceptible to oat smut disease than the cleaned. At threshing time the cleaned oats yielded seven bushels more to the acre than the other. Figuring the price of oats at sixty (60) cents per bushel, the price paid at that time, meant an increase for the ten acres of $42 over and above what was raised from the uncleaned oat field.

Subtracting the total expense incurred in cleaning the oats left a net income of $39.40. Not only was there the increase in yield but the oats was of better quality as well. A farmer cannot do anything better at this time of the year than clean his seed grain. Secure the heaviest, plumpest kernels, and only sow the cleanest and the most vigorous seeds. A man with a good level head and a good fanning mill are indispensable.

Wisconsin. J. F. WOJTA.



"The machine made it possible for me to do my work alone this year and more than paid for itself in the savings of wages this summer." —WILL HANEFELD.

How Perfection Pays For Itself

NO doubt you have often thought, "If I could only do the milking I could get along with less help or even do my work alone." Here's the opportunity to put that thought into action. Get a Perfection and you can do your work with less help or alone.

One man with the Perfection can milk the same number of cows as three hand milkers. You can easily milk 24 to 30 cows an hour with the Perfection Milker

Thousands of owners say that Perfection easily pays for itself in less than a year on wages saved. But more than this the Perfection is unusually low in upkeep and costs but a few cents a day to operate.

Furthermore owners say, that their cows give more milk when milked with the Perfection. Cows like the Perfection's natural action. It's just like their calf's milking.

You are paying for a Perfection every year in wages to hired men —why not have it?

Send For Catalog

Send for your free copy of our book, "What the Dairyman Wants to Know." It answers every question about milking machines. At the same time we will send the names and addresses of Perfection owners near you. Why Milk By Hand? Perfection milking is more profitable.

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PERFECTION MILKER

VETERINARY

Advice is given free in this department. Inquires must be signed by the writer, and should pertain to veterinary Matters only. Where an immediate reply and prescription are desired by mail, the inquiry must be accompanied by a fee of one dollar. In every instance it will be necessary to give a full description of the symptoms present.

Treatment of Barren Cows

HOARD'S DAIRYMAN:—Breeders of pure-bred dairy cattle are increasingly concerned over the question of barrenness and sterility. It not infrequently happens that a valuable cow, especially after she has been through a hard "grind" in connection with an A. R. record, absolutely refuses to get in calf.

In the past a breeder who was unfortunate enough to have such shy breeders in his herd, usually gave up after a perfunctory effort to get the cow in calf. At present, however, he has been sufficiently encouraged by a number of successes to make a harder effort.

One reason for this change is that the rapidly expanding pure-bred business and the increased money value of many cows has made it possible for practicing veterinarians to specialize in this type of cases. The experiment stations have also done considerable investigational work, mostly in connection with veterinarians in the field.

One of the most successful practitioners in Wisconsin declared recently:

"We all have a lot to learn about these diseases and the more I see of them the less I feel I know. Some cases that appear hopeless respond very nicely to treatment, while others that appear very hopeful in the beginning prove hard to treat and never recover."

In a study on sterility, by Hadley and Stadler, of Wisconsin, it was found to be caused mainly by secondary genital infections. Several different kinds of micro-organisms were found in the cases studied. In many cases abortion is a great cause of this sterility by lowering the animal's vitality and consequent inability to resist the encroachments of disease. Any experience which materially reduces a cow's vitality would materially promote infection.

These secondary organisms which cause sterility are usually of low vitality. They have been isolated, and "bacterins" have been prepared for the purpose of treating infected cows. The giving of these bacterins, supplemented with irrigations at regular intervals of Lugol's solution of iodine, has usually caused a rapid change for the better, purulent discharges disappearing almost entirely. At present this treatment is rather limited in scope, and not available to many veterinarians because they lack the proper facilities to carry it out.

Veterinarians of considerable experience also report that frequently this sterility, especially in the case of heifers, is due to cysts and other physical obstructions which are easily removable. The first examination should always have in mind the possibility of these obstructions.

Wisconsin was the first state to recommend the irrigation of infected organs with a one per cent solution of common salt. This treatment is now being given by many veterinarians and farmers with most excellent results.

The field opened up by the use of "bacterins" is being thoroughly studied and really offers good ground to hope that we may soon be able to control or cure these cases of sterility in a greatly increased number of cases.

Wisconsin. W. A. FREEHOFF.

Swelling

I have a 4-year-old horse with the ankle on the hind leg swollen badly. It happened when the colt was two years old while running on pasture. Some of the old-timers call it milk leg. Kindly advise treatment.

South Dakota. SUBSCRIBER.

In "milk leg" (lymphangitis) the swelling starts in the groin and works downward. The cause is overfeeding during idleness of one day or more and repeated attacks may leave the fetlock joint permanently enlarged. If the enlargement or swelling has been there for two years, as we understand from your account of the case, the condition is incurable.

Abortion

1. Suppose one sells out all his cows and bull, having contagious abortion, and buys healthy cows, will the healthy ones contract contagious abortion from fences, posts, straw, litter, hay, drinking tanks, stalls, halters, stanchions, stables—where the diseased cows once were?

2. Will hogs around cows having contagious abortion contract the disease?

3. Is the ordinary verterinarian in country towns competent to make a correct diagnosis of contagious abortion—bacteriologically?

4. If women use milk from cows diseased with contagious abortion, is there a possibility of transfer of the disease to them?

5. Will the bacteria live in chickens or are they too warm blooded?

6. Is Dakin's solution good for contagious abortion?

7. Is it possible to free a cow of contagious abortion so there is no question about her being cured?

8. Is there an easy test for contagious abortion so that one can ascertain the disease before he buys a cow and before he suffers the loss of finding out that a cow cannot have a calf?

9. Can one buy heifer calves from herds where contagious abortion may exist among some cows and be sure that the calves are not diseased?

10. Does not contagious abortion sooner or later spoil the community bull idea?

Idaho. T. T. K.

Read the articles on abortion in this department of our issues of January 7th and 14th, 1921.

1. Yes. Loose trash has to be destroyed or deeply plowed under and all places occupied by affected cows cleansed, disinfected, and white-

SWINE

Cedar Crest Farms
have never possessed a finer lot of
BERKSHIRES
than at present. Let us name you prices on fall and spring boars and young gilts.
J. K. Dering, Owner, Lake Villa, Ill.

Hood Farm Abortion Remedy
and
Hood Farm Breeding Powder
Will Check and Prevent
ABORTION

If you are having trouble from abortion, order these two Remedies at once, give them a thorough trial and we are sure that you will be pleased with the result.

Chemung, N. Y.

Gentlemen:—For the enclosed five dollars please send me the Abortion Remedy and Breeding Powder. Have had splendid success with your Remedies. No more abortion.

PHIL WYNKOOP.

PRICES: Abortion Remedy, prepaid, $1.25, $2.75 and $9. Breeding Powder, prepaid, $1.15, $2.75 and $5. Injection Tube, by mail, 90 cents. One medium Breeding Powder, one medium Abortion Remedy, one Tube, prepaid, $5.75. Please mention this paper.
C. I. HOOD CO., Lowell, Mass.

ANTICAKE Trade Mark "Takes the cake" out of caked bag, quickly relieves inflammation, skin troubles, sores, cuts, chapped teats, etc. Money back guarantee. Price $1.25 prepaid for large box.
DAIRY SPECIALTY CO., Elyria, Ohio

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

DON'T LET YOUR COWS ABORT

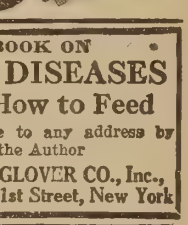
Take no chances of losing calves, cows and milk profits from Contagious Abortion. If it has attacked your herd, get rid of it at once. If you have escaped so far—KEEP IT OUT.

ABORNO
THE GUARANTEED REMEDY FOR CONTAGIOUS ABORTION

Treats this disease scientifically through injections into the blood which kill the abortion germs and immunize healthy animals against them. Can't harm the cow. Has wonderful record of success. Prompt and positive in action—reasonable in cost.

Write for free booklet with guarantee and letters from farmers and dairymen

ABORNO LABORATORY
28 Jeff St. Lancaster, Wis.



America's Pioneer Dog Medicines

BOOK ON
DOG DISEASES
And How to Feed
Mailed free to any address by the Author
H. CLAY GLOVER CO., Inc.,
118 West 31st Street, New York

Heaves Fleming's Tonic Heave Powders good for "Heavey," thin, run-down, hide-bound horses. $1.04 a package postpaid. Money back if they fail. Send for FREE Vest Pocket Veterinary Adviser. Describes Heaves and 200 other Horse and Cattle Diseases.
FLEMING BROTHERS, 256 Union Stock Yards, Chicago

BAG BALM
MADE BY THE KOW-KARE PEOPLE
- in every cow barn



To keep your dairy on a maximum paying basis, look first to the health and comfort of the udders and teats. The slightest discomfort in these milk-giving organs reduces the yield, makes milking hard and encourages more serious ailments. Thousands of dairymen are keeping their cows comfortable and at full production through the use of Bag Balm for any disorder of udder or teats. Cuts, Chaps, Scratches, and inflamed or irritated conditions respond quickly. For Caked Bag, Bag Balm is without an equal. The tissues quickly return to normal upon application of this soothing, penetrating ointment.

A big package of health insurance at a little price. 65c at general stores, feed dealers and druggists. Be sure to keep it on hand; it pays for itself many times over.

Write for our useful free booklet, "Dairy Wrinkles."

Dairy Association Company
Lyndonville, Vermont

65¢ Package



Duroc-Jerseys Are Prolific and Profitable

They raise *big* families. Hardy, easy-feeding, quick maturing. That is why Duroc-Jerseys today outnumber any other breed in the United States. Out of *all* the hogs marketed in 1918, 51 per cent were Durco-Jerseys.



WRITE FOR BOOKLET—"DUROC-JERSEY HOGS ARE PROFITABLE"
published and mailed free by the largest swine record association in the world (over 10,000 members) for the benefit of hog raisers everywhere.
THE NATIONAL DUROC-JERSEY RECORD ASSOCIATION
Dept. 300—PEORIA, ILLINOIS

ABORTION IN CATTLE
CAN BE TREATED SUCCESSFULLY AND
YOUR COWS MADE PROMPT, REGULAR BREEDERS BY
STERILOID



STOP LOSING CALVES
TREATMENT: If STERILOID is used at the first sign of abortion the cow will go her full time and have a healthy calf. If your cows or heifers do not come in season, or fail to get with calf, use STERILOID. Cows get with calf after only one treatment. Write today for **FREE BOOK.** It explains the causes and symptoms of Abortion and tells how to treat Abortion, and make your cows regular, healthy breeders with STERILOID. Also contains letters from breeders who have used STERILOID successfully.
GUARANTEE: We will refund money in every case when STERILOID FAILS to make good. PRICE $1.00 plus 4c tax. Mailed Postpaid, in plain wrapper.
MARTIN REMEDY COMPANY, Dept. A, 398-408 Columbus Ave., New York City, Reference—Colonial Bank.

washed. Fences and fixtures should be treated in the same way.

2. No; but sows also abort from germ infection peculiar to swine.

3. Blood tests should be made by pathologists or bacteriologists of an agricultural experiment station. The local veterinarian should take and forward samples of blood but rarely is equipped personally to make the laboratory tests.

4. There is such a possibility but corroborative evidence is lacking.

5. No.

6. Yes; but hypochlorite or hychlorite solution is readily prepared and effective.

7. No specific remedy has been found.

8. The blood test determines presence of infection but does not prove that the affected cow will abort.

9. Yes; if the blood test fails to show presence of the infection.

10. It is possible to keep the bull disinfected so that he will not communicate infection provided he is not allowed to serve a cow that has aborted or that has an abnormal vaginal discharge or that has constant or irregular periods of heat.

Double Returns from Farm Manure

(Continued from page 425)

ment, corn yielded enough more on the land where the manure had been supplemented with commercial fertilizer to pay for the treatment. The next year the profit from the use of the fertilizer in addition to the manure was represented by an increase in the yield of wheat of five and one-half bushels to the acre. Again, the harvest of the clover hay during the third year following the treatment showed an increase of 1,100 lbs. to the acre to the credit of the fertilizer. Similar results from the use of fertilizer to stretch the home grown fertilizer of the farm were secured by the Missouri Agricultural Experiment Station. The authorities of this institution, however, found that it was better to apply the fertilizer separately rather than combined with the manure, as is recommended in Ohio. In Missouri the fertilizer is applied part to corn and part to wheat at the time of seeding. The farmyard manure is plowed under for corn and used as a top-dressing for wheat.

Any and all of these ways of making the most of farm manures and crop residues are worthy of being put into practice and there is absolutely no doubt that if all were utilized, double returns or better from the plant food they contain would be enjoyed.

Two New Silver Medal Jersey Bulls

Two imported Jersey bulls have qualified for the Silver Medals awarded by the American Jersey Cattle Club. These bulls are Imp. Whitie's Majesty, owned by Quechee Fells Farm, Vermont, and Imp. Financial Baron, owned by A. F. Chaffee of Colorado. These medals are awarded to bulls having daughters to qualify with good records and which calve within a certain time. The first five daughters of Imp. Whitie's Majesty entered on test as junior two-year-olds averaged 8,824 pounds of milk containing 572 pounds of fat.

AYRSHIRES

Pure-bred Ayrshire Cattle For Sale

Best of breeding. Calves sired by a Grandson of Brown Kate, record 1,080 lbs. butter in year.

Wm. Nisbet & Sons, Richland Center, Wis.

Double Your Profit

By Breeding Increased Production With a

Ravinia Ayrshire Bull

We offer you the fruit of twenty-five years of the most successful, intensive and scientific breeding for production. We offer you young bulls and bull calves that will put to work for you in your own herd the same blood that has brought to our herd more A. R. records and more world records than any other Ayrshire herd. Isn't this the blood you want? We know the wonderful profit power of Ravinia Ayrshires—their unequaled production, their size, good teats, splendid conformation, and tremendous vigor. We want all dairymen to know them as we do; and to do so we offer you a limited number of splendid, individually selected young bulls and bull calves at less than half our regular prices. Write today for sales list giving individual descriptions and prices. Be sure to tell us the age you want.

Write to Box 100 E, Martinsville, Ind.

Martinsville, Ind. Preston, Kans. Axial, Colo.

GOSSARD BREEDING ESTATES

Linndale Farm Ayrshires

"Are bred for Production"

Bull calves out of A. R. cows and sired by sons of World Record cows, for sale.

Our { Breeding / Conformation / and Prices } are right.

See what we offer before you buy.

JOHN LINN & SONS,
Manhattan, Kansas.

Metropolitan Farm

For Sale—Bull calves from our best A. R. cows. These calves are from one month to one year old. Priced for quick sale.

Write for pedigrees and prices.

METROPOLITAN LIFE INS. CO.,
Neil J. Parker, Farm Supt.,
Wilton, New York.

Orchard Lodge AYRSHIRES

Stock for sale, all ages. Both sexes, prices reasonable.

G. W. STOLLER, Johnstown, New York

Ayrshire Bull—Ready For Service

Dam, an A. R. cow. Sire, a grandson of Brown Kate with a record of 1,080 lbs. butter.

Department of Animal Husbandry, University of Wisconsin, Madison, Wis.

AYRSHIRES— Gold Medal and Silver Cup Winners in Advanced Registry Roll of Honor Division. Young Bulls ready for service. Bull and Heifer Calves at prices you can afford to pay.

Pure-bred Berkshire Boars and Gilts.

Superintendent, Masonic Homes
Elizabethtown, Pennsylvania

Official Milk and Fat Records

Completed in 1920

Issued to Middlesex Meadows

Name	Class	Age	Milk	Fat	%
Nancy Whitehall (Highest official record in 1920).	A	5 yrs. 335 days	22,075	858.77	3.89%
Freeda of Elmwood	A	8 yrs. 183 days	18,502	753.45	4.07%
Rosella Webb	A	6 yrs. 306 days	16,291	675.53	4.06%
Maple Leaf Jean	A	6 yrs. 223 days	16,271	614.69	3.78%
Lochfergus Soncie	A	9 yrs. 214 days	14,044	598.72	4.26%
(Average for 5 cows).			17,436	700.23	4.01%
Carrie McDonald	A	9 yrs. 334 days	13,631	563.74	4.14%
Henderson's Lassie	A	6 yrs. 9 days	13,568	602.61	4.44%
Lucy Webb	G	2 yrs. 140 days	13,524	568.47	4.20%
Silver Beauty of Ing.	A	6 yrs. 305 days	13,707	598.19	4.36%
Zula of Elmhurst	A	5 yrs. 299 days	12,474	505.45	4.05%
(Average for 10 cows).			15,308	633.96	4.12%
Amy of Beverly	A	7 yrs. 261 days	12,338	457.31	3.71%
Patricia's Snowflake	F	2 yrs. 191 days	11,965	503.45	4.21%
Berlin Bess	A	7 yrs. 303 days	11,340	480.37	4.25%
Barleith Right Kind	A	8 yrs. 203 days	10,487	424.80	4.05%
Calla Lily of M. B.	A	8 yrs. 185 days	10,272	423.23	4.12%
(Average for 15 cows).			13,966	575.25	4.10%
Lillian Martin	A	8 yrs. 97 days	10,166	362.73	3.57%
Sir Hugh's Fl. Star	F	2 yrs. 362 days	9,671	371.49	3.84%
Teaser of N. F.	D	3 yrs. 283 days	9,479	383.75	4.05%
White Heather of Highland	B	4 yrs. 279 days	9,924	412.81	4.16%
(Average for 19 cows).			13,090	534.71	4.06%

Several of these records were made under Roll of Honor conditions, and some of the cows have already freshened again, all others are re-bred and safe in calf. In addition to making these records, two of these cows **White Heather of Highland** and **Maple Leaf Jean** were on the show circuit both in 1919 and 1920, both won Grand Champion honors and stood second and third at this year's National Dairy Show, **Maple Leaf Jean** winning the A. R. class as well.

We have youngsters of both sexes by proven bulls out of the above cows for sale. Pick your own dam and write for a price on her produce, to

A. Henry Higginson

MIDDLESEX MEADOWS FARM
South Lincoln, Mass.



We Have For Sale

the well bred Ayrshire bull, Bargenoch "Drexel" (18474) Imported. Bred by John Logan, Bargenoch, Scotland. Born Feb. 2nd, 1919. Color white and red. Sire, Bargenoch Magnificent (9579). Sire of Bargenoch "Royal Champion" sold at Bargenoch sale, 1919, for $7,267.00.

Dam, Bargenoch Victoria (37003). Scotch record: 9,221 lbs. milk, 4.23% fat in 43 weeks; 11,070 lbs. milk, 4.50% fat in 47 weeks.

BARCLAY FARMS, John Cochrane, Manager, ROSEMONT, PENNSYLVANIA

Monstone Farm Ayrshires

"Production — Size — Individuality"

Bull calves out of dams with A. R. records of 10,000 lbs. (and better) of 4% milk—Winners in show ring—Sired by Lessnessock Gem's Good Gift Imp.—Winner in show ring and proven prepotent sire—Weight 2,250 lbs. in breeding condition—Whose dam made 8,930 lbs. milk, 4.05% fat, in *36 weeks* (Scotch record)—Sire's dam 10,342 lbs. milk 365 days (Scotch record)—Prices $100 to $1,000. If you want class and a square deal, correspond with us. We can supply your wants at your prices. Nothing but the best. Herd Federally tested.

MONSTONE FARM, John Chalmers, Manager, IPSWICH, MASSACHUSETTS

Delchester Farms Ayrshires

Tell us your wants and we can supply them at prices you can afford to pay.

Aged cows, bred to Glenury, an A. R. son of Finlayston.

Aged cows, bred to Rena's Baron of Highland, an outstanding son of Baron's Best of Bargenoch.

Heifers, bred to these two great sires.

Young heifers.

Bull calves.

All the above stock carries some of the best producing blood of the breed with A. R. ancestry on both sides.

Herd free from tuberculosis

DELCHESTER FARMS
Edgemont, Del. Co., Penn. - Thomas W. Clark, Supt.

Weymouth Farms

"Ayrshires of Quality"

All cows on Advanced Registry Test. Herd Tuberculin Tested.

We can supply you a herd sire of choicest breeding.

MARTIN A. TOWLE, Mgr.
NORTH WEYMOUTH, MASS.

Ayrshire Stock

of all ages for sale. Satisfaction guaranteed

L. W. McCONNELL, Wellington, Ohio

World's Champion Ayrshires

Fully Accredited Tuberculosis Free — 200 Head in Herd



AUCHENBRAIN WHITE BEAUTY 2D

A. R. 14,721 lbs. milk, 4.33%
In 13 years, 112,486 lbs. milk and 13 calves
110 animals in herd are descended from this cow

The 1st, 2nd, 6th and 7th highest records were made here. Four cows average 22,823 lbs. milk, 1,046 lbs. butter. 100 A. R. records made here average 13,246 lbs. milk. Choice stock of all ages for sale at pre-war prices. Special — Young bulls line bred to Auchenbrain White Beauty 2d.

PENSHURST FARM, Narberth, Pa.
(7 miles from Philadelphia)

Bensalem Ayrshires

For Sale:—Bull Calves from our best A. R. Dams, and sired by "Queen's Favorite", whose Dam, "Bloomer's Queen", holds the World's Record as an Ayrshire Four-year-old with 21,820 lbs. milk, 1,009 lbs. butter. Grandam of Sire, Auchenbrain Brown Kate, Ex-world's Champion, 23,022 lbs. milk, 1,080 lbs. butter.

FRIENDS HOSPITAL, Frankford, Phila., Penn.

BLACKBURN FARM

HOME OF

Addington's Champion

Grandfathers—Nox'emall and Finlayston
Father—Rena's Champion, 17 A. R. Daughters
Mother—Addington Queen 3d, two Mature Records each over 19,000 lbs.

For Sale —

4-year-old cow—Fresh Dec. 12, 1920
2-year-old heifer—Fresh Jan. 16, 1921
Also Young Stock
Tuberculin Free Herd

Sewickley, Pennsylvania

Although statistics have not been compiled, Ohio State University seems to have the largest of all the annual State Farmers' Weeks, with 6,107 persons in attendance. Cornell possibly stands second with 4,116 actually registered.

BROWN SWISS



BETTY OF LAKE VIEW

Breed Brown Swiss Cattle

As producers they are worth every cent you pay for them. Cows are easily sold at reasonable prices. Their earning power has not been capitalized. Brown Swiss meet the ideals of working farmers.

BROWN SWISS CATTLE BREEDERS' ASS'N
IRA INMAN, Secretary, Beloit, Wis.
William B. Hale, Pres., Aqueduct Bldg., Rochester, N. Y.

JUBILEE FARM
Brown Swiss Cattle

Young stock for sale. Individuals of Quality. The best producing blood lines of the breed.

BOX 747, PEORIA, ILL.

Fariview Dairy Farm
Brown Swiss Cattle
FOR SALE

Both Male and Female

F. P. MINNETTE & SON, Sauk Center, Minnesota

JERSEYS

The Elms Jersey Farm

A few young cows, bred heifers and unbred heifers, for sale at from $150 to $250. Write for pedigrees and descriptions.

Thos. T. Bacheller, Jr., Mgr.
Forest Lake, Minn.

Ready For Service

Jersey bull, born Feb. 22, 1920. Dam, very good in type, untested. Sire, Pogis 99th of Hood Farm 21st. His dam has 740 lbs. fat. His grandam is Sophie 19th. Priced for quick sale.

Department of Animal Husbandry,
University of Wisconsin, Madison, Wis.

JERSEY BULL
14 Months Old
From Register of Merit Dam

With record of 416 lbs. fat, age 3 years, 2 months, carried calf 247 days. 7 nearest dams of this bull are in Register of Merit with good records. Solid dark color and a very good individual. Price $140.00.

P. G. WARMINGTON, Honey Creek, Wis.

HERE'S YOUR OPPORTUNITY

Bull calf born March 4, 1920, sired by a grandson of Majesty's Western King and out of a R. of M. daughter of Ibsen's Chief. For full pedigree and price write

E. E. HILL & SONS, Tomah, Wis.

Valley Farm is Offering

Several bulls, 6 to 12 months old, from R. M. cows. Sired by Golden Maid's Viscount and Kilda's Royal Majesty, two of the best Island bred bulls living. At prices to sell. Write

FRED STUBLEY, Black Earth, Wis.

JERSEYS—DUROCS

Just one bull old enough for service and a few young calves. Hood Farm breeding.

F. R. Constance & Sons, Waupaca, Wis.

Hillcrest Jerseys

Bull calf born March, 1920. Sired by Imp. grandson of Golden Fern's Noble. Priced right for quick sale. Write

ROLLIE VANDERVORT, TOMAH, WIS.

Register Merit Jersey Herd

At Head, Mona's Jacoba Premier grandson: Pogis 99th of Hood Farm. Dam, Mona's Jacoba, record 806 lbs. butter: Granddaughter Jacoba Irene, young stock; St. Lambert breeding for sale. R. C. Green & Son, Albion, Wis.

Ten Splendid Jersey Bulls

Good type, 6 to 18 months old. Heifers bred and open. Hood Farm Torono, King Sappho King, Loretta D. Bright Prince, etc. blood lines. Free from abortion. Dams are in the R. of M. or on test. Accredited herd. Address: J. Q. Emery & son, Edgerton, Wis.

Sophie 19th of Hood Farms
World's Champion Long Distance Dairy Cow

9 years R. O. M. records total 110,918.1 lbs. milk, 6,356 lbs. fat, 7,945 lbs. butter 80% fat. Now on tenth yearly test in sixteen-year-old form. Has made in four months 5,137 lbs. milk, 295 lbs. fat. We offer grandsons of this World's Champion cow. They will sire size, production, constitution, longevity. Write for description and pedigree of bulls and bull calves. Prices from $200.00 and up.

HOOD FARMS, Inc.
Lowell - - Mass.

N. B. Over a quarter century breeding Jerseys for large size, heavy production, strong constitution, longevity and profit, enables us to offer you a bull that will sire profitable producers. Our correspondence is very large, to save time and correspondence, we would appreciate your writing us priced bull you wish to purchase, and we will send full information on more than one for your consideration.

JIMMY DODGE, Mgr.

BELSWOOD FARM
Financial Bred Jerseys

We are offering for sale a splendid lot of bulls and bull calves out of R. of M. dams with records of 500 lbs. butter. Also several heifer calves. Send for illustrated catalog, containing pedigrees and delivered prices.

A. F. Block, Mgr., Norwood Park, Illinois.

JERSEY BULL
Ready For Service

Dropped July 25, 1919. Solid dark fawn, black tongue and switch. SIRE—Sigma's Raleigh Majesty 156131, by a R. of M. grandson of Royal Majesty, out of Raleigh's Sigma 241848, Champion Jersey butter cow of Iowa, in R. of M. 1,011 lbs. butter in 1 year—1,951 lbs. in 2 consecutive years, out of a daughter of Raleigh's Fairy Boy, by a son of Mabel's Raleigh. DAM—In R. of M. 448.35 lbs. butter at 3 years old. A prize-winning granddaughter of Oxford You'll Do, out of a cow of Champion Flying Fox and Golden Fern's Lad breeding.

Price $175.00 F. O. B. Forest Lake, Minn.
M. D. MUNN, ELMS JERSEY FARM
Forest Lake, Minnesota

We Will Sell You For $300
Jersey Bull, Tattoo 346
Dropped Aug. 30, 1919

SIRE—Sophie Gilsland Tormentor 123534. Sire of 2 others on test making from 450 to 500 lbs. fat as two-year-olds. His dam, Sophie's Adora is ex-champion Junior 4-year-old with 15,852 lbs. milk, 888 lbs. fat. DAM—Milicent of Highland 2d 350110. R. O. M. record as a 3-year-old 7,177.6 lbs. milk, 460.9 lbs. fat. The bull is solid light grey fawn, black points. Four generation pedigree on request.

AYREDALE STOCK FARM,
F. W. Ayer, P. O. Box 713, Bangor, Maine

Montpelier Jerseys

Three young bulls ready for service. Trace three times to Oxford Lad. Fine typy individuals. Right in every way.

Montpelier Manor Farms, Laurel, Md.

FOR SALE—CLOVERDALE JERSEY BULLS—$125—Age 15 mo.—$125.

Backed by R. of M. records and National Dairy Show Winners.

Bull No.	Dams	Average In 7 Nearest R. of M. Records	Sires	Nearest National Dairy Show Winners
1	6 R. of M.	846 lbs. butter	5 R. of M.*	1
2	6 R. of M.	820 lbs. butter	6 R. of M.	2

*Dams of 2 bulls not now R. of M., have R. of M. records of 865 and 886 lbs. butter respectively.

E. O. ANDERSON, Shelby, Mich.

FOR SALE
Jerseys and Holsteins
Give the Breed, Age and Sex That You Need

DAIRY DEPARTMENT,
University of Tennessee, Knoxville, Tennessee

POLLED JERSEYS

Breeders' names and Spillman's "Inheritance of the Poll Character in Cattle" mailed free.

CHAS. S. HATFIELD, Secy, R4, Box 5, Springfield, Ohio.

GUERNSEYS

Koshkonong Place Guernseys

Herd Bull: ANTON'S KING CECIL
(6 May Rose crosses).

BULL CALVES 6 mos. to 1 yr. old from A. R. daughters of

Jury and Gilt-Edge of K. P.

Herd on Federal Accredited list.

A. R. HOARD, - Fort Atkinson, Wis.

Mound City Farm Guernseys For Sale

May King's Reputation of Mound City (63800) born Dec. 3, 1919.

Sire—May King's Vrangue of Ingleside (15430). Dam—Alma Ethel, three records namely 495 class G, 621 lbs. class AA and 704 lbs. class A. Alma's King of Mound City (63801) born Dec. 23, 1919. Sire—Cinderella's King of Mound City (40476). Dam—Alma Lehigh (43704). 340 lbs. fat class G. 648 lbs. fat class A. Rose's May King of Mound City (63802). Born March 19, 1920. Sire—May King's Vrangue of Ingleside (15430). Dam—Rose of Little Platt (55717) record of 667 lbs. fat in class AA now fourth in her class. Some younger bulls of equal breeding.

Chas. A. Wilkins, Platteville, Wisconsin

SARNIA FARM GUERNSEYS

We are offering several very high class bull calves, 1 to 10 months old, nearly all out of A. R. cows. Send for sale list and circular giving pedigrees and pictures of the herd sires. Place your order now for bred heifers from 1920 importations.

Charles L. Hill & Son, - Rosendale, Wis.

2 Guernsey Bulls

No. 1—A son of Bob Rilma's Monogram, whose dam and sire's dam have records averaging 887.5 lbs. fat. His dam, a daughter of Langwater Hambro, made over 400 lbs. fat in Class G., 10 months old and well grown.

No. 2 is from a 519-lb. cow and sired by a son of Lord Waukesha from a 717-lb. 13-year-old dam. They're priced right and they must be as represented.

Write me for further information.

RALPH TRATT, Whitewater, Wis.

Pleasant Acres Guernsey Farm
Is Offering For Sale

Bull calves of May Rose breeding from 3 to 14 months old. The dams of these calves either have A. R. records or are now on A. R. test.

Clyde E. Fruit, R. 1, Waukesha, Wis

GORDONDALE

Guernsey bulls of serviceable age offered for sale, also younger ones. They carry May Rose breeding, are from A. R. dams and have splendid A. R. backing Ask us about them.

Herd under Federal Supervision.

L. E. GORDON, JR.,
Nelsonville, Portage Co., Wisconsin.

Sequel's Glenwood of Linwood 41767

Sire—Imp. Clara's Sequel with 35 A. R. daughters, 20 of them average 518 lbs. fat as heifers.

Dam—Ideal of Alfalfa Farms. 739.72 lbs. fat.

FOR SALE

6 high class pure-bred Guernsey heifers from 12 to 14 months old. 3 are sired by Sequel's Glenwood of Linwood and out of good A. R. cows. 3 are sired by Dairymaid's Glenwood of Pinehurst 3rd 26948 A. R. One from a daughter of Langwater Frenchman with record of 532 lbs. fat. They are a very nice lot of heifers. They are not bred. Come and see them. Attractive price to any one taking the 6 head. Also a few bulls of serviceable age.

ORE HILL FARM,
Dale E. Rundell. Livingston, Wis.

Tilden Farms Guernseys

FOR SALE: Several typy, May Rose bulls out of A. R. cows and sired by Hope's May Rose of Maple Hill (35903), whose dam is a class leader with 776 pounds of butterfat at 3 years. Also several choice pure-bred females and a few excellent grade cows. Herd on Federal Accredited list.

TILDEN FARMS
James H. Murphy, Mgr. Delavan, Wisconsin

CityViewFarm
GUERNSEYS

FOR SALE: Typy May Rose bulls out of A. R. cows or cows on test with records up to 615 lbs. fat AA Sired by Bell Buoy of Linda Vista, 17 A. R. daughters, and Langwater Good News. Some of these bulls trace 18 times to May Rose II and are priced to sell.

O. R. SCHWALEN, Roberts, Wis.

Wern Farm Guernseys

I am offering for sale 20 head of choice Grade Guernsey springers coming with first and second calf. Also have two bulls highly bred along May Rose lines just ready for service, that I will sell. For full particulars, write, wire, or come and see the stock.

Wern Farm, Waukesha, Wis.

MAPLE HILL FARMS

May Rose bulls for sale from 2 to 16 months old with A. R. backing.

Fruit Bros., - Waukesha, Wis.

Norwind Farm

Offers

Norwind Chieftain 65697, a grandson of Langwater Steadfast. Chieftain's dam made 526 lbs. fat in D. His sire's 19 nearest tested dams average 714 lbs. fat. He is a fine individual and ready for service. Write for price and description.

Norwind Farm, Sheboygan, Wis.

Guernsey Bulls

GET A BULL, with Langwater, Pencoyd, May Rose or Haye's Cherub breeding. Prices reasonable, quality considered. Grades in limited numbers.

Fox River Valley Guernsey Breeders' Association,
Harry Leppla, Secy. Appleton, Wis.

GUERNSEY SALE

Don't Forget the Big Sale at
WEST SALEM, WISCONSIN
Wednesday, March 30, 1921

A great opportunity to add a few pure-breds or high grades to your herd. West Salem is easy to reach and a pretty good town to visit. Make your plans now to be there.

H. W. GRISWOLD, Sale Manager

MR. GUERNSEY BREEDER

we are offering bulls of May Rose, Glenwood and Yeksa breeding out of A. R. cows. Our records range from 450 lbs. to 864 lbs. of fat; ages from 2 months up to serviceable age for $100 and up.

Can spare a few fine females.

CORIUM FARM, F. J. Rueping, Owner, Fond du Lac, Wisconsin

RELIABILITY QUALITY
BANKER FARMER
of
WISCONSIN BANKERS' ASSOCIATION
EXCHANGE

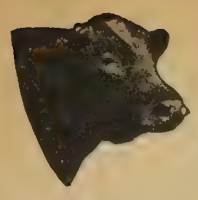
GUERNSEYS FOR SALE

Pure-breds { 70 Cows; 61 Heifers and Heifer Calves; 162 Young Bulls and Bull Calves

Grades — { 116 Cows; 115 Heifers and Heifer Calves

Other Live Stock: Breeders are listing with us other dairy cattle, beef cattle, horses, sheep, and swine. Write us if you want stock. We will answer promptly.

BANKER FARMER EXCHANGE,
D. H. Otis, Director. 1822 Chadbourne Ave., Madison, Wis.



Economy in Production ← GUERNSEYS → Quality of Products



An Ohio Guernsey breeder writes, "I realize that one of the mistakes of my life was in not making a start with Guernseys ten years sooner, at the time I first thought of doing so." Why not profit by the mistakes of others? Buy Guernseys now when the prices are low. Send for free information.

THE AMERICAN GUERNSEY CATTLE CLUB, BOX H 40, PETERBORO, N. H.

Guernseys! Guernseys!!

CHILTON,—MARCH 31—APRIL 1—WISCONSIN

Fair Grounds 1 o'clock

First Annual Consignment Sale
Calumet County Guernsey Breeders' Ass'n

THURSDAY, MARCH 31ST, 1921—Registered Guernsey Males and Females

SIXTY CHOICE INDIVIDUALS LISTED. Individuality and type exceptional. High Producers and Advanced Registry cows.

These are a few of the good ones:

Model May A. R. 4783. Milk 11,310.8 lbs., butterfat 541.3 lbs. at 4 years.
Lady Sly of Homestead 38976 on test, 336.39 lbs. butterfat in 236 days.
Liberty Bluffer's Queen A. R. Milk 5,710.1 lbs., butterfat 330.3 lbs. at 3 years.
Lady Alice of Clover Lea A. R. 4786. Milk 7,278.1 lbs., butterfat 384 lbs. at 2 years.
Ella Miranda of Cranmoor A. R. 6086. Milk 5,942.3 lbs., butterfat 277.9 lbs. at 2 years.
Marcella's Queen No. 71413, on test, 177.38 lbs. butterfat in 112 days.
Captain of Calumet (Male). Dam will make 600 lbs. butterfat.
Tot 3d's Major (Male). Dam has record of 582 lbs. fat.
Dairymaid's Hero of Fox Valley (Male). Dam has record of 401 lbs. fat at 4 years.

FRIDAY, APRIL 1ST, 1921—Grade Females Registered Bulls

TWENTY-FIVE CHOICE BULLS will be sold. TWENTY-FIVE GOOD PRODUCING GRADES, many with cow testing records, have been accepted.

Sale Committee: A. W. Weiting, Edward Hass, H. J. Duecker, L. H. McGrath, Frank G. Bowe.

Auctioneers: Love, Benjamin.

Attend the banquet to be held March 31st at Chilton, Wis., at 6 P. M. Professor D. H. Otis, Speaker. Welcome extended.

Write for catalogue to

F. E. FOX, Sales Manager, Waukesha, Wis.

HONESTY PRIDE OF BIRCHFIELD 44580



Sire — Langwater Warrior 26509
Dam — Langwater Honesty 49479
10,536.9 lbs. milk, 517 lbs. fat, at 2 yrs. and 5 months

We are now offering a few splendid sons of Honesty Pride of Birchfield. From cows with A. R. records or now on test. Everyone is a straight backed, growthy, vigorous youngster. These young bulls will put type and production in your herd. Prices range from $150 to $300.

Quality Guernseys **HIGHLANDS** *Tuberculin Tested*

NYE H. FREEMAN, Herdsman, Linwood, New York

Iowanola Guernseys

We are offering

A Very Fine Son

born July 25, 1920, out of Imp. Kitchener's Express 43925, his dam has 592 lbs. of fat, and out of Franseca of Homa Della who has 12,855.2 lbs. of milk and 640.09 lbs. of fat in Class D. This is a very typy calf and should appeal to any one in need of a bull. Correspondence solicited.

MOUNTAIN BROS.,
Carrier 403, Des Moines, Iowa.

Harbor Hill Guernseys

Masher's Galore 8572 A. R.

Increased the Average Production Credit of 12 A. R. daughters out of A. R. dams by 181 lbs. We offer his double grandson out of another daughter also making a better record than her dam.

C. H. Hechler, Superintendent
Box 30, Roslyn New York

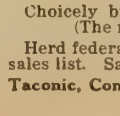
Forestdale Farm

3 Bully Baby Bulls 8 Handsome Healthy Heifers — 2 to 18 months

from Superior Standard Sires, also a few A. R. matrons. May Rose Breeding. Tuberculin tested. $250 lowest price.

R. D. DeForest, Amsterdam, N. Y.

Thorn Hill Farm Guernseys



Have several well bred young Guernsey bulls for sale at reasonable prices. All my own breeding. May Rose and Glenwoods, out of A. R. cows with records from 500 to 750 lbs. of fat. Write for sales list to

AUGUST ZIESING, Deerfield, Ill.

SAUGERTIES FARM GUERNSEYS

For Sale Bull Calves sired by Ultra May King, 27600. A. R. breeding. May Rose strain. Send for Sales List. Federal Accredited Herd No. 1511.

SAUGERTIES FARMS,
Saugerties, New York.

Do You Want A Guernsey Bull

Closely related to Pergue's Crescent A. R. with a record of 13,316.9 lbs. milk and over 582 lbs. fat in Class EE and dropping two calves within the year, entitling her to second place in her class? Some excellent young bulls closely related to Pergue's Crescent ready to head your herd. Write for descriptive circular, or come and see them.

Ernest W. Sass, Box H, Streator, La Salle County, Illinois

Guernsey Bulls

Our last 9 official records average over 510 lbs. fat, including all ages. Our herd sire has 8 A. R. daughters, including one with 572 lbs. fat in Class GG. His three nearest dams average 822 lbs. fat. Send for pedigrees and prices on young bulls with this barking.

Folly Farm, Box 587, Libertyville, Ill.

May Rose Bull For Sale

VISCOUNT OF EDGEMOOR No. 49389

21.09% May Rose

Sire: Imp. Itchen May King 25174 Grand Champion N. D. S. 1920.

Dam: Manoa's May Rose 25269 545 lbs. fat.

Born February 1, 1918, well grown, very good type, and a sure breeder.

Also offer two younger bulls, one ready for light service and one September calf by above sire.

F. C. MEYER, Lancaster, Wisconsin

Homestead Farm

Offers for sale bulls from 11 to 13 months of age from A. R. dams. Also a few young bull calves of excellent breeding, and three A. R. cows. Write for sale list or come and see them.

JAMISON BROS., Appleton, Wis.

Langwater Traveler

Carries 50 per cent blood of Imp. King of the May, greatest bull of the breed.

His dam is Langwater Lustre, A. R. 806.10 lbs. fat, fifth cow in Class C. She is the second highest testing daughter of King of the May. His sire is Langwater Holliston, sire of Langwater Levity, sold for $6,000.00 and leading cow in Class EE. Traveler's daughters are averaging over 500 lbs. of fat with their first calves. His first daughter to freshen will be a class leader in FF. We offer some excellent bull calves by Traveler out of May Rose cows with fine records. Federal Accredited Herd.

CHICONA FARM GUERNSEYS
A. L. Gile, Prop., Chinook, Washington.

Green Meadow Farms

NOW THE HOME OF

Langwater Steadfast

We are now offering *a fine Yearling Bull* sired by *Langwater Renown* and out of a fine Imported Dam with a record of 16,510.90 milk, 717.79 fat. We offer with him *ten fine Imported heifers* old enough to be bred. Anyone wanting to start a small herd, this is a rare chance.

We also have *a few two-year-olds* of May Rose and Golden Secret breeding that will be fresh this coming spring. Also *four yearling bulls*, old enough for light service of the above breeding. Our herd is now in the third year Federal Accredited List. For price and particulars address

GREEN MEADOW FARMS
Walter Jauncey, Mgr., Williamstown, Mass.

Herd Bull For Sale

Billy of Clover Lawn 44913

Sire—Gloriana's King Masher 27645. Four A. R. daughters and four others on test. Sire—King Masher 11084 A. R. Dam—Glendett's Dairymaid of C. L. 52237 A. R. Milk 9202.70 lbs.; butterfat, 444.67 lbs. Class D. On retest 85 days, about 146 lbs. fat. Sire, Glendett of Pinehurst 3rd 19208 A. R.

Lady Rose of C. L., 678 lbs. butterfat. Beauty of C. L. on test 62 days, 148 lbs. fat. Write for full particulars.

Elmer Wirt, Lewiston, Minn.

Young Bulls For Sale
From A. R. Dams

I am offering several young sons of Golden Noble of Craigmoor A. R. He is a son of Langwater Raritan A. R. and from Imp. Daisy Moon 4th (639 lbs. fat).

These bulls are from A. R. dams with records up to 648 lbs. fat.

They are from 3 months to a year old. For prices and pedigrees call or write

Maple Heights Guernsey Farm

Frank E. Swan, Wauwatosa, Wis.

Federal Accredited Herd.

642 Pounds Fat

is the average on the A. R. daughters of Bellfounder, the sire of Countess Prue, the World's Champion Guernsey and My Fancy, eighth in Class A.

We offer bull calves carrying 15%—50% of this consistently high producing blood.

Prices $225.00 to $600.00.

The demand is keen; write today.

FALCON'S FLIGHT FARMS,
Litchfield, Connecticut.

The Mixter Farms

For Sale at farmers' prices,—bull calves sired by May Rose bulls and out of May Rose dams with records of 500 to 700 lbs. fat. Also a number of producing females—animals that will be a credit to any herd and prove profitable in dollars and cents.

Write us before purchasing elsewhere. Mixter Farms have bred over 3,000 pure-bred Guernseys. J. S. Clark, Supt., Hardwick, Mass.

300 Guernsey Females.

Guernsey Bulls
Special Low Prices

Guernsey bulls by Beauty Eagle's Bonny Boy 42893, he by Bonny Boy of Riverdale 29070 (noted show bull), and out of Beauty Eagle 18117, 846 lbs. fat, or a son of Glenwood's Champion 15639 (24 A. R. daughters) out of daughter of Langwater Demonstrator 16451. Splendid high producing dams. Send for sale list.

LA BELLE KNOLL FARM, Oconomowoc, Wis.

Guernseys

Best May Rose breeding. Both sexes and all ages from an Accredited Herd. Write your wants and send for lists.

E. S. Person, Minot, N. D.

Guernsey Females

bred to an outstanding son of Ne Plus Ultra, one of the greatest sires of the breed. Fifty head from which to select.

MEADOWLAND FARM, Litchfield, Conn.

Hillswold Farm

Shrewbury, Mass.

Registered Guernsey bull calves for sale. Dams in Advanced Registry and tuberculin tested. Prices right, and animals guaranteed to suit. W. A. Cloues, Mgr.

GRASSLAND FARMS GUERNSEYS

Choicely bred males and females for sale. (The natural increase of the herd.)

Herd federal tested for tuberculosis. Send for sales list. Satisfaction guaranteed.

Taconic, Conn., Litchfield Co., (C. N. E. R. R.)

Guernsey Bulls For Sale

Polly's Anchor No. 42845, born August 24, 1916, and Imp. Bluebird of Lakeside No. 45329, born June 15, 1917. Good, straight bulls, very gentle and sure breeders.

For Sale by

RADISSON FARM, ANOKA, MINN.

Major Oliver S. Johnson



The Dairy Auctioneer

Tipton, Ia.

"Maj. Johnson has conducted twenty-five Sales for me".—Dr. M. B. Wood, Mankato, Minn.

Fewer Cows, More Money

"Three years ago," says D. A. Wicks of the Unity, Wisconsin, Cow Testing Association, "we got our first cow testing association and I soon found my system of feeding was entirely wrong, also that I had several cows living on me. I disposed of the poor cows and fed the other cows better, and at the end of the year I had made more clear money than I have had any one year before."

HOLSTEINS

BULL CALF

Sire's dam, butter, 1 yr., 848 lbs.; her daughter, 1,055 lbs. Grandsire's dam, 987 lbs. at 11 yrs.; her full sister, 1,344 lbs.; another, same dam, 1,322 lbs. Dam, Miss Pietertje Alexina 3d, sister to Miss Pietertje Alexina 2d, 1,290.91 lbs. A dandy calf, priced right. Write quick to

McKAY BROS., - - CADDOA, COL.

THE TRAVERSE HERD

We have what you want in

BULL CALVES

the large, fine growthy type, guaranteed right in every way. They are from high producing A. R. O. ancestors. Dams' records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.

Traverse City State Hospital, - Traverse City, Michigan

The Pontiac Herd

"Where the Champions come from"

Offer Bull Calves sired by sons of *Pontiac Korndyke, Hengerveld De Kol, Pontiac Dutchland, or Admiral Walker Pietertje.*

Do you want a Pontiac in your herd?

PONTIAC STATE HOSPITAL, Pontiac, Mich.

HERE IS YOUR CHANCE

Bull calf born Aug. 17, 1920. Mostly white and a good individual. His sire is a 32.7-lb. grandson of King of the Pontiacs. Calf's dam has a 20-lb. record and his 3 nearest dams average 28.47 lbs. A bargain at $200. Send for pedigree and photo.

Have 2 other bulls for sale that are ready for heavy use from a 25.63-lb. sire. They are priced exceedingly low. Females for sale, all ages. Herd under Federal supervision. Write your wants.

UTOPIA DAIRY FARMS

C. I. Reamer, Prop. North Liberty, Ind.

4 Holstein Bullsfor Sale

All by King Segis Pontiac Cor-Will, 190512, whose sire is King Segis Pontiac, 44444, and whose dam is an A. R. O. daughter of Pontiac Korndyke. Also two fine young registered cows, one a granddaughter of Pontiac Kordnyke. Wm. N. Osborn, Wanatah, Ind.

Cows and Heifers

A Few Good Bulls

Because I am overstocked, I am offering some very good registered females for sale. They either have A. R. O. records or are from A. R. O. dams.

Can also offer some excellent young bulls by a 33-lb. sire and from A. R. O. dams with records up to 28 lbs.

Every animal sold is guaranteed to be as represented.

Write or come and see for yourself.

J. D. McDonald West Salem, Wis.

$100 to $200 Buys A Bull From A Good Record Dam

Am offering several for those prices sired by a 26-lb. bull and from A. R. O. dams with records up to 25.46 lbs.

Write at once. They'll go fast.

H. W. Crawford, R. 5, Campbellsport, Wis.

A BULLY CHANCE

to get a serviceable sire—born March 15, 1919. A fine individual—well bred—well marked—well grown. Sire, a son of King Segis Pontiac out of a 26-lb. daughter of Juliana King of Rock. Dam, A 26-lb. daughter of King Korndyke Veeman Wayne, he out of a 31-lb. daughter of Sir Veeman Hengerveld. Will trade for pure-bred Holstein females, liberty bonds or cash. If you want a herd sire—what have you got that you don't want? Write or call for price, pedigree, photo. Also have some younger bulls. Herd tuberculin tested.

RIDGEHURST STOCK FARM.

Glen C. Ramsey, Ft. Atkinson, Wis.

1000---HERD---1000

Quality Holsteins

GRADES AND PURE-BREDS

Just now we have a splendid lot of grade heifers. Write for our pure-bred bull list.

Jefferson County Holstein-Friesian Breeders' Association,

A. F. Gafke, Secretary, Jefferson, Wis.

Registered 3-year-old—Fresh Dec. 1, milking 45 lbs. Bred to a good bull. Weight 1,200 lbs. Price $275.

ORINE W. BEHNCKE, Route 7, Marshfield, Wis.

Holstein CATALOG Prices

These prices include compiling of pedigrees.

STYLE I.

A 6x9 inch book bound on the end.
$3.25 a page, 500 books
$3.55 a page, 700 books

STYLE II.

A 6x9 inch book, bound on the end. Good quality paper.
$3.75 a page, 500 books
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A 7x10 inch book, bound on either end or side. Good enameled paper.
$4.25 a page, 500 books
$4.75 a page, 700 books

Wisconsin Live Stock Advertising Company

Pioneer Bldg., Madison, Wis.

Send For Our Bull Sales List

Three bulls of serviceable age—four others will be old enough for service in a month or two—others three months old and older. Almost all of them sired by SIR ORMSBY BEAUTY PONTIAC SEGIS, the son of a 37-lb., 1112-lb. three-year-old daughter of KING SEGIS PONTIAC COUNT.

If it will be of an accommodation to the purchaser, we will accept a six months' note in payment, WITHOUT INTEREST, or will accept payment on installment plan basis.

Pinehurst Farms Co., Sheboygan Falls, Wis.

Bull Calves

by

SIR BESS ORMSBY FOBSE

out of

Cows with 7-day records now on semi-official; two-year-olds milking as high as 70 lbs. and mature up to 92 lbs.

LINDEN LAWN STOCK FARM

B. W. RABENHORST, Jefferson, Wis.

Holstein Service Bulls

sired by

King Bess Burke Ormsby

whose 5 nearest dams average 36.56 lbs. butter in 7 days, 1005 lbs. in 1 year.

PRICED TO SELL
TUBERCULIN TESTED

Milford Meadows Stock Farm

Lake Mills, Wisconsin

Serviceable Bulls For Sale

Sired by Pabst Pontiac Hengerveld, a son of King Pontiac Champion from Pabst Hengerveld Colanthus (31.5 lbs. butter in 7 days, 1,057 lbs. in a year.

These are nicely marked, well grown youngsters out of good producing dams. Several are ready for service, others are younger.

Write today.

John Alexander, Baraboo, Wis.

Sons of a 36-lb.—1315-lb. Sire

They are sons of Dutchland Creamelle Denver Prince. His sire is a 30-lb. 1,028-lb. grandson of Colantha Johanna Lad and his dam, the highest record daughter of the same sire, with 36 lbs. in 7 days, 1,315 lbs. in a year.

They are from tested (records up to 20 lbs.) and untested dams — Good producers rich in the blood of Mooie Mutual De Kol and King Segis Pontiac.

The calves are from 2 to 8 months old. Priced right.

Jefferson County Asylum, Jefferson, Wis.
W. E. Voigt, Supt.

Son of a World-Record 3-Year-Old

Ready For Service

He's very well grown, well marked, and a first class individual

His dam, Circe Fyke Canary De Kol, holds the world's record in her class for 305-day milk production with 18,791.4 lbs. In 7 days at the same age she made 28.85 lbs. butter from 613 lbs. milk.

His sire is King Pontiac Artis Sadie Vale, the 34-lb. son of K. K. S. V. whose daughters are doing so well in our herd.

Write today for complete information.

He'll suit you and the price is reasonable.

Gustave Pabst's Hollyhock Farms

Fred J. Southcott, Manager Dousman, Wisconsin

For Sale—Grandsons of S. P. O. M. 37th

Sired by a son of "37th" and of Wisconsin Fobes 4th that is now going at better than a 1,000-lb. gait on year test.

No. 1—From a 25-lb. dam that has several A. R. O. sisters. Ready for service. Price $500.

No. 2—From a 22-lb. dam. One year old. Price $300.

No. 3—From a daughter of a 25-lb. cow. Ready for service. Price $150.

Several younger calves for sale. All are well grown and light in color.

Several Females For Sale

Well bred and priced right.

Write for further information.

W. O. Williams & Son

Wild Rose, R. 3, Wisconsin



WISCONSIN FOBES 4TH
A daughter of the great Wisconsin Fobes and a sister to Wisconsin Fobes 5th. (State Champion 2-year-old).

A SERVICEABLE SON

Of the 1235-lb. Yearly Sire

Sir Korndyke Bess

His Dam has a remarkable 305-day record.

R. E. BENSON, - Dousman, Wisconsin

A. R. O. BULLS—2 Weeks to a Year Old

At Bargain Prices

They are sons of Rag Apple Pontiac, a 30-lb. grandson of King of the Pontiacs, from well bred dams with records up to 27 lbs. in 7 days. Write today for prices and pedigrees. I'll answer your inquiry promptly.

W. W. Quackenbush, - West Salem, Wis.



Yearly Records

Choice Young Bulls

from one to fourteen months old for sale. Sired by Cloverlawn Johanna Piebe whose five nearest dams average 1,070 lbs. of butter, 23,809 lbs. of milk a year. Herd numbers 140 head, forty cows with yearly records. State exactly what you want.

JOHN PULS, - HARTFORD, WISCONSIN

20-Lb. Son of Sir Korndyke Bess Pietertje

Ready For Service — Price $250

His sire, Sir Korndyke Bess Pietertje, is a grandson of S. P. O. M. His first 4 tested daughters average 19.55 lbs. butter from 401.4 lbs. milk as 2-year-olds. His dam made 20.53 lbs. butter as a junior 4-year-old, milking 73 lbs. her best day. He is very light in color, well grown and an excellent individual. Born February, 1920. Write me today.

S. B. SIMONS - - - Sullivan, Wisconsin

HOLSTEIN BULLS AND HEIFERS!!

To make room in our barn we offer a dozen or more heifers from 1 month to 3 years of age. They are backed by some of the best families of the breed. Also a few bulls sired by King Korndyke Veeman, whose two nearest dams average over 37 lbs. butter in 7 days. Come and see them or write to

WISCONSIN STAR STOCK FARM, ED. M. SCHULTZ, HARTFORD, WIS.

Bull Ready For Service

Nicely marked and a good individual. Dam 20 lbs. butter at just 3 years. Next dam a 23-lb. 4-year-old. Two nearest dams of his sire average over 32 lbs. and ten nearest dams over 29 lbs. in 7 days Not a break in a three-generation pedigree. Priced to sell. Call or write

Halsey J. Sedgwick, Limeridge, Wis.

Grade Heifer Calves—$20

Good grade Holstein heifer calves by pure-bred sires $20 f. o. b. cars. Pure-bred bull calves $40 and up. Good, registered heifer calves at reasonable prices.

J. C. BOLGER, Waterloo, Wis.

GREENBUSH FARM

REGISTERED HOLSTEINS

Offering a service son, by a 1225.67-lb. sire, from a 657.1-lb. senior 4-year-old dam. Good individual. Price $400. Several others at $150 and up. Herd under federal supervision. For complete information address

GREENBUSH FARM,

R. Turano, Herdsman, Glenbeulah, Wis.

ORMSBY BULL - Born Feb. 28, 1919

Sire, King Ormsby Pontiac De Nijlander, whose two nearest dams average over 30 lbs.

Dam, Aaltje Hengerveld Tritomia Segis. A. R. O. 17 lbs. at 3 yrs., next dam 29.63 in 7 days. Color light, fine individual. Ready for service. Price $300.

Fairview Stock Farm Whitewater, Wis., W. G. Marshall, Prop.

This Week We Offer



Sir Bess Ormsby DeKol 297182

Born December 13, 1919

An Outstanding Individual—Ready for Heavy Service

He Traces Three Times to Sir Pietertje Ormsby Mercedes, the World's Greatest Long-Distance Sire

His Sire—*Sir Bess Ormsby Alice*

A coming young sire whose offspring are of real show type. His dam is Alice Tritomia Ormsby, 34.42 lbs. in 7 days and 1033.94 lbs. butter and 22,035.5 lbs. milk in a year. She is sired by Sir Pietertje Ormsby Mercedes 21st and from a 25-lb. granddaughter of Homestead Junior De Kol. The sire of Sir Bess Ormsby Alice is from Bess Pietertje Ormsby Mercedes, 33-lb. 1,235-lb. daughter of Sir Pietertje Ormsby Mercedes and Spring Brook Bess Burke.

His Dam—*Shady Netherland DeKol 4th*

She has just made 25.15 lbs. butter and 579.5 lbs. milk in 7 days at just 36 months of age. She is on yearly test and should make well over 800 lbs. She is a beautiful individual, sired by a son of Buffalo Maid 2d, junior champion at the National Dairy Show 1913. She is by Sir Pietertje Ormsby Mercedes and from Buffalo Maid, 30-lb. 900-lb. maternal sister to Pietertje Maid Ormsby. The dam of Shady 4th is a 20-lb. daughter of Sir Netherland De Kol de Freule.

PRICE $500.00

E. C. Schroeder Farms, Moorhead, Minn.

(Herd under Federal Supervision)

Minnesota Holsteins



Miss Korndyke Akkrummer Ormsby 30-lb. 4-year-old. 39.67 lbs. butter at full age. Owned and developed by J. B. Irwin.

For Your Next Herd Sire

get a son of Sir Ormsby Banostine Champion, son of Duchess Skylark Ormsby, world record cow. We have some good ones for sale from dams with good 7-day and year records.

Woodlake & Clover Farms,
John B. Irwin, Station F, Minneapolis, Minnesota.
"The Home of the Ormsbys."

ECHOLAND FARMS

Have For Sale

A Few Good Registered Cows and Heifers

We are somewhat overstocked at present so are offering a few good Minnesota bred females for sale. They are bred to King Pietertje Ormsby Pledge one of the good sons of King Pietertje Ormsby Piebe.

Our prices are reasonable. The females are guaranteed to be as represented. Write or come and see them.

EGIL BOECKMANN, White Bear Lake, Minn.



Lola Segis Pontiac Homestead

the highest record bull in southern Minnesota, heads our herd. His sire, Piebe Laura Ollie Homestead King, has more daughters that as 2-yr.-olds have produced 20,000 lbs. milk in a year than any other. His dam, a 34-lb. 4-year-old daughter of King Segis Pontiac Count, has 3 records averaging 33 lbs. and has made over 1,000 lbs. in 1 year. We have a few serviceable bulls and younger from A. R. O. dams for sale.

Clover Lea Farm, W. W. Walker, Owner. Austin, Minnesota



Sir Walker Segis Homestead

The best show bull and son of the great bull, PIEBE LAURA OLLIE HOMESTEAD, out of a "COUNT" daughter. BEAUTY BEETS WALKER SEGIS, world's greatest heifer, with two yearly records over 25,000 lbs. milk and 1,000 lbs. butter in heifer form, and a seven-day record of 35.03 lbs. butter from 730 lbs. milk.

We offer several choice bulls, one month to a year old, out of high yearly record and A. R. O. cows, at very reasonable present day prices. Pedigrees and photos will be sent.

A. J. LASHBROOK, Northfield, Minnesota

Sons of "COUNT"—

—"The Marvel of All Sires"

Whose daughters have broken more World's Records than the daughters of any other sire of the breed in both long and short time work. He has eight 1,000-lb. daughters.

Sons of "PIEBE" — "The Present Day Sensation"
The only bull in the world with five 20,000-lb. two-year-old daughters.
Sons of "COUNT" from daughters of "PIEBE"
Sons of "PIEBE" from daughters of "COUNT"

We have the finest line of young bulls we have ever raised at ARDEN FARMS, priced in accordance with present financial conditions. LIBERAL TERMS GIVEN IF DESIRED. Write me for particulars.

J. M. HACKNEY

602 Merchants Bank Building, - - - St. Paul, Minnesota

Bull Calves of Ormsby Breeding

from A. R. O. dams for sale, 2 to 8 months old. Prices $200 to $1,000. We can also offer several good, typy cows bred to a good Ormsby bull. Write or come and see us.

MINERAL SPRINGS STOCK FARM, - - SAVAGE, MINNESOTA
Stuart—McIntyre—Hansen, Owners.

Address correspondence to Axel Hansen, formerly with John B. Irwin.

Grandsons of Sir Pietertje Ormsby Mercedes

The sire is Sir Pietertje Ormsby Mercedes 22d, a son of Minnesota's first 1000-lb. cow. These bulls are all nicely marked, straight top lines. Very good individuals from good A. R. O. dams. For pedigrees and prices, write

O. J. GROVER, - GLYNDON, MINN.

Grandsons of

Duchess Skylark Ormsby and of S. P. O. M. 38th.

for sale. These youngsters are from A. R. O. dams that are now making good yearly records. Write today for further information.

POPLAR HOLLOW STOCK FARM,
Bertram D. Scott, Prop., Richfield Station
Minneapolis, Minn.

Bull Calf

advertised last week is sold. Here is another good one ready for light service. Sired by a 30-lb. bull. Dam a 14-lb. 2-year-old who will be tested again next spring. Priced so reasonable that you can't afford to be without him. $150.00 for immediate sale.

V. R. Holmes, Anoka, Minn.

Get A Calf

We have a grand bunch of youngsters on hand. Come and pick out a calf while you have a big choice. Grow him to suit you. Saves you money and we are selling them as cheaply as we can. Show calves that are backed by generations of official testing and careful breeding. Sons of DUTCHLAND CREAMELLE COLANTHA LAD No. 165049. His yearly daughters all average over 834 lbs. of butter at 26 months of age.

GRAHAMHOLM FARMS,
H. R. Searles, Mgr., Rochester, Minn.

Sir Korndyke Ormsby De Kol 15th—21 Months Old

His sire is a son of Sir Korndyke Hengerveld De Kol; 51 A. R. O. daughters, one of whom has a 7-day record of 39.56 lbs. and several above 1000 lbs.

His dam has a record of 23.778 lbs. and now on yearly test.

Geo. H. Elwell, - Minneapolis, Minn.

HOLSTEINS—Females

We offer some very choice females, all ages, priced very reasonable. Mostly bred to our 34-lb. bull, Piebe Count Com. One or a carload.

BLACK AND WHITE STOCK FARM,
Route 3, Melrose, Minnesota

6 Good Cows For Sale

THE MINNESOTA KIND

They are all by a 36-lb. sire, are bred to a son of King Korndyke Colantha Ormsby, and are due to freshen this fall and winter. They are from 3 to 5 years old and absolutely straight and right. Lack of barn room forces us to sell.

Write or come and see them.

E. J. Brosious, - Stillwater, Minn.

We Have Half a Dozen Bulls

and bull calves that we want to move right away. Some by a 32-lb. son of Count and others by a 1,000-lb. son of Sir Korndyke Bess. Dams have good yearly records and all the way up to 30 lbs. butter in 7 days.

Flecks Farm, Faribault, Minn.

His 7 Nearest Dams

Average 29.895 Lbs.

We are offering this splendid 10-month-old youngster to any breeder looking for a first-class herd sire prospect. His dam is a 16-lb. 2-year-old daughter of a 34-lb. cow. His sire is a 38-lb. grandson of College Belle Wayne. Write or wire today for price, pedigree, etc.

BROWN BROS. Waverly, S. D.

Holstein Bulls

At Farmers' Prices

We are not in the game to get rich but to help promote the breed by offering pure-bred bulls at the lowest prices, enough to cover raising. Write for prices and descriptive list. The Ormsby kind.

RAMSEY COUNTY HOME,
J. E. McMahon, Supt., North St. Paul, Minn.

Mankato Holstein Farms

Offer a Son of

King Colantha Ormsby Bess

A Sir Pietertje—Bess Burke combination. Nine dams average over 1,000 lbs. Dam is by a brother to Pietertje Maid Ormsby. 894 lbs. butter and 21,833 lbs. milk last year. Running at a world's record gait for the year. Over 400 lbs. butter and 10,000 lbs. milk first four months. Several bulls at prices warranting their use in grade herds.

Write or better still come and see them
(Herd under State and Federal Supervision)

Marlow & Randall, Mankato, Minn.

RICHLY BRED

HOLSTEIN BULL CALVES

out of A. R. dams and sired by our two richly bred herd sires — **King Piebe Ormsby Mercedes**, a 35-lb. son of Sir Korndyke Bess and every dam in pedigree over 22 lbs. and **King Pietertje Mercedes Ormsby**, a son of Sir Pietertje Ormsby Mercedes and out of a 19-lb. senior two-year-old dam.

Herd tuberculin tested. Write for information or visit herd.

P. FROST SPAULDING FARM CO.
C. L. Spaulding, Mgr., Warren, Minn.

Richly Bred Ormsby Bulls

From Yearly Record Dams—Age 1 to 14 Mos.

Six three-year-old heifers in my herd (under ordinary farm conditions) have just finished yearly records averaging 722 lbs. butter from 16,639 lbs. milk. To make room for calves now coming on, am offering at bargain prices three grand individual sons of above cows ready for service. Act quick. Herd under Federal Supervision.

F. A. STILLINGS, Frazee, Minn.

"DUKE"

The only place you can buy sons of serviceable age sired by DUKE PIETERTJE KORNDYKE ORMSBY

The bull selling at the last Minnesota state sale for $33,000.00 is from the herd where he stood for three years prior to the sale. "Duke's" dam now has three records above 1,000 pounds, the last one was 1,190 pounds.

Now is the opportune time to buy one of these bulls as their sisters will be given every opportunity. Get a son now and be in line. Clean bulls from a clean herd. Prices reasonable. Write

EDW. H. ULRICH, Biscay, Minn.

COME TO BISCAY

for your next purchase of pure-bred or grade Holstein cattle, mature or young stock. Large selection, also a few select male calves to offer. Located near station

BISCAY SALES CO., BISCAY, MINN.

Edinboro Lake Farm

Show Type HOLSTEINS Production

Six state yearly record champions 1918-19.

We offer bull calves by Sir Paul Veeman Hengerveld and Sir Ormsby Skylark Fredericka, out of yearly record dams with type.

Edinboro, Pa.

SONS

of Sir Echo Sylvia Johanna —

⅞ Brother to the $106,000 Bull

From high bred fine individual A. R. O. cows up to 30 lbs. Several on test now. All good, straight individuals, backed by lots of milk and butter. Some are ready for service. Priced very low. Write for catalog.

(Herd Under Federal Supervision)

CHESTNUT HILL FARMS,
G. A. Burdick, Mgr., Gibsonia, Pa.

Good Seed Means Bigger Profits



Better Cattle
Mean More Money
In Dairying

River Meadow Farms

Have, for thirty years, supplied such cattle to appreciative dairymen. On our several farms over 400 head of grade and pure-bred cattle are kept, offering the widest selection to buyers. Quality and Reliability are the foundation of our business.

For beginners in the dairy business we suggest a pure-bred bull calf and as many grade or pure-bred heifer calves as possible. We take pride in supplying such orders.

RIVER MEADOW FARMS, Portlandville, N. Y.

YEARLING BULL

READY FOR SERVICE

Here is a show bull whose dam has a three-year-old record of 23 lbs. butter and 511 lbs. milk. His sire's dam is a 31-lb. daughter of LORD NETHERLAND DE KOL, while his sire's sire is by a son of KING OF THE PONTIACS.

Write for pedigree.

G. BURLINGAME, Cazenovia, N. Y.

Holstein Bull

Tuberculin tested and ready for service. Sired by King of the Changelings, a 33-lb. son of King of the Pontiacs. Dam, a daughter of a 33-lb. sire and has an A. R. O. record of 15.57 lbs. butter in 7 days at two years of age, averaging almost 4%. He is well grown and a splendid individual. First check of $175 takes him.

HARRY W. PETZOLD, Owego, Tioga Co., N. Y.

Registered Holstein Bulls

4 Yearlings, 7-4 to 6 months old
$100.00 and up if taken soon

All sired by 30-pound bulls. Out of A. R. O. dams with records made on the farm running from a 17-lb. two-year-old to 21-lb. two-year-old, and aged cows from 22 to 30 pounds. We have 13 granddaughters of King of the Pontiacs in our herd and one of his sons out of a 30-lb. dam. Also a grandson of Pontiac Korndyke out of 1,105-lb. dam, 30 pounds, 7 days.

C. A. PARKS, Mgr. Assumption, Ill.

Buffalo Creek Farm Holsteins

This yearly record bull calf for sale, born Nov. 28, 1919.

Name, King Lavera Ormsby No. 297926. Sire: King Pietertje Homestead Ormsby No. 221488. Dam: Lavera Hortensia Bawn 2d, No. 124734, with a record of 26,010.2 lbs. of milk and 1,050.55 lbs. of butter in a year. Write for price and pedigree. This calf won 5th premium at the Dairy Show.

Herd under Federal Supervision.

H. L. BINGHAM, Supt., Arlington Heights, Ill.

Whitehurst Farms

BULLS FOR SALE FROM SEMI-OFFICIAL DAMS. Priced Right.

A. F. Randolph, Prop., Canton, Ill.

ORIGIN FARM

HORNLESS HOLSTEINS, Registered and A. R. O. Animals, all ages, for sale. Federally Tested.

GEO. E. STEVENSON, Scranton, Penna.

Fairhurst Herd

On the Accredited List

We offer young bulls, fine individuals and well grown. Sired by 33-lb. bull and from dams with records up to 30 lbs. Write for pedigree and price.

KITTLE BROS., Holland, Ohio.

Yearling Bulls

From 21-lb dams. One has 662 lbs. butter, over 17,000 lbs. milk at three years. By proven bulls with daughters up to 30 lbs. Best of Ormsby and yearly record backing. Good size and type. Guaranteed to please and stand a 60-day retest. Priced to sell. Write

RIVAL STOCK FARM, Laurens, Iowa

Bull of Ormsby Breeding

We offer Chief Segis Lyons Ormsby No. 280751 Born March 8, 1919, a grandson of Sir Pietertje Ormsby Mercedes 41st. His sire a 33-lb. bull; his dam a granddaughter of Sir Pietertje Ormsby Mercedes, who had more 1,000-lb. daughters than any other sire in the world. Also some splendid bull calves ready for service, from A. R. O. dams. Herd tuberculin tested. Write for prices.

Schermerhorn Farms, Mason City, Iowa.

A Son of LIEUTENANT RAG APPLE

from a ⅞ths sister to a 948-lb. junior two-year-old daughter of a 1,281-lb. cow. $100.00. Let us tell you about him. Serviceable.

BLUEBELL FARM, Riceville, Iowa

HOLSTEIN CATTLE

E. W. McNitt, Route 9, Grand Rapids, Michigan, writes:

"We bought our first registered females in 1906, and now we have over one hundred head of females and several good sires, and we think we owe our success mostly to the Holstein breed. We can sell them faster than we can raise them."

Send for Free Booklets

The Holstein-Friesian Association of America

101 American Building, Brattleboro, Vermont

Here He Is — K. P. O. P. 26th



K. P. O. P. 26th

He'll Suit You

K. P. O. P. 26th was born Nov. 6, '20. He is growing fine and is a good show prospect. His dam, North River Lady Mechthilde, is now going strong on yearly test. One of her sisters is a world record cow with 986 lbs. butter in 305 days as a 3-year-old and 1,142 in a year as a 2-year-old. Another just made over 32 lbs. and is going for the year. His sire is King Pietertje Ormsby Plebe, the leading yearly record and show sire of the breed at present. We've priced this fellow to sell and are offering easy terms of payment.

Hargrove & Arnold, Norwalk, Iowa

Herd under Federal Supervision



Lakeside Farm Herd

The records of his dam, dam of sire, and dam of grandsire, average 31.33 butter 7 days, milk 548.84. This bull was 2nd prize winner in New York State Fair in class of thirty. His dam was also prize winner in same show. Send for pedigree. Herd under State and Federal supervision.

E. A. POWELL, Syracuse, N. Y.

A 26-Pounder For Sale

A handsome, large, straight bull calf born Nov. 8, 1920. White in color except a few black spots. Sired by my De Kol Hengerveld Burke bull, and out of a very large, straight, square, handsome cow with a perfect udder and teats. This cow recently made in a 7-day official test 552.0 lbs. milk and 26.14 lbs. butter. Her sire is the best son of Pontiac De Nijlander, the champion butter cow of the state of Michigan. $300.00 will buy him.

A few others for less money out of cows with records up to 24 lbs.

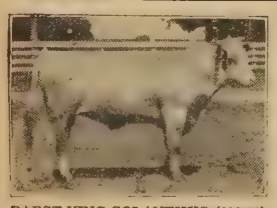
I. M. SHORMAN, - - - - - - Fowlerville, Michigan

A Few Splendid Young Bulls

ZEHRINGHURST HOLSTEIN FRIESIANS

for sale that have show ring type, that are backed by 7-day and yearly records and by the best productive breeding in Ohio. They are from an accredited herd, are guaranteed right and are priced to sell.

Zehringhurst Farm, Germantown, O. Oscar O. Zehring, Prop.



PABST KING COLANTHUS (206276)

We Offer A Son Of

PABST KING COLANTHUS 206276

and our fine Show Cow

LISLE SEGIS LADY LAHMAN 464038

Born December 7th, 1920

His Dam made at 2 years, 1 month—S. O. Record 14,383 pounds Milk and 612.27 pounds butter

Price $250.00

THE HOME OF 2 WORLD AND 4 STATE RECORD COWS

Holstein Bull Calves For Sale

A few exceptional individuals ready for Service.

Write for our Bull Sale List.

LISLE FARMS CO., Lisle, Illinois



FRANSJE BEAUTY FAYNE

—$400 Buys A Son of this Cow

Milk	504.90
Butter	23.45
In 7 days	
Milk	21,770.00
Butter	876.00
In 365 days, not yet reported	

She is a daughter of SIR JOHANNA FAYNE, who now has 12 daughters over 20,000 pounds, 20 daughters average over 20,000 pounds milk and 850 pounds butter.

Her calf, born Feb. 23, 1920, sired by a 21-pound son of Admiral Gelsche Hamilton, with 41 A. R. O. daughters, is a well grown calf about 2-3 white.

Send for pedigree and photo. Herd under FEDERAL SUPERVISION.

IOWANA FARMS, Davenport, Iowa



SADIE CORNUCOPIA EIBERTJE

Her Son For Sale—

This cow was 2nd prize A. R. cow and 3rd prize 4-year-old at Dairy Congress, 1920. She is by the best son of the 1st 30-lb. cow and has a 20-lb. 2-year-old record with 510 lbs. butter in 345 days. Now on test as a 4-year-old with 400 lbs. butter in 1st 6 months. Her dam 530 lbs. butter in 10 months; next dam 516 lbs. butter 365 days at 2 years. Calf is by Woodcrest Sir Clyde, who is from a 33-lb. and 970-lb. dam; born May, 1920. More black than white. Given a Federal Certificate of Health.

Write for photo and pedigree today.

W. B. BARNEY & SONS, - - - Chapin, Iowa.

Oneida Community Dispersal

FIFTY DAUGHTERS OF
Ormsby Lilith Clothilde

Is from the same dam as King Segis Pontiac Count and by the same sire as Ormsby Korndyke Lad.

160 Head

Syracuse April 12-13





ONYX PLEDGE RELIANCE as a 2-year-old has 10,000 lbs. milk in the first six months. Her dam has 1,100 lbs., strictly official.



ONYX LILITH. Her dam has 1,100 lbs. butter and 26,900 lbs. milk, strictly official. An Ormsby daughter.

This is a complete dispersal of the Oneida Community herd. One hundred sixty head, approximately one hundred thirty-five of which are females and includes fifty daughters of Ormsby Lilith Clothilde.

Both long and short time work has had attention in this herd and while very creditable 7-day records have been made, we have given more attention to the ability of the cow to produce throughout the year, because the Oneida Community herd was established for the purpose of supplying our employees with a high grade of milk and we demanded a cow that could stick to it for a year.

The herd has been shown with good results. At the New York State Fair in 1920 in addition to capturing the junior female championship and first get of sire, they also won second place on 3-year-old bull, first and fourth prize 3-year-old cow, second prize junior and senior yearling, first and second senior heifer calf, first young herd and third produce of dam.

A feature of the sale will be the Onyx and Jennie Grant families, the former headed by Onyx Pledge Dawning, a 32-lb. cow that made over 1,100 lbs. butter and 26,900 lbs. milk in a year, strictly official; the latter headed by Jennie Grant De Kol 2d that has just finished her year with over 23,000 lbs. milk and produced the junior champion female at the 1920 New York State Fair.

In the Onyx family are five daughters of the old cow, two of them twins sired by the Ormsby bull. Another of the daughters as a 2-year-old has produced over 10,000 lbs. milk in the first six months of her year. This is a marvelous family for someone.

The Jennie Grant family includes the foundation cow, two daughters and a granddaughter.

We are proud of both these families.

The fifty daughters of Ormsby Lilith Clothilde with their sire present one of the greatest opportunities Holstein breeders have had in some time. This bull sired the first prize get of sire at the 1920 New York State Fair. His offspring are very uniform, growthy, splendid individuals and with the breeding they have ought to become producers of merit. His two nearest dams are both semi-official cows and many of the dams of the heifers have completed yearly records. Those who are looking for a great sire or a large number of daughters of any one bull will find these to their liking.

Every animal in the sale will be represented to the public exactly as the animal is known to be. Buyers can attend the sale and purchase with the full knowledge of securing an animal just as it is represented.

The Oneida Community is a working herd. It was established to produce milk and we have aimed to breed milk producers. The man who wants to buy good individual, persistent producing, well bred animals that are as free from any infectious disease as is humanly possible to determine, should attend this sale.



JENNIE GRANT AAGGIE, a maternal sister to the junior champion at the 1920 New York State Fair.



LILITH ONYX. Her dam has 1,100 lbs. butter and 26,900 lbs. milk, strictly official. An Ormsby daughter.



ONYX PLEDGE ALMA. Her dam has over 1,100 lbs. butter and 26,900 lbs. milk, strictly official.



JENNIE GRANT LILITH, junior champion at the 1920 New York State Fair. An Ormsby daughter.

Guaranteed Under Retest Wherever They Go

Arrange Your Sale Trips to Include This One

A DISPERSAL OF A REALLY GREAT HERD

Several of the daughters of Ormsby Lilith Clothilde have been crossed with Dutchland Colantha and Colantha Aaggie Clothilde, both sons of the famous Colantha Johanna Lad and from noted dams. There will be several cows with records up to 29 lbs. in 7 days, and daughters of dams up to 37 lbs.

The Catalog is Ready

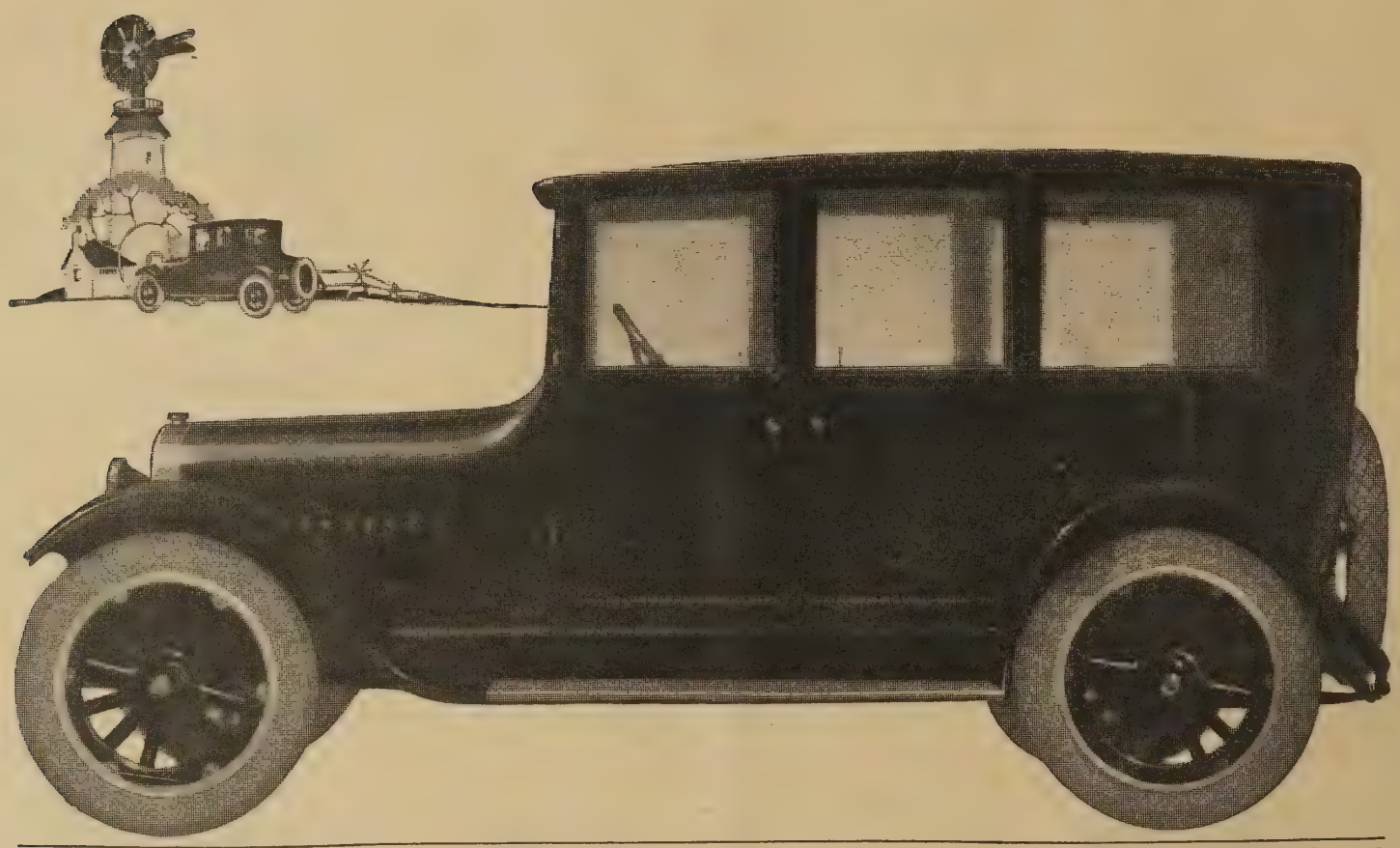
LIVERPOOL SALE & PEDIGREE CO.

Liverpool, New York

One of the attractive features will be a young son of the great foundation cow, Onyx Pledge Dawning with a strictly official yearly record of 1,127 lbs. butter and 26,900 lbs. milk. This calf is sired by Ormsby Lilith Clothilde, his dam with over 1,000 lbs. butter and 22,000 lbs. milk. This calf, just a youngster, ought to be placed in some prominent herd. The Onyx family is one of the greatest we have owned, as buyers will appreciate when they see them in the sale ring.

Oakland

OAKLAND OWNERS REPORT RETURNS OF FROM
18 TO 25 MILES PER GALLON OF GASOLINE
AND FROM 8,000 TO 12,000 MILES ON TIRES



THIS OAKLAND SENSIBLE SIX SEDAN IS POWERED WITH THE FAMOUS 44-HORSEPOWER, OVERHEAD-VALVE OAKLAND ENGINE

YOU cannot justly judge the present Oakland by its purchase price alone. The car embodies far more than this moderate figure can possibly indicate. Its powerful six-cylinder, overhead-valve engine, its strong yet lightweight construction, the pronounced economy of its operation—these, and such as these, are the true index of its worth.

OPEN CAR, $1395; ROADSTER, $1395; FOUR DOOR SEDAN, $2065; COUPE, $2065
F. O. B. PONTIAC, MICHIGAN. ADDITIONAL FOR WIRE WHEEL EQUIPMENT, $85

OAKLAND MOTOR CAR COMPANY
Pontiac, Michigan

OAKLAND
SENSIBLE SIX

Reading Room
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HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING



Fort Atkinson, Wisconsin Volume LXI; No. 11 April 1, 1921

A De Laval will bring prosperity to your farm



A De Laval Cream Separator saves and serves twice a day, every day in the year. It is the producer of a steady, never-failing cash income during every month, regardless of season or weather.

Its saving of butter-fat alone is so great that the De Laval pays for itself in a short time and then the extra profit is yours—to provide more comforts and conveniences, to buy new stock or equipment, or to save.

The De Laval Separator eliminates the drudgery of gravity skimming. It saves the cream wasted by an inefficient separator, and it lasts a lifetime. It is the most economical separator to buy. That's why there are more than 2,500,000 De Lavals in daily use the world over.

Sold only through agents, to insure you satisfactory service during the life of your machine.

See your De Laval agent now about getting a new De Laval. Furnished in a variety of sizes, in hand, power or electric drives.

THE DE LAVAL SEPARATOR COMPANY

NEW YORK 165 Broadway **CHICAGO** 29 E. Madison Street **SAN FRANCISCO** 61 Beale Street

Sooner or later you will use a De Laval Cream Separator or Milker

HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING

Volume LXI — FORT ATKINSON, WIS., APRIL 1, 1921 — Number 11

The World's Largest Hay Market

The Story of Hay From Producer to Consumer—Valuable Lessons for Buyers and Sellers of Hay

SANDERS SOSLAND, MISSOURI

THE evolution of the hay market of Kansas City is synonymous with the evolution of the forage producing and distributing industry of the United States. The industry was developed around Kansas City, which now ranks as the world's largest market in the distribution of alfalfa, prairie, and other varieties of hay. It is the primary market to which thousands of dairymen in various parts of the United States look for their requirements of the "wonder plant", alfalfa; also, where thousands of producers turn for the most profitable outlet for the hay for which they have no consumptive outlet in their immediate vicinity.

An indication of the remarkable growth of the hay market in Kansas City is the fact that a total of 46,559 cars of hay were actually received and handled there in 1920, establishing a new record for that or any other terminal. Twenty years ago the annual arrivals of hay in Kansas City were less than 15,000 cars. In addition to the hay actually received in Kansas City, the dealers operating on that market handled approximately 50,000 cars in 1920 which they sold direct from producing to consuming sections.

Most of the hay received and distributed by Kansas City dealers is made up of alfalfa shipped from Kansas, Nebraska, Oklahoma, Colorado, Idaho, Utah, Wyoming, Nevada, New Mexico, Arizona, and other western producing states. In the past year alfalfa receipts made up more than half of the total arrivals, 24,479 cars being received, by far the largest twelve-month total. Alfalfa has made the most remarkable progress as a commercial product. In the preceding year only 17,676 cars were received in Kansas City, and in 1907 only 2,841 cars. Only twenty-three years ago the first car of alfalfa was received in Kansas City, which was the first car of the legume handled as a commercial product. The great enlargement in the movement of alfalfa also is a clear index of the remarkable growth of the dairy industry of the United States.

In the period during which alfalfa has broadened both in production and consumption, there has been a serious slump in prairie, due largely to the shrinkage in the number of horses in cities which are being replaced by the automobile and motor truck. In 1912, for example, Kansas City received more than 20,000 cars of prairie and only 8,000 cars of alfalfa; last year the prairie arrivals aggregated only 13,967 cars.

Locating a Commission House

I have been requested by a reader of Hoard's Dairyman to give a detailed description of the Kansas City hay market, and to trace the hay from the producer to the final consumer, also "to give all the information one should know if he had hay to sell or wanted to buy on order from the market," as the subscriber wrote.

For the producer with a surplus stock of hay the first question, of course, is to locate a reliable commission firm to handle the hay. In Kansas City an organization known as the Kansas City Hay Dealers' Association, generally recognized as one of the most powerful bodies of business men in the country, controls the sale of forage. Merchants who sell hay in Kansas City must be members of the organization if they operate on the so-called team tracks where the hay is handled. Each member must be thoroughly reliable and strong enough financially to take care of and protect his customers. The association maintains a very careful watch on its members, too.

Thus, a dealer who is a member of the association is located. As a rule the dealer keeps his customers posted on market conditions, the outlook for prices, demand, and supply, often suggesting the time for shipment, and even advising at times the quality of hay which should be shipped, whether fine, leafy hay or medium green or coarse grade, depending on the trade.

Baling and Loading Hay

The hay, of course, must be well baled—the better the baling the higher is the commercial value of the hay—and then loaded on cars. Incidentally, there is need for far greater care and caution in loading hay than now generally practiced by shippers. Hay should be loaded on edge, not flat, and the car should not be loaded too heavily. There is a tendency to load the bales flatwise and crowd the cars, owing to the high freight charges, but heating in transit often results, particularly if the hay is not thoroughly dried before loading. Loading on edge permits the free circulation of air through the car while in transit.

Plugging the Cars for Inspection

Cars loaded with hay are switched to team tracks maintained exclusively for the handling or inspection and sale of forage, these tracks in Kansas City providing for the handling of at least 400 cars daily, with facilities, of course, for plugging. In plugging the hay, which is one of the requirements of the Kansas City Hay Dealers' Association, 45 to 60 bales are removed from every car, these bales being taken out from each side of the car to allow complete inspection of the contents. Not alone is the hay actually plugged available for thorough inspection, but prospective buyers can go through the car and inspect every bale.

Such inspection is the outcome of practices by some "slick" shippers in loading very poor hay in the ends of the car and excellent colored hay along the doors. Car door inspection is now obsolete in Kansas City. After cars are plugged, the chief inspector of the association, V. K. Spellman, next "makes the rounds" of the team tracks estimating the grade of the contents of the cars. Often, if there is a musty or unusual odor or any unusual condition, the inspector turns over many bales to arrive at his grading. As to the grading ability of the inspector, re-inspection is called upon an average of only one car in 5,000. The inspection committee of the association, therefore, is the most inactive group in the organization.

Buyers walk along the tracks and inspect the plugged bales and the contents of the plugged cars. They seldom buy according to the grade established by the inspector, for the buyers are thorough students of quality and they usually know the character and type of hay demanded by customers. One customer may require fine leafy alfalfa and he is willing to pay a premium for such hay, another may call for sound, brown alfalfa, possibly brown and coarse alfalfa for milling into alfalfa meal. When a car is found meeting the requirements of their orders, trading is begun. Possibly the seller has several prospective buyers and bids for the same car, and the pro-

(Continued on page 464)



THE KANSAS CITY HAY MARKET

Plugged cars of hay on one of the tracks of the Kansas City market awaiting buyers. The buyers, as well as the official inspector, can enter each car to inspect the contents carefully and at the same time examine the plugged bales. Kansas City has tracks with a capacity of 700 cars set aside for its hay business. The negro workers plug the cars and reload the half after its inspection and sale. The first car at the left was graded "standard alfalfa" by Inspector V. K. Spellman, Secretary of the Kansas City Hay Dealers' Association.

Some Effects of Deep Plowing

J. L. JUSTICE, INDIANA

DOES a farmer get any better yields or derive any advantages through deeper plowing brought about in farming with a tractor? That was a question we discussed one day at a local meeting of tractor owners who had come together to discuss problems of farming with a tractor. Deeper plowing is one of the advantages claimed for tractors by most manufacturers and, while claims may be drawn pretty strongly by many agents for tractors, there is plenty of testimony from the real farmers who farm with their own tractors to prove that some advantages are derived from deeper plowing than is usually done with horses.

Here on our farm we used to plow from five to seven inches deep before we bought a tractor. We usually plowed deeper for corn and potatoes than for other crops because we knew better results were always secured from the deeper plowing. Where ground was plowed from four to five inches deep for corn, difficulties were met all during the season and it seemed that the yields were invariably lower. I have no data to prove the



Moderately deep plowing has made this hill land more permeable, less likely to erosion, and capable of making a splendid seedbed.

statement, but I could detect the difference in growth of the crops and their reduced yield.

The tractor has made a difference in the depth of cut made in our plowing. The depth ranges from nothing to two inches deeper than with the horse drawn plows. That there are advantages gained in the deeper plowing is easily noted and that such advantages lead to a better yield is readily apparent. In the first place, the slice of dirt turned over is large and as it is shoved over into the furrow its great bulk tends to reduce it to a looser condition because of the greater friction between its particles. It settles more solidly and completely into the furrow, making a closer contact with the soil below and about it so that capillary movement of the moisture in the soil is not greatly retarded if at all. The loose, moist condition is useful in hastening the decomposition of manures and all humus forming material in the form of vegetable growth. Since the tractor travels a little faster than horses, the plows handle the slice of dirt a little more violently, helping also to reduce it to a finer state when it is turned over. A thin slice of dirt or sod is usually rolled up on the mould board of the plow and turned over in chunks or in a more compact mass.

Many good farmers have been led to buy tractors because they believed they could do a better job of plowing. I have heard a number of experienced farmers remark at tractor demonstrations and in our fields that the tractor plows were doing as good or better work than they had been able to do with horses. A good many feel that the principle reason for the better plowing done by tractors is due to the fact that deeper plowing is generally done with the tractor. I have seen some farmers put on heavy horses, set their plows down and do just as good plowing as any man could do with a tractor, but such cases are the exception, not the rule. The man who has a tractor generally has sufficient reserve power in his machine to pull his plow as deep as he wishes and not feel so much sympathy for his "horses".

Sometimes I have felt that tractor owners occasionally overdo this business of deeper plowing. Perhaps



No sods turned up here when disc harrow was put on, and did you ever see a meadow plowed any finer?

they reason that if it pays to go one or two inches deeper than was done with horses they will profit further by going still deeper. Many of us would call that subsoiling. If we followed such a plan regularly I fear that we should lose much of the value of cover crops and manures and other fertilizing material that was plowed under. The best corn crops are usually those that are forced in their early growth by ideal soil conditions and plenty of plant food, and if we put the plant food deep underground it will not be available to the corn until its root system reaches down there for it. The same is true of any other crop. The tiny organisms that cause the decomposition of the fertilizing elements might be placed so deep in some fine soils that their action would be slow, as their supply of air would be partially cut off. Air does not circulate very deep in our soils. I am not opposed to subsoiling under certain conditions, but I do believe that it ought to be accomplished by a gradual deepening of the plows each time the soil is turned rather than to do it in a single plowing season.

When we turn over a nice slice of soil that crumbles as it twists and settles compactly into place and leaves very little of a ridged surface behind, somehow we feel a certain pride in the results. But when we go onto this same soil with a disc harrow and leave a powdered seedbed behind that is deep and mellow, with no sods or stalks or anything to clutter up the surface, there is a feeling of genuine satisfaction that the plow has gone deep enough to put all the trash out of the way and where it may be utilized as plant food.

Shallow plowing has a number of drawbacks. It is harder, as every farmer who has tried it will testify, to make a good seedbed; and if you do get a good, fine seedbed it will more than likely be trashy. More effort is required to make a seedbed. A disc harrow, for instance, will pull easier where the soil has been plowed eight inches deep, than it will where the soil has been plowed five inches deep, and it is not so likely to turn up sods and trashy material.

It is only after doing a good job of plowing that we can do good work in the preparation of the seedbed. Much depends on the kind of plows used and whether they are suited to the character or condition of the soil. The condition of the soil has a great influence on the quality of the work being done. Plowing it too wet is bad practice and makes it harder still to make a mellow seedbed unless the soil happens to be full of humus. If we combine moderately deep plowing with favorable soil conditions we may obtain good results in the way of better seedbeds, and these are steps toward surer crops and improved yields; but there are other factors also that tend greatly to reduce or increase yields. Let's not be too quick to sink our plows beyond a reasonable depth.

What is Balance of Nutrients?

A. C. McCANDLISH, IOWA

THE expression "Balance of Nutrients", is frequently used in an unbalanced way. It means that not only should the requisite amounts of digestible nutrients be supplied but also that proper relations should exist between the various digestible nutrients present and between the digestible and indigestible portions of the ration.

It has been shown that to a considerable extent the main classes of nutrients—proteins, carbohydrates, and fats—can be used interchangeably in the animal organism; for example, proteins can be used for the building up of body fat and the functions of the fat of the ration can be almost completely taken over by the carbohydrates. In spite of this, however, no one nutrient, or group of nutrients, should be used to the exclusion of any other if the best results are desired.

Proteins are absolutely essential for the repair of body tissues and the formation of the nitrogenous constituents of the foetus and the milk, while the majority of the other duties performed by proteins can be taken over by the carbohydrates and fats. It does not pay, however, to feed just the minimum amount of protein required for these vital processes as additional protein appears to have a stimulating effect on general metabolism and consequently on milk production. On the other hand again, proteins are, as a rule, much more costly than are the other nutrients and so too much protein in the ration will render milk production uneconomical. It is evident, therefore, that a balance must be preserved between the nitrogenous and non-nitrogenous constituents of the ration and the exact balance to be used must be determined by the requirements of the individual animal and the relative costs of the various nutrients.

Similarly, carbohydrates and fats can be used interchangeably for certain purposes and yet a proper balance, from the nutritional and economic standpoint, should be maintained between those two classes of nutrients.

Feeding standards recognize only the main classes of organic nutrients, no attention being paid to the ash of the feed and yet it is one of the very important constituents. One of the main reasons for the neglect to mention ash requirements in feeding standards is that, in general, ordinary farm rations contain enough mineral matter to meet the requirements of the dairy cow; and then again very little work has been done to determine the actual ash requirements of farm animals. From what work has been done it may be said that the requirements of dairy cows for some of the more important ash constituents are perhaps somewhat as given in the next table:

Ash Requirements of the Dairy Cow (From Armsby)

	Calcium gms.	Phosphorus gms.
For maintenance per 1,000 lbs. live weight	32	10
For production of 20 lbs. lbs. of milk	29	15

This demonstrates the small ash requirement of the dairy cow. Although small, it is very important and when sufficient ash for production is not present the cow will draw on her own body for the necessary constituents until her reserve supply becomes exhausted when she will decline in milk production as was shown at the Wisconsin Station where a cow used 25% of the lime in her body for milk producing purposes.

If a cow is being fed a ration that is deficient in one or more of the necessary nutrients she will draw on her own body for the supply of these nutrients necessary for milk production, and when this supply is exhausted she will decrease in production. Many cows are doing this. They produce milk in fair quantities for a few months after calving, not because their ration is composed of ear corn, timothy hay, and cornstalks, but in spite of it. However, after they have drawn upon their bodies as long as they can for the nutrients necessary for milk production they rapidly decline in their yield of milk. When they are dry again they store up in their bodies nutrients to be used for milk production during the next short lactation period.

A proper balance of the nutrients—protein, carbohydrates, and fat—should be maintained in the ration but just what that balance should be is rather difficult to state. However, it may be said that the best results will usually be obtained when the nutritive ratio of the ration—the ratio of the digestible crude protein to the digestible carbohydrate equivalent—is between 1:4½ and 1:6. The balance of nutrients required by a cow depends on a considerable number of factors, but only the more important ones can be considered here.

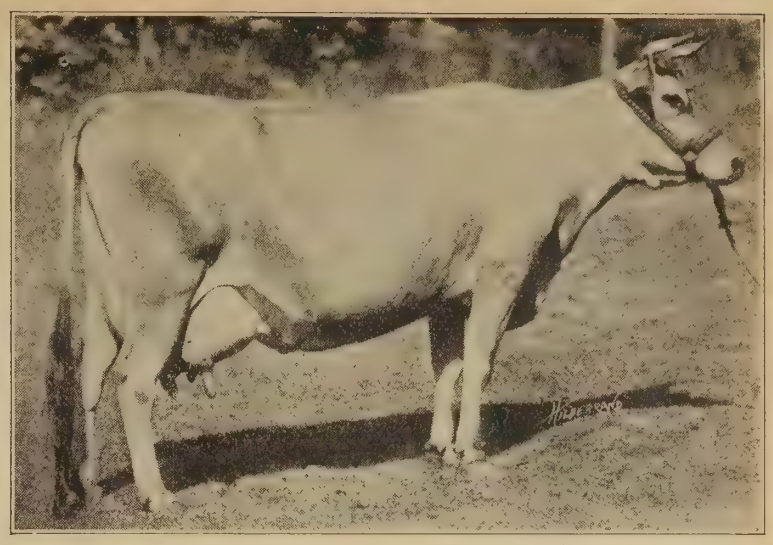
Age

Young cows are still growing while they are producing milk and their ration should provide the nutrients required for this growth, and thus a ration for milking heifers will require

(Continued on page 473)



EMINENT'S FOXY BELLE HAS A RECORD AS A THREE-YEAR-OLD OF 14,920 LBS. MILK, 816 LBS. FAT. SHE STANDS THIRD IN THIS CLASS IN AMERICA



PILOT'S ROCKLAND BEAUTY HAS A RECORD OF 13,303.1 LBS. MILK, 767.39 LBS. FAT

WAIKIKI JERSEYS

TO appreciate fully the character of Jersey cattle kept on Waikiki Farm, Washington, requires a personal visit. We have never seen a better herd of developed and high producing Jerseys. There is something appealing in the general conformation and the dairy talent of the cattle in this herd. They are large, strong, and robust individuals, indicating by their type that they have unusual dairy capacities, and they are proving it by the records they are making. A cow that will not produce at least 700 lbs. of fat in a year is not considered up to Waikiki standards.

Waikiki Farm is owned by Mr. J. P. Graves. He has owned the land in this farm for many years but only recently has he given close attention to its development. For many years Mr. Graves was engaged in building railroads and later became interested in the largest copper mine in the British Empire. His large business activities kept him away from farm life which is so attractive and so wholesome to him, but for the past eight years he has made his home on his 1,000-acre farm.

Two hundred and fifty acres of this farm are nestled in a valley and, rising on several sides, are the mountains. These 250 acres are devoted entirely to pasture which is well supplied with springs and flowing wells, hence the name "Waikiki", meaning "lots of water" in the language of the Hawaiian. About 160 acres of the upland are devoted to the growing of crops. Chief among them are sunflowers for silage and rye for early pasture. The rye pasture comes on so that in February it is large enough to graze and furnishes splendid feed until the pasture in the valley is ready to receive the cattle.

Mr. Graves' early experience was with Shorthorns but he found that they were not adapted to his style of farming. He then chose Ayrshires. At about the time he had established a good herd, a dog, suffering from hydrophobia, bit 38 head and caused their death. He disposed of the rest and then chose Jerseys. For the past fifteen years he has been breeding Jersey cattle and has attempted to develop a herd of unusual production, bearing in mind the necessity of keeping the animals as uniform in type as possible. He desires strength in his cows, not only for the production of milk but for reproduction. The production of strong, vigorous young animals is as important a part in the breeder's operation as is the production of high capacity cows, for the calves ultimately become cows.



EMINENT PILOT, SIRE OF 18 R. OF M. AND 3 GOLD MEDAL DAUGHTERS

Waikiki Farm owns 250 pure-bred Jersey cows and is the largest Jersey establishment in the Northwest. Forty-five of these cows are on Register of Merit test. The total number of cows milking on the farm is 125.

Mr. Graves recently purchased a few Holsteins and expects to develop the same character of Holsteins as he has Jerseys. He will soon construct a barn which will hold 60 milking Holstein cows. There is reason to believe that he will be as successful in the development of the Holstein cow as he has been with the Jersey.

The bull, Eminent Pilot, has contributed more to the breeding of this herd than any other sire. On the maternal side of his pedigree is found the blood of the St. Lamberts, the Stoke Pogis, and the Rioters. His sire is Eminent Imported, rich in the Golden Lad blood. Eminent Pilot is the tenth Gold Medal bull of the Jersey breed. The accompanying illustrations of four of his daughters show the character of cows he has sired.

It will be noticed that Pilot's Model of Waikiki is an unusually well typed animal. There are a number of such cows in the herd by Eminent Pilot. Eminent's Nelly Sultan shows a cow of strong dairy development but not quite the type which the breeder might seek. She is not the kind to be discarded, because she possesses wonderful dairy qualities. The cow, Eminent's Foxy Belle, with a record as a three-year-old of 14,920 lbs. of milk and 816 lbs. of fat, is another of Eminent's daughters which shows the character of cows on Waikiki Farm.

The present herd bull is Sultan of Rockland, a R. of M. son of Eminent Pilot and out of Sultan Nelly of St. Martins with a record of 16,217.7 lbs. milk and 755.86 lbs. fat. It is the idea of Mr. Graves to develop the blood of Eminent Pilot for he appreciates it would be difficult to improve upon the dairy talent of this bull's daughters.

Mr. Graves has exhibited his Jerseys at the various fairs and expositions on the Pacific Coast and has won many blue and champion ribbons. The cattle taken to the fairs have not been his highest producing animals. He has found that it is not the easiest thing to get the type which will win prizes in the show ring to produce the highest records. At times he has felt like purchasing a show herd for exhibition purposes at fairs and expositions and to advertise his cattle. This does not appeal to us as being the logical course to pursue. We believe he has many cows in his herd that the show ring ought to recognize, and Pilot's Model of Waikiki is one of them.

It is the breeder's duty to not only create high producing cows but to have them beautiful in form, and it is the duty of the show ring to recognize not only the type which is beautiful but that which also shows production. We recognize it is held by many that the show ring simply has to do with type and not production. We will not discuss this point here, but we do think that a herd of Jerseys so well developed and capable of as large production as those on Waikiki Farm, and many of splendid conformation, should have an opportunity to be recognized in the show ring and that the owner should not be led to consider the purchase of a herd simply for exhibition purposes.



EMINENT'S NELLY SULTAN HAS PRODUCED 16,217 LBS. MILK, 756.08 LBS. FAT IN ONE YEAR



PILOT'S MODEL OF WAIKIKI, GOLD MEDAL JERSEY COW, WITH A RECORD OF 16,076 LBS. MILK, 746.8 LBS. FAT. SHE WAS GRAND CHAMPION AT THE 1918 SPOKANE INTERSTATE FAIR

ELECTRICITY FOR FARM LIGHTING

A. G. TYLER, Minnesota College of Agriculture

ALL things considered, electricity is probably the most satisfactory medium for lighting farm buildings. It is not as cheap as some other forms nor is it so easily installed, especially in an old house, but once in service it has advantages possessed by no other system. Electricity may be bought from a lighting or power company if there happens to be one conveniently near or it may be generated by means of an engine and dynamo and used in connection with storage batteries. When it is taken from a power line a transformer is generally necessary in order to reduce the voltage down to where it is safe for the ordinary person to handle. The first cost of this transformer is quite high and is generally borne by the consumer but there is practically no maintenance expense. Rates for light and power vary to such an extent that it is difficult to say which is the cheaper, to buy or to make. Ordinarily, however, when a company or person goes to the expense of making a product and delivering it to you, you expect to pay them for their trouble. If you make the thing yourself and deliver it yourself it is only reasonable to think that it will be cheaper in dollars and cents, but the time expended may make it a very costly article. The aim of all concerns who make rural electric lighting outfits has been and is to make them just as simple as possible so that a minimum of time and special knowledge will be required. This is shown by the fact that most of the plants will practically run themselves; indeed, one or two will actually start and stop themselves.

The usual method employed in these small systems is to generate electricity by means of an engine and dynamo and to "store" this energy in "storage batteries". The term storage battery is a misnomer since the electricity is not actually stored as you would store wheat in a granary or put water into a jug. It does, however, produce or induce a certain chemical action which is somewhat analogous to the freezing and thawing of water.

Amperes and Volts

Before making any attempt to explain the action that takes place, it may be well to define the units that are used in connection with electricity as it is ordinarily used on the farm.

Whenever a thing or substance of any kind is handled or measured some sort of unit or units are necessary; for instance, bushels, pounds, feet, etc., the corresponding electrical unit being the coulomb. Whenever work is done time must be considered, thus bushels per day, pounds per hour, feet per minute, etc., the electrical unit indicating time and quantity is the ampere. In other words, ampere means rate of flow of electrical energy. The amount of work done or the distance an object is moved is always directly proportional to the speed or pressure exerted. The electrical unit of pressure is the volt. There is always a certain amount of friction to be overcome when an object of any kind is moved. The electrical unit of friction or resistance is the ohm. Briefly, an ampere is the amount of current which will flow in one second through a conductor having a resistance of one ohm when the pressure is one volt.

To return to storage batteries, if two different substances such as copper and zinc are placed in a weak solution of acid and water and these substances are connected by a wire outside of the solution, an electric current will flow through this wire. The strength of this current will depend upon the substances chosen for the electrodes, the kind and strength of the acid solution, and the resistance. The action that takes place in the cell is too complicated to be spoken of in detail in this article but, roughly, one electrode goes into solution and is carried across and deposited upon the other electrode. The strength or speed with which these particles go from one electrode to the other is the voltage or pressure produced by the cell, while the number or quantity going from one electrode to the other indicates the amperage. If a cell will give up electricity only it is known as a primary cell, if it will both take in and give out electricity, it is known as a secondary cell. A storage battery is a number of secondary cells connected together in a certain way.

There are a number of types of secondary cells which are used in storage batteries but only two of the more important ones will be spoken of. Until recently the large majority of storage batteries were of the lead-acid type and this type probably still predominates but another kind known as the nickle-iron battery is becoming quite popular.

The lead cell consists of positive and negative electrodes immersed in a solution of dilute sulphuric acid. The positive electrodes or plates are lead peroxide while the negative plates are pure sponge lead. The terms positive and negative simply indicate from which and to which the particles are traveling. The action is always from negative to positive when the current is going out and from positive to negative when the current is going in. When current is being taken from a cell of this kind the lead peroxide goes into solution as lead sulphate, part of which is deposited on the other plate as pure lead. If the electrolyte is too strong, that is, contains too much acid, the plates will be eaten up. The positive plate is attacked as well as the negative but the action is not so rapid.

When a cell is first put in use the acid in the electrolyte tends to and does go into the plates leaving the solution weak, that is, nearer pure water. When the cell is charged some of the lead is changed to lead sulphate, the lead is carried across and plated on the other electrode leaving the acid in the solution. Since acid is heavier than water the specific gravity of the electrolyte will become greater. By testing this electrolyte with an hydrometer from time to time the condition of the charge may be noted. If the specific gravity is low, the cell needs charging; if it reads a certain amount, generally 1.300, the cell is fully charged. If the cell or battery is kept fully charged, it will not freeze, due to the large amount of acid in the solution.

With lead cells the only attention needed, aside from keeping them charged, is to add water from time to time. This water must be pure if the cell is to give good satisfaction. Distilled water or rain water caught out in the open in an earthen dish is the best. Well water practically always contains the salts of some minerals which would be harmful to a cell. The more a battery is used the more the cells will need filling. The water not only evaporates but is also changed to gas by the electricity. Notice the bubbles that rise to the top when a cell is being charged; this is the action known as electrolysis of water. If the electrolyte is allowed to get low in the cell it becomes stronger, that is, there is more acid in proportion to the amount of water than there should be. The result is that the plates tend to be eaten away by the strong acid and the wooden separators are apt to be destroyed.

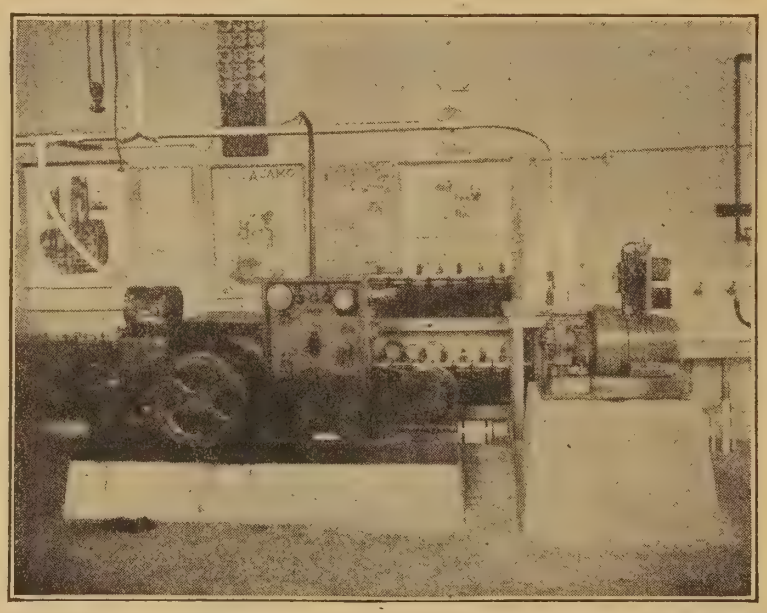
Storage cells are made in many different sizes but the majority deliver their current at a pressure of about two volts, a little more when fully charged and a little less when nearly empty.

The action which goes on in the nickle-iron cell is quite similar although the electrodes and electrolyte are entirely different. The positive plate is nickle oxide and the negative pure iron. The electrolyte is a solution of caustic potash, a strong alkali instead of an acid.

The voltage of the ordinary nickle-iron cell is somewhat lower than that of the lead cell being about 1.2 volts, consequently to deliver current at a certain voltage, more nickle-iron cells will be required than of the lead type.

The makers of the nickle-iron cell claim that it will stand more abuse, that it is lighter in weight, that it will stand charged or discharged for any length of time without injury, and that it will last longer than the lead cell. The lead cell makers say that their cells deliver higher volt-

(Continued on page 460)

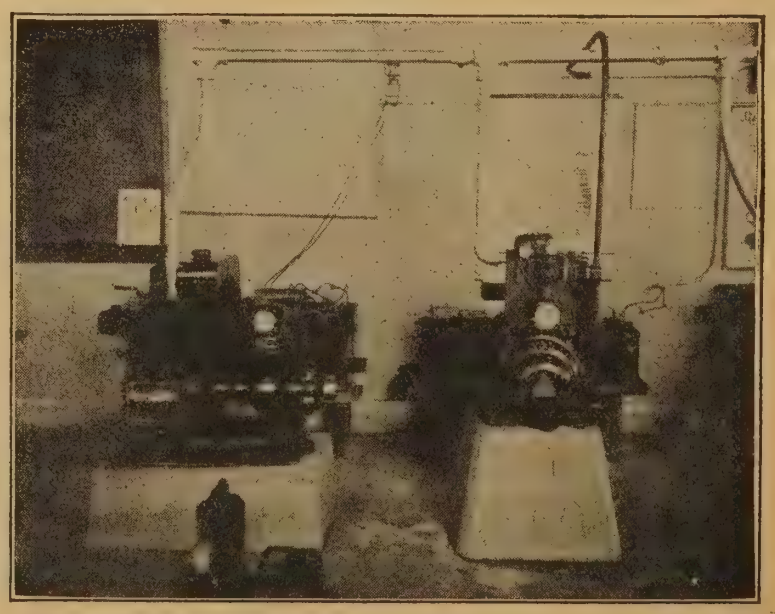


Belted and small high speed unit types of small lighting plants. Note the arrangement of batteries on the right. Each cell is in plain sight and easily gotten at. Good foundations are very desirable.

Data Used in Computing the Size of a Lighting Plant

A	B	C	D	E	F	G	H	I
Location of lights	Number of lights	Hours in use	Lamp hours (BxC)	Size of lamps in watts	Amperes per lamp	Amperes per location (BxF)	Ampere hours (DxF)	Watts (BxE)
Kitchen	1	5	5	20	0.625	0.625	3.12	20
Dining-room	2	2	4	20	0.625	1.250	2.50	40
Living-room	2	4	8	25	0.781	1.562	6.25	50
Bedrooms	4	1	4	15	0.469	1.876	1.87	60
Halls	2	2	4	10	0.313	0.625	1.25	20
Bathroom	1	2	2	20	0.625	0.625	1.25	20
Basement	1	1	1	15	0.469	0.469	0.47	15
Porches	2	1	2	10	0.313	0.626	0.62	20
Barn	6	2	12	10	0.313	1.878	3.75	60
Total	21					9.536	21.08	305

(From "Equipment for Farm and Farmstead" Ramsower)



Good examples of unit and semi-unit types of small lighting plants. Note the air compressor in the foreground which is operated from pulley on end of generator shaft.

Overton Gives Michigan Dairymen Some Plain Facts

THE address of Glen Overton before the National Allied Dairy Association at Grand Rapids, Michigan, recently was full of valuable information. He stated that practically every farm in Michigan is a producer of milk or cream and that the direct returns from the sale of these products is usually the farmers' only certain and regular income. The total sale value of this product is approximately $200,000,000 per year, which is practically the equal of the total value of all other farm products.

"To handle this raw material," he says, "there are in Michigan 248 creameries, 65 cheese factories, 21 condenseries, 258 ice cream plants, 19 milk skimming stations, 1,016 cream buying stations, 939 milk distributing plants, 98 milk depots, 104 milk stores, and 1,742 milk wagons. One-half of Michigan's milk is consumed as fluid milk, a little over one-third is manufactured into butter, while the remaining one-sixth goes into cheese, condensed milk, and ice cream in about equal proportions."

The following are excerpts from this address:

"If every man, woman, and child in this country could be persuaded to use one quart of milk daily, living costs would be less, general health better, and there would not be half enough milk to go around.

"Would you believe that there are manufacturers of butter in this state who are afraid that an increased demand for milk in our towns and cities would cause a falling off in their business, and that there are distributors of bottled milk who are rather inclined to knock the condensed milk business for fear it will interfere with them; and that there are ice cream manufacturers who rather hesitate to contribute towards a fund to advertise the food value of milk for fear the demand would increase and make the sweet cream that they need in their business cost them more? And that there are producers of milk who insist that the consumer be charged more for a quart of milk than, with his present limited understanding of its food value, he is willing to pay?

"Plenty of these same producers have no larger conception of the principle underlying the stability of their own business than to think that they are showing good business judgment when they want enough for one pound of butterfat so they can purchase two pounds of oleomargarine.

"Do you realize that it is an established fact that the country child drinks less milk than the city child?

"Did you know that the consumption of butter substitutes is greater in the rural sections than in the centers of population?

"There is no question but that if every producer of milk who is now confessedly producing milk at a loss would give his family all the milk and butter they should have, the market value of these two most necessary human foods would almost double in less than 30 days.

"When we realize that there are dairy cows that produce better than thirty thousand pounds of milk per year, isn't it about time that we start seriously to replace the four to six thousand pound variety?

"There is no profit in the dairy business, never will be, and never should be for the fellow who uses a scrub sire and hasn't time to keep a milk and feed account with each of his cows. These same methods would not succeed in any other business and they won't in the dairy business.

"It takes an intelligent, industrious person who really likes his work to develop and properly care for a dairy herd, and I don't believe the time will ever come in the dairy business when such a person will not make good profits producing milk.

"Now no sane dairyman or anyone interested in the dairy business in its various phases has any quarrel with white oleomargarine sold as such; our fight is with the dairymen who buy this butter substitute and thereby cheapen the value of their own and their neighbors' product; and with the oleo manufacturer who hires 'buttermakers', builds 'creameries', and makes 'freshly churned' oleomargarine, and until we make a first class product ourselves—and then before asking the other fellow to buy it, we use it ourselves—we can blame no one but ourselves if milk and butter prices are not satisfactory.

"The poor quality of cream produced under the present system has brought about a gradual decrease in the quality of Michigan butter, so that the annual loss from poor butter alone is an enormous amount.

"Don't you know that every pound of poor inferior cream that is made into poor butter is a boost for oleomargarine?"

Farm Manure Aids State Greatly

A. W. HOPKINS, Wisconsin College of Agriculture

TIME was when the Middle West grew wheat. Wheat, wheat, and more wheat was grown in the vain hope that such bumper crops as the old timers told about would be produced. Meanwhile the soil grew poorer. A few far-sighted men saw that dairying and live stock production must be encouraged. So while others pulled up stakes, these few men told their neighbors to stick to it—dairying and live stock would save the state. And it did.

Barnyard manure has made the dairy state. Prior to 1870 the crop yields of Wisconsin steadily declined. Since that time the yields per acre have continually increased. Farm manure is the state's chief fertilizer, and farmers here, as elsewhere, are finding it decidedly to their advantage to save it as much as possible.

Leached, fired, poorly kept farm manure represents a tremendous loss to the fertility and to the wealth of any state. Well handled barnyard manure means money in the farmer's pocket.


SAVE FARM FERTILITY

FARM MANURE IS WISCONSIN'S MAIN FERTILIZER

While the farmers of some of the older states spend, each year, millions of dollars (often 6 to 7 per cent of the total value of farm products they raise) in the purchase of commercial fertilizers, the farmers of Wisconsin use them only for special crops such as tobacco and potatoes or to supply certain soils with any deficient element.

IS TOO VALUABLE TO LOSE

Commercial fertilizers are rapidly advancing in price. This makes farm manure even more valuable and the need of saving it still more urgent.

Even in Wisconsin where many depend on live stock and clover, or other legumes, to keep up fertility, the value of farm manure is often not fully appreciated. Do you realize that about 80 per cent of the fertility in feed consumed by animals is not stored in their bodies, but becomes manure, which should be returned to the soil to produce new crops?

HOW FERTILITY IS LOST

AGRICULTURAL EXPERIMENT STATION, THE UNIVERSITY OF WISCONSIN, MADISON



Specially designed for warming, by hot water, small farm or town homes, one- or two-story, with or without cellars

Have the Comfort You've Always Wanted

Gives delightful comfort in all rooms for howling winter weather or the dangerous, damp days of changeable spring. Windy weather makes no difference—the heat goes to every room. Most reliable heat there is. Outfit lasts longer than the building. Absolutely safe—no fire risk.

Keeps Them on the Farm

The ARCOLA Heating Outfit warms the home all over for the family and help. It makes farm life just the best life there is. It keeps the young folks on the farm, because it makes home so cozy and cheerful.

Most Heat at Least Cost

Why not find out at once about this small, hot water heating plant for your home? It will give you the greatest comfort at the lowest cost, and relieve you of monotonous drudgery of fussing with stoves, grates, and old-fashioned heating devices.

New Low Prices Now in Effect

The ARCOLA is made for small houses, with or without cellars. Running water not necessary. ARCOLA is placed in any room with a chimney. It heats that room and circulates hot water through small pipes to radiators in the other rooms. Pipes may be run through walls or left exposed, thus helping to warm the rooms. Heats all rooms with one fire. Burns coal or wood—uses less fuel to heat whole house than a stove requires for a few rooms.

Why not Have It NOW?

Find out about the ARCOLA to-day from your local heating dealer. Write for illustrated catalog showing open views of Ideal-ARCOLA Heating Outfits in 4-, 5-, 6- or 7-room houses—also just the thing for chicken and hog houses and garages.

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Save That Extra Wool

Hand blade shearing is wasteful at best. Even the most expert hand shearer leaves uneven cuts and ridges.

Might as well throw away the wool from every seventh sheep as to shear with hand blades. A Stewart Machine shears evenly over the entire body. It gets ALL the wool—with long, even fiber—in best condition for top market prices.

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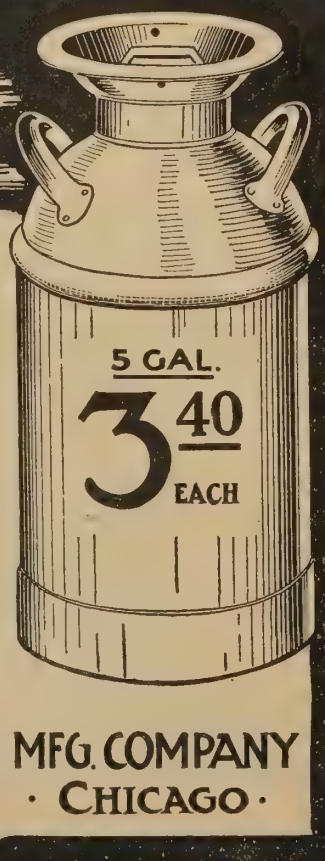
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are famous the country over for long life and accurate measure. They are heavily tinned from pure block tin after stamping. All joints are loaded with solder and the interior is absolutely smooth. There are no bacteria harbors. Neck and breast are joined on a powerful press in a perfect grip-lock joint, watertight before tinning.

The Climax can shown herewith is a splendid can for wagon use, for delivering milk and cream to the creamery, etc.

SIZE	WEIGHT	PRICE
5 gal.	11 lbs.	$3.40
8 gal.	15 lbs.	$4.20
10 gal.	17 lbs.	$4.40

F. O. B. Chicago

Write for big, free Dairymen's Catalogue.

THE CREAMERY PACKAGE MFG. COMPANY
68 W. KINZIE ST · · CHICAGO ·

Cow Testing Associations

RECORDS, PRICES OF FEEDS, FAT, AND MILK

Following is the summary of reports received during the week and up to the time of going to press of this issue:

State	Association	Tester	Month	No. of cows tested	No. of cows producing over 40 lbs. fat	Fat production of high cow	Owner
Cal.	Petaluma	C. B. Wiborg	Feb.	1115	244	73.5	A. B. Purvine
"	Bodega	Chas. Rosa	"	1132	161	68.4	S. D. Crayne
Ore.	Clatsop County	W. J. Kent	"	372	24	55.7	Sales Bros.
Ill.	Dupage County	Geo. B. Walker	"	388	80	82-3	Geo. B. Walker
Iowa	West Branch	Ralph Houser	"	214	10	63.9	R. Branson
Minn.	Pioneer	H. C. McMurray	"	1127	105	71.8	P. J. Skaar & Son
Wis.	East Troy	E. D. Burr	"	517	85	67.6	O'Leary Bros.
"	Monticello	H. T. Albrecht	"	390	48	80.8	Pierce Bros.
Mich.	W. Allegan Co.	Carl O. Robb	"	186	27	76.7	F. T. Lane
Ind.	Porter County	George Huitema	"	343	42	108.2	Morgan Bros.
Ky.	Oldham County	Wm. Brough	"	244	14	61.1	Fred. Von Allmen
Pa.	Lycoming	Floyd Mutchler	"		36	82.4	Philip Antes
"	Calkins	L. H. Shadduck	"	289	38	52.1	S. N. Gregg
Ore.	Columbia Co.	O. T. Johnson	"	223	21	83.9	Jake Dowling
Wis.	Richfield	A. R. House	"	375	70	77.4	J. F. Mayer
"	Leopolis—Tilleda	Thos. R. King	"		23	59.9	E. A. Hohn
Kans.	Lyon County	Lute Williams	"	245	40	80.1	R. M. Johnson
"	Bourbon County	T. A. Trull	"	360	15	58.9	Cleland & Williams
Ohio	Coshocton Co.	Joseph A. Emig	"	264	10	53.8	E. B. Chapman
"	Butler Road	F. L. Rostocil	"	230	51	79.7	A. A. McDonald
N. H.	Cheshire Co.	W. T. Tweedell	"	256	16	58.7	L. Miller
"	Merrimac Valley & Strafford—Carroll	C. F. Emery	"	407	29	82.6	Baker Farm
"	Claremont—Lebanon	Errol C. Perry	"	446	19	62.9	N. F. Stearns

Association Notes

Petaluma, California:—During the season every scrub or grade bull but one has been replaced by a pure-bred.

Bodega, California:—This unit is working hard on a campaign to increase the number of silos in its district.

Clatsop County, Oregon:—A number of carloads of grain and hay have been bought through the Oregon Dairymen's League to the advantage of the dairymen. Prices are: ground oats, $44 per ton; millrun, $37; ground barley, $45; alfalfa hay, $22—$27. Market milk testing 3.8% sold for $3.90 per cwt. in February.

Dupage, Illinois: — One member has disposed of his remaining grades at auction giving the association a total of seven pure-bred Holstein herds. There are now 25 members in this association. During February several unprofitable cows were sold to the butcher. Milk testing 3.5% sold for $2.35 per cwt. and 4c per point above. Milk retails for 14c per quart, butter for 60c per pound. Feed prices are: hay, $25 per ton; silage, $6; corn, $24; oats, $25; barley, $30; bran, $34; cottonseed meal, $40; oil meal, $38; gluten, $50.

West Branch-Tri-County, Iowa:—At present all members are using pure-bred bulls and breeding for entire pure-bred herds. Most of the members are trying to increase production through better feeding. No co-operative buying has been done for some time. February milk sold for $3.15 per cwt., a test of 3.5% being required and 9c paid per point above. The creamery paid 47—50c per lb. for fat. Milk retails for 15c per quart and butter for 50c per lb. Feed prices are: corn, $12 per ton; oats, $20; bran, $35; oil meal, $55; cottonseed meal, $40; silage, $6; alfalfa hay, $18; mixed hay, $12.

East Troy, Wisconsin:—When one of the members recently ceased feeding soy bean silage, the average test of his herd dropped four points, although the other feed was not changed and the same number of cows were milked. The average return for each dollar expended for feed in the association in February was $1.47. The average feed cost for 100 lbs. of milk was $1.50 and for one pound of butterfat 41c. Twelve cows were sold during February as unprofitable and 16 for dairy purposes. February market milk testing 3.5% sold for $2.35 and 4c per point over. Milk retails for 12c per quart, butter for 53c per lb., and cheese for 40c per lb. Feed prices are: bran, $25 per ton; middlings, $24; oil meal, $45; cottonseed meal, $44; brewers grains, $35; Unicorn, $52; gluten feed, $42; hay, $18—$20; silage, $6.

Monticello, Wisconsin:—One pure-bred Holstein bull was purchased and one car of bran bought in February. Market milk testing 3.5% and 3.7% sold for $2.00 and $2.10. Milk retails for 10c per quart. Bran sells for $28 per ton; oil meal, $48—$52; cottonseed meal, $42—$46; hominy, $28; oats, 48c per bushel; silage, $6; per ton; alfalfa, $30.

Porter County, Indiana:—Eight cows are on official test. Seven cows were sold during February as unprofitable. Most members are feeding corn, oats, and cottonseed meal, but some are feeding a larger mixture including gluten feed, bran, and oil meal. February market milk testing 3.5% sold for $2.35 per cwt. The creamery paid 40c per lb. for fat. Milk retails for 14c per quart and butter for 60c per lb. Feed prices are: corn and cob meal, $18 per ton; corn meal, $22; cottonseed meal, $40; oil meal, $50; gluten feed, $48; hominy feed, $36; bran, $32; ground oats, $25; alfalfa, $20; clover, $18.

Oldham County, Kentucky:—This association now has sixteen registered dairy sires heading its herds, two unregistered pure-bred, and only two grades. Two dairymen have individual drinking cups and are satisfied they are a very profitable investment. Two men have milking machines and report quite satisfactory results. All dairymen have from one to three silos except those just starting in the dairy business. Four per cent milk sold for 22c per gallon in February. The creamery paid 47c per lb. for fat. Milk retails for 11c per quart and butter for 48—50c per lb. Feeds sell as follows: cottonseed meal, $36 per ton; ground oats, $4[illegible] bran, $36; oil meal, $58; corn, 60—70c per bushel; rice bran, 28—30c.

Lycoming, Pennsylvania:—There are 26 members in this association practically all of whom have pure-bred bulls. Fourteen have either tested or made application for having their herds tuberculin tested. Fifteen of them are solicitors in the Farm Bureau Membership Campaign which is now being carried on.

Calkins, Pennsylvania:—Several members are feeding balanced rations. During February two boarder cows were slaughtered and eight oth

ers sold. Three per cent market milk sold for $2.65 per cwt. and 4c per point above. Feed prices are: cottonseed meal, $45 per ton; gluten, $47; oil meal, $50; bran, $34; corn meal, $36; ground oats, $40.

Columbia County, Oregon:—Five cows were sold during February and two unprofitable cows disposed of. Increased production is better than in the past five months. All members are now feeding grain with such results that it has proven that it pays to feed grain. The cheese factory paid 58—62c per lb. for fat. Milk retails for 40c per gallon. Feeds sold as follows: corn meal, $2.40 per cwt.; oil meal, $4.25; mill feeds, $2; oats, $40 per ton; cocoanut meal, $37; mill run, $34; alfalfa, $26; clover and timothy baled, $27; oats and vetch baled, $32.

Richfield, Wisconsin:—One new member has stopped feeding five times per day and is feeding a balanced ration with the result that he has less work to do in caring for his cows and an increase in milk flow the first month sufficient to pay for his year's testing. Three per cent market milk sold for $1.80 per cwt. The condensery paid $2.25 per cwt. for 4% milk and 5c per point above. The creamery paid 64½c per lb. for fat and the cheese factory paid 56c per lb. Milk retails for 11c per quart, butter for 55c per lb., and cheese for 30c per lb. Feed prices are: oats, 33c per bushel; barley, 70c; corn, $1 per cwt.; bran, $27 per ton; gluten, $45; oil meal, $50; wheat middlings, $22; hominy, $22; brewers grains, $8; wet beet pulp, $1.50 per ton.

Lyon County, Kansas:—The only grade bull in the association has just been replaced by a pure-bred. Better and heavier grain feeding has raised the association average from 20 lbs. butterfat per cow a year ago to a 30-lb. average for February, this year. More cows are above 40 lbs. now than were above 30 lbs. a year ago. Market milk sells for $3 per cwt. The creamery paid 40c per lb. for fat. Milk retails for 15c per quart and butter for 40c per lb. Feed prices are: corn chop, $1.20 per cwt.; oil meal, $3; bran, $1.25; cottonseed meal, $37; alfalfa, $10; silage, $4. A Holstein heifer owned by P. P. Macy has just broken the state seven-day milk record in the junior two-year-old class. This heifer produced a total of 522.1 lbs. of milk containing 16.96 lbs. of fat. The former record was 508.5 lbs. of milk.

Bourbon County, Kansas:—In the 25 herds tested, only three are not headed by pure-bred sires, and these three herds use pure-bred sires for some of their cows. Most of the dairymen are grinding and mixing their own feeds. The creamery paid an average of 43c per lb. for fat during February. The condensery paid $2.25 per cwt. for 4% milk and 5c per point above. Kansas City distributors paid 23c per gallon for 4% milk. The local dairy paid $2.75 per cwt. for 4% milk and 6c per point above. Butter sold for 55c per lb. and cheese for 40c per lb. Milk retails for 12c per quart. Feed prices are: bran, $28 per ton; corn and cob meal, $17; ground oats, $25; cottonseed meal, $32; oil meal, $50; alfalfa, $15; silage, $6.

Coshocton County, Ohio:—Several herds have been tuberculin tested. Four per cent market milk in March sold for $2.53 per cwt. The creamery paid 51c per lb. for fat. Milk retails for 17c per quart and butter for 50c per lb. Feed prices are: corn, 72c per bushel; oats, 48c; bran, $36 per ton; cottonseed meal, $53; silage, $8; hay, $15.

Cheshire County, New Hampshire:—One out of every eight cows produced over 1,000 lbs. milk or 40 lbs. fat in February. Five farmers have begun feeding balanced rations and very favorable gains are being made. Since December six unprofitable cows have been disposed of and the association is "100 per cent" free from scrub or grade bulls. One member has purchased a new pure-bred bull and another has traded his for a better individual. The high cow for February also proved to be the most economical butterfat producer for the month.

Merrimac Valley & Strafford-Carroll, New Hampshire:—During February five unprofitable cows were sold. Market milk testing 3.7% sold for $3.95 per cwt. The creamery paid 52c per lb. for fat. Milk retails for 15—16c per quart. Feed prices are: bran, $38 per ton; gluten, $58; cottonseed meal, $48; oil meal, $54; ground oats, $44; corn meal, $57; middlings, $36; hay, $23; silage, $10.

Claremont & Lebanon, New Hampshire:—Farmers in the region around Bellows Falls are organizing a cooperative creamery in order to get a better market. The plan is to charge $25 per cow, 10% of the money to be paid in cash at once and the remainder to come from the milk checks. February market milk here sold for $3.50 per cwt., a test of 3.7% being required. Milk retails for 10—12c per quart and butter for 60c per lb. Feed prices are: bran, $39—$50 per ton; gluten, $50—$60; cottonseed meal, $48—$58; linseed meal, $46—$50; ground oats, $35—$45; corn meal, $36—$44; corn and cob meal, $30; silage, $8—$9; mixed hay, $20; beet pulp, $54—$60; beets, $6.

The prize of life, the crowning fortune of a man, is to be born to some pursuit which finds him in employment and happiness whether it be to make baskets or broadswords or canals or statutes or songs.—EMERSON.

The voice should be the sounding board of the soul.—HUBBARD.



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Save dollars on every Calf



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EVERY time you raise a calf on milk instead of on Blatchford's Calf Meal it costs you unnecessary dollars. By using this carefully prepared, high quality product you can positively reduce the cost of raising your calves—not a dollar or two only—but *many* dollars.

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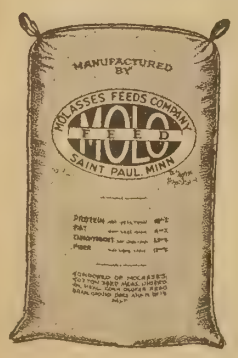
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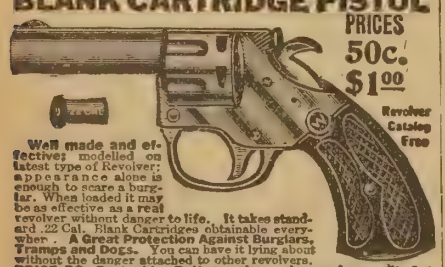
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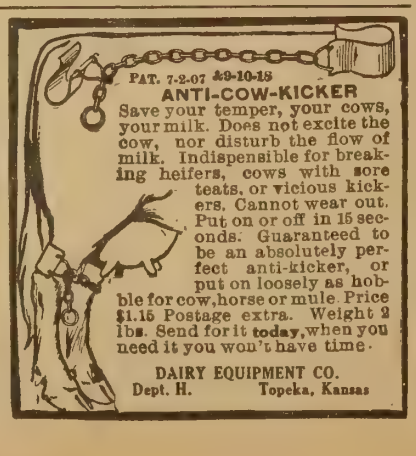
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Co-operative Milk Distribution in Kentucky

HOARD'S DAIRYMAN:—For years the milk producers contiguous to Louisville, Ky., have been in a fight with the large distributors in regard to scale of prices for their products. Farmers are proverbially hard to please, but these dairy farmers have felt their grievance sore when it was known that the city people were equally dissatisfied at the prices they were paying, namely 100 to 125 per cent above the figures their cousins in the country were receiving.

During the war the distributors were held down to a 100 per cent spread, but when hostilities ceased and the government restrictions were withdrawn, up went prices to the consumers and down fell those to the producers. Things became very much out of joint. The city people swallowed their indignation with their high priced milk, and the country folks met, discussed, cussed, and resolved, but kept on shipping their milk because the cows would not go dry all at once. Many good dairy herds were dispersed and the owners quit the business, but fairly high prices for butterfat reigned and other herds were established.

It is said that necessity is the mother of invention. After the failure of a number of dairy unions, a few long-headed men who had some vision and grit got together and formed a co-operative body for the handling of their product in the city. A producers' association to deal with the established distributors of Louisville was urged and many such successful organizations in other states were cited, but these determined men had their goal set higher. Consequently the Kentucky and Indiana Products Company was organized—for Louisville gets much of its milk from across the Ohio river—the name later being changed to the Kentucky and Indiana Dairies Company, and the company incorporated.

J. W. Yager, a banker in a small town a few miles from Louisville, has been the active head of the organization since its inception about nine months ago. He canvassed the various dairy farmers, getting them pledged as stockholders. Some became cold-footed and wished they hadn't pledged their subscriptions, others pinned their faith to Yager.

A board of directors was formed last fall, and they got busy. T. E. Yann was one of the small but successful distributors, one who had worked a simple method of pasteurizing his milk and a successful way of distribution. He was approached and agreed to sell out to the association, he to manage the new business.

On January 5th, the new organization began receiving milk from 40 patrons. At this writing 300 dairy farmers are shipping milk to their own distributing plant to the amount of 4,000 gallons daily. About 600 gallons of sweet cream are coming in also. The company has not a single retail customer; every bottle goes through the groceries. Each patron or shipper is a stockholder and the company will not purchase from other than one of their members, and a hundred or more are on the waiting list, several being added daily, for the business is rapidly growing.

When asked why he preferred the groceries for customers, Mr. Yann replied: "The grocers are boosters, they like it for it pays them and we get our cash returns regularly. We have no trouble in collections or deliveries. This was my plan of distribution on a small scale before the company bought me out and it works well in our large distribution and is growing splendidly. I believe it is the logical method for the future."

The company employs two salesmen who visit the grocers, working up new trade and seeing that all goes well. When the business started four wagons did all the work. Within six weeks nine wagons and two half-ton trucks were busy all day delivering the cases of bottled milk to the grocers, and more wagons will be put on as soon as they can be secured. When the business started one driver came back the first day utterly disgusted; today that driver has all he can deliver. The salesmen have been instructed not to take "no" for an answer, and few groceries on the established routes of the wagons are not regular customers.

In reply to my inquiry concerning results, Mr. Yann said: "Our shippers are getting 22 cents per gallon, the same for their milk that they did when the city people were paying 16 cents per quart; today the people are paying 11 cents per quart, 7 cents per pint. We are delivering 4.7 per cent milk."

"Today we are giving our surplus skim to several institutions free and they send for it," continued Mr. Yann. "We are enlarging our build



PARK'S JUDITH BEAUTY

Park's Judith Beauty has broken the world's record for two-and-one-half-year-old Guernseys that have carried calves at least 265 days of their testing period by producing 12,107.0 pounds milk, 646.15 pounds butterfat. She is owned by John H. Williams, Wisconsin. The new champion was dropped in January, 1917, and dropped her first calf in September, 1919. Her second calf, which was carried 265 days of her testing period, was also a heifer and was dropped on November 18, 1920. She is a daughter of Governor of Bailey Falls, a grandson of Governor of the Chene. Her dam is Park's Queen Judith, that has a record of 454.43 pounds of butterfat in class G. Park's Judith Beauty and her dam, as well as the grandam and great grandam, were all bred by Mr. Williams.—AMERICAN GUERNSEY CATTLE CLUB.



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The Belgium Melotte is the only single-bearing-bowl ever made. This patented bowl hangs from one frictionless ball bearing and spins like a top. It is self-balancing. It skims as perfectly after 15 years' use as when new. Positively cannot ever get out of balance and vibrate, thus causing cross currents which waste cream by remixing with the milk. Six hundred pound Melotte turns as easily as 300 pound Separator of otner makes. Spins for 25 minutes unless brake is applied. No other Separator has or needs a brake.

Belgium Melotte

Imported—Duty FREE

Invented by Jules Melotte — the Edison of Europe, stands first in Europe where every penny must be saved. Used on 90% of the Belgium dairy farms. Holds 268 international prizes. Admitted duty free by special act of Congress to save money for American farmers. The world's greatest Separator at a bargain price.

No Money Down

We don't want anyone to send us any money on the Melotte. We want to prove to you first that it is the best separator made. There are no papers to sign—no deposits or promises—no formalities. You are under no obligations. We take this liberal offer because we know a test of the Melotte will convince you.

$7.50 After 30 Days Free Trial

To convince you that the Belgium Imported Melotte is the best cream separator possible to buy anywhere in the world we will send one direct to your farm on a 30 day, absolutely unconditional free trial. Use it as if it were your own. Compare it with others—put it to every test. You alone are the judge. When the Melotte has sold itself on merit alone, send your $7.50 as first payment and make small monthly payments of $7.50 until the Separator is paid for.

Send for Free Book!

Don't buy any Separator until you have found out all about the Melotte, its 15 year guarantee and our 30 day free trial offer. Get our free book containing full description of this wonderful cream separator and the story of Jules Melotte, the inventor. Don't hesitate—don't do another thing until you write us.

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Use **Reefer's Rat Virus** and every rat and mouse on your premises will be gone, or your money refunded. Don't tolerate rats any longer. Send us $1.00 and we will send you enough Virus to clear your barn or house of rats. Results guaranteed. Send your order today. Get rid of rats! Here's your chance, act.

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NORTH DAKOTA GRIMM ALFALFA SEED

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ings and, before hot weather comes, we will have in a complete plant for condensing the skimmilk. We will have a capacity of ten thousand gallons a day. This will be the first milk condensery of its kind in Louisville, in fact, the first in the South.

Kentucky. F. E. GILMORE.

Hold Cows Off Pasture

HOARD'S DAIRYMAN:—It is best not to turn the cows onto pasture at the first appearance of grass. The first grass may taste good but it is "flashy" and lacks substance. It may stimulate an increase in the yield of milk but the increase will be at the expense of flesh of the animal and the capabilities of the cow producing a heavy flow of milk for a long period of time. The grass which grows first in the spring has a laxative influence on the bowels and tends to exhaust the system, reduce the amount of flesh carried, and produce a disordered condition of the digestive tract which enfeebles the system for a long time.

I keep my cows off pasture until the grass has arrived at the point where it has substance and nourishment. I allow the cows to become accustomed to the grass diet gradually thus not taking any chances on the derangements of the system which are likely to follow if cows are permitted to gorge themselves with all the fresh, green grass they can hold the first day they are allowed to get a taste of it.

When the grass has reached the point when I think it best to turn the cows out I feed them the morning and noonday feedings of dry feed and then allow them to eat grass for a short time in the afternoon and then take them off the grass and give them their usual feeding of dry feed. The second day I allow them to eat grass a little longer and then remove them from the pasture and feed them as before. The period of eating grass is lengthened each day until the noonday feeding is dispensed with. However I continue the morning and evening feeding until the animals are well sustained by the grass consumed.

When the cows are first turned onto pasture I feed laxative feeds like wheat bran and oil meal sparingly. For the first ten days or two weeks after the cows are turned out to grass I give them only about one-half the quantity of salt they are used to receiving. By following the method here described there is no derangement of the system produced nor any appreciable loss of flesh sustained. The flow of milk must, from the nature of the feed consumed, be increased and the cows are enabled, if an abundance of grass is available, to keep up a steady flow of milk for a long period of time.

Illinois. M. E. UNDERWOOD.

Iowa Guernsey Association

HOARD'S DAIRYMAN:—The first Guernsey breeders' association to be organized in Dubuque County, Iowa, was formed March 7th when the men interested in Guernsey cattle met.

The meeting was held at the farm of Fred Kamroller which is the home of the Fairmont herd. The officers elected were: President, J. Allen Wallis; vice-president, Anton Osterban; secretary and treasurer, George Schumacher.

The plan is to hold the monthly meetings during the summer at the homes of the members, thus giving the members a chance to look over the different herds in the county.

A census of all Guernsey cattle in the county will be taken and all animals for sale will be listed with the secretary.

Durango, Iowa. J. A. W.

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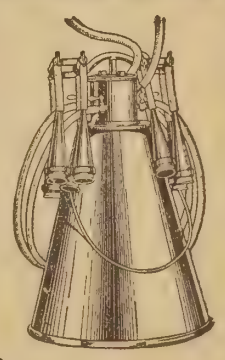
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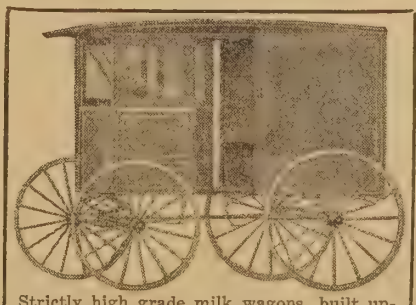
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H. A. Moyer, Syracuse, N. Y.

EDITORIAL COMMENT



FIGURES from Western Washington indicate that the average herd bull consumes in a year's time about 630 pounds of grain, 5,967 pounds of dry roughage, and 3,069 pounds of succulent roughage; forty-three pounds of bedding is used and 40.4 hours of human labor are required. In addition, there was an expenditure of $13.56 for pasture and $21.49 for other costs. On the farms where these figures were gathered, $20.32 was allowed for outside bull service.

ONE of the dailies of Detroit, Michigan, contains a notice to the effect that the municipality of Bombay, India, desires to secure the services of a man capable of superintending its suburban dairies. The person desired must have experience in the distribution of milk, dairy farm work, and the breeding of dairy cattle. He must be well educated and have such qualifications and experience as will enable him to organize the milk industry of that section. It is expected that the suburban dairies will ultimately contain twenty thousand milk cows.

Here is an opportunity for the person who is prepared to accept this position. It will mean a unique experience and the character of the work done in the Municipality Dairy of the city of Bombay, India, will be far reaching in its effect. It will undoubtedly mean revolutionizing the dairy industry of that country. It carries with it a large responsibility and no one should accept this important position unless he feels qualified to discharge his duties with credit to himself and to the city undertaking this venture.

GRADES AND PURE-BREDS

Some men believe grades are superior to pure-breds. These men have failed to ask themselves what makes the grade a good cow. Why is she superior to the cow of no breeding? There is only one answer to the question, "why is the grade cow a good animal?" and that is, because pure-bred blood flows in her veins. This does not mean that some grade cows are not superior to some pure-breds. Taking it by and large, the pure-bred must of necessity be superior to the grade, for it is the blood of the pure-bred that makes the grade what she is. Reasons for holding the views that grades are better than pure-breds may be attributed to the process of selection. If a grade cow does not measure up to the expectations of her owner, she is soon sacrificed; while if the pure-bred may not be quite what is desired, the owner feels he can improve this blood by the selection of a good pure-bred bull; and it is through the bull that improvement in all cattle is made. While it is true that some grades may produce more than some pure-breds, nevertheless without pure-breds we would not have grades. The pure-bred animals are responsible for the good grade cows, and that fact must not be overlooked.

FARM BUREAU WORK

Many members of our county farm bureaus are directly concerned regarding the financial return which they can make on their $10.00 investment. It should be remembered that the service which the farm bureau will render in legislative matters, in improving marketing conditions, in bringing about a better understanding of the relation of agriculture to other industries, and in popularizing agriculture in the minds of men engaged in other industries; in short, placing agriculture upon a proper business basis, will contribute more to the development of agriculture than the establishment of some co-operative enterprise for handling some particular commodity for local members.

It is well, however, for the officials of the farm bureau to give some attention to bringing about better methods of selling farm products locally and to assist their members to purchase commodities more advantageously. This does not mean that the farm bureau should go into business; in fact, we believe it should keep out of all business activities. It will impair its future usefulness the moment it enters business as a farm bureau. It is not organized for that purpose, and it has a bigger work.

A very good example of what the farm bureau can do to assist its members in purchasing commodities may be sighted in what one county farm bureau is doing. This particular county uses about 300,000 lbs. of twine yearly. Upon investigation it was discovered that by ordering twine in carload lots a saving could be made. The merchants of this county have shown a willingness to co-operate with the members of the farm bureau and will make a better price on twine provided they will take the twine from the car and pay cash for it. The farmers of this county will save, upon this basis of buying, better than $4,000, and the merchants will have pay for their service. Each will profit by this method of buying twine and that means a good bargain.

Another example: In this same county there are three or four creameries not far distant from each other. A firm recently desired a carload of butter from this locality and no one creamery could supply it, but through the assistance of the farm bureau a carload was obtained from the several creameries. A better price was received for the butter and a better freight rate was secured.

In this county it is the purpose of the farm bureau to use the local merchants for handling their products and purchasing their commodities, and so long as it can be done on the basis of a reasonable profit, no effort will be made to establish co-operative enterprises for carrying on this work. This farm bureau is assisting in bringing about a more efficient distribution of commodities and marketng farm products and is not engaging in business.

LEGISLATION FOR AUCTIONS

The Thirty-first Legislative Assembly of the state of Oregon enacted two laws to prevent by-bidding, fictitious bidding, and otherwise dishonest practices of the public auction sale of pure-bred live stock. We commend the purpose and object of these measures. It will not be possible in all instances to stop evil practices but it is possible, with the help of every honest and sincere breeder of pure-bred live stock, to minimize them to a negligible degree.

Following the motto, "The Buyer Beware", is not good business. There must be in the minds of all men interested in securing better dairy blood a confidence in those developing and improving dairy blood. Without this confidence the live stock industry suffers.

Congressman McArthur, of Oregon, prepared the bills which are now enacted into laws in the state of Oregon and, in writing us, has made in part the following comments:

"I have watched the conduct of auction sales of pure-bred live stock in Oregon and elsewhere with great interest, and find that there has been much downright dishonesty in the conduct of many of these sales. Animals have been run through the ring, sold for fictitious values, and by-bidding has been frequently practiced. These dishonest sales are not confined to any one state or to any one breed, but are more or less general in their existence. The business of raising and selling pure-bred live stock demands a high standard of ethics, and these dishonest breeders and dealers who have been carrying on their nefarious work ought to have due notice that the honest breeders of the country intend to call a halt."

The reasoning of Congressman McArthur is sound and every good breeder will approve his position. It is highly gratifying to note that the leading public auction sales managers have recognized that a high standard of ethics must be practiced, and they have accordingly adopted rules and made guaranties in keeping with square dealing. It is their purpose to establish a confidence in the minds of the public by placing their sales upon a proper and honest business basis. It is to the financial interest of every good breeder that by-bidding, fictitious offerings, and other dishonest practices be eliminated from the public auction.

BRAND REACTORS

Too many cattle proved tubercular by the test find their way into new herds as having clean bills of health. If we accept the statement, "once a reactor, always a reactor" as axiomatic, there is need to make certain that reactors are either slaughtered immediately after the test or at least so marked that they may be known for what they are.

Flagrant abuse of the knowledge gained through testing comes to us in recent testimony. In a herd where the tuberculin test was applied last April eleven diseased animals were discovered. The herd was sold in the fall and all of the eleven reactors were offered for sale as being free from tuberculosis as evidenced by a test just previous to the auction. Some animals were held out because of reacting to the second test—which indicated that the disease was in the herd. A prospective purchaser checking the tests in the state veterinarian's office identified the eleven cows in time to prevent their sale—perhaps into clean, healthy herds or to beginners.

In another case three cows were shipped interstate and reacted on retest. They were later "retested" again by a local veterinarian, found "clean", and offered for sale.

In still another case a buyer brought his purchases together in the shipping yards and had them tested. Seven in one carload reacted, were tagged, and rejected. The next day the buyer found two of the seven in another railroad yard, the tags torn out of their ears and the cows billed for inter-county shipment to another purchaser.

The buying public must be protected from such fraud. When one such animal may "salt" a herd, provision must be made for unmistakable identification of all reactors.

It is not enough that rules are laid down which are presumed to take care of this matter. Reactors should be so branded as to be readily recognized.

A MILK CAMPAIGN

Madison, Wisconsin, has recently completed a milk campaign which has proven highly satisfactory to those responsible for it. This campaign was carried on in a most unique way and the methods used for carrying the message of the food value of milk to the people of that city were effective.

Through the assistance of Miss Hoover of the Dairy Division and the Extension Department of the University of Wisconsin, the various women's clubs, schools, churches, and, in fact, every organization having to do with the welfare of the people were organized and had a part in this campaign. The merchants entered into it with a spirit highly commendable to them. Their windows were appropriately decorated and prizes were offered to those who excelled in skill in building milk displays.

There is no way so effective in carrying on an educational campaign as to secure the services of those interested in the welfare and development of the people. This campaign was successful because many persons were given something to do. Its cost was nominal but the results were far reaching and effective.

A Poor Alfalfa Stand

Last fall I put in an acre of alfalfa and from the appearance of the plants it does seem as though I will have an excellent stand. In this field every fall and winter a chick weed covers the ground just like a carpet. Will you kindly advise me just what you would do to eliminate this weed? Can I spring tooth this alfalfa field to get rid of weeds? Would it be advisable to use some pulverized sulphur on this field?

Chevy Chase, Md. J. B. W.

We would suggest that the soil be tested for acidity. This can be done by using a strip of litmus paper. If it turns red it is an indication of an acid or sour soil. If this condition prevails, lime in some form should be used. It is also possible that alfalfa needs inoculation. There is also a possibility that the land lacks something in fertility which makes it more difficult to get a stand of alfalfa.

If practical, we would suggest that this field be given a light top dressing of manure in case the stand is of such character as would make it seem desirable to hold the alfalfa for this year. It might be well, prior to making the application of manure, to use the spring tooth harrow in cultivating the alfalfa. This should be done in the early spring or after the first hay crop is cut. There is some danger that the alfalfa, if small, will be uprooted if harrowing is done when the ground is soft.

It is possible that the application of sulphur at the rate of 100 lbs. per acre or of land plaster or gypsum at the rate of 200 lbs. per acre may be of assistance in improving the alfalfa crop. This has been found very useful in the far western states but it is held by many investigators in the Middle West that for relatively humid climates, sulphur is not one of the factors limiting crop production.

Seeding Clover in Spring

I plowed a hay field last fall that was badly run out and starved of fertility, sowing it to rye on the sod. I did this intending to seed the same to clover this spring. On account of the crop not being protected with snow, I am afraid the rye is killed. In case it is, what crop can I sow this spring that will make good cow feed? Can I sow a crop and seed it to clover?

Oshkosh, Wis. T. R. A.

It is quite possible that the rye will have stood the winter weather better than now anticipated. In fact, if the weather has thinned it out somewhat, there will be greater certainty of securing a good stand of clover if seeded as soon as possible with a hand seeder instead of waiting for the land to be in condition for using a horse drawn seeder or drill. If desired to reseed the field to another crop, we would suggest that possibly peas and oats may give as good a return as anything in the nature of a substitute hay crop. Seeding may be done at the rate suggested on page 367 of our issue for March 18. The use of soy beans for hay is also discussed in that issue.

A suggestion comes from New York State that 10 lbs. of hairy or winter vetch be added to the usual spring seeding of oats, timothy, and clover. The purpose of this is to supply additional value to the oats when cut as hay and also provide a somewhat quicker growing legume crop than the clover itself. It is reported that a fair second crop of vetch hay can be secured the same year and that this is not done at the expense of a good catch of clover.

Three-horse Hitch

I certainly am surprised at Wayne Dinsmore's answer to the question "How to hitch three horses to a two-horse plow without side draft". He says it can't be done except in tandem. Any 12-year-old boy in Southern Illinois on a farm knows better. Three horses can be hitched to any kind of a one-bottom plow outfit with no more side draft than there would be if one horse were hitched alone to the same plow.

Golden Gate. G. A. M.

On every plow, whether one bottom or more, there is a point of hitch termed the "center of draft" and when the hitch is made at this point the plow pulls with less exertion than when the hitch is made at a point more distant from the furrow; and whenever an effort is made to hitch three horses abreast on a single bottom plow with one horse in the furrow and two on the solid land it is necessary to hitch at a point further away from the furrow than the point at which the plow operates with the minimum pull and this extra load, due to failure to hitch on the true center of draft, is designated as side draft.

It is evident from the comment of your subscriber that he does not know what I have just stated and he probably will not believe this when he sees it in print but any trained engineer who has made dynamometer tests recording accurately the pull required to operate plows with the point of hitch at different distances from the center of furrow will bear out my statements.

Illinois. WAYNE DINSMORE.

Cost of Condensed Milk

Could you state in your paper how much profit a condensery makes if it pays $1.90 a hundred pounds milk testing 3.8% and sells a case for $5.75 wholesale? Could I get bulletins of colleges or Department of Agriculture on this subject?

Bellingham, Wash. C. R.

We do not know of any bulletins that have been published which give the cost of manufacture of condensed and evaporated milk. This is an item which would vary considerably from factory to factory, according to its organization, size, capacity of machinery, and the amount of output. This will be further modified by the varying costs of labor and other elements entering into the manufacture of the product. Professor Hunziker, in his book entitled "Condensed Milk and Milk Powder", takes up a very complete discussion of this subject.

Professor Hunziker reports that on January 1, 1920, the average cost of producing a case of evaporated milk weighing 48 lbs., net, was $6.09. This was based on milk selling at $3.60 per hundred; and requiring 106 lbs. whole milk for a case, the milk cost was approximately $3.82. The other costs of manufacture amounted to $2.27, which included cans, boxes, labels, coal, labor, administration and selling expense, freight, and interest and insurance on investment and on operating capital. For a case of sweetened condensed milk weighing 42 lbs. he gives a total cost of $8.54—of this, $3.78 is for 105 lbs. of milk at $3.60 per hundred and $2.64 for 16.8 lbs. of sugar at 15¾c per lb., which makes the cost of manufacture and selling, aside from sugar and milk, amount to $2.12 per case.

It is quite possible that condenseries that are now operating under normal conditions can manufacture somewhat cheaper than they did a year ago, but accepting these figures as approximately correct, it would appear that with milk selling for $1.90 per hundred, evaporated milk could be sold at wholesale for $4.27 per case. This does not necessarily mean that with evaporated milk selling for $5.75 per case, the profit would be nearly $1.50 per case. It is possible that there are additional selling expenses for advertising, etc., that may become a proper charge.

If it is desired to go into a rather complete analysis of the condensed and evaporated milk business, we would suggest a study of Hunziker's book, entitled "Condensed Milk and Milk Powder". This is the best reference book on this subject that we are advised of; in fact, it is the only data available in anywhere near complete form. Our Circulation Department will be pleased to supply this upon receipt of its regular price, $5.75.

Tuberculosis and Health Certificates

Does any state require that cattle be federally accredited before they can be shipped in? What are the tuberculosis laws or regulations in Oregon relative to the importation into that state of dairy cattle?

Hillsboro, Ore. C. W. S.

No state that I know of requires that cattle be from federal accredited herds before they can be shipped in. However, several of the states require that cattle from certain other states be tested by the United States Bureau of Animal Industry to be admitted. We quote the law pertaining to the importation of cattle into Oregon as given in the booklet compiled by the United States Department of Agriculture and issued January 22d, 1920.

"Cattle.—Health certificate, except for animals for immediate slaughter, including tuberculin test for all dairy and breeding cattle. All cattle except settlers' and homesteaders' effects brought into Oregon from the territory east of the Mississippi river and north of the Tennessee—North Carolina north boundary line must first receive a written permit from the state veterinarian to be moved into the state before such movement can be made. All cattle originating in the states of New York or Wisconsin must be tuberculin tested by a federal veterinarian unless otherwise ordered. All cattle from Illinois must be tuberculin tested by federal veterinarians or by a veterinarian approved in writing by state veterinarian of Illinois."

This will explain more fully what is meant by my statement above, as you will note that all cattle originating in the states of New York and Wisconsin must be tuberculin tested by a federal veterinarian unless otherwise ordered, and cattle from Illinois tested by federal veterinarian or veterinarian approved in writing by the state veterinarian of Illinois. However, cattle from herds that are under federal supervision are usually given preference by the live stock sanitary officials of states, although the exception is not made in the law. For instance, cattle from federal-state herds are not subjected to the sixty-day retest in Minnesota which is required by law.

JAMES S. HEALY.
U. S. Bureau of Animal Industry.

Sunflowers and Frost

How do sunflowers stand the frost? Can sunflowers be planted together or in alternate rows with corn? Can they be mixed with the corn when put in the silo? If not mixed, which should be ensiled first?

Millvillage, N. H. D. B.

Sunflowers are not so badly injured by frost as is corn. This holds true not only of the spring frosts but also those which occur later in the fall. Corn which is hit by the frost seldom makes any growth afterwards and many of the leaves dry up and are wasted. Sunflowers seem to be able to stand the frost better and will continue growth when the corn is stopped by an early frost.

Sunflowers and corn can be planted together but our personal experience leads us to the opinion that it is preferable to plant them separately. This is merely because the sunflowers make a larger growth and the resulting bundles of short and long stalks are very inconvenient to handle. In ensiling they can be mixed by running a load of sunflowers and then a load or two of corn, or the two can be kept entirely separate. It is immaterial whether the sunflowers are put at the top or the bottom of the silo. There are good reasons for both practices. It is held by some growers that if they are placed at the bottom, they will gain something from the juices of the corn, while others hold that the sunflowers make a better top covering because of their weight and the fineness to which the cutting reduces them. They pack very closely together in the silo and all things considered, this may be the best practice. Perhaps the best rule to follow would be to ensile each crop at the time it reaches maturity, and corn is likely to be first because of frost doing it the greatest damage.

Bitter Milk

Our cream and butter has a strong taste. We wash the udders and our hands and keep our cows clean. We feed grain two times a day, cornmeal, bran, and a handful of oil meal and a little salt. We give them alfalfa. We milk dry handed and keep our milk room absolutely clean.

Wayzata, Minn. E. W. T.

Bitter or strong tasting milk is usually produced by only a few cows in a herd. If these can be identified through the saving of samples of milk from each cow, it is unnecessary to contaminate the whole herd supply by including their milk.

Bitter milk is rarely produced by cows receiving green feed or by those which are fed liberally of silage. The peculiar taste, which may be described as salty or bitter, is noticeable when the milk is drawn and becomes much worse as the milk ages. The temperature at which the milk is held has no influence, which indicates that the abnormal taste is not due to bacterial growth. Animals which are in very high flesh, particularly those being fed heavily of grains, are those which are most apt to produce bitter milk. Also the trouble is most common with cows which are far advanced in lactation.

The treatment recommended is to reduce the grain fed rather sharply and give two or three doses of Epsom salts at intervals of three days. In most cases this will remove the difficulty. The dosage of Epsom salts recommended is one to one and one-half pounds.

Contents of Silo

A has two silos, one 12x30 ft. and one 12x42 ft. B has one silo, 14x55 ft. Which has the greatest capacity in tons?

Egg Harbor, Wis. A. B. H.

The two 12-foot silos if filled completely, would contain approximately 161 tons. The 14-foot silo, when filled to its full depth of 55 feet, would contain approximately 173 tons.

Hoard's Dairyman

Fort Atkinson, Wisconsin

Founded 1885 by W. D. HOARD

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We solicit advertisements of meritorious articles needed by the farmer. We try to keep our advertising columns clean and wholesome, that they may merit the patronage and confidence of our readers. Unwholesome, immoral, and quack medical advertising are excluded. A sincere effort is made to exclude frauds, irresponsible and unscrupulous firms. We will always take it as a favor to be notified whenever any advertiser's dealings with a subscriber are in bad faith or evidence a lack of business honor. Advertisers generally recognize the readers of Hoard's Dairyman as an up-to-date class of farmers, who farm with business-like methods, and we hold our columns for the patronage of only those with whom our readers can deal with profit and satisfaction.

ADVERTISING COPY must be received eight days previous to the date of publication. Advertising to be classified or changes in advertising must reach us twelve days previous to date of publication.

Entered at Fort Atkinson, Wis., as second class matter.

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Coming Events

March 29-30—Cloverland Farmers' Institute will be held at Menominee County Agricultural School, Menominee, Mich. Superintendent, R. N. Kebler, Menominee, Mich.

May 23—Missouri State Holstein Association first Annual Show of Sale Cattle at Sedalia, Mo.

June 9—Ayrshire Breeders' Association meets in Springfield, Mass. Secretary, J. G. Watson, Brandon, Vt.

Fighting Tuberculosis in New York

HOARD'S DAIRYMAN:—The eradication of bovine tuberculosis from the dairy herds of this country is not a matter of concern only to those who keep cows. It is of equal importance to all of the people, as much so as the eradication or control of any of the infectious diseases of animals or humans, and therefore it is entirely proper that the state and federal governments should be mutually interested and concerned in the problem of its eradication and in co-operating with the breeders to this end. This, to be sure, is what is being done but the magnitude of the job has not been sufficiently impressed upon the people. The average citizen, the average dairyman, yes, even the average breeder of pure-bred animals, has not yet become sufficiently conversant with the situation.

The job of eradicating bovine tuberculosis from the herds in New York State, or any other state for that matter, can be pursued to its finality only by the continued co-operation and supervision of the state and federal authorities. And arguments advanced to prove that the appropriation of public funds to assist the breeders of live stock to eradicate this disease is class legislation, is as weak as to argue similarly that public funds should not be appropriated for the prevention of any disease that is a menace to the health of the people. Certainly the maintenance of the dairy industry is nearly as vital to human welfare as the maintenance of the wheat growing industry. Should the dairymen at this time be obliged to stand the entire loss for those animals killed because of being tubercular, a disease which they could not foresee, they will wisely discontinue the business and take up some other line of farming.

The dairymen of New York State are in the midst of a campaign to clean up their herds and regain a reputation that has been, in part, lost on account of diseased animals in their herds. Most of those who have already had their herds tested are awake to the enormity of the job from a state-wide point of view. The job looms bigger the more one comes in contact with it and yet all agree there is no other way out. Therefore the only thing to do is to plan for the future and pursue this plan with diligence. The breeders know full well that there is no future for them in raising pure-bred animals that are to be constantly exposed to diseased individuals. They know that the tuberculin test must be applied, and although instances have occurred where it has seemed as though the test was not infallible, it is accepted by purchasers and has the stamp of approval of the state and federal authorities. All of this knowledge of conditions and facts strengthens their faith in the work.

Within the past eight months the number of breeders who have signified their desire to have their herds tested, with the thought constantly in mind to have eventually "Federally Accredited" herds, has increased by great strides. So large is this number that the authorities have not a sufficient number of veterinarians in their employ to keep up with the demand for service. Therefore it is rapidly becoming the practice for the breeders in a county to get together, especially those who desire to have their herds tested, and by agreement create a disinterested committee with authority to employ, with the approval and co-operation of the authorities, a qualified veterinarian to test these herds. These men are spoken of as county veterinarians. Each breeder desiring his herd tested applies to the committee and advances the necessary fees to pay all costs incident to the testing until such time as his herd has been duly "accredited". The committee pays the veterinarian and directs his work, which is of course supervised by the state and federal authorities. Even with such a man devoting his entire services to this work the number of breeders requesting to have their herds tested is increasing more rapidly than the veterinarians can make the tests.

Under the existing laws those animals condemned and appraised will be paid for in accordance with the law and the rules governing the work. It is well known that the funds actually appropriated for this work for the fiscal year ending June 30, 1920, have been used up. The obligations of the state incurred since that time will have to be met from appropriations yet to be made. Meanwhile there seems to be no practical way by which the breeders can receive the state and federal indemnities until more funds are appropriated for this particular purpose. It has been thought that some plan could be worked out whereby these claims for indemnities, against the state for example, might be offered as collateral to banks and thus make it possible for a breeder to secure the indemnity funds sooner so that he could replenish his herd with purchased healthy animals, but this plan has not yet become effective.

Meanwhile the New York State breeders are laying out their battle lines to fight the bovine tuberculosis menace to a finish. They are beginning to realize that it is going to mean a long fight, but if they can win they know that the future of the industry is saved to the state. If they do not fight, the other alternative stares them in the face: namely to go out of the breeding business. Human sympathy in common adversity has its blessings for it makes the burden easier to bear. Likewise the courage and faith that springs to life in men who combine to fight a common enemy is greatly to be valued at this time. There can be no going back nor standing still.

The bovine tuberculosis fight must be won or the breeding of high class dairy cattle in New York State is doomed.

New York. F. E. ROBERTSON.

Milch Cows in the United States

The United States Department of Agriculture estimates that on January 1, 1921, there were approximately 25,000,000 horses and mules in the United States; 23,321,000 milch cows; 42,870,000 other cattle; 45,067,000 sheep; and 66,649,000 swine, This report shows a decrease from the previous year of slightly over 1 per cent in milch cows running up to 7 per cent in swine. The total values of all live stock, according to this estimate, declined over two billion dollars, or nearly 27 per cent during the year.

The following table gives the number of milch cows on January 1, 1921, and 1920 for each of the several states:

State	1921	1920
New Hampshire	171,000	176,000
Maine	101,000	103,000
Vermont	275,000	275,000
Massachusetts	157,000	159,000
Rhode Island	18,000	19,000
Connecticut	117,000	118,000
New York	1,448,000	1,493,000
New Jersey	151,000	151,000
Pennsylvania	951,000	970,000
Delaware	45,000	45,000
Maryland	180,000	180,000
Virginia	428,000	428,000
West Virginia	245,000	245,000
North Carolina	331,000	328,000
South Carolina	215,000	213,000
Georgia	470,000	461,000
Florida	156,000	156,000
Ohio	1,009,000	1,030,000
Indiana	727,000	734,000
Illinois	1,028,000	1,060,000
Michigan	856,000	873,000
Wisconsin	1,828,000	1,846,000
Minnesota	1,395,000	1,395,000
Iowa	1,252,000	1,291,000
Missouri	873,000	919,000
North Dakota	464,000	464,000
South Dakota	539,000	561,000
Nebraska	560,000	577,000
Kansas	898,000	935,000
Kentucky	446,000	457,000
Tennessee	386,000	390,000
Alabama	507,000	502,000
Mississippi	571,000	571,000
Louisiana	382,000	378,000
Texas	1,184,000	1,138,000
Oklahoma	549,000	560,000
Arkansas	429,000	452,000
Montana	185,000	185,000
Wyoming	80,000	80,000
Colorado	272,000	272,000
New Mexico	91,000	87,000
Arizona	45,000	50,000
Utah	108,000	109,000
Nevada	32,000	31,000
Idaho	137,000	136,000
Washington	216,000	225,000
Oregon	216,000	220,000
California	577,000	571,000
United States	23,321,000	23,619,000

The Department estimates that milch cows were worth $64 per head on January 1, 1921 as compared with $85 in 1920, $78 in 1919, and $70 in 1918.

When New Yorkers got their lumber from their own pine forests, transportation costs were a dollar a thousand feet, and upper grades cost $20 or $30. Today New Yorkers must pay $9 a thousand to transport lumber from the south, and $20 to get it from the Pacific Coast. Just think of these facts when you consider whether it is worth while to raise timber.

Uncle Ab says: He knows of no nobler altar than the hearthstone of an open fire in an American home.



MARY JANE OF GERAR, SEVENTEEN-YEAR-OLD GUERNSEY WHICH RECENTLY DROPPED A CALF SIRED BY LANGWATER ROYAL 4TH, A SON OF HER DAUGHTER, GERAR PEARL

This calf will be used as the future herd sire at Gerar Farm, Maryland. Mary Jane of Gerar made 495 lbs. fat at eight and a half years of age, 694 lbs. at nine and a half years, and 697 at eleven years.

A Great Bull "to Show People"

The Daughters of Ormsby Korndyke Lad Proved His Worth and Possibly Saved Him From the Shambles

THE story of a great bull slaughtered before his daughters had an opportunity to prove his worth has been told scores of times, with scores of different bulls as the central figures. The story of Ormsby Korndyke Lad is like that in some respects and, fortunately for the Holstein breed, very unlike it in others. He was not slaughtered, but his worth for a long time was unrecognized and several years of his life were wasted.

Six or seven years ago Julius Schmid of New York began the building of a breeding establishment known the country over today as Beaver Dam Stock Farm. At the time, as he himself admits, he knew practically nothing about Holsteins. On the advice of a neighboring breeder he bought of that breeder his half interest in Ormsby Korndyke Lad, a sorry specimen of a bull, underfed and lame. At about the same time he purchased five heifer calves by this bull, paying $450 for them.

When he got the bull home, Mr. Schmid was still undecided about his use. He asked other and more experienced breeders about it and one of them not only advised against using "O. K. L." but succeeded in selling him another bull to be used on the Beaver Dam herd. Fortunately "O. K. L." was not sent to the shambles. As Mr. Schmid says, "He was a good looking bull when we had fed him up. I kept him to show people, but the other bull did the work."

So, for nearly two years this great sire was bred to but one cow. But in the meantime those five heifer calves were growing up and, in spite of lack of care, the first one to freshen made a 21-lb. seven-day butter record and started off wonderfully well on year test. She was none other than O. K. L. Pearl Tula, today one of the old bull's best known daughters, with a mature production of 27,398.2 lbs. milk containing 1,093.4 lbs. fat.

The performance of this first daughter to freshen opened Mr. Schmid's eyes to the value of the bull which had been given so humble a place in the herd. Thereafter "O. K. L." began to get a chance to really prove his worth.

Two years of this famous Holstein sire's life were thus entirely wasted and the calves sired during his earlier years were scattered far and wide, many of them never tested, so that when he died in August, 1920, a majority of his daughters at Beaver Dam were heifers. Consequently comparatively few of his daughters have been tested and yet he had at the end of 1920 more "1,000-lb." daughters than any other sire of the breed.



ORMSBY KORNDYKE LAD, FAMOUS HOLSTEIN SIRE WHICH WAS OWNED BY BEAVER DAM STOCK FARM

Since that time an equal number of the daughters of Sir Pietertje Ormsby Mercedes have made the 1,000-lb. class, each now having 14, a number equalled by no other sire. The daughters of the Beaver Dam sire, kept for two years to "show people", now hold the records for New York State for both milk and fat in the classes for aged cows, senior four-year-olds, and senior three-year-olds, and the record for milk in the class for senior two-year-olds. Mr. Schmid says, "We have made more progress in three years with the offspring of Ormsby Korndyke Lad than we did in twelve years previous spent in breeding Holsteins." With about 60 daughters still in the Beaver Dam herd and over half of them not yet in milk, there is yet a wonderful opportunity for "O. K. L.'s" record to be greatly increased.

Nor was this bull only a sire of producers. His daughters are splendid looking dairy cows. Go through the herd and you can pick them all—those from good dams and those from poor ones. They are wonderfully alike, with fine horns, shapely heads and bodies, and good udders. Their sire is a lesson for any breeder. As it happens, Mr. Schmid bought him for a song, but he would still have been cheap at several thousand dollars, for not less than $150,000 has been received by Beaver Dam Stock Farm for his offspring.

It is wise not only to buy a good bull but to try him out early in life. If his daughters early prove his worth, it is worth while and gives further opportunity for his use. If they disprove his worth, time and money both are saved.

Bran Prices

HOARD'S DAIRYMAN:—The spring price outlook for bran and shorts lacks the air of bullishness so often apparent at this season. The market presents a sharp contrast to the skyrocketing movement during the spring and early summer seasons of a year ago. In asking a dealer or a miller about the market for bran, the reply today is "around $21 a ton sellers," that is, prospective sellers are willing to offer the product at this price. Unlike the extraordinary experiences of a year ago, one seldom hears that the market is without offers. Now it is a buyers' market.

Past records of the feedstuffs industry show that advances in prices for bran and shorts usually occur after the close of the winter season, with the peak of values reached between the early part of April and the middle of May. Such a tendency of prices has made it profitable for both dairymen and hog producers to accumulate stocks of bran and shorts for two or three months' requirements, often enough to carry stock well into June. This year, however, there is a marked absence of buying among the consuming trade for deferred requirements. Instead, the dealer or other handler of feeds who can offer a small sized car of bran and shorts, or a mixed car containing only a comparatively small amount of mill offals, usually obtains the order.

Hesitancy on the part of the consuming trade in buying bran and shorts, while possibly uncommon for this period of the year, is not a new experience for recent months. Virtually since the opening of the crop year last July the trade has bought very sparingly, and, as the prices moved downward with rapidity, the buying on a restricted scale became more and more intensified. There is yet an enormous amount of various feeds remaining on farms of the country, particularly in the sections which are normally important buying outlets for bran and shorts. Corn, for example, which is selling around 40 to 45 cents a bushel in the larger hog producing sections, is being substituted quite extensively for shorts for which farmers must pay around $28 a ton delivered, or fully $10 a ton more than corn. The stocks of both corn and oats are the largest in history, which, in view of the low prices prevailing for the coarse grains on markets, is naturally a stimulant to their more general use. The early pasture season and the generally excellent condition of grass also make for a reduction in the consumptive demand for bran.

The buying of bran and shorts, particularly the lighter offal, by another important outlet, the commercial mixed feed manufacturer, also has been sharply curtailed. The mixer is operating on a far, far more restricted scale than a year ago or at any time the past few years. Because of the relatively low price of the whole grains, the concentrates, and various other feedstuffs, the mixer has been at a serious disadvantage in finding an outlet for his production. Nor is it probable that the feed mixer will assume a more outstanding position as a buyer during the remainder of the crop year. To the contrary, there is reason for the belief that the market for mill feeds will feel to a greater extent within the next three or four months the absence of demand from this industry.

Still another phase of the demand situation requires consideration as a possible bearish or bullish price influence. Absence of the southern cotton planter from the market will lessen considerably the normal strain in the trade. The cotton planter and other consumers of the cotton belt could make excellent use of bran and shorts. Of this there is no doubt. But the South is in a serious position as regards credit because of the declines in cotton, and it is necessarily restricted to a remarkable extent in the purchase of the feeds. The South is buying on a far smaller scale than normal for the early spring.

The strongest argument for a bullish bran and shorts market is the probability of a material reduction in the output of milling plants in both the spring and winter wheat sections. Demand for flour usually slackens around this period of the year, with a resulting falling-off in the activity of milling plants. Still, the flour consuming trade has followed a policy of buying on a hand-to-mouth basis, and, without an accumulation of stocks in hands of the larger trade, there is some doubt as to any further falling-off in production. The mill output for some months has averaged hardly more than fifty per cent of normal. Any very meager reduction in the output by mills will probably be offset by the offerings of bran and shorts which have been placed in storage by millers and speculative jobbers in anticipation of the usual spring rise in prices.

Despite what appears to many as an extremely bearish prospect for the wheat mill feeds, such an attitude is not particularly advisable for the present, no more so, in fact, than the opinions of some bullish operators who are talking a bulge of more than $5 a ton. The fact stands out quite significantly that some consumers, including both dairymen and hog producers, will be slow to turn away from the use of bran and shorts during the spring period irrespective of the relatively high prices for the offals or the abundance of other feeds available in their immediate locality. This may be sufficiently general to sustain values, though hardly permit of even a small bulge during the season of heaviest feeding, until about the middle of May. But consumers can anticipate with only a small degree of doubt that bran and shorts will sell at a considerably lower level by the time the new crop year approaches in July.

Missouri. SANDERS SOSLAND.

Handy Hitch for Wagon to Auo

HOARD'S DAIRYMAN:—Some days ago at a public sale I saw an auto drive up trailing a farm wagon. A cow was loaded in and the outfit started home at about 8 miles an hour. I noticed how the wagon was hitched to the machine because so often the manner of hitching makes trouble.

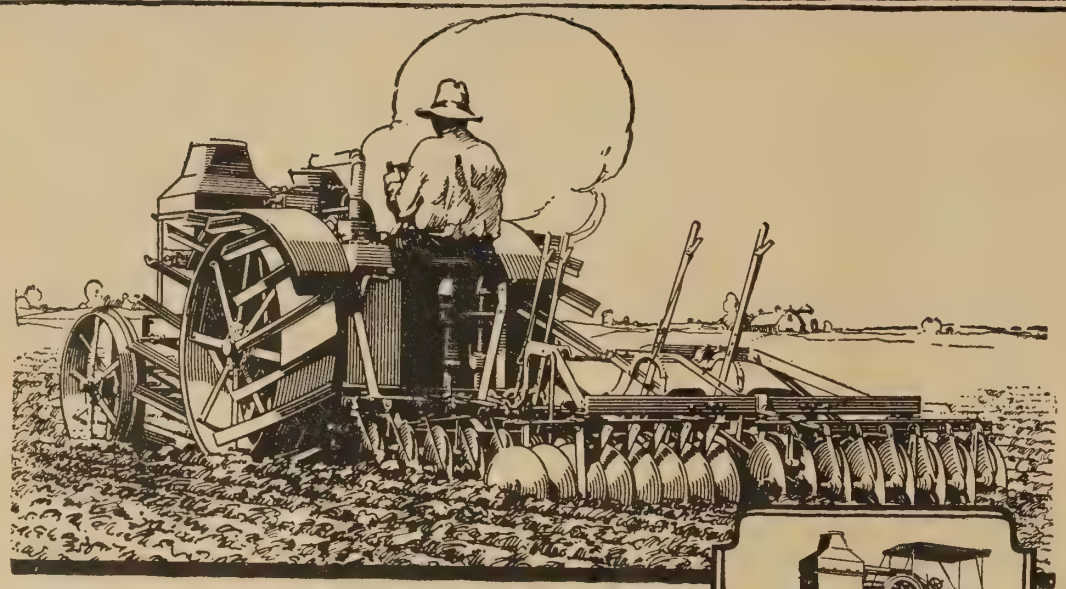
A farm doubletree was tied just inside of the loop of the rear springs. Then the tongue of the wagon was wired with heavy wire to the center hole of the double tree. This made the wagon pull straight in the track and allowed it to turn the corners without maring anything about the auto body.

Ohio. EARL ROGERS.

Must be silos pay. Only one-third of the farms in New York State have 'em, but two-thirds of the cows of the state are kept on these farms.



Colantha Changeling Mooie, a senior 3-year-old Holstein cow which has made 614.2 lbs. milk, 25.17 lbs. fat, in 7 days and, in 30 days, 2706.4 lbs. milk, 103.66 lbs. fat. She is owned by John and Chas. Wittig of Wisconsin.



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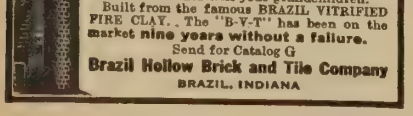
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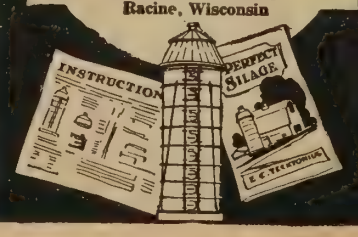
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Electricity for Farm Lighting

(Continued from page 450)

age, are cheaper, that fewer are needed for a given plant, and that the internal condition is more easily determined than in the nickle-iron cells. In spite of their greater first cost the nickle-iron cells are probably the better investment for the average user.

The small individual lighting plants are generally rated according to the amount of current they will deliver during a certain period, usually eight hours. Thus an eighty ampere hour plant will deliver a current of 10 amperes for 8 hours, or 8 amperes for 10 hours, or 1 amper for 80 hours. When one ampere of current is propelled by one volt pressure the result is one watt of power. This unit is so small that it is usually multiplied by 1000 and is then known as kilowatt, which is equal to 1.34 horsepower or 746 watts equal 1 horse power. A ¾ K. W. (kilowatt) generator will deliver practically one horse power. Most generators are designed to stand a 50% overload for some time without damage.

Most electrical appliances, such as lamps, motors, percolators, flat irons, etc., have their current consumption rate or wattage stamped or otherwise marked on them somewhere, so that it is simply a matter of figuring to determine how many of them can be used and for how long a time. For example, with the cells of an 80 ampere hour battery fully charged and delivering current at 32 volts, how long can an electric flat iron drawing 525 watts, an electric motor delivering one-sixth horse power, and six 25 watt lamps be operated before the battery will need recharging. Remember, watts equal volts times amperes; amperes equal watts divided by volts; volts equal watts divided by amperes; horse power equals watts divided by 746; and a kilowatt equals 1000 watts. The example given above is worked as follows:

The 525 (watts used by the flat iron) divided by 32 (volts in current) gives 16.4 amperes.

A one-sixth horse power motor will use 124 watts (one-sixth of 746), and this divided by 32 (voltage) gives 4 amperes.

The six 25-watt lamps will use a total of 150 watts, and this divided by 32 (voltage) gives 4.7 amperes.

The total amperes are 25.1. As the storage battery will supply 80 amperes, it will run the above equipment for 5.2 hours (80 divided by 25.1). This battery is discharging at a high rate, the usual discharge being about 10 amperes per hour.

This same 80 ampere hour battery will keep one 25-watt lamp burning 102½ hours, or 10-15 watt lamps burning something over 17 hours.

Perhaps the most important single feature about a small lighting plant is the storage battery. It is not any too long lived at best and it may be badly damaged if not absolutely ruined by improper usage. All cells of whatever kind have a normal charging and discharging rate and these rates must not be exceeded if the battery is to last any length of time. Most lead cells have a discharging rate of about 10 amperes but the manufacturer always gives the rate and this rate should be followed. The rate depends entirely upon the size and number of plates in the cell.

When a cell is charged too rapidly one of the plates goes into solution faster than the other plate can take it on evenly. The result is that a certain amount of sediment will form at the bottom of the jar and the negative plate will build up so rapidly that it will tend to warp. If the discharge takes place too rapidly the same condition will prevail except that the posi-

tive plate will tend to build up too quickly.

With the ordinary plants the greater danger is in overdischarging or in discharging too quickly. Most plants are so designed that the batteries cannot be charged at more than their normal rate and when fully charged the engine is stopped. There is, however, no way of preventing the overoading of a battery. In general the discharging rate should never exceed the charging rate. With the average ¾ K. W. plant it is advisable to run the engine whenever an electric flat-iron is being used. Most plants are equipped with some sort of device which will either automatically stop the engine when the battery is full or will indicate that fact by setting a bell to ringing or light a lamp or in some other way attract attention. On the other hand, the first intimation that the battery is empty is too often given by the dimming lights. Whenever a battery is discharged till the voltage drops below a certain standard, depending on the cell, considerable damage is done if the discharge is allowed to go farther.

Another very important thing in connection with a low voltage lighting outfit is to see that the wires are large enough. The necessity for large wires can be shown by again referring to the likeness in principle to water under pressure. Water flowing from a half-inch pipe will fill a barrel in 10 minutes, say, if the pressure is 50 pounds per square inch; if the pressure is reduced to 25 pounds per square inch it will take 20 minutes to fill the same barrel. The quantity of water delivered is then directly proportional to the size of the pipe and the pressure. The following statement speaks for itself; if the pipe (wire) is small the pressure in pounds per square inch (voltage) must be higher to deliver a certain number of gallons in a given time (number of amperes).

The allowable capacity of various sized wires has been determined by the National Board of Fire Underwriters and should be followed. The capacity of a few of the more common sizes is as follows:

Size of wire Number	Rubber insulation Amperes	Other insulation Amperes
18	3	5
16	6	10
14	15	20
12	20	25
10	25	30
8	35	50

Rice for Stock Feed

The attention of stock feeders is drawn by Harry Hayward, formerly Dean and Director of the Delaware Agricultural College, to the value of rice in the farm ration. He states that the United States is now producing about thirty million bushels of this crop and that the twenty-one million acres available for rice growing could be made to produce about seven hundred million bushels. He indicates that the six million bushels of cull rough rice in the 1920 crop could very well be used in feeding farm animals.

Rice is similar in composition to corn and should be fed with such nitrogenous roughages as the common legume hays or in a ration in which cottonseed meal, peanut meal, or other protein concentrates are used. It may supplement or replace corn in the ration for dairy cattle or in fattening cattle or hogs. Pound for pound, Mr. Hayward estimates that it is a better feed than corn, especially in the fattening of hogs.

He warns that since the rice kernel contains considerable oil, the product becomes rancid if kept very long after the kernel has been ground, especially in hot weather. It is necessary, therefore, to grind a small quantity at a time and feed it when freshly ground.

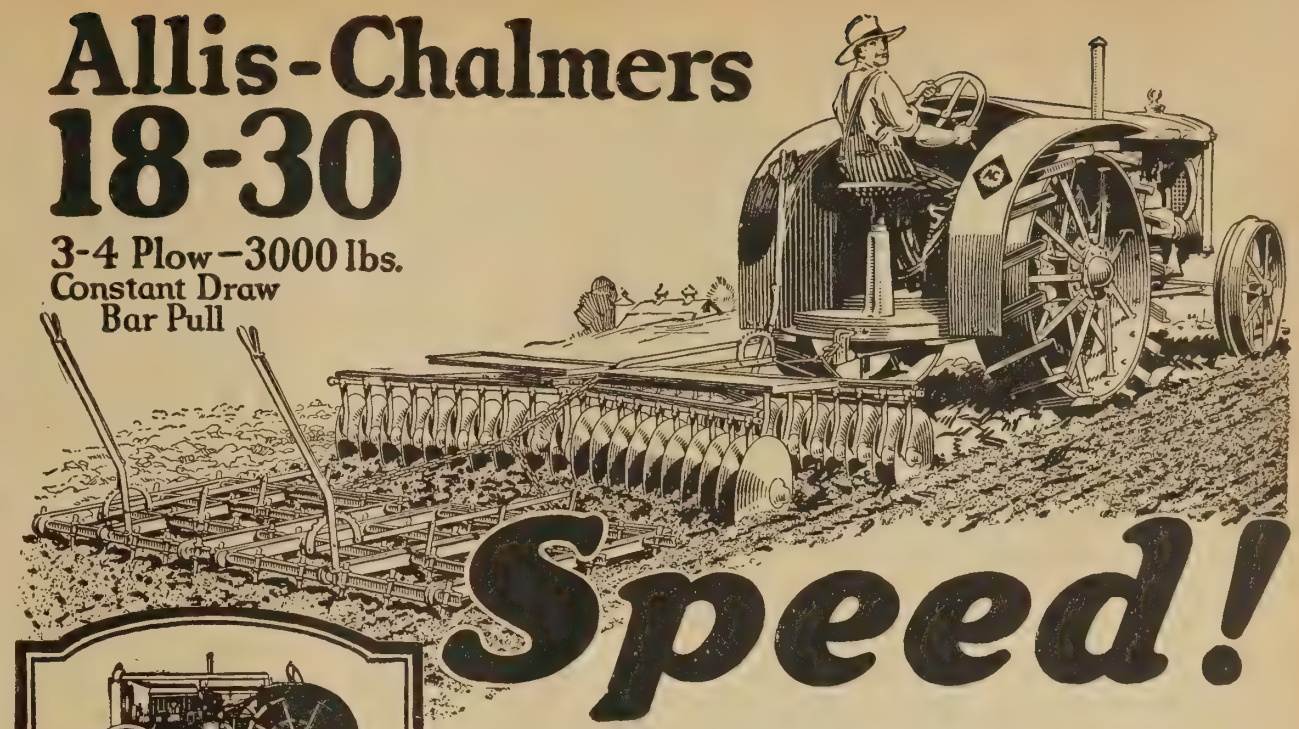
County Supervisors Aid in Improving Cattle

The work which a county board of supervisors can do in promoting the use of better cattle in a community is reported by Thomas G. Roberts, herdsman at the Ontonagon County Farm in the upper peninsula of Michigan. He states that the supervisors decided about ten years ago to purchase pure-bred Holstein cattle for the Ontonagon County Farm. Their object was to breed stock which could be disposed of to dairymen in the county at prices which would enable them to purchase first class pure-breds. As a result of their purchases, a herd has been built up from which farmers have bought many good bulls, doing away with the use of scrubs. Eight head of females were purchased at the beginning. During the last three years a grandson of Colantha 4th's Johanna has been used. His daughters are so promising that the institution will conduct official tests on them next year.

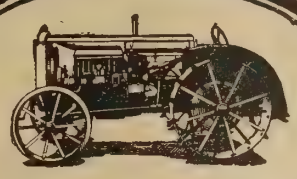
Mr. Roberts states that clover is grown very successfully in the county, as well as small grains. He believes that alfalfa will soon be grown extensively. He says that markets are becoming good since there are large markets nearby and since lake transportation enables dairy farmers to ship their products cheaply.

Allis-Chalmers 18-30

3-4 Plow—3000 lbs. Constant Draw Bar Pull



Speed!



Watch for the A-C 12-20!

EVERY feature of the A-C 18-30 is found also in the new A-C 12-20 2-3 plow tractor. Like its larger partner, the 12-20 is remarkably accessible. In 15 minutes clutch shoes can be taken out for re-lining; removal of two large side inspection plates exposes entire crankcase. Large-scale production makes this tractor, like the 18-30, one of the greatest values ever offered.

How You Profit by Seven Years' Perfecting

SEEDING time coming—discing and harrowing to be done—and soil must not be robbed of precious moisture content! These are the days when the Allis-Chalmers owner takes advantage of the weather; picks the choice time when the ground is *right*; and thus makes sure of bigger, better crops.

Speedy power, that does in hours what once took days; *conquering power*, which quickly masters sudden overloads—this is just the service Allis-Chalmers tractors guarantee. So the Allis-Chalmers owner faces each Spring's rush with calmness. He knows his tractor is a faithful, certain servant—that does his work on time and at the lowest cost.

Engineering Ideal Guided $42,500,000 Company

Seven years ago the $42,500,000 Allis-Chalmers Company—with over a half-century's experience in building only the highest quality machinery—started work on a super-tractor. And from the very first, Allis-Chalmers engineers championed one fundamental ideal: resist the strains of heavy farm duty and thereby lengthen tractor life.

Naturally, quality and advanced design—not bulk and weight—formed the basis upon which Allis-Chalmers sought for durability. Motors, transmissions, final drives of all types were tested, proved and improved—built and rebuilt time and time again. At last, a completed A-C 18-30 took the field. Performance surpassed expectations—but still was production delayed!

Finally, A-C 18-30's, in limited numbers, were released. Working in every kind of soil, and often held at full rated horse power hour after hour, each 18-30 stood the severest punishments that could possibly be given a tractor. And not a single owner made complaint!

Seven years previous, Allis-Chalmers engineers had set out to minimize tractor strains in heavy-duty farm work. To prove that they succeeded, we welcome anyone asking an A-C 18-30 owner for the facts about the service he is getting. Now, after seven years' development—climaxing the expenditure of $3,000,000—one of the world's largest manufacturing organizations goes into volume production!

WRITE FOR BOOKLET TODAY: Ask for the 18-30 or the 12-20 booklet—or both—giving complete details of exclusive Allis-Chalmers construction features which make these tractors so superior.

DEALERS: Write today for attractive dealership and jobber proposition. Share in the mammoth sales co-operation program which goes with Allis-Chalmers 100-tractor-a-day production capacity.

ALLIS-CHALMERS MFG. CO., DEPT. 28G Milwaukee, Wis.

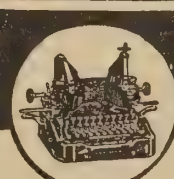
Discs and Harrows 30 Acres in a 10-Hour Day

UNDER ordinary soil conditions the Allis-Chalmers 18-30 handles a 10-foot double disc and a 11-foot harrow (or culti-packer). Working at a speed close to three miles per hour—with tremendous reserve power always at your command—consider how rapidly and thoroughly every other operation in the preparation of a "mellow" seed bed can be carried on!

For belt work, too, this tractor is most adaptable. Equipped with responsive automobile type of steering, it is easy to line-up to any machine. A 28"-30" separator or the largest size ensilage cutter (filling a 40-foot silo), come within its range of power. An automatic governor (Allis-Chalmers' own make) holds engine at a constant speed—varying the mixture according to the load.

Watch ALLIS-CHALMERS this Year AC MILWAUKEE

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A brand new Oliver Typewriter at a $36 saving. And we send it for free trial. If you keep it, pay us only $4 per month. You can now afford it. Our new booklet, "The Typewriter on the Farm," explains all the uses, how to systematize your accounts and correspondence. It shows how easy it is to type with an Oliver.

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National Farm Bureau Notes

Beginning on April 11, the Executive Committee of the American Farm Bureau Federation and representatives from the various state farm bureau federations will meet in Washington, D. C., to work out a definite legislative program to present before the coming session of Congress. President J. R. Howard regards the legislative measures to be considered by the Sixty-sixth Congress as of such vital import to the farmers of America that he believes it desirable for the committee of five to have the counsel and support not only of the entire executive committee of the American Farm Bureau Federation, but of as many other farm bureau representatives as possible. The conference will carefully consider policies of interest to organized agriculture, and also study ways and means of most effectively speaking the farmer's mind with respect to such policies. Each state farm bureau federation will be asked to send at least one representative to the Washington legislative conference.

Tariff and Tax Measures

The Legislative Department of the American Farm Bureau Federation is giving attention to tariff revision and tax distribution, outstanding questions facing the special session of Congress early in April. No one yet seems able to predict with assurance whether there will be a temporary tariff followed by a general revision of all schedules, or no emergency action pending the full consideration of the entire problem.

The Washington office warns farmers that widespread influence and publicity are being used to bring about the abandonment of the excess profits tax and surtaxes as soon as possible after Congress convenes.

Reorganization of departments along many lines is being discussed by government officials. Some of them have suggested that the Department of Commerce take over from the Department of Agriculture the Bureau of Public Roads and the Bureau of Markets. The farmer naturally feels that his interests are considered paramount in the Department of Agriculture, and he will not favor such a change unless vital reasons for it are advanced.

Ohio to the Fore

Ohio steps into the lead of all the states with paid-up Farm Bureau membership for 1921. Treasurer Harry G. Beale of the Ohio Farm Bureau Federation reports that 62 county membership drives have been completed. The paid-up membership in the Buckeye State is 63,513.

Helps Utah Beet Growers

From Salt Lake City comes word that the sugar beet committee of the Utah State Farm Bureau saved $2,600,000 for the growers in negotiating a $15,600,000 contract for the 1921 crop.

At the beet growers' conference, held under the auspices of the American Farm Bureau Federation in Chicago on Jan. 17-18, a nationally uniform contract was recommended in which the price per net ton of beets is based on the year. The differential ranges about $6.45 per ton for beets when sugar is 5 cents per pound to $19.35 per ton for beets when sugar is 15 cents per pound.

Courses in Co-operative Marketing

The long look ahead has convinced officials of the American Farm Bureau Federation that one of the chief difficulties to be met in the co-operative marketing of farm crops will be the lack of trained men to man the marketing machinery efficiently. Accordingly, President J. R. Howard has written to the presidents of the various state universities and agricultural colleges and suggested that their institutions would render a great and appreciated service to agriculture by establishing courses in co-operative marketing. The need of young men trained in the mechanics of co-operative marketing is so urgent that it is to be hoped that both short and long courses in this subject will be forthwith provided.

Testing Clover Seed

HOARD'S DAIRYMAN:—I am not going to say or guess how many farmers have been disappointed by poor stands of clover which may have been due to sowing seed of low vitality or poor germination, but if it pays so well to test seed corn why should it not be as necessary to test our clover seed before sowing.

The viability of clover seeds is often lowered by the method of handling and storage, so it is a good idea to check up on the test given by the dealer in order to be sure. Seed that we thresh ourselves is invariably strong and we can keep it so for two years or more in dry storage, but it will be well to check up on it before sowing it.

A good stand of clover makes us happy and lends a feeling of security. A poor stand brings a lot of regrets for the whole year, for we must either reseed or break the course of our rotation. If our system of management calls for eight pounds of clover seed of high test and we sow seed that germinates only 80%, we shall get 80% of the desired stand of clover, other conditions being favorable. In order to secure a full stand with 80% seed we must use ten pounds of seed. That is worth thinking about and helps to establish an excellent reason for testing; it is like buying barn and grain insurance.

The best method I have found for testing is the rag doll, as used for corn. It is simpler and more reliable, I think, than the use of blotting paper, if one precaution is taken. I take a piece of muslin about two feet long and five or six inches wide to test three or four samples of seed. Two hundred seeds are usually sufficient to get a good test.

Spread the seeds out in the middle of the rag not closer than six or eight inches from the end that you begin to roll. Precaution: if the seeds are placed right at the end where you begin to roll the cloth they will not germinate so well because it seems that they are drowned or smothered by the water and cloth. Placing seed in that way I have gotten only fifty to seventy per cent germination when in reality the seed tested 100%. Fold in the sides of the cloth and roll the cloth loosely. I put this rag doll into an ordinary glass tumbler and add just enough water to thoroughly dampen the doll, then keep it on a shelf, uncovered, for four to seven days.

About the third day I usually get anxious to look in and see what proportion of seed germinates quickly and vigorously; it is a good thing to know. I like to see sprouts a half inch long in four or five days when the seed is kept in a moderate temperature; it shows that the seed is first class if the most of it is sprouted in that time, though many good seeds, especially if they are not scarified, will sprout several days later.

If the first test is disappointing and the seed does not germinate well it is a good idea to retest. One lot of seed I tested last winter gave about 75% test, and I began to believe that we had bought a poor lot of seed, but later tests showed it to be near 98% with quick, strong germination. If a bag of seed comes with a tag showing 98%, it should and is pretty likely to give that test under favorable conditions. It doesn't take long to make a test from each bag by the rag doll method and it is really a lot more interesting and instructive to the farm boys and girls than many believe who have not tried it.

Indiana. J. L. JUSTICE.

Ayrshire Breeders' Annual Meeting

To Be Held at Springfield, Mass.

At the meeting of the Board of Directors, it was decided to hold the annual meeting of the Ayrshire Breeders' Association in Springfield, Mass., Thursday, June 9, 1921, and that there would be a National Ayrshire Sale held the day following.

It was further voted that Messrs. A. H. Sagendorph of Spencer, Mass., as chairman, with Stephen Bull of Racine, Wis., George Stockwell of Boston, Mass., and R. L. Knight of Hope, R. I., be elected a sale committee for the 1921 National Ayrshire Sale, with authority to act.

Although an earlier decision had been made to hold the annual meeting of the association and sale this year in the Middle West, representatives of western breeders requested that these plans be changed and that the annual meeting be held in the East again this year. Springfield, Mass., was the choice and the annual meeting goes back for the third consecutive year. Ayrshire breeders will be at home in Springfield and it is hoped that there will be a large attendance.

CLYDE N. SMITH,
Secretary, *pro tem.*

Krumrey's Address to Cheese Producers

At the annual meeting of the stockholders of the Wisconsin Cheese Producers' Federation February 9, Henry Krumrey made the following statements in his address as president:

On January 1, 1921, this Federation had marketed the cheese for its members for six years and nine months. During that time it marketed 66,758,951 pounds. Of that amount, 28,080,838 pounds were handled during the last two years. This cheese sold for $15,824,157.56.

As shown by the investigation made last year by the Economics Department of the University of Wisconsin and the Division of Markets of Wisconsin the expense of marketing was extremely small. During these six years and nine months this cheese was sold to thousands of different concerns throughout forty states of the Union, and less than $2,700 was lost on poor accounts which were charged off, and of this amount a portion may yet be collected.

You have demonstrated that farmers can market their cheese co-operatively through an organization of this kind and do it cheaply and efficiently. During this time you have received as much per pound for your cheese as those factories not in the Federation, and over and above that you received in dividends or deferred payments, for the years 1917-1918 and 1919, $65,514.30 besides building, and paying for a warehouse and storage, which with grounds and equipment cost $61;547.05, and which could not now be replaced for a sum considerably larger than that. Furthermore, there is $23,877.15 remaining in your treasury.

All farm products suffered a great decline in price during the last year, cheese along with the rest. Very few concerns engaged in buying and selling of farm products during 1920 made any money, and many of them suffered big losses, and not even cheese dealers, I think, will be burdened with paying a heavy income tax on their 1920 earnings. The Federation was up against this same condition, as it was an unusual year.

Longhorn cheese brought 33c on the board during January, 1920, and it was down to 20½c by November 1st of that year. I think that you are to be congratulated that your organization went through this period of price readjustment without suffering a heavy financial loss. Although we are only a few thousand dollars to the good we should be thankful for that. As a rule, no money can be made in handling farm products when the market is declining.

The great bulk of the cheese handled by the Federation consists of Longhorns, and it is significant that the board price on this style of cheese for a number of years now has been on the average considerably higher than the board price on Daisies and Twins, of which the Federation handles but few, and this in spite of the fact that it was worth at least ½c per pound more to manufacture Daisies than to manufacture Longhorns. It is also significant that the consumer throughout the country has paid fully as much per pound for Daisies and Twins as he has for Longhorns, although the producer sometimes got from 3 to 5c more per pound for Longhorns than he did for Daisies and Twins.

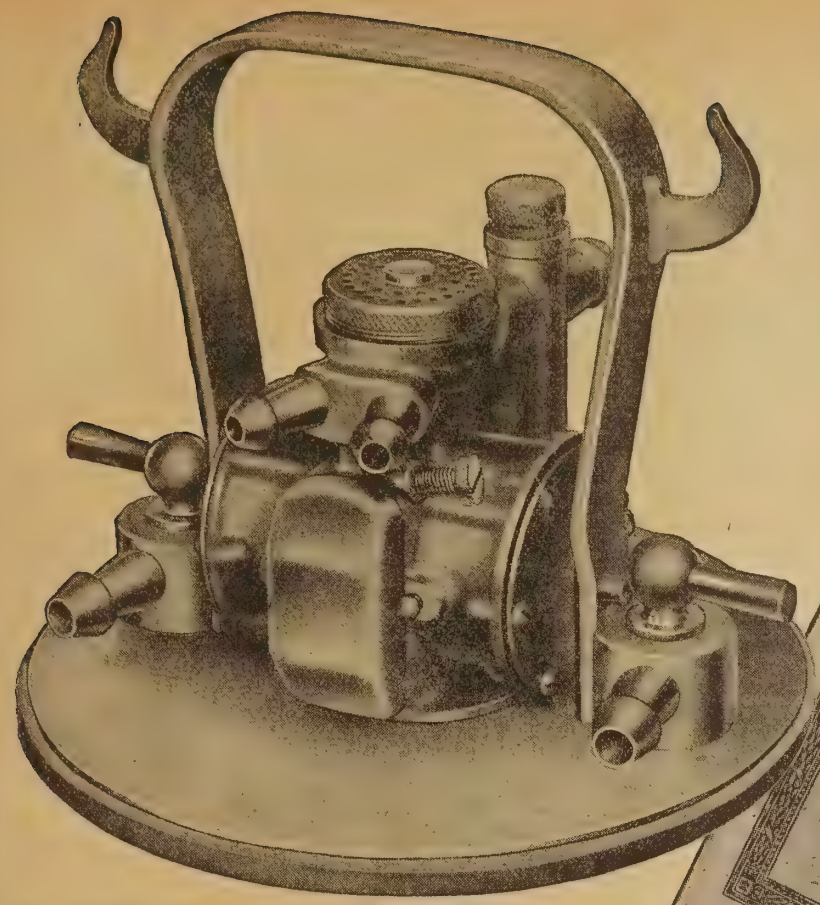
Calf Club Guernseys Make Good Records

HOARD'S DAIRYMAN:—The first six heifers owned by members of the Boone County Guernsey Calf Club of Indiana have completed their yearly records in production as a part of the calf club work with an average production of 346.2 pounds butterfat and an average of 7,256 pounds milk as two-year-olds. One of the heifers made 400 pounds butterfat and 8,285 pounds milk and four others of the first six produced over 300 pounds butterfat.

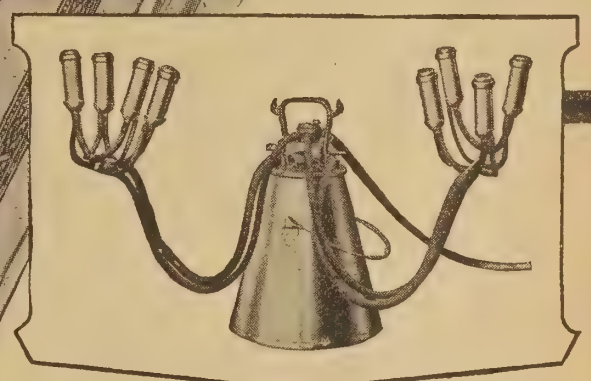
So far as is known, this is the first calf club in the United States to have completed a three-year calf club project and to have finished the records of production. Certainly this is a mighty fine showing for production when it is considered that these records were made under the feeding, care, and management of boys and girls of high school age or younger. Three of the six records are official Advanced Registry records conducted under the supervision of the American Guernsey Cattle Club.

These heifers were secured in July, 1918, by the members of the Boone County Calf Club from an importation of calves brought over from the Island of Guernsey. They have been entirely developed by the boys and girls and in addition to making good records of production they are excellent individuals, well grown, and of good showyard type. One of these heifers won third prize at the National Dairy Show at Chicago this year and as a yearling was junior champion at the Indiana State Fair.

Indiana. C. R. GEORGE.







Never Before—
An Absolute Guarantee
Against 4 Years' Ordinary Wear

HERE'S a guarantee on the new Empire Pulsator that covers not only materials and workmanship but 4 years' ordinary wear. That's insurance of the strongest kind. It means that with the Empire you buy not simply a machine but a *guaranteed period of milker service.* We not only stand squarely back of the machine, but of the principle on which this new pulsator works. We couldn't afford to make this guarantee unless we knew that the Empire Pulsator is as perfect in action and as durable as mechanical skill can make it.

A pulsator must be more than perfect in operation. It must be so strongly and simply built as to stand use over a period of years. A glance at the new Empire Pulsator will show you that this has been accomplished. Simple and self-contained, damage is practically impossible. Every mechanical principle employed has stood the two tests—perfect operation and durability.

The Empire Pulsator is sanitary to the last degree—no milk can get into the piston chamber—no dirt or oil can get into the milk. Two traps are provided which take care of this.

Uniform action is absolutely necessary in a pulsator. The Empire is so constructed that even with a change in vacuum within the operating range *there is no change in the speed of the pulsator.* Every stroke is positive, uniform and fully delivered.

Many dairymen who have been using Empires now for five years tell us that their machines are in just as good condition now as they were when installed. Pretty good evidence of Empire quality of material and construction this, but even more important they also report their cows in as good or better condition than before the machines were used.

You want to get every dollar possible out of your dairying. You want to reduce the labor to the lowest point possible. Then it is squarely up to you to write today for our catalog 1-M.

EMPIRE MILKER
THE STANDARD OF THE BETTER DAIRIES

The "Family Coat of Arms" of the leading line of Dairy Machinery—EMPIRE.

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The Most Profitable Feed You Can Buy

When you are building up your herd you don't buy scrubs at any price.

You pick the cows you know will produce.

Do you buy your feed according to the first cost—or on the basis of what you get—*the profit it puts in the bank?*

Larro users are unusually successful because they buy their feed as they buy their cows—they buy Larro because it makes more money for them—because it is the most profitable.

The Larro Guarantee reproduced below means just what it says—you get more milk or you get your money back—and we will be glad to refer you to dairymen who have been using Larro for years under this guarantee. Write for literature and name of nearest dealer.

The Larrowe Milling Company

208 Larrowe Bldg. Detroit, Mich.

(8)

Larro *"You Get More Milk or Your Money Back"*

The Ready Ration For Dairy Cows



The World's Largest Hay Market

(Continued from page 447)

spective buyer may have had several cars of the quality he desired offered. Thus, the prices paid are entirely dependent upon demand and supply conditions. As to who wins in the trading is uncertain, of course, but it is a fact that the farmer or dealer who ships the best hay invariably receives the greatest returns. The dairyman or other user of hay who buys on order need only describe as accurately as possible the quality of hay he desires, and he can expect a purchase at as cheap a price as is within the power of the dealer.

The Cost of Selling

The shipper, or seller, pays for the plugging, the fee for which is 75 cents a car. There is another charge assessed against the shipper for weighing, which amounts to 75 cents a car. There is a commission charge of $1 a ton, or minimum of $10 a car, on hay, and 75 cents a ton, or $7.50 minimum per car, on straw. Also, there is a charge of 50 cents a car as watchman's fees, this protecting shippers against stealing from cars. These charges, aside from the commission, are taken by the Kansas City Hay Dealers' Association, but they are not in the form of profit, merely covering the actual expenses entailed by the organization for the various plugging, weighing, protecting, and other duties it performs. The shipper is served by a well directed organization, which pays salaries for only a single officer, the secretary, who is chief inspector, and at a minimum of expense.

A charge of 75 cents a ton is made for buying hay and straw on commission, with a minimum of $7.50 a car. However, the bulk of the hay sold at Kansas City is not obtained by consumers or distributing dealers on commission, but through net purchase prices agreed upon between the dealers and the buyers. A number of dealers specialize in making sales to consumers and their agents, quoting the consuming trade from day to day. Other dealers specialize in the handling of consignments for producers.

Pea Green Hay in Largest Demand

The demand on the Kansas City market shows clearly that the greatest and broadest outlet is for pea-green alfalfa, very leafy, not too woody nor too coarse. Comparatively large quantities of hay are received on the Kansas City market which either show cutting at the wrong date or improper curing. As a general rule, alfalfa hay with its greatest commercial value is cut, not according to the bloom, but according to the growth of the sprouts or the new growth of the plant. It is important that the alfalfa should be cut before the sprouts or the shoots attain such a height that would permit the sickles to include them in the cutting. The sprouts or shoots are the next crop, and often when cutting according to the bloom period the sprouts have reached such a growth as to force cutting along with the matured alfalfa. The result is, of course, fewer cuttings and less tonnage in the alfalfa crop.

Shipments of alfalfa and other hay are made from Kansas City to points in the New England States, Wisconsin, the Atlantic Coast, and the South and Middle West. While Montana and Wyoming are normally considered sources of supply, Kansas City has shipped hay to those states during periods of extremely cold weather and low local supplies of forage in that territory. During the European war Kansas City sent hay to France. Since the great advance in freight rates last August Kansas City, along with other markets, has suffered a sharp shrinkage in business, owing to the excessive cost of making shipments. For the first two months of this year Kansas City has received about 6,300 cars of all varieties of hay, compared with more than 13,000 cars in the same time in 1920.

Preparing for a Dairy Tariff

HOARD'S DAIRYMAN:—New England dairy farmers are taking the lead in securing accurate and dependable statistics for the use of the Ways and Means Committee of the incoming Congress when it begins to consider the question of a tariff. At the suggestion of the New England Milk Producers' Association the various farm organizations of this corner of the country have come together and appointed a joint committee to study the situation and to prepare such data as will be of use in framing a tariff on dairy products which will adequately protect the dairy interests of the country and of New England in particular.

They have good reason to be active in behalf of a tariff on dairy products. More than any other section of the country they are open to competition from Canadian milk and cream and from butter and other by-products from Denmark and other foreign lands where labor is cheaper and where living standards are decidedly lower. It is a matter of preservation of the dairy industry in New England with them and they hope that other sections of the country will take similar action in organizing committees, so that the right kind of data can be secured and presented in a way that will be convincing to those who will frame the new tariff.

In getting this New England committee under way the New England Milk Producers' Association, as the all-inclusive organization, took the lead. The association sent letters to the presidents of the farm bureau federations in every New England state, to the dairy departments of the state colleges, to the dairy divisions of the state departments of agriculture, the masters of state granges, and the presidents of the state dairymen's associations, asking each organization to send a representative to a conference in Boston for the discussion of the tariff situation.

It was the unanimous decision of the representatives of all these organizations that New England should take a prompt, decisive, and united action to make its tariff wants known so far as dairy products go. In order to get official backing from each organization it was decided to ask the various organizations in each state to choose an official representative from that state to serve on a permanent working committee. With these six men will be associated one representative of New York State, or that section of it which ships milk into Boston and whose interests are identical with New England's and one member representing the New England Milk Producers' Association.

It was the decision of this committee to immediately start on four distinct lines of work. The most important is to secure data on costs of production in Canada, especially that

portion of Canada which is immediately adjacent to New England and where considerable milk is already being shipped into New England. It is known that labor and feed costs are lower there, and that living conditions are on a less high standard than in New England, also that the conditions under which milk is being produced are under less supervision than in the states. But the committee will attempt to secure information as to the exact relation of costs of production on both sides of the line and of other differences in conditions under which milk is being produced.

Another important piece of work which is being undertaken by the New England dairy tariff committee is to collect and correlate the information regarding costs of production already available in New England. The state colleges, cow test associations, and departments of agriculture have much valuable material of this nature. It was largely gathered on a state or county basis. It will now be assembled, correlated, and put in such form as to be available for effective use by the New England committee or by a national committee if one is organized. At present this data is of use only in the state in which it was secured. Properly brought together it will have a New England-wide and even a nation-wide significance.

A third project which the committee has undertaken is a study of the needs of protective tariff legislation as regards butter substitutes and the substances from which they are made. A special committee will take up this side of the question of securing definite and accurate information. The fourth project of the committee is to prepare an adequate presentation of the need of preserving and protecting the dairy industry in New England for the welfare of the consuming centers in the southern part of the New England States. Massachusetts, Rhode Island, and Connecticut now comprise the most densely populated area of the United States. More and more it is being recognized that the welfare of these cities and their people depends in large measure on a normal and healthy agriculture in the nearby territory. That means a prosperous and stable dairy industry.

The New England committee consists of M. D. Jones, farm management specialist of the Maine state college of agriculture; H. N. Sawyer of the New Hampshire Farm Bureau Federation; W. N. Cady of the Vermont State Grange; O. E. Camburn, head of the dairy division of the Massachusetts Department of Agriculture; Joseph G. Alsop, president of the Connecticut Dairymen's Association; Dr. George R. Little of New York, country physician and practical farmer; and Wesley H. Bronson, head of the statistical department of the New England Milk Producers' Association. It is looked upon as the strongest combination of dairy interests ever assembled in New England.

Massachusetts. HARRY L. PIPER.

Manitoba's Output of Dairy Products

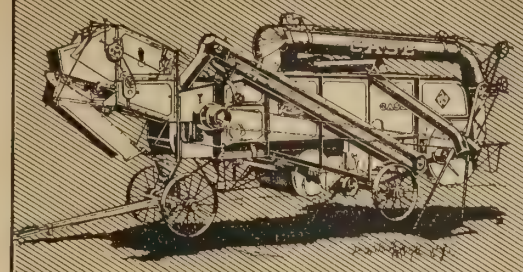
The total value of dairy products produced in the Province of Manitoba during the year 1920 amounted to $15,939,846, according to the American consul at Winnipeg. More than 25,000 farmers in Manitoba are engaged in dairying and about 1,000 are milk shippers. During the year 17,209,083 lbs. of butter were sold of which amount 7,668,802 lbs. were creamery and 9,540,281 lbs. dairy butter. The average price received for creamery butter was 55c and for dairy butter 43c per pound. About 226,229 lbs. of cheese were sold at an average price of 27c per pound and 153,254,382 lbs. of milk, averaging 3.9c per pound.—Market Reporter.

Johne's Disease

Johne's disease, a strangely baffling disease very much like bovine tuberculosis in many of its symptoms, has been making a somewhat disconcerting spread in Wisconsin. The Wisconsin Experiment Station is investigating the disease and trying to perfect a method for detecting it with certainty. A vaccination material called Johnin, which corresponds to tuberculin in the testing of tuberculosis, is used.

Last year seven herds of dairy cattle were tested. Of these, 7 per cent, or 24 of the 325 animals tested, reacted. In post mortem examinations the tissues of 15 of the reacting animals were studied microscopically. Bacteria resembling the bacillus of this disease were found in 14 of the 15 cows. The Station is trying to develop a more simple method for microscopical discovery of the bacilli. It has been impossible to find the disease organism deeper than the submucous coat of the intestines. This is taken as evidence that the organisms are taken into the body through the mouth. It indicates that one means of preventing the spread of the disease in the herd is to see that the feed of the animals is not contaminated by manure.

Coal ashes have mighty little fertilizing value; wood ashes have more than ten times as much. But coal ashes help to loosen a stiff clay soil.



Case steel-built, galvanized Threshers are made in the following sizes: 20x28, 22x36, 26x46, 28x50, 32x54, 36x58 and 40x62



Look for the EAGLE Our Trade Mark

Within Your Grasp

FROM the time the seed is planted until the threshed grain is stored safely in your granary or the local elevator, your crop *is within your grasp only once*—and that is when it is harvested and waiting to be threshed.

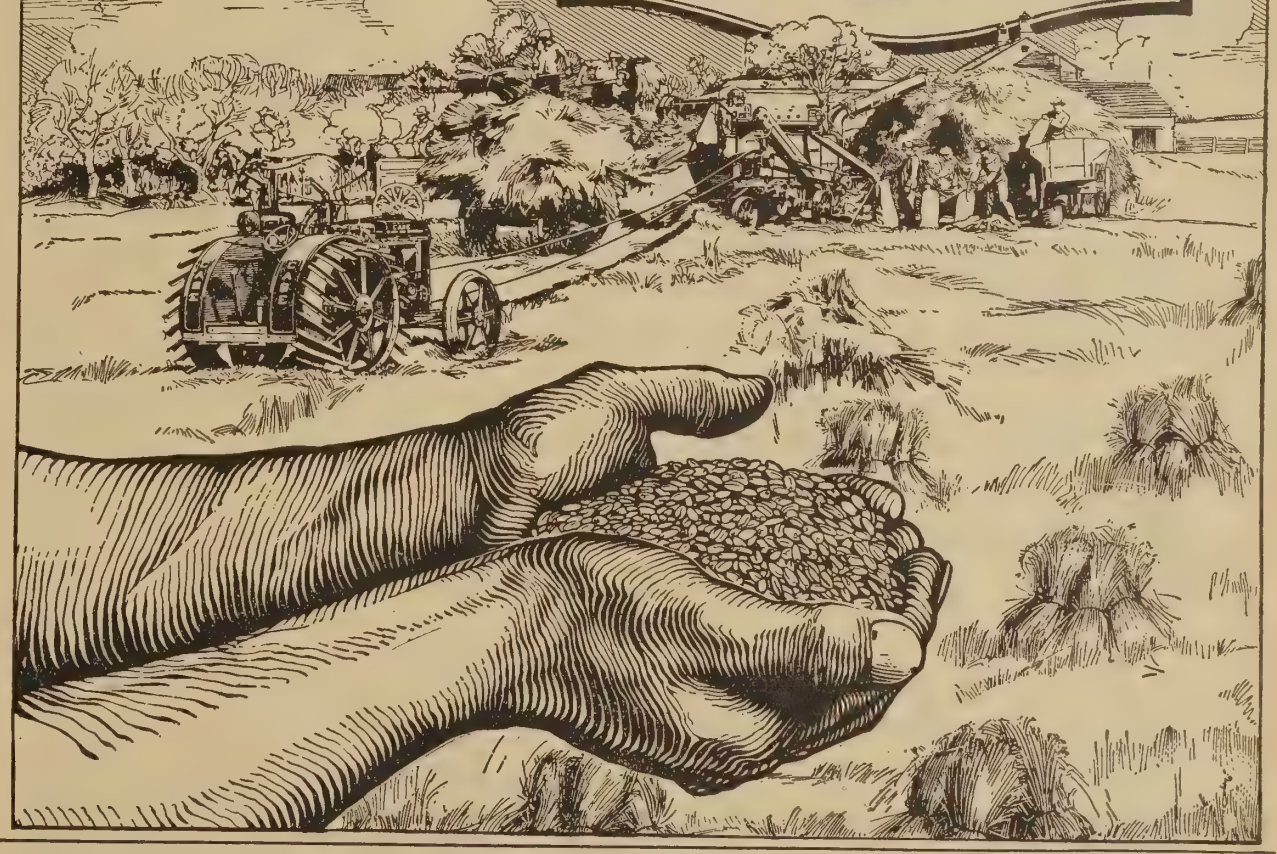
Winter killing (in some localities); a late Spring; a cold, wet Summer or a hot, dry one; soil blowing; weeds; rust; grasshoppers; chinch bugs; hail; windstorms—year after year such hazards menace your crop. Do what you will, you can only partially protect yourself against these dangers.

Then comes the final risk—threshing—*the one factor*, however, over which *you have control.* You need take no chances on having part of your hard-earned crop blown into the straw pile. Insist on *Case threshing.* Then you will be assured of clean threshing, complete separation, thorough cleaning, and unequalled saving of your grain.

If there is no Case Thresherman in your community or if another is needed, *become one yourself.*

J. I. CASE THRESHING MACHINE COMPANY
Dept. D10 Racine, Wisconsin

CASE
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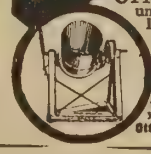


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POUGHKEEPSIE, N. Y.

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This milker of proven merit will reduce your milking time two-thirds—give you a *better job of milking* and *bigger profits.*

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—for Cattle, Sheep and Hogs

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Allows you to put disinfectant just where needed most—without waste. No bothersome tank. No danger of injuring animal. No sudden chilling. Each animal gets fresh solution in fine spray driven into the coat.

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Ideal Sprayer shown here is the favorite farm outfit for use with stock, trees, vines, white-washing, etc. Capacity 15 gallons. All material easily moved. Has boiler iron pressure tank with welded seams. Free catalog shows this and 30 other Hudson Sprayer Outfits. Write today.

HUDSON MFG. CO.
Dept. 323 Minneapolis, Minn.

Washington, D. C., Weekly News

[SPECIAL TO HOARD'S DAIRYMAN]

Washington, March 21—The administration plan for congressional procedure in relation to precedence of tariff and revenue legislation has been decided on and the tariff gets precedence. This means that a tariff on butter and dairy products will be enacted by Congress very soon after April 11.

The outcome of this controversy indicates that agricultural problems have finally received the attention of the President and have been about the first problems to receive his attention after the place seekers had monopolized his attention for the first two weeks of his administration. In this interval every possible effort has been made by representatives of business organizations to force a consideration of the revenue laws as the first activity of Congress. Attacks of all kinds have been made on the present revenue laws, even to the extent of seeking material changes in the income tax law itself, and the impression has gained ground and credence that this effort would succeed, and the tariff would be postponed until late, perhaps to the December session.

This has seriously disturbed the representatives of agricultural interests who are agreed that a tariff is the first step toward bringing back some sort of reasonable expectation of the future to the farmers. That the tariff is not the only needed remedy is conceded, but it is a remedy, and one which is within the purview and possibilities of the new Congress, and at an early date if Congress and the administration so determines. So two weeks ago a drive of as big proportions as could be developed, was begun, directed at President Harding, to get—not a tariff—but an embargo. Concentrating under the leadership of Frank J. Hagenbarth, president of the National Association of Wool Growers, and the senators from the agricultural states, the agricultural interests made a demand for an embargo on wool, long staple cotton, vegetable oils, butter, hides, and lemons, with a demand that frozen meats be added if the President thought wise. The fight was put up to the administration so strongly that last week two cabinet sessions were held, and at the close the President is said to have been of the state of mind that he indicated that he would grant the demand and order the embargo unless he could be assured that Congress would take up the emergency tariff at once on convening.

This put the matter squarely up to the Ways and Means Committee of the House of Representatives, and today the announcement is made, seemingly official, that the program approved by the Ways and Means Committee, and also by leaders of the Senate is first the emergency tariff bill, just as it was enacted at the last session, except to run for six months only, instead of ten; second, an anti-dumping act; third, Americanized valuations as the basis of duties; fourth, permanent tariff revision; fifth, revenue legislation.

This program will meet agricultural approval. It has one question open to discussion and determination as to policy in so far as it relates to the dairy industry, and that is the question of whether to insist on the schedule of proposed emergency duties as passed by the Senate in the last session, that is eight cents a pound on butter, or as passed by the House, that is six cents a pound on butter. It is certain that producer interests are not protected at this time by the six-cent rate. On the other hand, commercial interests are satisfied with that rate. Just what the agreement means that the bill will be enacted "just as it was" in the last Congress is capable of two interpretations, and is subject to the decision of all the members of the House, not the committee alone. It needs prompt and careful consideration.

⚜

The election of Senator George W. Norris of Nebraska to be chairman of the Senate Committee on Agriculture is a matter of interest to all interested in agriculture. Senator Norris comes from a great agricultural state, one in which the dairy industry is growing, and where it has great possibilities. The candidate for the vacancy in this chairmanship, caused by the retirement of Senator Gronna, was Senator Page of Vermont. The final decision was to retain Senator Page as chairman of the committee on naval affairs, and promote Senator Norris, who stood next to Senator Page as senior members of the agricultural committee, to the chairmanship.

⚜

The March bulletin of the National Dairy Union just issued by the secretary, A. M. Loomis, contains the latest figures on oleo production for 1919 and 1920, as follows:

	Year ending December 31 1919	1920
Vegetable	142,698,848 lbs.	191,539,010 lbs.
Combined	224,061,770 lbs.	174,604,948 lbs.
Animal	4,556,569 lbs.	4,586,091 lbs.
Grand total	371,317,187 lbs.	370,730,049 lbs.

For the three months ending in January of this year the production of oleo was slightly in excess of 76 million pounds as compared with 110 million pounds in the corresponding period a year ago. For the calendar year ending Dec. 31, the amount of colored oleomargarine of all classes was 20,260,738 lbs. in 1919 and 14,537,807 lbs. in 1920.

It will be noted that there has been a considerable decline in all of the items for recent periods as compared with twelve months before and that the comparative falling off seems to be increasing. Just what part of this is due to a falling off in export trade cannot be told at this time as the export figures are not as yet readily available.

Dairy Herds for Mexico

HOARD'S DAIRYMAN:—Many high grade dairy cattle will be imported into Mexico from the United States during the next few months, according to Col. A. Garza Linares, who is establishing a large Jersey dairy at Monterey, Mexico. Colonel Linares has just purchased sixty head of registered Jersey cows from Ed. Lasater, who has a dairy herd of about 2,500 head of Jersey cattle upon his 300,000-acre ranch in Texas. Mr. Lasater's milking herd of Jerseys is said to be the largest in the United States.

Colonel Linares said that interest in dairying is being revived in all parts of Mexico. Many herds that were depleted during the long period of revolutions are to be restocked and the animals for this purpose will be brought from the United States. It also is planned to establish a large number of new dairies in the larger cities of the country.

Texas. W. D. HORNADAY.

Champion Jerseys Again on Test

Although she is more than 16 years old and has produced more butterfat in official work than any other cow, Sophie 19th is again on test for her tenth official record. In her first 125 days, she has made 5,137 lbs. milk containing 295 lbs. fat. It is estimated that she will this year be able to add enough to her previous records to make a total of 10,000 lbs. fat in her 10 yearly records. She is owned by C. I. Hood of Massachusetts.

Vive La France, who has brought much honor and fame to Pickard Bros. of Oregon, is now on her fifth official record at a little over 7 years of age. In her first 227 days she has made 8,000 lbs. milk containing 545 lbs. fat and at last reports was going at the rate of 2 lbs. of butterfat per day.

Seven years ago, Lucky Farce, as a yearling heifer, was the world's record cow for her age with a production of 14,260 lbs. milk containing 635 lbs. fat. As a mature cow she has made 938 lbs. fat and in 101 days of her present record has made 290 lbs. fat. She will soon be 10 years old and has been a great traveler. Her sixth and present owner is A. W. Murphy of Ohio.

New York State also comes into the limelight with Irene's Amelia, a nine-year-old cow on the farm of Mr. S. Hoxie Clark. Without any attempt at high production handling, she made 15,413 lbs. of milk containing 892 lbs. fat. She is a direct descendant of Jacoba Irene, a famous Jersey of former days that made 952 lbs. of fat. In the first 153 days of her present test, Irene's Amelia has produced 8,611 lbs. milk containing 445 lbs. fat.

Stockmen's Week in California

HOARD'S DAIRYMAN:—From February 22nd to 25th the live stock breeders of California enjoyed a program prepared especially for them at Davis. The service which the university offers to breeders of live stock was discussed. Legislation and prices, as usual, received keen attention during the daily conferences.

Judge J. M. Henderson, who is a leader in organizing dairymen in the state, presided on Dairymen's Day. On this day a survey of the official test work conducted in the state was presented and the California Dairy Cow Competition, which is now well under way, was explained. Dairy problems along the coast, the development of high producing herds, feeding, better sires, and prospects for the future were discussions that interested the dairymen.

Representatives of the manufacturers and Dairy Council told of the methods of meeting oleo competition. The lack of advertising among the united dairy interests was forcibly brought to the minds of those present. Of 20,000 dairymen in California, 1,500 advertise their product systematically.

A proposed dairy show for the Pacific Slope was outlined. Before the day was over the Jersey, Holstein, and Guernsey breeders held meetings.

California. J. C. MARQUARDT.

Prompt Action

"Jim's going to sue the company for damages."

"Why? What did they do to 'im?"

"They blew the quittin' whistle when he was carryin' a heavy piece of iron, and he dropped it on his foot."

Wisdom is the knowledge of knowing what to do next.—E. Markham.

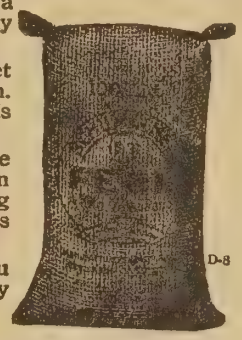
SCHUMACHER
PRICES ARE DOWN

DOWN go Schumacher Feed prices to pre-war basis—
DOWN to a level with the prices you get for the products you sell—
DOWN where Schumacher is a much cheaper feed than ground corn or oats, middlings or bran—
DOWN to a point where you cannot afford to miss the BIG SAVING today's prices give you on a feed that has

MORE food value than bran or middlings.
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MORE food value than wheat feeds.
MORE food value than brewer's grains.

The Cheapest Feed to Feed

Therefore, don't let the fact that you have plenty of corn or oats keep you from buying Schumacher Feed at today's surprisingly low prices. Fed with gluten and cottonseed meal as your protein concentrates, it makes the **cheapest feed you can feed.** If you have a surplus of home-grown grain, it will pay you to sell some of it and buy Schumacher Feed. For instance:

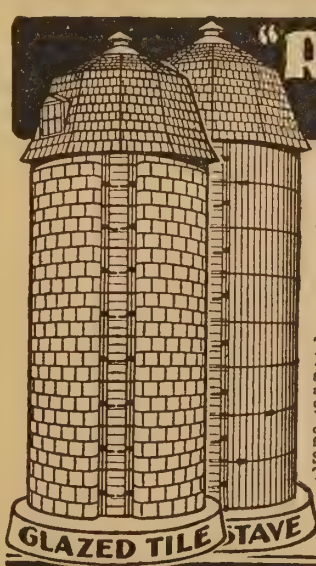


Take the question of moisture. 95% of the corn inspected for market grading contains 19½% water—19½ lbs. of water in every 100 lbs. of corn. Better to sell water than to feed it, don't you think? Schumacher Feed is **kiln-dried.** It is **ALL** feed.

Now, take the question of digestibility. Schumacher contains 4% more digestible matter than oats; 6½% more than middlings; 12½% more than brewer's grains; 21% more than bran. It is made from the choicest feeding parts of Corn, Oats, Barley, Wheat, with Hominy, Wheat Flour, Middlings and Linseed Meal added, finely ground, scientifically blended.

Start Reducing Your Feed Costs Today by buying Schumacher and you will also start better results from your cows. If your dealer cannot supply you, write to us.

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Kalamazoo Tile and Wood Silos at "Rock Bottom" prices. Our silo guide explains it all. Tells experiences of silo engineers who have built Kalamazoo Silos for thirty (30) years. Tells how they made

Kalamazoo
The Record Holders

This book tells why these 30-year old Kalamazoo Silos are still giving good service. How both Kalamazoo Wood and Tile Silos keep ensilage in most nutritious condition—their special construction. Tells how YOU can get a Kalamazoo and how thousands of farmers are lifting the mortgage on their farms in this way.

Send us your name. Don't delay. Tomorrow never comes. Write today.

Kalamazoo Tank & Silo Co.
Dept. 233S Kalamazoo, Mich.

Our Kalamazoo Ensilage Cutter with its Center Shear Cut is well worth looking up.

GLAZED TILE STAVE

WOOD AND TILE SILOS WHICH FOR YOU?

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Attention: Dairymen and Stockmen!

Baled shavings are very scarce and high. We have a good substitute to offer you in green, hardwood, sawdust made from logs that do not get in water, but are sawed right from the cars. Write us for delivered price at your station. We can save you money—minimum car about twenty tons.

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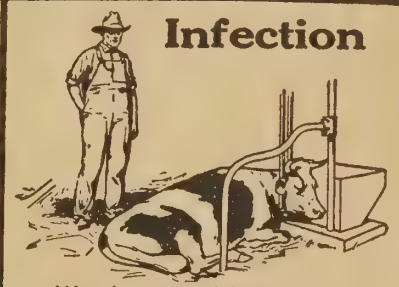


Electric Wheel Co.
31 Elm St., Quincy, Ill.

BABY CHICKS—Winter Layers, S. C. W. Leghorns, S. C. Rods, Barred Rocks. This is not a huckster hatchery, but a real breeding farm. Free story of big success. Write now.

CERTIFIED EGG FARM
M. V. NELSON, Prop., Madison, Wis.

Infection



would have been prevented if B-K had been used shortly after this cow dropped that beautiful calf.

When cows do not clean properly after calving, it indicates a germ infection which is likely to run through the entire herd and result in Abortion and failure to "get with calf." The afterbirth should be removed at once, without force, and the cow flushed out with a powerful antiseptic.

B-K is scientifically correct for this work. It quickly dissolves the adhesions and slimy matter and brings the afterbirth, kills the germs and foul odors, stops the discharge and straining. B-K is non-poisonous, healing and soothing.

If your dealer does not have B-K send us his name. Get a gallon—the standard farm package.

FREE "trial offer" and bulletins on contagious abortion—calf scours—hog raising.

B-K—**in one bottle**—helps you keep all these diseases out of your herd—and prevents big cash losses.

GENERAL LABORATORIES
Madison, Wisconsin

B-K Bacillus-Kl



1 Gal. and 5 Gal. Pkgs.

I NEED BRANCH MANAGERS

Rideezee INNER TIRE

Will pay big money to men with autos. Install Rideezee, the BETTER THAN AIR INNER TIRE. Cheaper than tubes, a light resilient substance guaranteed ten years. Equip your car at agent's price. Sell to friends. The business of the future. RIDEEZEE CO., ST PAUL, MINN.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.



HOARDS DAIRYMAN JUNIORS



A DEPARTMENT FOR THE DAIRY FARM BOY

The Making of Bruce Carter

[Continued]

Ellsworth Carter had barely finished his comment to Axtell Webb before his wife was at the foot of the stairs leading to Jimmy's room, calling for Bruce. Try as she might to retain her composure, it was plainly evident that she was fast losing her temper at what she considered willful disobedience on the part of Bruce. And hadn't she warned him during the day to play the part of a gentleman! And here he was into some mischief and again all dirtied up.

"Yes, mother," answered Bruce calmly. "I'm coming; we aren't going home yet, are we? Come on, Jimmy," he persuaded, "I guess it's goodbye with the Webb, Horne, & Carter Company now! Just look at my hands, grease and soot all over!"

"Hain't half as bad as your face," laughed Jimmy. "And the front of your shirt looks as though you had used it for a cleaning cloth," he added grimly. "But I'll go along and we'll make a clean breast of the whole affair, if worst comes to worst," he encouraged.

"Don't worry about it not coming to that," answered Bruce, his knees growing weaker at the thought of descending the stairs. "What will your dad say?" he asked Jimmy, trying to calm his rising fears.

"Oh, he'll just think that I've got an eye for business and laugh it off. He won't care! Why should he?" he asked innocently. "And I'm kind of glad that your folks found it out right now. It's going to make it easier for you, and I'll bet that your dad is going to take your part before we get through with this. You wait now and see! If you want me to do the explaining, I'll do it," he volunteered, "and between the two of us, we'll win this case," he added optimistically.

"You bad, bad boy," his mother scolded as she viewed her son at arms length, with every one looking on but without anything to say. "You aren't fit to be seen!"

"I'll get out of here then, if that's the case," Bruce whimpered and before she could say another word, Jimmy broke in with, "Don't blame Boo this time, Mrs. Carter. I'm his host to-night and I chose to entertain him the way I did. Let me explain and after that we'll leave it to every one here to pass judgment on us. We hain't done nothing wrong, and Boo has learned more to-night about some real things that boys like to know than he ever has done before. And I don't see why a fellow should be blamed for wanting to learn. Our teacher doesn't even do that, so why should anyone else!"

Jimmy knew that if he was to win the case he must work fast and take advantage of the silence which had settled over the situation. His mind was working hard and in his eyes there shone a light of victory that made them appear larger and bluer than ever. Mrs. Carter was too much overcome at this outburst of boyish bravado to even attempt to say anything further. She was silenced, for which Bruce was more than thankful.

"To-day there was a new firm organized in this neighborhood," he began, "the firm of Webb, Horne, & Carter Company. This company is going to launch into the chicken business and Boo and I were fitting up the old incubator in our attic. We want to get started this week and in order to do this we had to work to-night," he said as he looked in the direction of his father who was evidently enjoying the situation and the way his son was handling it. Bruce's father was shifting about uneasily in his chair, but there was the gleam of boyish interest in his eyes that Bruce was quick to detect. This lent him courage and as he started to speak he was silenced by his mother with, "not a word from you, young man. Jimmy, or James" she corrected, "will do the explaining."

To which Jimmy said, "I'm through. The case is before you and that's all we have to say. The company's organized and we start out this week."

Silence again followed until Mr. Carter was heard clearing his throat.

"Marie, this is nonsense. Bruce has done nothing that you wouldn't expect a real boy to do. I'm tired of correcting him so much just for the sake of making you feel that he is not growing away from you. In my opinion it's the very thing that will make him do so. I dislike to say these things in his presence and also in the presence of our hosts, but you are trying to train a boy into something for which he was never intended. For my part it is a welcome change to see our son all greased up like this. I'm tired of the starched kind of boy we've had about our home and I think it is about time for a change."



IN PLACE OF THE COVER WE'LL FIT WINDOWS

Bruce stood glued to his tracks. He never had heard anything like this before coming from his father and in fact he was beginning to believe that his dad was getting to be his natural enemy, so many had been his whippings of late. No, he never had expected anything like this, and when he had recovered from the first shock, he slyly winked at Jimmy as much as to say, "What is your fee for winning the case for me," but not one word did he utter. This was no time for him to attempt a defense now that he had two instead of one working for him. Bruce was too wise for that and, besides, his mother had warned that not another word was to come from him.

"For my part, I am tickled to death to see these boys out on a business venture of their own, and in fact believe that they should be encouraged for taking this action. If they learn about raising poultry in school, why in the name of common sense shouldn't they practice it when they have such a good chance as Jimmy is affording!" Then, turning directly to his wife, he added, "Marie, if you will leave Bruce's training with me from now on, I'll give you our word of honor, I mean his and mine, that we'll give a good account of ourselves whenever you wish to check us up."

He had fully recovered from his first angry outbreak and in fact he was now almost smiling persuasively to his better half. "What do you say?" he asked, as his wife wiped away the few tears that had arisen.

"I presume I have been rather set and foolish in my notions about Bruce. But who can blame me! He's been the one center for my attention since he was born and I did set my mind so on having him what I thought was a real gentleman," she sniffled.

"Well, isn't that what he is, a real gentleman? But in my opinion, Marie, starched boys aren't necessarily gentlemen. Clothes don't have anything to do with the matter. Now here's Jimmy, for instance. A better and more gentlemanly boy I wouldn't hope to see, but fine clothes never made him that way, and I for one am not willing to admit that Bruce is more of a gentleman than Jimmy. Fine clothes don't do the job."

Bruce was smiling now, quite audibly. He leaned over to Jimmy and whispered, "Score for you, Jimmy. You see dad's strong for you. Odds are all against mother now."

The strained silence which followed this speech was only broken when his wife, who now seemed completely composed, said, "I guess I was on the wrong track. The trouble was that I have had a very poor understanding of boys. Why shouldn't that be the case? I never had a brother of my own and I was brought up to believe only in fine clothes and a good time. But, Ellsworth, I don't want to give Bruce entirely over to you. That wouldn't be fair to either him or me. I'll tell you what we'll do. Let's go fifty-fifty-fifty. That means fifty for you and fifty for Bruce and fifty for me. That's fair to all of us and if I'm not mistaken that's the way Jimmy gets along," as she turned and gave him a winning smile, and as Jimmy afterward said it was the first Mrs. Carter had ever given him.

"Guess you and me might as well go back and finish our job, Jimmy," commented Bruce as he slapped him on the back so hard that he nearly lost his balance.

"Isn't a bad idea," Jimmy replied. "No use in spoiling another shirt, Boo, like you have this one." And back to the attic and incubator they dashed, without waiting for the finished details of the agreement which Bruce's parents were framing up regarding his welfare.

"Gosh you are lucky, old kid," were Jimmy's first words to Bruce as they seated themselves to complete their task. "Life's going to be some life for you from now on. Your dad's going to see that you get a square deal and you want to see that you play a fifty-fifty game yourself."

"Guess I am a lucky kid to get out of what I expected to be an impossibility," he returned while he rubbed the brightness back into the old brass bowl of the lamp. "Gee, though, I got a funny feeling 'round my heart when I heard dad open up and talk the way he did. It was so unexpected, and I'll just bet you a dollar, Jimmy, that dad has hated to give me all them lickings I had to take for the past two years." Here he paused as he stared into the darkness of the farther corner of the attic.

"Seeing ghosts, Boo?" Jimmy inquired as he stopped his work and looked at him.

"Naw, nothing like that, Jim. But I was just thinking that mother was right after all. How could she be blamed when she never had no dealings with boys, and I am the only one she has. I can see why she wanted me to always look nice and dressed up."

"Maybe that's so, Boo; I never stopped to think about that either. But gee," he laughed, "imagine Jen, my sister, not understanding boys if she ever has any. She thinks right now that she knows all my business and every other boy's in this neighborhood," he grinned. "But not much does she know me."

"Don't make fun of your sister, Jim, I kind of like her," Bruce replied.

"You go right on liking her," Jimmy returned, "but the farther she keeps her nose out of my business, the better I like it. You don't know, Boo, what a nuisance a sister can be if she wants to. You hain't had no experience and so you hain't no license to talk. They can make life miserable for a kid and I hain't been laying on no bed of roses either lately."

"Ah, don't come this sympathy stuff, Jim. You don't deserve it. You've been doing just about as you pleased all along while I had to toe the mark to the tune of dad's lickings. You don't know what misery is, you don't."

"All right, then I don't," Jimmy bit off, "but I wish you'd get through with that lamp. It won't burn any better with a polished bowl. Get busy and clean that egg tray. I can see very plainly that your education's been neglected." And without another word, Bruce set about following up the suggestion and in half an hour they considered the job complete.

"I guess she'll raise chicks for us now all right," commented Jimmy, as

the two stood back and reviewed the results of their evening's labors. "What do you say, Boo?"

"She ought to, Jim, but seeing I hain't had no experience, guess I hain't no license to speak," remembering the words of advice given by Jimmy a few moments previously. "Bill's going to be surprised when he knows what we did tonight, isn't he?" he added.

"Oh, I don't know about that," smiled Jimmy. "Bill's one of those fellows who'll let the other fellow do all the work if he can get away with it. You don't know him the way I do. But I don't want to set you agin Bill, he's a good fellow and we've had lots of fun together. We'll see that he does his share though. No work, no profits, will have to be our motto."

True to their plans, the incubator was set and running by Saturday. The company had agreed on starting out at Jimmy's home. Mr. Webb had donated a piece of land to be used for their plant, and the boys gladly accepted the same.

"I'm for building a new house," Bill had said when the boys were discussing their plans for housing the chicks.

"I can't agree with that," replied Jimmy. "I think that the plan suggested by Boo is a good one. If he furnish them," Bruce came back, "But if we can get them here, it will save lugging ours over."

"Tell you what I wish you would do, Bruce," Bill broke in. "Your dad's got some shingles left from building his machine shed. Could you furnish enough to shingle the house? Jimmy has given enough already and if you can give the shingles, I'll put them on. That's a good way to divide up, isn't it?"

"Sure, that's fair," answered Bruce. "I'll do that; dad will give them all right and I think I can get enough material for the perches and dropping board too. We'll want a dropping board because we'll have to have all the space on the floor we can get."

"That's right," interrupted Jimmy, "we'll need all the floor space and that's the way to get it. We'll make a go of it all right, " he added with enthusiasm. "We're getting along famously. And while you are working on the house, Bill, Bruce and I will figure out some kind of a brooder. I've got some ideas on that since talking it over with dad last night."

"Good," came from Bill at this suggestion. "I was wondering what we would do about that, and I couldn't figure but that's where our first real expense would come in. I'm glad you've been thinking about that



PRACTICING FOR THE DEMONSTRATION

can get their piano box, I am sure that dad will let us have this one, and by knocking the back side out of each, we can fit them together and make a pretty respectable place. Then if we cover all the sides with heavy paper and shingle it all over, I don't know what better we want to start out with. That will make a mighty warm place. We've simply got to economize until we get onto our feet. I've often heard dad say that it is better to start small and grow big than to attempt to start big and then fall flat. This proposition has got to pay for itself from the very beginning and it is only by doing so that we will keep up our interest. What do you say, Boo?"

"Them's my thoughts exactly, Jimmy, but you didn't say anything about the windows. We must allow for plenty of lights. You know how our teacher talks about that, so it must be pretty important."

"Oh, that won't be a difficult matter," said Jimmy. "We'll just face one of the cover sides toward the south and then in place of the cover, we'll fit windows. I think that will be enough for a house of this size. Yes, and by gum, I know what we'll do for windows too. There's an old sash of window panes in our wood shed. We'll just take those. They'll do as well as new ones."

"I was going to say that I could too, Jim. What are your plans?"

"Well, I wouldn't say that they are exactly mine," Jimmy started. "We'll have to give dad credit for the real idea back of it all, and I am sure that it will work because dad says it will," he spoke enthusiastically and confidentially. "You know that little old stove that we used to use out in our repair shop! You both have seen it hundreds of time. Dad says that we can have that and it will be just the thing for furnishing the heat. Then he is having a big tin reflector to put over the stove so as to throw the heat downward," and he began drawing it out with a stick on the bare ground. "You see the chicks can gather about the stove and they will regulate the amount of heat they want by moving toward or away from the stove. And, besides, dad says that he will have the tinner cut a ventilator in one side that we can leave open so as to control the heat somewhat too. So there you are, fellows! We haven't spent a cent yet and even if we do have to make the brooder ourselves, it won't cost us very much."

"And I have another idea," broke in Bruce as Jimmy concluded, while the other two turned to meet his interested face. "Dad and mother were talking with me last evening about our plans and mother made a mighty good suggestion. After we get things to going the way we want them, she wants us to give a demonstration of our work to the other boys and girls some Saturday. She thinks that will give us some advertising and help spread the idea of junior clubs among the rest of the young people. We could do it, too, and I am sure that our agricultural teacher would be glad to help us work out the idea."

Bill stared at Jimmy and Jimmy at Bill, while Bruce waited for an answer. "Not so bad," came from Bill at last. "But we better see that we are successful before we plan anything like that. Don't you think so, Jim?"

"The scheme is a good one, Bruce, and I am not quite as pessimistic as Bill. We'll be successful all right and I'm in for the idea. But I want to suggest that we leave the details of the scheme for Boo to work out. He and his mother can do that and when the time comes for us to help, we'll pitch in, Boo. Go ahead with the idea, and it will be good to have your mother in on it. 'Twill make it easier for you if you have her support." And so it was agreed that at some future date a demonstration would be given of their work to the other boys and girls of the community.

Junior Letters

Hoard's Dairyman Juniors:—I am 14 years old and in first year high at school. I live on a 60-acre farm and we keep 15 cows and 4 horses.

My brother and I raised chickens and ducks. We raised 75 chickens and 35 ducks last year. I have seven rabbits.

I wish some of the juniors would write to me. My address is R. D. No. 1, Frankfort, New York. Raymond Smith.

Hoard's Dairyman Juniors:—I have been intending to write for a long time, but have been real busy since school started. I am 14 years old and am in the eighth grade at school.

I live on a 64-acre farm. We farm on a small scale as we only keep 5 cows, 1 heifer, and 3 work horses. We kept two nice Hampshire hogs. We have a dandy Collie dog, named Teddy. He's not much on tricks, but he knows what he is doing when he is after the cows. I have for pets three nice kittens. They eat out of the same pan with Teddy and they even wash his face and sleep right on him. They sure are good friends.

My sister and I raised a large patch of muskmelons and sweet corn. There is a good market for them here during the tourist season, but our crop was too late to sell.

I sure like the Jimmie Green and Bob Ramsay stories. I only wish they were printed oftener.

Will close now wishing the juniors all kinds of success.

Wisconsin. Leslie C. Perkins.

Hoard's Dairyman Juniors:—We quit hauling milk to the cheese factory on Dec. 23rd and have been separating our milk since then. We make enough butter for our own use to last us all of next year till about Xmas. We find it much cheaper this way than to buy the butter all year.

There have been several cases of smallpox around here. I was vaccinated last week.

I am still in partnership with my brother. We now have a grade heifer calf 6 months old. We sold our cow for beef because she was not fit to keep for another year. Cattle sold to the stockyards bring poor prices around here, from $.03 to $.04 per lb.

I am writing to some of the juniors now and surely find it very interesting.

We put in our new telephone two weeks ago and now have it on two different lines, which sure comes handy.

Wisconsin. Emma Naef.

Hoard's Dairyman Juniors:—I am thirteen years old and in the seventh grade. I go to the Essex Junior Senior High School at Essex Center, Vt. The name of the farm that I live on is Brown's River Farm of about 180 acres. We have also three large horses and one Shetland pony which is mine, ten Berkshire hogs, seventeen yearlings, ten small calves, three two-year-olds, twenty-one cows, and one bull. One of the yearlings is mine. Her name is Snowball and my pony's name is Honey Boy. We have forty-one hens and ten of them, which are White Wyandottes, are mine. We have one large calf pen and a cow stable where there can be thirty head tied up. It has a cement floor and hog pens have cement floors. We also have a horse barn, a very large hen house, and a tractor. In the cow stable we have drinking cups which are very useful, especially in cold weather.

If any of the juniors wish to write to me I would be very glad to answer their letters. My address is R. 1, Essex Center, Vt.

Doris M. Ransom.

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For Sale—At Elmwood Stock Farm, high grade Holstein cows, fresh and springers, by the carload. JOHN MURPHY, Mukwonago, Wis. 3*

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Serviceable grandsons of Lola Segis Pontiac Homestead for sale, he a 34-lb., 1,000 lb. son of Piebe Laura Ollie Homestead King. Their dams are daughters of Joe Oak De Kol Fobes. Well grown, good individuals. Your choice, $150. R. W. MEAD, Stillwater, Minnesota. 10*

High Grade Holstein calves 6 to 8 weeks old, $30.00 each. We pay express and ship C. O. D. SPREADING OAK FARM, Whitewater, Wis. 11-tf.

For Sale—30 **high grade Holstein milkers and** springers. Will sell one or all. FRED JOHNSON, Waupaca, Wisconsin. 23*

Closing out herd of grade Holsteins, $100.00 each. H. A. KUHTZ, Waukesha, Wisconsin. 24*

For Sale—My entire herd of choice high grade Holsteins, mostly bred to and sired by thirty-pound bull. There is one full load of the best large heifers in southern Wisconsin, uniformly marked, about three-fourths white. C. L. SIMMONS, Belmont, Wis. 1*

Baby Bulls—Registered Holstein-Friesian by high class sires and heavy producing dams. Price is right. C. S. MULKS & SON, Whitewater, Wisconsin. 3-*

Yearling bull for sale. From 19-lb. 3-year-old dam. Homestead Junior De Kol breeding. First check $150 takes him. ALBERT C. WOLLIN, Johnson Creek, Wisconsin. 5*

Holsteins—37-lb. herd sire, young bulls, cows, heifer calves. PHILIP LEHNER, Princeton, Wisconsin. 6*

High grade Holstein heifer calves, three weeks old, $18. We ship C. O. D. subject to inspection. YOHN FARM, Watertown, Wisconsin. 7-5

Registered Holstein bulls, old enough for service. Fine individuals. Best of breeding. $100.00. Also heifers at reasonable prices. DR. BLACKBURN, Cuba, Ohio. 8-5

35 High Grade Holstein cows, springers and milkers. Carload lots a specialty. Also some heifer calves. EHNERD & BIEBAL, Wrightstown, Wis. 8-4

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Five registered Holstein heifers, well grown, due to freshen about April 15th, four yearlings, also young calves. Federally tested. No reactors. E. W. CHAPLIN, Waldo, Wisconsin. 10-2

I don't want your money until you see my calves. I offer beautifully marked, high grade Holstein heifer calves at almost veal price. Registered bull calves $35.00. I ship C. O. D. and if calves don't suit don't pay for them. Safe delivery guaranteed. J. M. McFARLAND, Watertown, Wisconsin. 10-4

High grade Holstein and Guernsey heifer calves. Registered Holstein bulls fit for service. Grade cows, both breeds. W. R. GATES, Fort Atkinson, Wisconsin. 10*

Holstein show bull ready for service, large size, well marked, guaranteed right. For pedigree and price write ENOCH CARLSON, Roberts, Wisconsin. 11-2

For Sale—Registered Holstein bulls, ages from one month to one year old. JOHN STURM, Route 1, Beaver Dam, Wisconsin. 11-2

For Sale—Registered Holstein and Guernsey calves. 25 Holsteins and 20 Guernseys. BURR OAK FARM, Whitewater, Wisconsin. 11-6

Four registered Holstein yearlings, one from 19-lb. cow. Price $100 each. ORRIE STEELE, Evansville, Wisconsin.

For Sale—Selected high grade Holstein springers, cows and heifers. Choice breeding to start a foundation herd. FRICK & HOESLY, New Glarus, Wisconsin. 11-spl

Holstein bull, ready for service, 2 dams averaged 106 lbs. milk 1 day, 40.67 lbs. butter 7 days, $200. Terms. ROY HARRIMAN, Appleton, Wisconsin. 11-6

Registered Bulls—Six and ten months, from two-year-old heifers whose dams have A. R. O. records and sire No. 217150. $100 each. FRANK REYNOLDS, Lakeview, Michigan.

Registered Holstein bull nine months old. Beautifully marked, perfect individual, 19-pound dam. Priced right. Also younger bulls at reasonable prices. CITY LIMITS FARM, Watertown, Wisconsin. 11-3

Holstein bull, Rag Apple De Kol strain, twenty months old. HENRY SPEER, Olathe, Kansas.

Pure-bred Holstein bulls, all ages, for sale. High grade heifer calves, practically pure-breds at $20 each. S. E. JONES, Watertown, Wisconsin. 11-2

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Guernsey heifer calves. Can ship you 10 at once about 4 weeks old. Calves out of my own herd, so know what I am shipping. $30 each crated, F. O. B. Waukesha. WERN FARMS, Waukesha, Wis. 18*

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Guernseys for Sale—From Federally Accredited herd. Bull calves, two bulls ready for service, sired by Clara's Sequel and out of high testing dams. Also ten pure-bred females. LLOYD RUNDELL, Roberts, St. Croix County, Wisconsin. 26*

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STOCK FOR SALE

For Sale—Good grade Guernsey calves up to 3 months old. MICHAEL RAPPOLD, Route 5, Whitewater, Wisconsin. 8-4

Guernsey bulls—May Rose and Sequel breeding, of serviceable age. Prices very reasonable. Write for sale list. "State your wants." DALE E. RUNDELL, Ore Hill Farm, Livingston, Wis. 8-spl

For Sale—Registered Guernseys. Both sexes. Herd under Federal Supervision and free from disease. CLOVERNOOK FARM, Whitefish Bay, Milwaukee County, Wisconsin. 6-10

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Wanted—To buy for fall delivery, 25 heifer calves, 20 bred heifers and a few cows, all to be of the best registered Holstein strain that can be had. FRANK KOTE, care National Steam Laundry, Sherman, Tex. 8-6

Wanted—Carload or more registered Holstein heifers in exchange for first mortgage farm loans. EDWIN THORN, Binford, North Dakota. 9*

Wanted—Registered Guernsey heifer calves or cows. Name price and description. JAMES ABRAHAM, Route 2, Ogdensburg, Wisconsin. 10-3

Guernsey herd bull wanted—Must be a real high class individual not over 6 years old, with good A. R. backing on both sides. Send photo and pedigree with price. Address BOX 694, care Hoard's Dairyman. 10*

Wanted—Lists of registered and grade Holstein cows and heifers for sale. Report to any bank in Wisconsin or write to BANKER-FARMER EXCHANGE, 1822 Chadbourne Ave., Madison, Wisconsin. 7-spl

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For Sale—Registered Belgian stallion, weight about 2,000 lbs., 9 years. Bargain for quick sale. GEORGE SKODA, Box 511, Calmar, Iowa.

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Single Comb White Leghorn eggs from hens with egg records of 200 to 220 eggs in the pullet year. $2.00 per 15. RIVERSIDE FARM, Fort Atkinson, Wis. 8-4

Baby chicks $12.00 per 100 up. Postpaid. Catalogue free. FARROW-HIRSH CO., Peoria, Illinois. 9-16

Baby Chicks—Barred Rocks, Wyandottes, Reds, White, Brown, and Buff Leghorns. From unusual, utility stock. Write for Circular—A. CHICKDALE HATCHERY, Fort Atkinson, Wis. 9-3

Bronze turkeys. MAC CRADIE BROTHERS, Hendrum, Minnesota. 10-2

Baby chicks, 15 cents. White and Barred Rocks, Rose and Single Comb Reds, White and Brown Leghorns. Catalog free. G. A. MITCHELL, Freeport, Illinois. 10-4

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Send for attractive price list of our select home-grown seed corn. Finest quality, several varieties. Fully guaranteed. Largest trade in Northwest. JOHNSON & ARNESON, Dassel, Meeker County, Minnesota. 3*

Seed Peas—Buy Northern grown Canada field peas direct from the grower, cleaned ready for seeding. 1,000 bu. for sale, 1 bu. $3.00; 2½ bus. $7.00; 5 bus. $12.50; 10 bus. or more at $2.25 per bu. Sacks included. Send for sample or order direct from this ad. L. P. MARTINY, Chippewa Falls, Wis. 4*

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For Sale—No. 1 alfalfa seed, free noxious weeds, testing 99.40, $10.00 per bushel, sack lots. WILLIAM VEAZIE, Jerome, Idaho. 10-2

For Sale—Virginia raised Eureka ensilage seed corn. If you want heavy production of ensilage use the corn that has been a standard ensilage corn for many years. C. E. JONES, Carysbrook, Virginia. 10-3

For Sale—Albemarle Prolific Ensilage Seed corn. Wonderfully high producing ensilage, stalks 12 to 18 feet tall, well bladed, 2 to 7 ears of corn to the stalk; 12 to 20 tons of ensilage to the acre. High germination test. Price on request. E. L. GOSS, Somerset, Virginia. 5-spl

Seed Corn—Eureka ensilage, ninety-day Silvermine, Riley's 52-day, Johnson, Reids, Catalog. HAMMOND & SONS, Rockport, Indiana. 11*

Sweet clover seed—Biennial, white blossom, scarified. 1920 crop. 99½% pure, shipped on approval. Rather than carry over am asking only $7.50 bushel f. o. b., bags free. Order next year's supply now. E. V. HARMAN, Route 3, Latty, Ohio.

MACHINERY

Want the cheapest, handiest belt power? Then ask me about my Little Twister Power Transmitter for Ford and Dodge cars. FRANK R. WEISGERBER, Salina, Kansas. 16*

For Sale Cheap—A small lot of standard make Swedish Cream Separators, 400 pounds capacity, $20.00, 500 pounds capacity, $34.00, 700 pounds capacity, $39.00. These are all new machines, wonderful bargains. THOMAS TAFFEE, Box 355, Lansing, Mich. 18*

Have two Fond du Lac Ford tractor attachments. Want to sell one, good order, price $70.00. My 9-year-old boy put all my corn and beet land in shape with one of these attachments last year and thought it a picnic. A. CHAS. INNES, Route 1, Zion City, Illinois. 9-3

For Sale—Two second-hand 12 H. P. Fairbanks-Morse gas engines; one practically new. Cost us $1,500.00. Price $200 and $400. ARDEN FARMS, St. Paul, Minnesota. 10-2

For Sale—New Cleveland Tractor and plow. Exchange for registered and grade Guernseys free from tuberculosis, giving 6,000 lbs. BOX 373, Houghton, Michigan. 10-2

For Sale Cheap—Several 2- to 3-foot cement mixers on skids. Brand new. Well-known make. UNITED ENGINE COMPANY, Lansing, Michigan. 10-2

One Waterloo Boy 12-20 tractor good as new. One Grand Detour Jr. 3-bottom plow, new. Two 16-inch pulverizers new. H. C. KARSTEN, Huntley, Illinois. 10*

Account selling out Empire three double units milking machine with pump, tank, piping, used two months good as new, cost $615.00. First check $250.00 gets it, QUINEILO FARMS CO., 297 East Water, Milwaukee.

For Sale—1920 Ford ton truck in good shape. Will trade for pure-bred Guernsey cows or heifers. W. J. OSBORN, R-6, Grinnell, Iowa. 11-2

Tank up your tractor as quickly as at a filling station by pneumatic system, for wagon tanks steel or wood drums. No buckets, cans or funnels. No dust, dirt or water. Parcel post $12.75. THE BUCKEYE CO., Thornville, Ohio.

Capital Tractors—First in America, spring mounted. 8-16, $600; 12-24, $850; 15-30, $1,200. Self oil saw frame $15. 4 H. P. engine, $100. 6 H. P. engine, $150. DISSINGER COMPANY, Wrightsville, Pa. 11-4

For Sale—Emerson double engine disc, good condition. J. B. HALL, Black River Falls, Wisconsin.

Three Unit Hinman Milker complete for 24 cows. First check for $90.00 takes it. J. A. FRANKEBERGER, Orangeville, Illinois.

SALESMEN

Salesmen Wanted to sell well-known line of oils, paints and roofings direct to farmers. Men average from $100 to $200 a week. Commissions paid weekly. Bonuses monthly. Wengard made $430 in one week. Callahan made $3,000 first six months. Meyers took 102 orders first month. Fine opportunity for live-wire salesmen. Shipping points—Cleveland, Chicago, Kansas City, Minneapolis. Write for proposition. CENTRAL PETROLEUM CO., Cleveland, Ohio. 10-3

FARMS FOR SALE

Rose Valley Farm—137 acres; 17 miles macadam roads to City Hall, Philadelphia; owner's residence, electric lights, hot water heat, open fireplaces; beautiful lawn and shade; extended view; large stable and carriage house; modern cow barn, 48 head; tenant houses; purest water in abundance; all necessary buildings; macadam roads each side and through farm; $50,000 less than cost of buildings. FARM 2024 N. 10TH ST., Philadelphia, Pa. 20*

Free Wisconsin Bulletins, soil, climate, crops. IMMIGRATION BUREAU, Wisconsin Dept. of Agriculture, Capitol Drawer 125, Madison, Wisconsin. 26-13

Hardwood cut-over land, silt loam, clay sub-soil. Neither sandy nor gravelly; close to town; good roads; good schools; in the heart of the dairy country. You deal directly with the owners. No agents and no commissions. Easy terms. Also improved farms. Write for map and Booklet No. 4. NORTH WESTERN LUMBER CO., Land Department, Stanley, Wisconsin. 1*

New York State dairy farms for sale. Fully stocked. Fully equipped. Catalogue free. HILLIS FARM AGENCY, Hobart, Delaware County, N. Y. 7-6

Good dairy farms in the fertile Mohawk Valley. TURTELOT, Frankfort, New York. 9-5

When you buy land buy the best. We have choice hardwood land in one of the very best sections of Central Wisconsin for sale on easy terms. Best of clay loam soil. Good roads, climate, water and markets. No rough, stony or sandy land. Write for information. JOHN S. OWEN LUMBER CO., 112 Mill St., Owen, Wisconsin. 9-8

Dairy Farms—Clark and Taylor Counties, Wisconsin. Good soil. Send for list of farm bargains. OWEN REALTY CO., Owen, Wis. 9-5

Improved and unimproved farms in southern Aitkin County. 20,000 acres of beautiful lands, well located and cheap. List free on request, also details of famous "Land Service," which puts homeseeker on his feet. A great chance. Write ERNEST O. BUHLER, McGrath, Minn. 9-4

100-acre farm one mile from town of 2,000 population. Fences and buildings in A-1 condition. All modern improvements. C. B. HANSON, Goodrich, Wisconsin. 10-2

Finely equipped dairy farm and country home for less than buildings cost. 135 acres productive loam soil one-half mile from town, brick residence, 16 rooms and bath, cost $11,000 to build. Good barns, silo, orchard, running spring water, 20 milk cows, young stock, bull, 3 horses, farm implements, feed—all for $16,000, part cash. WM. DINGMAN, Buskirk, New York. 10-2

Price very low if sold immediately. Modern dairy farm on good road in Waukesha County. 200 acres, comfortable brick dwelling, furnace heat, running water, horse barn, two large connected, modern dairy barns, two silos, tile milk house. Complete breeding establishment. Convenient to Waukesha and Milwaukee. R. E. BENSON, Dousman, Wisconsin. 10*

Will sell 160-acre dairy farm, 2 miles from Whitewater, good soil and buildings, $150.00 per acre with good terms to reliable party. Address OWNER, Box D, Whitewater, Wisconsin. 10-2

For Sale—2,000 acres fine hardwood timberland, birch, white ash, maple, white pine, spruce, Sawyer County, Wisconsin. Logging would pay handsome profit. Land delightfully situated for stock ranch. Two trout streams, six springs. Also 130-acre dairy farm, buildings new, on lake shore in Barron County. W. A. HANCE, Freeport, Illinois. 7-spl

Big farm bargain in New York. 396 acres. Fine land. Big crops. Good buildings. Forty cows, four horses, machinery, hay, grain, everything goes for $17,000.00, $7,000 gets possession. U. G. DAVIDSON, Route 1, Oneonta, New York. 5-spl

Wealthy western New York acre yields equal west. Farms cheaper, produce higher! Maps, lists free! NEW YORK FARM AGENCY, Westfield. 4-spl

Dairy Farm—217 acres, equipment. Worth the price. Good markets. Terms. No agents. EARL S. ABBEY, Windsor, New York. 11-2

Farm Booklet Free—Describing Wisconsin farms: number 212, 173 acres; number 287, 80 acres are special bargains. Booklet will be of great interest to anyone wanting a farm. J. T. BATES & SON, Baraboo, Wisconsin. 11-2

Western New York farms stocked and fully equipped. $50 to $100 an acre. Taxes low. Free list. THE HAZARD-RHODES CO., Salamanca, N. Y. 11-4

Landology special number just out, containing 1921 facts of clover land in Marinette County, Wisconsin. If for a home or as an investment you are thinking of buying good farm lands where farmers grow rich, send at once for this special number of Landology. It is free on request. Address SKIDMORE-RIEHLE LAND CO., 47 Skidmore-Riehle Bldg., Marinette, Wisconsin. 11-5

For Sale—160 acres unimproved land in Boyd County, Nebraska, 10 miles southwest of Naper. $25.00 per acre or trade for Guernsey cows and springers. WM. PAMP, R-7, Benson, Nebr.

For sale or exchange for registered Holstein cows, 160 acres, all fenced, two miles from Donnelly. EMIL WOLLENBURG, Donnelly, Minn.

400 acres $4,500 with horses, 13 cows and heifers, bull, machinery, cream separator, equipment; near R. R. town, conveniences; machine-worked fields; 60-cow pasture; 1,000 cords pulp, 2,000 cords wood; good variety fruit; 400 sugar maples; good 10-room house, 70-ft. barn, silo, tenant house, horse barn, owner retiring; easy terms. Free, Details page 16 Spring Catalog 1,100 Baragins. STROUT AGENCY, 150 D L Nassau St., New York City.

A snap for somebody—fine half section farm must be sold. 275 acres under cultivation, balance fenced to pasture. All plow land. Good seven-room house, good barn, hen house, granary—8,000-bushel capacity, good well, nice grove. Less than 5 miles from Carrington. For particulars write T. W. BAKER, Carrington, North Dakota.

FARMS WANTED

Cash or city property for your farm and stock. State acreage, kind and state of buildings, stock, price and mortgage. WALTER MILLER, 320 Brumder Building, Milwaukee, Wisconsin.

PARTNER WANTED

Dairyman wanted for a partner. We will start in business June 1st with 50 cows or more. We want a man who understands business thoroughly and who will have enough money to invest in half of the milk cows and manage the business. We have an irrigated farm of 1,500 acres five miles from the city of Albuquerque, 300 acres in cultivation. Two silos, 1,000-ton capacity, water works, sheds and corrals. On Ocean to Ocean Highway. Paved road to city of Albuquerque. Milk selling here now at 50c gallon wholesale; 80c retail. Seven residences for manager and working men on place. Horses, tractors, wagons, and all farming machinery necessary for cultivation of the land. Ideal place for 300 milk cows with big demand for milk. Write for further details and if interested it will pay you to come and investigate. References First National and State National Bank of Albuquerque, New Mexico. FRANK A. HUBBELL COMPANY. 9-4

SILOS

12x24 Washington Fir Kalamazoo stave and tile silo. Kalamazoo ensilage cutter. ALBERT C. WOLLIN, Johnson Creek, Wisconsin. 5-spl

LIGHTNING RODS

Lightning Rods—Exclusive agency and quick sales to live dealers selling "Diddie-Blitzen Rods." Our copper tests 99.96 per cent pure. Write for agency. Prices are right. L. A. DIDDIE CO., Marshfield, Wis. 9*

AGENTS WANTED

Yes Sir, we have a special opportunity for you during spare time, an opportunity to do some good work in your neighborhood, for the betterment of dairy farming, that will pay you in cash for the effort you put forth. Write for our "Special Opportunity Getting Together" folder. Address HOARD'S DAIRYMAN, Fort Atkinson, Wis. 2-tf

Agents make big money selling our silos. Write today for catalog and big commission proposition. NAPPANEE LUMBER & MANUFACTURING CO., Nappanee, Indiana. 3-spl

Agents Wanted—Mason sold 18 sprayers and auto washers one Saturday. Profits $3.00 each. Square deal. Write RUSTLER COMPANY, Johnstown, Ohio. 11-spl

HAY

Alfalfa and prairie hay for sale. Prompt shipments. Personally inspected loading. Wire or write GUNN HAY CO., Lexington, Nebr. Reference Lexington State Bank. 11*

Number one and choice alfalfa hay and seed ready for shipment. Address A. L. DAMON & COMPANY, Inc., Rapid City, South Dakota. 8*

Alfalfa Hay for Sale—Write or wire for delivered prices. ALBERT MILLER & COMPANY, 192 North Clark St., Chicago. 17*

FEED BAGS

Ship your bags to LARIMER BAG CO., Washington, D. C. 11-spl

TOBACCO

Kentucky Tobacco, natural leaf. Smoking, 10 lbs. $2.50; 20 lbs., $4; chewing, 10 lbs. $3; 20 lbs. $5. R. F. VEAL, Agent, Sedalia, Kentucky. 10-4

FEEDS

Molasses—Richest feed, lowest cost. Write for special price. CHICAGO MOLASSES COMPANY, 1131 East 77th St., Chicago, Illinois. 25-spl

EXCHANGE

Wanted—To exchange 50 acres river bottom alfalfa land in ideal fruit and dairy section of California at $10,600—3,000.00 down—for small farm in central states as second payment. R. W. SHARP, 601 N. Fourth St., Fresno, California. 2*

Holstein bull calf in exchange for good typewriter. A. BACON, Pittsford, Michigan.

TANNING

Let us tan your hide. Cow and horse hides for fur coats and robes. Cow and steer hides into harness or sole leather. Catalog on request. THE CROSBY FRISIAN FUR CO., Rochester, New York. 10-17

PRINTING

Hoard's Dairyman Art Department designs your letter head free. Just tell us your breeds of stock. Book of 5,000 Farm, Ranch and Cottage names 25 cents. Ask for samples of letter heads, envelopes, shipping tags, cards, milk tickets, etc. Poor stationery is more of a damage than a help. Be sure and give correct post office address, including state. Address HOARD'S DAIRYMAN, Art Dept., Fort Atkinson, Wisconsin. 8-tf

MISCELLANEOUS

Wanted—Railway mail clerks. $135—$195 month. List positions free. FRANKLIN INSTITUTE, Dept. J 115, Rochester, New York. 8-4

Landscape gardening. Arrangement and beautification of farm buildings. Graduate landscape architects at your service. FRANK M. EDWARDS, Landscape Architect, Fort Atkinson, Wis. 9-11

Firemen, brakemen, beginners $150—$200 later $300 monthly; railroads everywhere. RAILWAY ASSOCIATION, Desk W-5, Brooklyn, New York. 10-4

Western Red Cedar Poles and split posts at reduced prices delivered your station. A. R. DERR, Clark Fork, Idaho. 10-6



Advertising in this department is 7c per word. Remit in advance.

POSITIONS WANTED

Married man with family wants position as herdsman or general farm work. Address BOX 215, Lake Mills, Wisconsin. 10-2

Situation Wanted—Farm superintendent and dairyman, married, American, 38. Well experienced in dairying and stock raising in all its branches including all kinds of power farm machinery. Can handle all the requirements of a private or commercial farm or institution of any size. Highest references for ability, character. Address SUPERINTENDENT, 4463 North Uber St., Philadelphia, Pennsylvania. 10-2

Position Wanted—As manager, herdsman or will rent dairy farm on shares where cows are kept for profit and good care is essential. Address BOX 697, care Hoard's Dairyman. 10-3

Position wanted as farm manager by healthy single man, aged 42. 17 years' experience, 5 years with present employer. Can handle men and will work with them. Understand crop rotation, feeds and feeding and care of cattle, either dairy cattle or Shorthorns. Can produce good clean milk. Have made quite a study of the care and feeding of hogs, both for market and breeding. Also understand feeding chickens for egg production, care of sheep, spraying fruit trees, etc. Able to buy and sell, also able to stop the unnecessary leaks that occur on many farms. Will keep records and everything must be accounted for. Have read the best agricultural literature and studied it since 1903. Would like to make connections with a first-class busines man who would give me full charge. First-class reference from my present employer. Please state wage including board and room. Address LOCK BOX 334, Waukegan, Illinois. 10-2

Ambitious single young man wishes position on a modern dairy farm. Have some experience in feeding and balancing rations. Can run Babcock tester. Please state particulars and wages in first letter. Address BOX 702, care Hoard's Dairyman.

Position Wanted—Dairyman, life experience as herdsman, calf raiser, buttermaker, A. R. O., balanced rations, farmer and tractor man. None but those desiring a good, hard conscientious worker need answer. Share or salary. Wife a neat housekeeper and good cook. Address BOX 704, care Hoard's Dairyman. 11-2

Position wanted as hog herdsman. Single. For references write LOCK BOX 464, Manning, Iowa.

Experienced farmer wants job, general farm work. Good milker. State wages with board. Full particulars. JAMES HOUSE, Baraboo, Wisconsin.

Single man wants job on dairy, grain or stock farm. Can do anything. Can run any kind of tractor. Will work at anything. Can start to work at once. Do not use any kind of liquor or tobacco. State wages in first letter with board, room and washing. Address CLAUD BELL, Tonganoxie, Kansas.

Farm manager now employed desires change. Experienced with pure-bred Jerseys, Holsteins, Berkshire hogs, horses, poultry, all farm crops, orchards, small fruits and market garden. Certified milk, long and short time records. Familiar with tractors, all modern machinery. Only a large proposition, well equipped, which can be made to show a profit, considered. Address BOX 707, care Hoard's Dairyman.

POSITIONS WANTED

Wanted by single young man, position as mechanic on large farm or ranch. Experience operating and repairing tractors, gas engines, and latest farm machinery. No tobacco. Plenty references. State best proposition in first letter. EDWIN HALL, 26 Lincoln St., Worcester, Massachusetts.

Position Wanted—Reliable young negro of good habits. Understand balancing of rations and A. R. O. work. Available June 18, 1921. CLARENCE BANKS, Lincoln Institute, Lincoln Ridge, Kentucky.

Wanted—Position on dairy farm by experienced married man. Reference. State wages. BUEL COLBURN, 731 N. Hibbard Ave., Jackson, Michigan.

Position wanted by young single man with good Guernsey herd where there is opportunity for advancement. Willing to work, no bad habits. Central States preferred. State wages and particulars. Address BOX 706, care Hoard's Dairyman.

Manager and herdsman on dairy farm. Salary or shares. Agricultural graduate, 25 years' experience. Unequalled calf raiser. Official test. Small family. Swedish nationality. Excellent references. Address BOX 705, care Hoard's Dairyman.

HELP WANTED

Wanted Women—Become dress designers. $45 week. Learn while earning. Sample lessons free. FRANKLIN INSTITUTE, Dept. J982, Rochester, N. Y. 8-4

Wanted—Single man for general farm work. Pure-bred Guernsey cattle and Hampshire swine. Board, room, washing, $25 per month. Must be willing to work and interested in work, otherwise don't apply. H. A. KUHTZ, Waukesha, Wisconsin. 10*

Wanted—A single man with experience to take care of pure-bred Guernsey herd and know how to run separator and make butter. A. P. MONTGOMERY, care W. W. Shaw, Lake Geneva, Wisconsin. 10-2

Single man wanted for dairy work. Must be good milker and worker. Room and board included. State wages in first letter. T. L. KINNEY, Burton, South Carolina. 10-2

Wanted—Good milker in high class Holstein herd doing semi-official work. State experience, wages and references. STARKE FARMS, Red Cloud, Nebr. 10-2

Wanted—Man with own help to run dairy of 25 to 30 Guernsey cows. H. C. HURLEY, Rockville, Maryland. 10-3

Herdsman wanted to care for herd of about thirty Holsteins making short time and yearly records. Applicant must be a single man, American, with good references. Position open April first. We pay good wages. E. W. PEAKE, Highwood Farm, Spring Valley, Wisconsin. 10-2

Wanted—Experienced man with some capital as manager of a wholesale and retail milk business in city of 45,000 in central Illinois. Must be energetic and a hustler. Address BOX 703, care Hoard's Dairyman. 11-3

Wanted—Assistant, competent, reliable, temperate, married man with small family, to commence running on or before May 1st, 1921, a dairy and grain farm, about 300 acres, fine soil, fronting on two of the largest and finest inland lakes, located about 2½ miles west of Reserve (Post Office) and about 7 miles east of Stone Lake, Sawyer County, Wisconsin. Apply to WHITE LUMBER CO., 2213 Dominick St., Chicago, Ill., naming references, salary desired, number in family and ages. 11-2

Wanted—Man or boy on small dairy farm. R. R. HOFFMAN, Genoa Junction, Wisconsin.

Wanted—Experienced mechanic on tractors, trucks, pleasure cars, horse showing and general repair man for large plantation. Good habits and references required. H. B. ALLEN, Sabot, Virginia.

Milker Wanted—Single man. Large herd, steady employment. Sixty dollars and board to good man. GOSSARD BREEDING ESTATES, Martinsville, Ind.

Wanted—Foreman for large farm to work under farm manager's directions. Single man preferred, qualified particularly for taking charge of teams, men, field crops, and keeping place in order. Must be a lover of fine horses, capable of working four or six and able to raise colts. Good opportunity for right man. State wages desired, give references and state when available in first letter. H. B. HOWELL, Farm Manager, Preston Farms, R-82, Jamestown, N. Y.

Wanted—A middle aged, single man for dairy work under herdsman. Must be dry hand milker, competent of producing Class A milk. State experience, wages and references. JOHN BAZLEY STOCK FARM, Route 5, Ypsilanti, Michigan. 11-3

Single, middle aged man wanted to milk and care for Guernsey herd 25 cows. Knowledge of gasoline engines preferred. State wages required. THE PINES, Route 15A, St. Charles, South Carolina.

Wanted—Holstein herdsman, single, experienced, reliable. Give age, experience, weight, wages expected first letter. J. B. CAIN, Glenbeulah, Wisconsin. 11-2

Single man for nine months to work on general farm. Must be good milker State wages. OLIN HOVRUD, Mt. Horeb, Wisconsin. 11-2

Young man or boy for general farm work. Must be good milker. JAS. W. DRAKE, Route 1, Box 55, Lake Geneva, Wisconsin.

Success in a Montana Creamery

Profitable Returns Made Possible by Handling Only High Quality Raw Material

HOARD'S DAIRYMAN:—A farmers' co-operative creamery at Stevensville, Montana, is singularly successful, according to the observations of a representative of the Dairy Division, United States Department of Agriculture, who recently visited the plant. Other than producing 3,000 pounds of butter daily, the organization manufactures ice cream and artificial ice and collects eggs. The top-notch market price is commanded for butterfat and at the end of 1920 a dividend of from 5 to 10 cents a pound of fat was distributed to the patrons.

The Bitter Root Creamery, the name of the mutual farmers' organization, differs from most of the other creameries in the state in the methods of conducting business. Sour and off-flavored cream is discountenanced, the patrons being urged to observe practices that will insure a sweet product when delivered to the creamery. Obedience to this standard of procedure has paid handsomely in dividends. The egg-collecting venture likewise operates under a water-tight contract, only strictly fresh eggs being permissible for marketing. According to specifications the eggs are gathered twice daily and delivered to the creamery. Failure to comply with the regulations, three violations by one patron, signifies expulsion from participation in the advantages of marketing eggs through the creamery. The ban is without extenuating conditions, being permanent.

The creamery retails artificial ice for 25 cents a hundred pounds, and markets in ton or wholesale quantities at a rate of 20 cents per hundred pounds. Other than the profits accruing from this sideline activity, an adequate supply of ice is available to the patrons for cooling of cream and other household uses. During the past summer a large cold storage building was erected and two refrigerating machines are in continuous operation at the creamery and storage plant. The marketing problem, an ever-present uninviting condition in many similar co-operative ventures, seems to be solved at Stevensville. It is the inferior product which suffers most.

A co-operative undertaking is frequently successful by reason of the wholesome influence of one or two men. The representative of the Dairy Division attributes the progress of the Bitter Root Creamery to the faculty of leadership demonstrated by its manager, J. H. Howe. He is vice-president of a local bank, an evidence of the confidence in which he is held in the community. Mr. Howe is the promoter of dairymen's meetings, when speakers from a distance are obtained to talk to the patrons about methods contributing to profitable dairying. "It is undoubtedly owing to his efforts that a higher quality of raw material is received at the creamery than is the case in most western creameries," concludes the representative of the Dairy Division. "And in looking over the factory it appeared to me that he was able to get more and better work done with fewer men than I have observed to be the case in most creameries for years. To secure the maximum efforts cheerfully from each fellow worker means good team work and indicates ability to handle men."

Washington, D. C. S. R. WINTERS.

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Is your machine a pipe line? If not, ask us for information about our

TEAT CUPS

A UNIVERSAL cup—MASSAGES and SQUEEZES while suction is applied. Its SIMPLE lines make it the most SANITARY of massaging cups. Write NOW for circular. Prices reasonable.

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In effect via the Chicago, Milwaukee & St. Paul Railway first and third Tuesday of each month to Montana, North Dakota, South Dakota west of Missouri River, Idaho and Eastern Washington. Return limit 21 days. Stopovers allowed in Homeseeker's territory at any point enroute in either direction. Take advantage of this chance to see this great Western country. There are exceptional opportunities for settlers along the line of the Chicago, Milwaukee & St. Paul Railway. For full information write

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C. M. & St. P. Ry., Dept. "D", Chicago, Illinois

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Order Your Tile Now

YOU can now build your new barn and silo at less cost with Denison Hollow Tile than with any other permanent building material.

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means construction that can't blow down, buckle, warp, twist or collapse—that is safe against fire and decay. It affords the best protection against summer heat and winter cold.

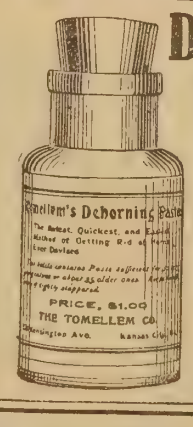
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TILE PRICES ARE DOWN—the supply is low—cars are available now. It's the best time to order. If you wait you may not be able to get any this year.

Write for full information. If you are planning to build see your lumber dealer at once. Denison Hollow Tile is sold by the best lumber dealers.

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Largest Manufacturers of Clay Products in the World.
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Dehorning MADE EASY

Horned cattle are dangerous. Prevent horn growth by using TOMELLEM'S DEHORNING PASTE on calves up to two months old. Keeps indefinitely. One application enough. No bleeding, no sore heads, no scars. Easy and safe to apply.

Bottle Sufficient for 50 Calves, Postpaid, $1.00

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FOR SALE

Dairy farm. 440 acres. 170 cleared, clay soil, fenced with woven wire. House 34x46. Main dairy barn 36x104. addition 36x38, addition 30x50. Lighting and water system. Two tile silos, three set buildings; five horses; fifty-two head of cattle, fourteen of which are pure-bred, tractor, and all modern machinery. School on place. Income for 1920 $10,177.00.

Price $65,000—$25.000 Cash.

Two Miles from Good Town.

160 acres, 75 acres cleared, clay soil, four miles from town. Basement barn 36x90; modern house and other buildings. Forty-one head of cattle; two horses, lighting and water system. All modern machinery. Three-quarter mile from school.

Price $30,000—$15,000 Cash.

80 acres, 40 acres cleared; barn 36x70; 18 head of cattle, horses and all farm machinery. Three miles from town. One mile from school.

Price $12.000—$5.000 Cash.

80 acres, 45 acres cleared, clay soil. House 18x24. Two miles from good town. A bargain.

Price $8,000—$4,000 Cash.

80 acres sandy loam, 60 acres cleared. Two miles from town. Good house and barn. Two horses and five cows and farm machinery.

Price $5,000—$2.500 Cash.

40 acres clay soil. five miles from town, new house. Ten acres cleared.

$2,600—$1,200 Cash.

20 acres sandy loam. Good house and barn. Six acres cleared. Four miles from town.

Price $1,600—$800 Cash.

Immediate possession will be given of any of above farms.

A. VON BERG & SON COMPANY, Mosinee, Wisconsin



The Secret of Making Your Dairy Pay

Help Your Cows Increase Your Profits

EVERY dairyman knows he can't make a profit on milk unless he *feeds* for it.

And unless he weighs his feed and weighs the milk from each cow he can't know the profit he makes.

Buffalo Corn Gluten Feed will greatly increase your milk yield.

Buffalo Corn Gluten Feed contains concentrated corn protein in a highly digestible form. It is used by successful dairymen all over the country.

Get a supply of Buffalo Corn Gluten Feed. Mix three parts of Buffalo Corn Gluten Feed with one part of wheat bran, or one part of ground oats and one part beet pulp.

You can mix a whole ton in a half hour—the most profitable half hour you ever spent.

Feed this mixture one pound to every three and one-half pounds of milk and see how your milk yield will jump.

After a month's trial of Buffalo Corn Gluten Feed you'll never again go back to the old methods of feeding.

FREE Write for full information giving the correct mixture for feeding Buffalo Corn Gluten Feed. If your dealer cannot supply you with Buffalo Corn Gluten Feed, tell us who and where he is. Write today to Corn Products Refining Company, Feed Department, 17 Battery Place, N. Y.

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Stimulates Lactation

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Detroit, Mich.





Sunflowers in North Dakota

HOARD'S DAIRYMAN:—Some of the farmers in Slope County, North Dakota, have been giving sunflowers a try-out with the following results: O. F. Pearl took two bushels of seed corn and one bushel of sunflower seed, mixed them together in a tub and planted them with a corn planter the same as if planting corn alone. After the mixture came up the gophers and cutworms took about one-third of the corn but did not touch the sunflowers at all. When the hot, dry weather came the corn dried up, but the sunflowers kept right on growing even if they did not make as big a growth as would be expected with more rainfall.

The mixture was handled just the same as corn and when put into the silo it was about two-thirds sunflowers and one-third corn. Mr. Pearl ends his letter by saying: "So you can see I am well pleased with sunflowers and as for the silage, I never had ensilage that the cattle liked as well as they do my mixture this year."

Alfred Moor says one of the things that surprised him is that it does not take over half the room in the silo for a ton of sunflowers as it does for a ton of corn. Mr. Moor put in corn first, figuring on topping out with sunflowers but as they took up less room than he planned on, he finished with corn. When making the change from one feed to the other he noticed no difference in the flow of milk and as he has quite a string of cows a little reduction in each one would make a very noticeable difference in the amount.

E. H. Olstad from over on the river country did not have a silo so he tried out the sunflowers as fodder. As he is just getting started in this country he did not get his sunflowers planted until the middle of June, besides some of his land is heavy gumbo which cannot be worked early in the spring. The sunflowers were planted in rows like corn with the seed five inches apart in the rows. The field ran up into some sand and when the dry weather came these were cut quite a bit by the drought but those in the gumbo came fine. By the first of September they were just beginning to bloom, with some blossoms about three inches across at which time they were cut with a corn binder and shocked up in shocks of from 1,000 to 2,000 pounds in a shock.

Mr. Olstad's original intention was to dig a pit silo to put them in but he did not find time to complete the silo so fed some of the fodder to see how the stock would take to it. He states that he has some good corn fodder and some oat hay, but his cattle will eat the sunflowers first if given a choice and do not leave a bit. He intends to increase his acreage next year as he considers sunflowers a good crop as well as a sure crop.

Other farmers who have seen these results the past year are planning on planting sunflowers the coming season.

CHAS. EASTGATE,
North Dakota. County Agent.

SALE ANNOUNCEMENTS

April 2—Holsteins. Pabst Stock Farm Second Semi-annual Sale at Oconomowoc, Wis.
April 15—Guernseys. Anna Dean Farm, Barberton, Ohio. Charles L. Hill, Mgr.
April 15—Holsteins. Virginia Holstein-Friesian Breeders' Club Sale, Richmond. W. L. Kirby, Manager.
April 21—Holsteins. Eaton Co. Holstein Breeders' Second Consignment Sale at Charlotte, Mich.
April 21—Brown Swiss. Illinois Brown Swiss Breeders' Association Annual Spring Sale, Morton, Illinois. Chester G. Starr, Pekin.
April 23—Selected Guernseys from the Sunnybrook and Willowbrook Herds at Sunnybrook Farm, Eatontown, N. J. Leander F. Herrick, Sale Mgr.
April 25-26—Holsteins. Waukesha County Holstein-Friesian Association Sale at Waukesha, Wis. W. L. Baird, Sec'y.
May 2—Holsteins. Walworth County Holstein Breeders' Association Eighth Semi-annual Sale at Elkhorn, Wis. Ben Bachhuber, Mgr.
May 3—Holsteins. Clark County Quality Sale at Owen, Wis. J. Wuethrich, Sale Mgr.
May 4—Holsteins. Minnesota Holstein Breeders' Association Third Annual Sale at Faribault, Minn. B. D. Scott, Sec.
May 4—Guernseys. T. C. Norman Dispersal Sale of Registered Guernseys at Lake Crystal, Minn. F. E. Fox, Waukesha, Wis., Sales Mgr.
May 4—Holsteins. Green Co. Holstein Breeders' Ass'n. Semi-annual Consignment Sale at Monroe, Wis.
May 4-5—Holsteins. Ohio Holstein Breeders' Association Second Annual Sale at Columbus, Ohio. H. C. Barker, Sec.
May 5—Guernseys. Waupaca Co. Guernsey Breeders' Assn. Annual Consignment Sale at Waupaca, Wis.
May 5—Holsteins. Lake Mills Holstein Breeders' Consignment Sale. F. H. Everson, Mgr., Lake Mills, Wis.
May 6—Holsteins. Illinois Holstein-Friesian Ass'n. State Sale. R. N. Thompson, Sec.
May 6—Guernseys. Fox River Valley Guernsey Breeders' Association Consignment Sale at Appleton, Wis.
May 9—Holsteins. Brown County Holstein Breeders' Sale at De Pere, Wisconsin.
May 9—Holsteins. West Salem, Wis. F. H. Everson, Sale Mgr., Lake Mills, Wis.
May 10—Guernseys. Dispersal Sale of Emmadine Farm Herd at Hopewell Jct., Dutchess Co., N. Y. Leander F. Herrick, Sale Mgr.
May 12—Guernseys. J. L. Hope's Annual Sale at Florham Farms, Madison, N. J. Leander F. Herrick, Sale Mgr.
May 12—Holsteins. Marathon Co. Holstein Breeders' Association Sale at Wausau, Wis. Francis Darcey, Watertown, Wis., Mgr.
May 12—Jerseys. Wisconsin Jersey Breeders' Ass'n. Sale at Madison, Wis.
May 13—Holsteins. Chippewa Falls, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 13—Eastern Guernsey Breeders' Association Combination Sale at Devon, Pa. Leander F. Herrick, Sale Mgr.
May 17—Holsteins. State Fair Grounds, Milwaukee, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 18—Jerseys. Monroe County Jersey Breeders' Consignment Sale at Tomah, Wis.
May 18-19—Holsteins. Manitowoc County Holstein-Friesian Breeders' Association, Manitowoc, Wis. Chas. Hampke, Manager.
May 20-21—Holsteins. Wheatfield Farms Consignment Sale at La Salle, N. Y.
May 23-24—Holsteins. Missouri State Holstein Association Show and Sale at Sedalia, Mo.
May 24—Guernseys. Marathon Co. Guernsey Breeders' Ass'n. Second Annual Consignment Sale at Wausau, Wis. F. E. Fox, Waukesha, Wis., Sales Mgr.
May 25—Guernseys. Portage Co. Guernsey Breeders' Association Annual Consignment Sale of Registered Guernseys at Amherst, Wis. R. K. McDonald, Sec'y. F. E. Fox, Waukesha, Wis., Sale Manager.
May 26—Brown Swiss. First National Consignment Sale, Peoria, Ill. Wm. S. Dunn, Mgr., Middleburgh, N. Y.
May 26—Holsteins. Michigan Holstein-Friesian Breeders' Assn. Sale at Grand Rapids, Mich. H. W. Norton, Jr., Secretary, Lansing.
May 26—Guernseys. Portage Co. Guernsey Breeders' Association Annual Consignment Sale of Registered Guernsey males and grade females at Amherst, Wis. R. K. McDonald, Sec'y. F. E. Fox, Waukesha, Wis., Sales Manager.
May 26—Holsteins. Marshfield, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 27—Holsteins. Outagamie County Holstein Breeders' Ass'n. Sale at Appleton, Wis. Edw. O. Mueller, Sec.
June 1—Holsteins. Dispersion of Fairview Stock Farm's Herd at Anderson, Ind. O. L. Janney, Owner.
June 1, 1921—Holsteins. Central Wisconsin Holstein Breeders' Ass'n. 13th Semi-annual Consignment Sale at Marshfield Sales Pavilion, Marshfield, Wis. R. A. Peterson, Wisconsin Rapids, Wis., Sale Mgr.
June 2—Guernseys. Clark County Guernsey Breeders' Annual Consignment Sale at Owen, Wis., C. E. Beck, Manager.
June 3—Guernseys. Fond du Lac Co. Combination Sale. Charles L. Hill, Mgr.
June 9—Holsteins. First Annual Bred Heifer Sale, Thorp, Wisconsin. W. H. Krause.
June 9—Holsteins. First Annual Sale, Holstein-Friesian Co-operative Association of New Jersey, Trenton, New Jersey. J. W. Bartlett, Secretary, New Brunswick.
June 15—Guernseys. First Michigan State Sale at Lansing, Mich. F. E. Fox, Waukesha, Wis., Sales Manager.
Oct. 12—Guernseys. Wm. S. Ormston & Son, St. Johns, Mich., Dispersal Sale. F. E. Fox, Waukesha, Wis., Sales Mgr.

What is Balance of Nutrients?

(Continued from page 448)

more protein and ash, in proportion to the other constituents, than will a ration for older cows, as protein and ash are the constituents especially demanded for the purposes of growth.

Size

The influence of the size of the cow on the nutritive ratio required in her ration is rather a complicated one. Large cows consume less feed and produce less milk and butterfat per 100 lbs. live weight than do small cows of the same breed, though the large cows produce more milk and butterfat per 100 lbs. of feed consumed. As the small cow produces more milk per 100 lbs. live weight her maintenance requirements constitute a relatively smaller portion of her total feed requirements than is the case with the large cow. Consequently, the small cow, other things being equal, will require a narrower nutritive ratio than will the large cow, as relatively less protein is needed in the maintenance part of the ration than is required in that part of the ration used for productive purposes.

Condition

The condition of an animal has an influence on the amount of nutrients required per 1,000 lbs. live weight for maintenance.

Animals which are in high condition should be fed a narrow ration in order that the further production of body fat may be prevented as far as possible as excessive condition is not conducive to maximum milk production and the cow in low condition should be fed an abundance of fats and carbohydrates to bring her into good condition. Consequently, other things being equal, a cow will require a ration of narrower nutritive ratio when she is in high condition than is necessary when she is in sub-normal condition.

Yield of Milk

The law of diminishing returns applies to the production of milk as it does to practically every other form of production and so, after a certain point is reached, the greater the milk production the greater will be the amount of nutrients required for the production of each pound of milk; for example, 40 lbs. of milk per day with some cows may require more than twice as much nutrient material above the amount required for maintenance for its production as will 20 lbs. per day. It is very probable also that a further increase in milk production with such a cow will call for more than a proportional increase in the amount of protein as increased activity of the secretory cells of the udder will call for more material for the replacement of worn-out tissue and, consequently, the higher the milk production of a cow is the narrower will be the nutritive ratio required in the ration.

Quality of Milk

The richer the milk the greater will be the amount of nutrients required for the production of each pound. The protein content of milk does not increase as rapidly as does the fat content, that is, more milk protein per pound of fat is produced in poor milk than in rich milk. From this it is evident that on the whole the protein requirements for milk production will very probably increase less rapidly than the energy requirements as the milk becomes richer. Very probably a narrower nutritive ratio is required in the ration when poor milk is being produced than when rich milk is being secreted. This is in accord with the teachings of modern feeding standards.

Stage of Lactation

As lactation advances more feed will be required to produce 100 lbs. of milk than was required in the earlier stages of lactation—this refers to the whole ration, for both maintenance and production. As the amount of milk produced per 100 lbs. live weight decreases with the advance in lactation the total amount of feed eaten per 100 lbs. of milk produced must increase. It is very probable that the exact requirements for production increase with advance in lactation period, due to the fact that the impetus to milk secretion is decreasing.

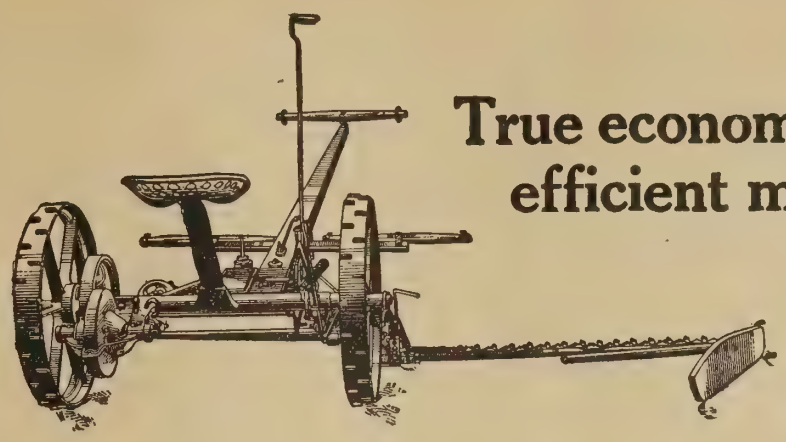
In the later stages of lactation the cow is usually pregnant, and though work at the Missouri Station has shown that very little feed is required for the growth of the foetus it is very probably best to provide for the cow at this stage a ration with a good supply of protein and ash. At the same time, however, it will be necessary to build up the body reserves of the animal and the desired increase in weight can usually be obtained by the liberal use of carbohydrates and fats and, consequently, the ration at this stage will have a wider nutritive ratio than that used earlier in the period.

Individuality of the Cow

Individual cows vary not only in the total amounts of nutrients, but also in the relative proportions of the various nutrients which they require for the purposes of maintenance and production. Cows of the same weight and producing equal quantities of milk of the same quality will vary in their requirements and such variations are due to the "individuality" of the animals.

That old adage about a woman's work being never done seems to be backed up by figures. A government report indicates that farm women work thirteen hours a day in summer and ten and a half hours in winter.

Uncle Ab says: Your words come back to you; better make 'em kind words.



True economy calls for efficient machines

International hay machines cut operating costs

WAS there ever a time when to get maximum production with the smallest possible expense was so necessary as now? How are you going to do it? Probably your biggest problem is labor. Labor is hard to get, and expensive when you get it—too expensive to use at keeping worn-out equipment on the job. Efficient machines are cheapest. International hay machines are efficient—their long, unbroken record of dependable field service proves their worth.

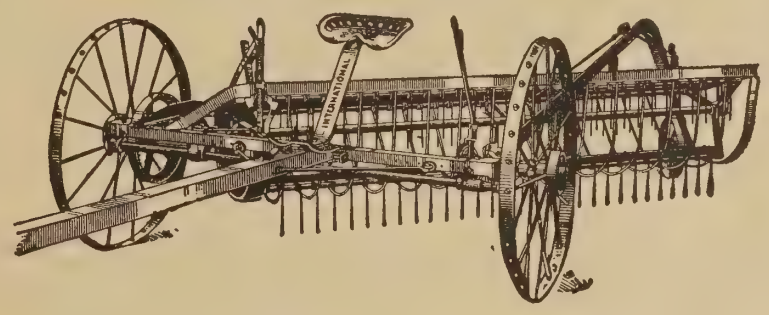
Therefore you make a true investment when you buy International hay machines. They save labor and time, both of which are especially valuable just now. While you are still busy with the hay, grain harvest is nearly always at your heels. You wonder how you are going to get your hay out of the way. Do it with efficient machines.

You know your own problems better than anyone else, but, whatever they are, there are machines in the International Harvester line that will put your hay where you want it, the way you want it, in the quickest, most economical way.

A postal request will bring you the International hay machine catalog. It tells all about McCormick and Deering mowers and rakes, International tedders, combined side delivery rakes and tedders, loaders, sweep rakes, stackers and hay presses.

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Just specify on the coupon below the number of cows and horses you want to house and the experts in our Plan Department will send you a practical set of blue prints (elevation, floor plan and outside) of a barn suited to your requirements. And it doesn't cost you a cent. This is our "get acquainted" offer.

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I have.....cows.....horses

Name.....

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Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

DAIRY MARKET NEWS

New York Butter Market

NEW YORK CITY, MARCH 22:—Butter receivers, who favor an increase in duty on imported butter, are quite elated over the report from Washington, which was published yesterday, that the Ways and Means Committee of the House and the Finance Committee of the Senate, acting with the approval of the President, had decided to re-enact the Fordney Emergency Tariff Bill, which was passed by the late Congress but which failed to be ratified by President Wilson. Aside from amending the bill to make it operative for six months, instead of ten, it is probable that no further changes in it will be made. That would assure a 6c duty on imported butter, instead of 2½c which now obtains under the provisions of the Underwood Tariff bill. While the bill, if it does become a law, would naturally tend to limit the importation of foreign butter under normal conditions, there are many who feel that it would have but little effect on the quantity of Danish butter that would be imported. Their reasoning is as follows: Danish exchange has a comparatively low value at present. When the American money received for the Danish butter is converted into Danish kroners, the Danes receive a premium for their butter over what the face value of the American money would indicate. Therefore, an additional tariff of 3½c per pound would not be prohibitive. The law will have to become operative before we can decide whether or not it will be of any benefit to the dairyman.

Approximately 16,000 casks of Danish butter were received at this port last week. A high percentage of it had been sold by the original buyers while it was in transit, hence those to whom it belonged upon arrival found, after paying the profit to the original buyers, that it would not bring a price equal to that paid for it. In order to avoid losses on the declining market, the holders placed much of it away in storage to await price advances. Because of that, prices did not slump so much when the butter became available as operators anticipated. In fact, as soon as the butter was placed in storage prices began to advance as the supply of domestic butter was insufficient to meet the demand. Some of the Danish butter is now being sold, but not in large enough quantities to cause a slump in the market.

The decline in butter prices which materialized last week over a period of several days, resulted in a lowering of retail prices to such a degree that buying by consumers was greatly stimulated. As a result, wholesalers found their stocks clearing as fast as they were received. The consequence was that the downward price trend was checked and an upward reaction ensued. However, it is very probable that the price advance will be checked very soon and that prices will again decline within the next two or three days. Domestic receipts show a marked tendency to increase, which will probably be greatly accelerated if the mild weather, which now prevails, continues. With a large quantity of Danish butter available and with domestic receipts increasing there is bound to be price declines.

From Monday until Thursday of last week, there was a bearish feeling in the market and prices declined three cents during that time. On Friday, the decline was checked by the active demand and the scarcity of high quality domestic supplies. There was no change in quotation, however. A variable market must be expected for the next several weeks and the price trend will be, on the whole, constantly downward. Established quotations today are: Extras (92 score), 46@46¼c; higher scoring than extras (93 score or higher), 46½@47¼c; firsts (90—91 score), 44½@45½c; firsts (88—89 score), 42½@44c; and, seconds (83—87 score), 37@41½c. Danish butter is moving irregularly at 45@46c.

W. B. LIVERANCE.

Butter Prices Decline Sharply

[Report by U. S. Bureau of Markets.]

The week ending March 19 was the second consecutive week that domestic butter markets have been under severe pressure and have declined sharply as a result of Danish competition. The previous week it was anticipation, and this week it was realization. In other words, prices were at first lowered to discount an expected drop in the market when the Danish arrived and later they declined as a result of the actual competition from arrivals of the butter.

Of course, the actual competition was confined largely to New York where the butter arrived, but weakness at New York means dull trading at Chicago, Boston, Philadelphia, and a sentimental depression all over the country.

Domestic receipts, while showing a slight increase, have not been excessive and consumptive trade has continued good but buyers simply will not deal on a declining market beyond the point of actual necessity. A bad break in egg prices, a weak butter market on the Pacific Coast with contributing shipments of New Zealand and fresh California butter did little to help matters. The reported difficulties of egg dealers in securing adequate marginal loans from banks and storages for storing purposes, has led many to believe that a large b[illegible]

ter production in June will mean low butter prices.

Due to resale while in transit on a good market much of the 16,000 or more casks which arrived at New York during the week on two steamers cost present holders up to 49c or 50c. While a much better tone was in evidence at the close of the week and stocks of domestic butter are short, particularly at New York and Chicago, it was not considered likely that prices would become enough higher to show a profit on this imported butter.

Centralized creameries show another good sized increase in the current output as compared with a year ago. There is also some talk of more butter from some of the smaller condenseries. Holders of storage stocks are still working hard to clear or use up their own goods, but open market sales are few and prices very irregular. The Bureau of Markets' cold storage report, as of March 1, showed holdings of 26,773,000 lbs. of butter compared with 22,568,000 lbs. on March 1st of last year. The February storage reduction was approximately 15,000,000 lbs. The January reduction was 17,000,000 lbs.

The average wholesale prices on 92-score butter at five of the principal markets for the week ending March 19, 1921, and corresponding week last year were as follows:

	Week ending March 19 1921	1920
	cents	cents
New York	45.5	68.0
Chicago	45.0	67.4
Philadelphia	45.5	69.0
Boston	45.6	68.5
San Francisco	37.1	60.1

The receipts of butter at these markets were 7,777,231 lbs. as compared with 8,130,664 lbs. last year and 7,799,214 lbs. last week.

Cheese Markets Lose Advances

(Report of U. S. Bureau of Markets)

Trading for the most part was dull in cheese markets during the week ending March 19, and declines at country markets in Wisconsin on March 17 were followed by weakness and inactivity in practically all distributing centers. It is estimated that in some of the wholesale markets less than half as much business was transacted as during preceding weeks.

Several factors contributed to such a development. In the first place a good many of the distributing trade have felt that lower markets

Carload Prices of Hay and Feed at Important Markets March 19

(In dollars per ton)

Commodity	New York*	Philadelphia	Baltimore	Savannah	Jacksonville	New Orleans	Shreveport	Buffalo	Pittsburgh*	Cincinnati*	Chicago*	Minneapolis*	Los Angeles	Kansas City*	San Francisco
HAY															
Timothy and clover:															
No. 1 Timothy	31.50	26.00	.....	29.50	29.50	30.00	28.00	22.50	24.00	24.00	25.00	20.00	.....	20.00	.....
No. 1 Clover, mixed	26 50	22 00	20.50	26.50	28.00	.....	.....	.....	20.50	21.00	20.00	16.00	.....	16.75	.....
No. 1 Clover	24.00	.....	24.00	.....	.....	.....	.....	.....	20.50	20.00	20.00	16.00	.....	16.50	.....
Alfalfa:															
No. 1 Alfalfa	.....	.....	.....	32.00	30.50	29.00	30.00	.....	.....	25.00	24.00	21.00	21.00	20.00	19.00
Standard Alfalfa	.....	.....	.....	.....	.....	27.00	27.00	.....	25.00	23.00	21.00	19.00	.....	18.50	.....
No. 2 Alfalfa	.....	.....	.....	27.00	.....	25.50	.....	.....	.....	17.00	19.00	17.00	.....	15.00	.....
FEED															
Wheat Bran:															
Spring	32.00	31 50	32 00	36.00	30.00	.....	29.00	28.50	29.50	27.50	25.00	21.00	.....	.....	.....
Soft Winter	32.50	33.00	34.00	31.00	34.00	31.00	30.00	.....	31.50	28.00	.....	.....	.....	.....	41.00
Hard Winter	.....	32 00	.....	36.00	.....	31.00	.....	.....	29.50	27.50	.....	.....	.....	21.50	.....
Wheat Middlings:															
Spring (Standard)	31 00	30.50	31.00	.....	32.00	.....	.....	26.00	28.50	28.50	24.00	21.00	.....	.....	.....
Soft Winter	.....	35.00	33.00	.....	36.00	.....	.....	.....	32.00	30.50	.....	.....	.....	.....	39.00
Hard Winter	.....	.....	.....	37.00	.....	.....	.....	.....	32.00	28.50	.....	.....	.....	.....	.....
Rye Middlings	.....	27.00	.....	.....	.....	.....	.....	.....	25.00	27.00	.....	19.00	.....	.....	.....
High protein meals:															
Linseed	45.75	45.50	.....	.....	.....	.....	.....	41.50	†43.30	44.00	43.50	42.00	.....	46.00	.....
Cottonseed (41 per ct)	.....	35.75	35.50	.....	.....	32.00	30.00	36.00	35.50	.....	33.50	38.00	.....	31.00	35.00
Cottonseed (36 per ct)	34 50	33.50	33.00	35.00	29.00	31.00	28.50	34.50	33.00	31.00	32.00	35.00	33.00	.....	.....
No. 1 Alfalfa me'l (med)	.....	.....	.....	.....	31.75	30.00	.....	.....	.....	24.50	23.50	.....	31.00	18.50	26.00
Gluten feed	.....	44.20	44.00	.....	.....	.....	.....	.....	†41.43	40.30	37.00	.....	.....	.....	.....
Hominy feed (white)	30.50	30 00	30.00	.....	.....	30.00	.....	30.00	29.50	26.50	24.00	25.00	‡.....	.....	‡.....
Ground barley	.....	41.00	.....	.....	.....	.....	.....	35.00	.....	39.00	34.00	23.00	34.00	31.00	30.00
Beet pulp	.....	35 00	33.00	40.00	40.00	.....	.....	.....	.....	36.50	.....	.....	40.00	.....	.....

*Hay quotations represent average of cash sales at these markets. †Nominal. ‡Rolled.

Straw—Quoted prices are: Wheat straw—$9 Oklahoma City, $8 Omaha, $14.50 Baltimore, $15 Pittsburgh, $8 Cincinnati, $12.50 Chicago, $7.50 Minneapolis, $15 Richmond; oat straw—$10 Oklahoma City, $9 Omaha, $18.50 Baltimore, $15 Pittsburgh, $15 Cincinnati, $14.50 Chicago, $8.50 Minneapolis, $6.50 Kansas City; rye straw—$19.50 New York, $17 Baltimore, $15.50 Pittsburgh, $8 Cincinnati, $13.50 Chicago, $8.50 Minneapolis.

THE SUNNYBROOK--WILLOWBROOK
AUCTION SALE OF
Selected "May Rose" Guernseys
Will be held at
Eatontown, New Jersey, Saturday, April 23rd, 1921
This offering is of exceptional merit, being deeply bred in the blood of Ne Plus Ultra 15265 (A. R.). Eleven of the cows have A. R. tests, and most of them will be bred or are in calf to Saugerties Royal Prince 59532, a grandson of Ne Plus Ultra; Sunnybrook Benefactor 52242, another grandson of Ne Plus Ultra; or Sunderland's Golden Lad of Willow Brook 54990 a son of Langwater Sunderland 19337 (A. R.).
All animals are government tested and fully guaranteed
MRS. J. W. MATTICE, Middletown, N. J.
CHARLES D. CLEVELAND, Eatontown, N. J.
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LEANDER F. HERRICK, Sale Mgr., 405 Main St., Worcester, Mass.

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More Federal Accredited Herds than any other County in Wisconsin
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Waupaca County Guernsey Breeders' Ass'n



Count AND Ormsby Blood
To those breeders who are using sons of Count or breeding Ormsby blood this young bull should be especially attractive.
Sire
Sir Ormsby Hengerveld Korndyke, son of Pietertje Maid Ormsby, 35.56 butter. His sire, Sir Korndyke Hengerveld De Kol, sire of 45 A. R. O. daughters, including Miss Korndyke Akkrummer Ormsby, 39.53 butter.
Dam
Eureka Melissa Segis 21 lbs. butter and is finishing up the year well over 750 pounds. Eureka was sired by a full brother—King Segis Pontiac Count, "the marvel of all sires", her dam Eureka Melissa 25.08 lbs. butter from Paul Beets Walker, sire of 44 A. R. O. daughters.
Send for Pedigree
Write and get this bull's pedigree and study the blood lines carefully. Better still come to the farm at Blooming Prairie and see him.
Act Now.
OAK DALE FARMS
INCORPORATED
BREEDERS of HOLSTEIN FRIESIANS
Austin Minnesota

We Want to Buy Out
some small Holstein breeder, direct, to increase our own herd. About 15 to 20 females, calves included, of good registered stock. We don't care about breeding nor about records, but cows must be *big* milkers. Bought only subject to Federal T. B. test and retest.
FITCHOME FARMS
Aurora - - Illinois

Fond du Lac County Guernseys
100 choice bull calves, by best sires of the breed out of dams with records up to 850 fat.
20 choice heifers, 6 months to 1 year old.
Grade cows and heifers. Send for sale list.
B. F. SHERIDAN, Secy.,
Fond du Lac, Wisconsin.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

were in order, and consequently buying has been mostly for immediate needs, and trading has lacked the confidence which attends a good healthy market. Furthermore, advances which occurred during the past month resulted in prices of fresh cheese being brought nearer held cheese prices, and some buyers turned to held goods when they considered prices satisfactory.

This will account to a certain degree for the stronger condition of the held cheese market, but in this connection, it should also be remembered that stocks of held cheese are not extreme and that they have been fairly well picked over. Buyers who have a fancy demand to take care of later have been buying whenever opportunity offered in order to avoid a later shortage.

A further factor which has doubtless had some bearing on the situation is that regardless of the fact that the current supply of cheese in some cities is comparatively small, the attention of buyers is centered now on eggs and butter. Already eggs are going into storage, the early season having started this movement fully a month sooner than usual.

The average wholesale prices on American cheese (style Twins) for the week ending March 19, 1921, and for the corresponding week last year were as follows:

	Week ending March 19 1921	1920
	cents	cents
New York	27.7	29.5
Chicago	25.3	28.6
Boston	25.2	30.7
San Francisco	21.6	28.2
Wisconsin	25.1	28.4

The total receipts of American cheese at these markets were 2,533,940 lbs. as compared with 8,130,664 lbs. a year ago and 7,799,214 lbs. last week.

Dairy Markets

CHICAGO, Mar. 18—Butter—Creamery, extras, 44½c; standards, 41½; dairy, firsts, 37@43c; seconds, 30@35c.

Eggs—Ordinary, 20@21c; firsts, 24c.

Cheese—Twins, 24½c; Young Americas, 25c.

MILWAUKEE, Wis., Mar. 18—Butter—Creamery, tubs, 45c; prints, 46c; extra firsts, 41@42c; firsts, 38@40c.

Eggs—Miscellaneous receipts, country candled, cases included, 25c; cases returned, 24c; seconds, 19@20c; checks, 18@19c.

Cheese—Twins, 24½@25c; Daisies, 25@25½c; Young Americas, 25@25½c; Longhorns, 25½@26c; Brick, 21@22c; Limburger, 27@28c.

NEW YORK, Mar. 18—Cheese—Steady; state milk, common to specials, 18@29½c; skims, common to specials, 5@19½c.

Butter—Firm; receipts, 8,805; pkgs.; creamery, extras, 46@46¼c; state dairy, tubs, 28@45¾c.

Eggs—Firm; receipts, 48@59c; nearby white fancy, 37@39c; nearby mixed fancy, 24@32c; fresh firsts, 24½@29c.

PHILADELPHIA, Mar. 18—Butter—Higher; western creamery, extra, 47½c; nearby prints, fancy, 58@60c.

Eggs—Lower; nearby firsts, 28c; do current receipts, 27c; western extra firsts, 26½@27½c; do firsts, 26c; fancy selected packed, 36@37c.

Cheese—Dull; Longhorns, lower; fresh and held, 28@28½c.

Wisconsin Live Stock Production

The total value of live stock production in Wisconsin in 1920 is estimated by Joseph A. Becker of the Wisconsin Co-operative Crop Reporting Service (U. S. Bureau of Crop Estimates and Wisconsin State Department of Agriculture), to have been $383,051,000, compared to $416,811,000 in 1919 and $125,025,000 in 1909. Value in 1920 was only 91.9% of the 1919 value, although the quantities produced were uniformly greater.

Milk made up 61.1% of the value of live stock production in 1920, compared to 60.1% in 1919. In 1920, 1,836,000 cows produced 91,451,000 hundredweight of milk (an average of 4,981 lbs. per cow) valued at $234,326,000 ($2.563 per cwt.); in 1919, 1,802,000 cows produced 88,870,000 hundredweight (an average of 4,933 lbs. per cow) valued at $251,003,000 ($2.824 per cwt.); and in 1909, 1,474,000 cows produced 57,073,000 hundredweight valued at $65,064,000. Prices of milk and dairy products were higher during the first half of 1920 than during the same period in 1919. During the second half year, milk prices declined, but to a lesser extent than did other farm products.

The number of cattle slaughtered in 1920 is estimated at 514,000, valued at farm at $30,583,000. This is a decrease from last year of three thousand in numbers and $3,539,000 in value. Calves slaughtered totaled 842,000, valued at $9,094,000. This was an increase over last year of nearly one hundred thousand in numbers, but the value decreased nearly three hundred thousand.

Sheep and lambs were slaughtered to the number of 364,000, valued at $3,385,000. This is a decrease of eighty thousand in numbers and over one million dollars in value.

Over two million swine were slaughtered, valued at $10,336,000. This is an increase of forty-seven thousand in numbers and twenty-three million dollars in value.

Nearly nine million head of poultry were slaughtered, valued at $10,336,000. It is estimated that hens laid 79,156,000 dozen eggs (an average of 85), valued at $34,037,000.

The wool clip is placed at 3,360,000 lbs., valued at $806,000.

Even honey is listed as a live stock product with 3,360,000 lbs., valued at $1,292,000.

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Dairy Cattle
Registered or Grades

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2 Bulls From a 26.26-lb. Cow
One 4 months old, nearly white, one 14 months old, ¾ white. Good individuals. Price reasonable. Also a few females.
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Annual Spring Sale
April 25-26 —Waukesha, Wisconsin
150—Pure-breds—150
From tested Herds — Sold Subject to Retest.
Bulls from Good Record Dams. Good Females of All Ages
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First Foundation Breeders' Sale
TO BE HELD AT
FLOWERCREST FARMS
55 Pure-bred Holsteins
"A Real Sale! Less than a dozen Bulls!"
River Falls, Wisconsin, 10:30 A. M. April 5th, 1921

IN THE OFFERING:

A daughter of SIR P. O. M. 37TH, out of a 17-lb. 2-year granddaughter of BESS P. O. M.

A daughter of SIR P. O. M. 42D, whose dam has just finished a 1000-lb. record, she is a daughter of CHANGELING BUTTER BOY, and out of MINNESOTA'S first 1000-lb. cow.

A 15-lb. 2-year daughter of SIR FAYNE CONCORDIA, bred to a 31-lb. son of KING KORNDYKE COLANTHA ORMSBY and SKYLARK CANARY, 31—934 lbs.

3 daughters of M. M. ORMSBY OAK DE KOL, a 34-lb. grandson of JESSIE FOBES BESSIE HOMESTEAD.

5 cows sired by a grandson of K. P. PONTIAC LASS, the first 44-lb. cow, the sire's dam an A. R. O. granddaughter of KING SEGIS.

A 29-lb. cow sired by a grandson of PEARL OF THE DAIRYS JOE DE KOL and out of a 19-lb. daughter of INKA CLOTHILDE MERCEDES PRINCE, grandsire of HESTER AALTJE KORNDYKE, the 46-lb. cow.

3 daughters of the above cow, two full sisters, all bred to a 30-lb. brother of MABLE SEGIS KORNDYKE, the 40-lb. 4-year-old and his dam is a daughter of HENGERVELD DE KOL.

MANY OTHERS TOO NUMEROUS TO MENTION

Cows Bred Due to Freshen About Sale Time to the Following Bulls:

KING KORNDYKE SKYLARK CANARY, a 31—934-lb. son of KING KORNDYKE COLANTHA ORMSBY.

DUKE PIETERTJE KORNDYKE ORMSBY, whose daughter just made over 37 lbs. as a jr. 4.

SIR P. O. M. 43D, that noted son of the great cow, AAGGIE WAYNE PEEP.

R. C. SIR JOHANNA GLEN ORMSBY, his dam the holder of the world's record in 305-day division.

ORMSBY KORNDYKE LAD 7th, a 34-lb. son of O. K. L.

SIR PONTIAC SEGIS ORMSBY, a son of BEAUTY GIRL PONTIAC SEGIS.

SIR ORMSBY KORNDYKE DE KOL, by a grandson of the 30-lb. sister to PIETERTJE MAID ORMSBY, and out of a 1146-lb. daughter of SIR P. O. M.

M. M. ORMSBY OAK DE KOL, sired by a grandson of JESSIE FOBES BESSIE HOMESTEAD and out of the 34-lb. cow, ORMSBY DE KOL TIFFANY.

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This "oversize" service margin of

In the Wasteless Easy-Pouring Top Tip Can



Wadhams *Tempered* Motor Oil



If Tempered Oil and untempered oil could be dissected to show their real structure, you would get a comparison similar to the views above—one, unbroken, firmly knit, ready for its duty, the other shattered to the verge of breakdown — pre-crumbled by abusive uncontrolled heating in manufacture.

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In every locality, dealers who most earnestly seek to give their customers maximum value, are selling Tempered oils. If your dealer does not carry them, ask him to get in touch with Wadhams. *Insist* on Wadhams Tempered Oils, for your tractor as well as your motor car.

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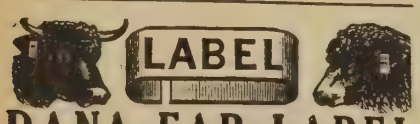
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Dairying Thirty Years Ago

Taken From the Issue of Hoard's Dairyman of April 3, 1891

There are some men whom we would no more advise to go into dairying than we would advise some other men to go to preaching. In the one case we have a tender regard for the cows; and in the other, for the hearers.

⚜

When a farmer says he has no time to read, he has advertised the fact that he has no taste for it; and, furthermore, he has advertised his practical contempt of the usefulness of acquiring knowledge through the experience of others—experience that he can get cheaper out of papers and books than he can experiment himself. So he is ever repeating the fallacies of others, or more like plodding along and learning no better methods very fast.

⚜

There has been marked progress in the last ten years along all the lines of animal husbandry. This is due very largely to the great increase of agitation in the minds of farmers through the work of dairy conventions, farm institutes, and the dairy and agricultural press. The mind of the average farmer has been stirred more on these questions in the last decade than in the previous forty years. Men are beginning to see that on the question of breeding and handling of cattle and the rearing of calves they must approach the subject absolutely from a physiological standpoint. If a strong, healthy calf is to be reared, the laws of nature must be studied just as thoroughly as is required in the rearing of children. We must always remember that it is not our business to originate these laws, but rather to find them out and learn how to skillfully make use of them.

⚜

Considerable is now being said about a new way of producing refrigeration. It is to manufacture artificial ice without the use of the ice-machine, so much in use. It is done by using what is called "Refrigerine Salts",—a combination of harmless mineral salts which, when mixed with water, makes a brine which almost instantly falls below 32 degrees—the freezing point. It also secures a very dry atmosphere. Capitalists are putting their money into it, confident that it is a good thing.

Dairy Markets

Elgin, Ill., March 30—Call board sales, 143 tubs butter at 28 cents; 89 tubs at 27 cents.

Chicago, March 31—Butter—Creamery, fancy Elgin, 29@30c; good to fine, 24@28c; fair, 21@23c. Imitation creamery, fancy, 25@26c; fair to good, 20@24c. Dairies, fancy, 25@26c.

Cheese—Full cream Cheddar, fair to fine, 9½@11c; Twins, fair to choice, 10@11c; Young Americas, fair to fine, 10½@12c; choice Twins, 9½@9¾c; Limburger, choice, 11@11½c; Brick, 13@14c; off grades, 8@11c.

Hold to optimistic ideals and you will drive out pessimism, the great breeder of disease, failure, and misery. Stand guard at the door of your mind; keep out all the enemies of your happiness and achievements by continually flooding your mental kingdom with thoughts of love, good will, happiness, prosperity—whatever you desire to realize in your life—and you will be astonished at your increased power and happiness.—MARDEN.

VETERINARY

Advice is given free in this department. Inquires must be signed by the writer, and should pertain to veterinary Matters only. Where an immediate reply and prescription are desired by mail, the inquiry must be accompanied by a fee of one dollar. In every instance it will be necessary to give a full description of the symptoms present.

Milk Fever or Parturient Paresis

When a heavy milking cow that has had a calf or two and is in first class condition loses the power of her hind legs, goes down and becomes unconscious in 24 to 72 hours after calving easily and expelling her afterbirth, the disease is termed "milk fever". That name is a misnomer, however, for the temperature usually is considerably below the normal of 101.5 degrees Fahrenheit, and sometimes falls as low as 96 F. Gradual return of the temperature to normal during the process of treatment generally indicates speedy and certain recovery.

An attack is preceded by loss of appetite and restlessness. The cow steps up and down with her hind legs and may thrust out her tongue. Then she becomes "wabbly behind", falls, and after a period of sleepiness becomes unconscious, snores, and lies with her head tucked into her side. Her eyeballs are insensitive when rubbed with a finger. In extra severe cases the cow tends to lie upon her side, and if allowed to do so quickly bloats and may die from suffocation. That position and bloating also favor regurgitation of feed which may enter the windpipe and lungs and cause fatal mechanical pneumonia should the cow get up as the result of treatment. Before death the cow may become delirious, struggle, and dash her head upon the ground so that her horns become broken. Before a successful method of treatment was perfected attacks proved fatal in a majority of cases.

Immediate inflation of the udder with air pumped in through a sterilized milking tube by means of a small rubber tube and bulb syringe proves remedial in a majority of cases. The udder should first be milked clean, but usually contains little milk. The teats should then be disinfected thoroughly before inflation. Each quarter in turn should next be tightly distended with air and the tip of the teat then dented inward repeatedly until the air is retained. A tape or rubber band should on no account be used to cause retention of air. After inflation of the udder is completed, the veterinarian should give the cow a hypodermic dose of strychnin or atropin and have her body warmly covered with blankets. As soon as the cow becomes conscious, which usually occurs in a few hours, she should be assisted to rise and be supported while regaining strength. If she fails to rise in four or five hours the entire treatment must be repeated. It should also be applied in attacks of the disease which occasionally occur before calving.

The disease would become less common were pregnant cows housed in well ventilated stables, dried off six weeks or so before calving, then fed light, laxative rations and made to take daily exercise. The disease is practically unknown in range cows and generally attacks the pampered, heavily fed, ultra-domesticated cow. One attack predisposes to another. It is therefore of paramount importance to avoid the trouble by adopting the preventive measures suggested here.

Garget

I have a cow which had what I think is garget. Would it be all right to let the calf run with her? She is a well bred cow and I am working from grades to pure-breds, therefore would like to raise calves from her.

Morris, Ill. B. T. M.

If any quarter of the udder yields abnormal milk as a result of garget (mammitis) the milk is unfit for any use and the cow had better be "dried off" and fitted for the butcher.

Larkspur Poisoning

Please tell us what to do for a cow that is poisoned from eating larkspur.

Goldson, Ore. F. A. D.

Many remedies have been proposed, but the best results have been obtained from hypodermic injection of 1 grain of physostigmin salicylate, 2 grains of pilocarpin hydrochlorid, and ½ grain of strychnin sulphate dissolved in a little water. Full particulars on the subject will be found in Bulletin No. 365 of the U. S. Department of Agriculture, Washington, D. C.

Ringworm

My Holstein calves have become infected with a form of itch appearing in spots around the eyes and upon the body. It appears with loss of hair and the skin becomes scaly and scabby. It is worse on the calves that are mostly white with very little of the black marking.

Fowler, Ind. W. T. C.

Saturate the spots daily with sweet oil or cottonseed oil until the crusts can perfectly be removed by scrubbing with soap and hot water. When dry, then paint the spots twice daily with tincture of iodin and rub iodoform powder into those on the upper eyelids. Spots on the body are well treated, after cleansing, by saturating once a week with a solution of four ounces of sulphate of copper (bluestone) in a pint of hot water. As the disease is contagious, affected calves should be isolated and the place they have occupied should be cleansed, disinfected, and whitewashed.

Tests in Minnesota

M. H. Fohrman, in charge of official testing in Minnesota, reports that in January of 669 cows on test in that state 110 or 16.5% produced more than four pounds of butterfat in two days. This is a better showing than was made in any preceding month. Eighteen cows produced more than five pounds of butterfat in two days. A total of 915 tests were made. Of the yearly tests 67% were for Holsteins, 22% for Guernseys, and 7.6% for Jerseys. Of 197 seven-day tests completed in the month, 81 exceeded 16 pounds of butterfat.

A 1-Piece Cow Stall
ONE Attachment
THAT describes the CLAY Cow Stall. Easily and quickly put up—and *stays up*. Nothing to break. Warranted not to bend. For bigger dairy profits—through safety, sanitation and a saving of time, feed and labor—equip with the
CLAY SANITARY ONE-PIECE STALL
Strong Smooth Steel Tubing No Angles, Joints Or Heavy Castings
Simplest, strongest cow stall made. Outlasts the barn. Designed with the help of hundreds of dairy farmers who *know* what the dairy farmer needs. None of the faults of old-style stalls — all of the good points barn equipment can have.
CLAY Equipment will save you *hours* every week, keep your herd comfortable and contented and pay dividends from the start in a bigger yield of milk.
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Instantly closed or opened *both* ways with *one* hand. Eliminates troublesome sure-stops. Locks at 6½, 7½, or 8¼ inches—fits either cow or heifer without change. Hangs squarely in center of stall—cow can't miss it. Lock guaranteed brute-proof.
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By the use of
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And get more genuine chewing satisfaction, when you use this class of tobacco.
This is because the full, rich, real tobacco taste lasts so long, you don't need a fresh chew nearly as often.
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Any man who uses the Real Tobacco Chew will tell you that.
Put up in two styles

W-B CUT is a long fine-cut tobacco
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Hubam Clover for Seed

For best results in seed production, the annual white sweet clover, now known as Hubam clover, should be seeded as soon as the soil can be worked in the spring. The Iowa Station recommends that for seed purposes, it be seeded at the rate of 3 lbs. per acre in rows 35 inches apart. This can be done by use of a grain drill, stopping all but 2 holes of a 10-hole drill. The rows should be straight so as to permit of cultivation when the clover is small, as it grows slowly for the first 4 to 6 weeks. It should be seeded very shallow and not over one-half inch deep.

The usual recommendations for lime, inoculation, and preparation of seed bed should be supplied for Hubam clover as for the other common legumes. When a seed crop is desired, it is preferable not to sow with grain as the plant necessarily has to make a new growth after harvest and there is doubt as to whether seed will set in any considerable quantity.

Closing up that open kitchen drain now will do much to banish mosquitoes from the porch next summer.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

JERSEYS

JERSEY BULL
Ready For Service

Dropped July 25, 1919. Solid dark fawn, black tongue and switch. SIRE—Sigma's Raleigh Majesty 156131, by a R. of M. grandson of Royal Majesty, out of Raleigh's Sigma 241848, Champion Jersey butter cow of Iowa, in R. of M. 1,011 lbs. butter in 1 year—1,951 lbs. in 2 consecutive years, out of a daughter of Raleigh's Fairy Boy, by a son of Mabel's Raleigh. DAM—In R. of M. 448.35 lbs. butter at 3 years old. A prize-winning granddaughter of Oxford You'll Do, out of a cow of Champion Flying Fox and Golden Fern's Lad breeding.

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14 Months Old
From Register of Merit Dam

With record of 416 lbs. fat, age 3 years, 2 months, carried calf 247 days. 7 nearest dams of this bull are in Register of Merit with good records. Solid dark color and a very good individual. Price $140.00.

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No. 1—Bright Prince's Gentleman 192454, seven months old. No. 2—Plymouth's Bright Prince 192452, six months old. No. 3—Stena's Bright Prince 192453, four months old. All of them are well grown and backed by good R. of M. breeding. Write for further information.

GEORGE KNOWLES, Route 4, Plymouth, Wis.

HERE'S YOUR OPPORTUNITY

Bull calf born March 4, 1920, sired by a grandson of Majesty's Western King and out of a R. of M. daughter of Ibsen's Chief. For full pedigree and price write

E. E. HILL & SONS, Tomah, Wis.

Valley Farm is Offering

Several bulls, 6 to 12 months old, from R. M. cows. Sired by Golden Maid's Viscount and Kilda's Royal Majesty, two of the best Island bred bulls living. At prices to sell. Write

FRED STUBLEY, Black Earth, Wis.

JERSEYS—DUROCS

Just one bull old enough for service and a few young calves. Hood Farm breeding.

F. R. Constance & Sons, Waupaca, Wis.

Sophie 19th of Hood Farms
World's Champion Long Distance Dairy Cow

9 years R. O. M. records total 110,918.1 lbs. milk, 6,356 lbs. fat, 7,945 lbs. butter 80% fat. Now on tenth yearly test in sixteen-year-old form. Has made in four months 5,137 lbs. milk, 295 lbs. fat. We offer grandsons of this World's Champion cow. They will sire size, production, constitution, longevity. Write for description and pedigree of bulls and bull calves. Prices from $200.00 and up.

HOOD FARMS, Inc.
Lowell - - Mass.

N. B. Over a quarter century breeding Jerseys for large size, heavy production, strong constitution, longevity and profit, enables us to offer you a bull that will sire profitable producers. Our correspondence is very large, to save time and correspondence, we would appreciate your writing us priced bull you wish to purchase, and we will send full information on more than one for your consideration.

JIMMY DODGE, Mgr.

BELSWOOD FARM

Financial Bred Jerseys

We are offering for sale a splendid lot of bulls and bull calves out of R. of M. dams with records of 500 lbs. butter. Also several heifer calves. Send for illustrated catalog, containing pedigrees and delivered prices.

A. F. Block, Mgr., Norwood Park, Illinois.

$450 WILL BUY JERSEY BULL
TATTOO 340
Dropped Aug. 14, 1919.

SIRE—Sophie Gilsland Tormentor 123534. Sire of 2, others on test making from 450 to 500 lbs. fat as two-year-olds. His dam Sophie's Adora is ex-champion Junior 4-year-old with 15,852 lbs. milk, 888 lbs. fat.

DAM—Miss Stella Fox 242261. R. O. M. record 11,484.6 lbs. milk, 589 lbs. fat. She is a big cow of excellent type with large, well shaped udder and large, well placed teats.

The bull is solid light fawn, black tongue and switch. He is large, of splendid type and bred to sire large type, big producing cows.

Four generation pedigree on request.

AYREDALE STOCK FARM,
F. W. Ayer, Box 713, Bangor, Maine.

Montpelier Jerseys

Three young bulls ready for service. Trace three times to Oxford Lad. Fine typy individuals. Right in every way.

Montpelier Manor Farms, Laurel, Md.

FOR SALE—CLOVERDALE JERSEY BULLS—
$125—Age 15 mo.—$125.

Backed by R. of M. records and National Dairy Show Winners.

Bull No.	In 7 Nearest Dams	Average R. of M. Records	In 7 Nearest Sires	National Dairy Show Winners
1	6 R. of M.	646 lbs. butter	5 R. of M.*	1
2	6 R. of M.	620 lbs. butter	6 R. of M.	2

*Dams of 2 bulls not now R. of M., have R. of M. records of 865 and 886 lbs. butter respectively.

E. O. ANDERSON, Shelby, Mich.

POLLED JERSEYS

Breeders' names and Spillman's "Inheritance of the Poll Character in Cattle" mailed free.

CHAS. S. HATFIELD, Secy, R4, Box 5, Springfield, Ohio.

Hillcrest Jerseys

Bull calf born March, 1920. Sired by Imp. grandson of Golden Fern's Noble. Priced right for quick sale. Write

ROLLIE VANDERVORT, TOMAH, WIS.

Register Merit Jersey Herd

At Head, Mona's Jacoba Premier grandson: Pogis 99th of Hood Farm. Dam, Mona's Jacoba, record 806 lbs. butter: Granddaughter Jacoba Irene, young stock; St. Lambert breeding for sale. R. C. Green & Son, Albion, Wis.

Ten Splendid Jersey Bulls

Good type, 6 to 18 months old. Heifers bred and open. Hood Farm Torono, King Sappho King, Loretta D. Bright Prince, etc. blood lines. Free from abortion. Dams are in the R. of M. or on test. Accredited herd. Address: J. Q. Emery & son, Edgerton, Wis.

GUERNSEYS

Homestead Farm

Offers for sale bulls from 11 to 13 months of age from A. R. dams. Also a few young bull calves of excellent breeding, and three A. R. cows. Write for sale list or come and see them.

JAMISON BROS., Appleton, Wis.

Koshkonong Place Guernseys

Herd Bull: ANTON'S KING CECIL
(6 May Rose crosses).

BULL CALVES 6 mos. to 1 yr. old from A. R. daughters of

Jury and Gilt-Edge of K. P.

Herd on Federal Accredited list.

A. R. HOARD, - Fort Atkinson, Wis.

Langwater Traveler

Carries 50 per cent blood of Imp. King of the May, greatest bull of the breed.

His dam is Langwater Lustre, A. R. 806.10 lbs. fat, fifth cow in Class C. She is the second highest testing daughter of King of the May. His sire is Langwater Holliston, sire of Langwater Levity, sold for $6,000.00 and leading cow in Class EE. Traveler's daughters are averaging over 500 lbs. of fat with their first calves. His first daughter to freshen will be a class leader in FF. We offer some excellent bull calves by Traveler out of May Rose cows with fine records. Federal Accredited Herd.

CHICONA FARM GUERNSEYS
A. L. Gile, Prop., Chinook, Washington.

8 Registered Heifers For Sale

5 of them are from 18 to 20 months old and in calf to a good son of Langwater Cavalier. Of these, 3 are granddaughters of Langwater Hambro and of Bob Rilma's Monogram. They are well grown and good individuals.

The other 3 are from 5 to 8 months old.

Write or come and see them.

Ralph Tratt, Whitewater, Wis.

Pleasant Acres Guernsey Farm
Is Offering For Sale

Bull calves of May Rose breeding from 3 to 14 months old. The dams of these calves either have A. R. records or are now on A. R. test.

Clyde E. Fruit, R. 1, Waukesha, Wis

GORDONDALE

Guernsey bulls of serviceable age offered for sale, also younger ones. They carry May Rose breeding, are from A. R. dams and have splendid A. R. backing Ask us about them.

Herd under Federal Supervision.

L. E. GORDON, JR.,
Nelsonville, Portage Co., Wisconsin.

CITY HOME FARM GUERNSEYS

Fine registered Guernsey bulls of serviceable age and younger of most fashionable breeding. Priced right. Can also spare a few fine females.

F. W. MEYER BARRON, WIS.

Guernsey CATALOG
Prices

These prices include compiling the pedigrees from one of the most up-to-date Guernsey files in America.

Our standard size catalog is 7x10 inches and is best adapted for printing four generation pedigrees. We can also make attractive prices on catalogs of larger size containing five and six generation pedigrees.

500 7x10 Catalogs - $3.75 per page
750 7x10 Catalogs - 4.38 per page
1000 7x10 Catalogs - 5.00 per page

Prices on Single Pedigree Orders

4 gen. typed in two colors—1 copy $1.00, 2 copies $1.25

4 gen. Mimeo—one color, 25 copies $2.00

4 gen. Mimeo—two cols. 25 copies $3.00

Prompt efficient service guaranteed

Guernsey Department
of the
Wisconsin Live Stock Advertising Company
Pioneer Bldg., Madison, Wis.

May Rose Bull For Sale
VISCOUNT OF EDGEMOOR No. 49389
21.09% May Rose

Sire: Imp. Itchen May King 25174
Grand Champion N. D. S. 1920.

Dam: Manoa's May Rose 25269
545 lbs. fat.

Born February 1, 1918, well grown, very good type, and a sure breeder.

Also offer two younger bulls, one ready for light service and one September calf by above sire.

F. C. MEYER, Lancaster, Wisconsin

Tilden Farms Guernseys

FOR SALE: Several typy, May Rose bulls out of A. R. cows and sired by Hope's May Rose of Maple Hill (35903), whose dam is a class leader with 776 pounds of butterfat at 3 years. Also several choice pure-bred females and a few excellent grade cows. Herd on Federal Accredited list.

TILDEN FARMS
James H. Murphy, Mgr. Delavan, Wisconsin

Norwind Farm
Offers

Norwind Chieftain 65697, a grandson of Langwater Steadfast. Chieftain's dam made 526 lbs. fat in D. His sire's 19 nearest tested dams average 714 lbs. fat. He is a fine individual and ready for service. Write for price and description.

Norwind Farm, Sheboygan, Wis.

Guernsey Bulls
Special Low Prices

Guernsey bulls by Beauty Eagle's Bonny Boy 42893, he by Bonny Boy of Riverdale 29070 (noted show bull), and out of Beauty Eagle 18117, 846 lbs. fat, or a son of Glenwood's Champion 15639 (24 A. R. daughters) out of daughter of Langwater Demonstrator 16451. Splendid high producing dams. Send for sale list.

LA BELLE KNOLL FARM, Oconomowoc, Wis.

10 Guernsey Females FOR SALE
YOUR CHOICE

of Any Ten out of a herd of twenty, consisting of A. R. cows, cows now on test, springing heifers, or yearling heifers. Most of them granddaughters of Gov. of the Chene. Everything bred or will be to a May Rose bull out of a 785-lb. dam. Also bulls of serviceable age, grandsons of Gov. of the Chene and Itchen May King.

Federal Accredited Herd
Come and see them.

Harvey Longley, Dousman, Wisconsin

Young Bulls For Sale
From A. R. Dams

I am offering several young sons of Golden Noble of Craigmoor A. R. He is a son of Langwater Raritan A. R. and from Imp. Daisy Moon 4th (639 lbs. fat).

These bulls are from A. R. dams with records up to 648 lbs. fat.

They are from 3 months to a year old. For prices and pedigrees call or write

Maple Heights Guernsey Farm
Frank E. Swan, Wauwatosa, Wis.
Federal Accredited Herd.

Wern Farm Guernseys

I am offering for sale 20 head of choice Grade Guernsey springers coming with first and second calf. Also have two bulls highly bred along May Rose lines just ready for service, that I will sell. For full particulars, write, wire, or come and see the stock.

Wern Farm, Waukesha, Wis.



STRAIGHT ISLAND BRED BULL
Ready For Service

Dropped June 21, 1919, solid fawn color in fine condition. Sired by Mabel's Noble King 146293, whose dam (Maltilda's Mabel) was 1st prize cow Illinois State Fair 1916, also 2nd prize aged cow, National Dairy Show 1914. The dam of this bull (Eminent's Katharine 268077) has a R. of M. record of 485 lbs. 15-oz. butter, also dam of a R. of M. daughter. If in the market for a good bull at a bargain price, write or come and see him. U. S. Accredited Herd.

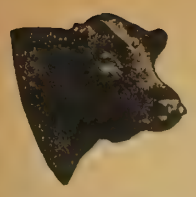
W. W. KNIGHT, Oak Grove Jersey Farm, Eagle, Waukesha Co., Wis.

Waukesha — The Guernsey County

Nearly two hundred members in our Association. Many of the best sires of the breed are being used. We can supply your wants. Pure-breds or grades, male or female, all ages. Prices will interest you.

Come to the County or Write

Waukesha County Guernsey Breeders' Association
F. E. Fox, Secretary
Waukesha, Wisconsin



Economy in Production ← GUERNSEYS → Quality of Products



An investment of $1,532 has netted $2,806 and nine pure-bred Guernsey females in nine years for an Ohio breeder. Guernseys have a great profit producing capacity, and considering the dividends they return they can be purchased for the least money. Send for our free booklets.

THE AMERICAN GUERNSEY CATTLE CLUB, BOX H 41, PETERBORO, N. H.

For Sale—A Bull Calf of Real Merit

Dropped Aug. 28, 1920, and Sired by **Langwater Cavalier 21012,** whose daughters have put him to the front as one of the great bulls of the breed. His highest record daughter made 734 lbs. fat in F.

The dam of the **Bull Calf** is Georgette of Edgemoor, who is on test and is a daughter of Mildred II of Les Godaines (55120), who was the **Grand Champion** Cow at the **National.** Her record is 14,890.9 lbs. milk, 702 lbs. fat. Her daughter **Century Girl** was first prize two-year-old.

The **Bull Calf** is a fine individual and splendidly marked. Send for extended pedigree and full description.

A few choice females to offer.

Upland Farms, Inc., Ipswich, Mass.
F. P. Frazier & Son, Proprietors, W. K. Hepburn, Manager

Anna Dean Farm
GUERNSEYS

When the Anna Dean Guernseys were sold at auction in June 1920—22 cows, 23 heifers and a bull were reserved for a future herd for Western Reserve University that expected to start at once an Agricultural School on the farm. Conditions have arisen that make it necessary to postpone this project and the Trustees have instructed me to sell these cattle

At the Farm, on April 15

The heifers are all open and the cows nearly all heavy in calf to Nelly's Sequel of Anna Dean Farm whose dam and sire's dam average 867 lbs. fat.

The heifers are all sired by bulls whose dams have records from 658 to 1,098 lbs. fat. They are a very choice lot. Many of the cows have fine A. R. records. For catalogs address

CHARLES L. HILL, Sale Manager
Rosendale, Wisconsin

MR. GUERNSEY BREEDER

we are offering bulls of May Rose, Glenwood and Yeksa breeding out of A. R. cows. Our records range from 450 lbs. to 864 lbs. of fat; ages from 2 months up to serviceable age for $100 and up.

Can spare a few fine females.

CORIUM FARM, F. J. Rueping, Owner, Fond du Lac, Wisconsin

Guernsey Bulls

GET A BULL, with Langwater, Pencoyd, May Rose or Haye's Cherub breeding. Prices reasonable, quality considered. Grades in limited numbers.

Fox River Valley Guernsey Breeders' Association.
Harry Leppla, Secy. Appleton, Wis.

Guernsey Females

bred to an outstanding son of Ne Plus Ultra, one of the greatest sires of the breed. Fifty head from which to select.

MEADOWLAND FARM, Litchfield, Conn.

HONESTY PRIDE OF BIRCHFIELD 44580



Sire — Langwater Warrior 26509
Dam — Langwater Honesty 49479
10,536.9 lbs. milk, 517 lbs. fat, at 2 yrs. and 5 months

We are now offering a few splendid sons of Honesty Pride of Birchfield. From cows with A. R. records or now on test. Everyone is a straight backed, growthy, vigorous youngster. These young bulls will put type and production in your herd. Prices range from $150 to $300.

Quality Guernseys **HIGHLANDS** *Tuberculin Tested*

NYE H. FREEMAN, Herdsman, Linwood, New York

Thorn Hill Farm Guernseys



Have several well bred young Guernsey bulls for sale at reasonable prices. All my own breeding. May Rose and Glenwoods, out of A. R. cows with records from 500 to 750 lbs. of fat. Write for sales list to

AUGUST ZIESING, Deerfield, Ill.

Do You Want A Guernsey Bull

Closely related to Pergue's Crescent A. R. with a record of 13,316.9 lbs. milk and over 582 lbs. fat in Class EE and dropping two calves within the year, entitling her to second place in her class? Some excellent young bulls closely related to Pergue's Crescent ready to head your herd. Write for descriptive circular, or come and see them.

Ernest W. Sass, Box H, Streator, La Salle County, Illinois

Iowanola Guernseys

We are offering

A Very Fine Son

born July 25, 1920, out of Imp. Kitchener's Express 43925, his dam has 592 lbs. of fat, and out of Franseca of Homa Della who has 12,855.2 lbs. of milk and 640.09 lbs. of fat in Class D. This is a very typy calf and should appeal to any one in need of a bull. Correspondence solicited.

MOUNTAIN BROS.,
Carrier 403. Des Moines, Iowa.

Sons of

Langwater Fisherman

Serviceable Age and Younger

They are from A. R. daughters of Yeoman's King of the May and of Langwater Demonstrator, with records from 500 to 700 lbs. fat. Strongly bred May Rose calves carrying 15% to 20% of the blood of May Rose 2nd.
Priced from $150 to $500. Guaranteed to be as represented.
We will answer your inquiry promptly.

MIXTER FARMS,
J. S. Clark, Supt., Hardwick, Mass.
300 Guernsey Females

Hillswold Farm

Shrewbury, Mass.

Registered Guernsey bull calves for sale. Dams in Advanced Registry and tuberculin tested. Prices right, and animals guaranteed to suit. **W. A. Cloues, Mgr.**

642 Pounds Fat

is the average on the A. R. daughters of Bellfounder, the sire of Countess Prue, the World's Champion Guernsey and My Fancy, eighth in Class A.

We offer bull calves carrying 15%—50% of this consistently high producing blood.

Prices $225.00 to $600.00.
The demand is keen; write today.
FALCON'S FLIGHT FARMS,
Litchfield, Connecticut.

GRASSLAND FARMS GUERNSEYS

Choicely bred males and females for sale. (The natural increase of the herd.)

Herd federal tested for tuberculosis. Send for sales list. Satisfaction guaranteed.

Taconic, Conn., Litchfield Co., (C. N. E. R. R.)

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

Harbor Hill Guernseys

Masher's Galore 8572 A. R.

Increased the Average Production Credit of 12 A. R. daughters out of A. R. dams by 181 lbs. We offer his double grandson out of another daughter also making a better record than her dam.

C. H. Hechler, Superintendent
Box 30, Roslyn New York

Forestdale Farm

3 Bully Baby Bulls 8 Handsome Healthy Heifers — 2 to 18 months

from Superior Standard Sires, also a few A. R. matrons. May Rose Breeding. Tuberculin tested. $250 lowest price.

R. D. DeForest, Amsterdam, N. Y.

Munroholm Guernseys

We are offering bulls of May Rose breeding from two months old up to serviceable age. Nearly all out of A. R. cows with creditable records. For $75 up. Can spare a few females, also some grade heifers.

Herd under Federal Supervision.

Address
Thos. H. Munro, Owner, Camillus, N. Y., or Fred M. Smith, Herdsman.

Guernsey Bulls

Our last 9 official records average over 510 lbs. fat, including all ages. Our herd sire has 8 A. R. daughters, including one with 572 lbs. fat in Class GG. His three nearest dams average 822 lbs. fat. Send for pedigrees and prices on young bulls with this backing.

Folly Farm, Box 587, Libertyville, Ill.

Guernseys

Best May Rose breeding. Both sexes and all ages from an Accredited Herd. Write your wants and send for lists.

E. S. Person, Minot, N. D.

Guernsey Bulls For Sale

Polly's Anchor No. 42845, born August 24, 1916, and Imp. Bluebird of Lakeside No. 45329, born June 15, 1917. Good, straight bulls, very gentle and sure breeders.

For Sale by
RADISSON FARM, ANOKA, MINN.

Major Oliver S. Johnson



The Dairy Auctioneer

Tipton, Ia.

"Maj. Johnson has conducted twenty-five Sales for me"—Dr. M. B. Wood, Mankato, Minn.

Veterinary Advice From an Old Timer

HOARD'S DAIRYMAN:—In your issue of December 31, I have read an article on feeding cows oil meal to prevent retention of placenta.

Over fifty years ago, a chance visitor at my father's barn gave me some information about this.

Said he: "To have the cow all right, just have her gaining in flesh for three weeks before the calf is born. It is not a question of more or less fat, but whether she gains or loses at just that time."

I have handled cows ever since and experience has seemed to prove his theory correct and I find many dairymen so understand it. Oil meal is a fine feed, but there are others.

I decrease the meal ration as milk flow lessens and, four months before freshening, drop it entirely, then milk as usual for three weeks, once a day for three weeks, and then stop. In four days I strip the udder clean, then milk once a week until the cow is dry. If the milk gets thick I strip oftener. Usually five weeks before freshening the udder will begin to show some development, but should yield nothing.

Then is the time to begin feeding meal, not much corn or cottonseed, lest the udder get feverish. Silage and roots are good, but my main dependence is on early cut hay, plenty of bran, some oil meal, and a little corn. Milking too long and feeding too little before calving time are sure ways to secure no profit from the next milking period.

I also notice on the same page with this article two inquiries as to abortion, and in answer to one, speaking of preventives, you say, "It cannot be said that any one of them is a practical success." From experience with the disease in my herd, and others that are near, I am firm in the belief that carbolic acid properly used is an absolutely infallible remedy. Simple, safe, cheap, and easy to use. Just melt the crystals with very hot water around the bottle, turn into a large bottle and add ten times as much water. Feed a tablespoonful of the diluted acid once a day in a little bran or any grain that is being fed. Feed all the cows in the herd for a week then skip a week and so continue until within a month of calving time.

If any cows have aborted, wait six months before breeding them again, feeding them like the rest. I have had no trouble with cows becoming barren because of abortion.

All that is printed in dairy papers about isolation, disinfection, washing stables, etc., seems useless and senseless twaddle to lots of us old duffers who know, or think we do, that carbolic acid will stop all the trouble.

Vermont. D. A. KNEELAND.

SWINE

Cedar Crest Farms
have never possessed a finer lot of
BERKSHIRES
than at present. Let us name you prices on fall and spring boars and young gilts.
J. K. Dering, Owner, Lake Villa, Ill.

BROWN SWISS

Brown Swiss Cattle
Stock For Sale
Correspondence Solicited
HULL BROS., Painesville, Ohio


BETTY OF LAKE VIEW

Breed Brown Swiss Cattle
As producers they are worth every cent you pay for them. Cows are easily sold at reasonable prices. Their earning power has not been capitalized. Brown Swiss meet the ideals of working farmers.
BROWN SWISS CATTLE BREEDERS' ASS'N
IRA INMAN, Secretary, Beloit, Wis.
William B. Hale, Pres., Aqueduct Bldg., Rochester, N. Y.

JUBILEE FARM
Box 747, Peoria, Illinois.
All Females Withdrawn from Sale Until After the
ILLINOIS BROWN SWISS BREEDERS' ASSOCIATION SALE
MORTON, ILL., APRIL 21
and
FIRST NATIONAL CONSIGNMENT SALE
PEORIA, ILL., MAY 26
A number of line-bred bulls for sale.

AYRSHIRES

World's Champion Ayrshires
Fully Accredited Tuberculosis Free — 200 Head in Herd


AUCHENBRAIN WHITE BEAUTY 2D
A. R. 14,721 lbs. milk, 4.33%
In 13 years, 112,486 lbs. milk and 13 calves
110 animals in herd are descended from this cow

The 1st, 2nd, 6th and 7th highest records were made here. Four cows average 22,823 lbs. milk, 1,046 lbs. butter. 100 A. R. records made here average 13,246 lbs. milk. Choice stock of all ages for sale at pre-war prices. Special—Young bulls line bred to Auchenbrain White Beauty 2d.
PENSHURST FARM, Narberth, Pa.
(7 miles from Philadelphia)

Metropolitan Farm
For Sale—Bull calves from our best A. R. cows. These calves are from one month to one year old. Priced for quick sale.
Write for pedigrees and prices.
METROPOLITAN LIFE INS. CO.,
Neil J. Parker, Farm Supt.,
Wilton, New York.

Orchard Lodge AYRSHIRES
Stock for sale, all ages.
Both sexes, prices reasonable.
G. W. STOLLER, Johnstown, New York

Ayrshire Bull
11-month-old grandson of Imp. Sandhill Reformer. Out of a 65-lb. a day cow whose dam and grandam have large A. R. records. Fine individual. Price $100.00.
POWER & SON, Auburn, N. Y.

Pure-bred Ayrshire Cattle For Sale
Best of breeding. Calves sired by a Grandson of Brown Kate, record 1,080 lbs. butter in year.
Wm. Nisbet & Sons, Richland Center, Wis.



We Have For Sale
the well bred Ayrshire bull, Bargenoch "Drexel" (18474) Imported. Bred by John Logan, Bargenoch, Scotland. Born Feb. 2nd, 1919. Color white and red. Sire, Bargenoch Magnificent (9579). Sire of Bargenoch "Royal Champion" sold at Bargenoch sale, 1919, for $7,267.00.
Dam, Bargenoch Victoria (37003). Scotch record: 9,221 lbs. milk, 4.23% fat in 43 weeks; 11,970 lbs. milk, 4.50% fat in 47 weeks.
BARCLAY FARMS, John Cochrane, Manager. ROSEMONT, PENNSYLVANIA

Monstone Farm Ayrshires
"Production — Size — Individuality"
Bull calves out of dams with A. R. records of 10,000 lbs. (and better) of 4% milk—Winners in show ring—Sired by Lessnessock Gem's Good Gift Imp.—Winner in show ring and proven prepotent sire—Weight 2,250 lbs. in breeding condition—Whose dam made 8,930 lbs. milk, 4.05% fat, in *36 weeks* (Scotch record)—Sire's dam 10,342 lbs. milk 365 days (Scotch record)—Prices $100 to $1,000. If you want class and a square deal, correspond with us. We can supply your wants at your prices. Nothing but the best. Herd Federally tested.
MONSTONE FARM, John Chalmers, Manager. IPSWICH, MASSACHUSETTS

Middlesex Meadows Ayrshires
We owned *CAVALIER'S NETHERHALL CHANCELLOR* who sired the winning bull calf at this year's National Dairy Show. We have two young bulls ready for service by this sire and out of cows with official A. R. records of better than 12,000 lbs. of milk and 450 lbs. butterfat. Both these youngsters have excellent conformation but we must have room and the first check for $400 takes either one. We have also some younger calves by this bull out of A. R. cows at $250 and up.
A. Henry Higginson
South Lincoln, Mass.

Weymouth Farms
"Ayrshires of Quality"
All cows on Advanced Registry Test. Herd Tuberculin Tested.
We can supply you a herd sire of choicest breeding.
MARTIN A. TOWLE, Mgr.
NORTH WEYMOUTH, MASS.

Linndale Farm Ayrshires
"Are bred for Production"
Bull calves out of A. R. cows and sired by sons of World Record cows, for sale.
Our { Breeding, Conformation and Prices } are right.
See what we offer before you buy.
JOHN LINN & SONS,
Manhattan, - Kansas.

South Farm
250 Registered Ayrshires
Stock of all ages for sale. Write for prices.
George A. Cross, Mgr., Willoughby, Ohio.

Ayrshire Stock
of all ages for sale. Satisfaction guaranteed
L. W. McCONNELL, Wellington, Ohio

Bensalem Ayrshires
For Sale:—Bull Calves from our best A. R. Dams, and sired by "Queen's Favorite", whose Dam, "Bloomer's Queen", holds the World's Record as an Ayrshire Four-year-old with 21,820 lbs. milk, 1,009 lbs. butter. Grandam of Sire, Auchenbrain Brown Kate, Ex-world's Champion, 23,022 lbs. milk, 1,080 lbs. butter.
FRIENDS HOSPITAL, Frankford, Phila., Penn.

AYRSHIRES— Gold Medal and Silver Cup Winners in Advanced Registry Roll of Honor Division. Young Bulls ready for service. Bull and Heifer Calves at prices you can afford to pay.
Pure-bred Berkshire Boars and Gilts.
Superintendent, Masonic Homes
Elizabethtown, Pennsylvania

Delchester Farms Ayrshires
Tell us your wants and we can supply them at prices you can afford to pay.
Aged cows, bred to Glenury, an A. R. son of Finlayston.
Aged cows, bred to Rena's Baron of Highland, an outstanding son of Baron's Best of Bargenoch.
Heifers, bred to these two great sires.
Young heifers.
Bull calves.
All the above stock carries some of the best producing blood of the breed with A. R. ancestry on both sides.
Herd free from tuberculosis
DELCHESTER FARMS
Edgemont, Del. Co., Penn. - Thomas W. Clark, Supt.

BLACKBURN FARM
HOME OF
Addington's Champion
Grandfathers—Nox'emall and Finlayston
Father—Rena's Champion, 17 A. R. Daughters
Mother—Addington Queen 3d, two Mature Records each over 19,000 lbs.
For Sale —
4-year-old cow—Fresh Dec. 12, 1920
2-year-old heifer—Fresh Jan. 16, 1921
Also Young Stock
Tuberculin Free Herd
Sewickley, Pennsylvania

HOLSTEINS

HERE IS YOUR CHANCE
Bull calf born Aug. 17, 1920. Mostly white and a good individual. His sire is a 32.7-lb. grandson of King of the Pontiacs. Calf's dam has a 20-lb. record and his 3 nearest dams average 28.47 lbs. A bargain at $200. Send for pedigree and photo.
Have 2 other bulls for sale that are ready for heavy use from a 25.63-lb. sire. They are priced exceedingly low. Females for sale, all ages. Herd under Federal supervision. Write your wants.
UTOPIA DAIRY FARMS
C. I. Reamer, Prop. North Liberty, Ind.

Holstein Bull Bargain
Royal Breeding—Splendid Individual
Carries 43¾% blood of Pontiac Korndyke, the greatest of all sires, 25% of blood of King Segis Pontiac and 12½% blood of King Segis. None better. 4 others ready for service. First $250.00 check gets him.
Wm. N. Osborn, Wanatah, Ind.

Whitehurst Farms
BULLS FOR SALE FROM SEMI-OFFICIAL DAMS. Priced Right.
A. F. Randolph, Prop., Canton, Ill.

This Week We Offer

This Splendid Line-Bred

Sir Pietertje Ormsby Mercedes Bull



Sir Jesse Skylark (307356)

Born February 25, 1920.

He is an excellent individual, well grown and of a rugged type. Through his pedigree he combines a most desirable line of breeding.

HIS SIRE:

SIR PIETERTJE SKYLARK ORMSBY—A young sire combining the blood of Duchess Skylark Ormsby and Sir Pietertje Ormsby Mercedes. He is by the only son of the only 1500-lb. cow and from a 940-lb. two-year-old daughter of Sir Pietertje Ormsby Mercedes, 14 daughters above 1000 lbs. and 60 averaging above 800. The next dam is a 1089-lb. four-year-old daughter of Colantha Johanna Champion (His dam 1247) and from a 1255-lb. daughter of Pietertje Maid Ormsby. Nine nearest dams of this sire average above 1000 lbs.

HIS DAM:

EDENVALE JESSIE ORMSBY—24.76 lbs. butter and 503.2 lbs. milk as a three-year-old. She is a show cow from end to end and one that will make a real record in the future. She is sired by Sir Pietertje Ormsby Mercedes 39th, one of the proven sons of old Sir P. O. M. The dam is from Jesse Rosanna Longfield, a daughter of Parthenea Longfield, a proven sire.

Price $500.00

E. C. Schroeder Farms, Moorhead, Minn.

(Herd Under Federal Supervision).

Minnesota Holsteins



Miss Korndyke Akkrummer Ormsby 30-lb. 4-year-old. 39.67 lbs. butter at full age. Owned and developed by J. B. Irwin.

For Your Next Herd Sire

get a son of Sir Ormsby Banostine Champion, son of Duchess Skylark Ormsby, world record cow. We have some good ones for sale from dams with good 7-day and year records.

Woodlake & Clover Farms,
John B. Irwin, Station F,
Minneapolis, Minnesota.
"The Home of the Ormsbys."

ECHOLAND FARMS

Have For Sale

A Few Good Registered Cows and Heifers

We are somewhat overstocked at present so are offering a few good Minnesota bred females for sale. They are bred to King Pietertje Ormsby Pledge one of the good sons of King Pietertje Ormsby Piebe.

Our prices are reasonable. The females are guaranteed to be as represented. Write or come and see them.

EGIL BOECKMANN, White Bear Lake, Minn.



Lola Segis Pontiac Homestead

the highest record bull in southern Minnesota, heads our herd. His sire, Piebe Laura Ollie Homestead King, has more daughters that as 2-yr.-olds have produced 20,000 lbs. milk in a year than any other. His dam, a 34-lb. 4-year-old daughter of King Segis Pontiac Count, has 3 records averaging 33 lbs. and has made over 1,000 lbs. in 1 year. We have a few serviceable bulls and younger from A. R. O. dams for sale.

Clover Lea Farm, W. W. Walker, Owner. Austin, Minnesota

Sir Walker Segis Homestead

The best show bull and son of the great bull, PIEBE LAURA OLLIE HOMESTEAD, out of a "COUNT" daughter, BEAUTY BEETS WALKER SEGIS, world's greatest heifer, with two yearly records over 25,000 lbs. milk and 1,000 lbs. butter in heifer form, and a seven-day record of 35.03 lbs. butter from 730 lbs. milk.

We offer several choice bulls, one month to a year old, out of high yearly record and A. R. O. cows, at very reasonable present day prices. Pedigrees and photos will be sent.

A. J. LASHBROOK, - - Northfield, Minnesota

Sons of "COUNT"—

—"The Marvel of All Sires"

Whose daughters have broken more World's Records than the daughters of any other sire of the breed in both long and short time work. He has eight 1,000-lb. daughters.

Sons of "PIEBE" — "The Present Day Sensation"

The only bull in the world with five 20,000-lb. two-year-old daughters.

Sons of "COUNT" from daughters of "PIEBE"
Sons of "PIEBE" from daughters of "COUNT"

We have the finest line of young bulls we have ever raised at ARDEN FARMS, priced in accordance with present financial conditions. **LIBERAL TERMS GIVEN IF DESIRED.** Write me for particulars.

J. M. HACKNEY

602 Merchants Bank Building, - - - St. Paul, Minnesota

Bull Calves of Ormsby Breeding

from A. R. O. dams for sale, 2 to 8 months old. Prices $200 to $1,000. We can also offer several good, typy cows bred to a good Ormsby bull. Write or come and see us.

MINERAL SPRINGS STOCK FARM, - - SAVAGE, MINNESOTA
Stuart—McIntyre—Hansen, Owners.

Address correspondence to Axel Hansen, formerly with John B. Irwin.

Grandsons of Sir Pietertje Ormsby Mercedes

The sire is Sir Pietertje Ormsby Mercedes 22d, a son of Minnesota's first 1000-lb. cow. These bulls are all nicely marked, straight top lines. Very good individuals from good A. R. O. dams. For pedigrees and prices, write

O. J. GROVER, - GLYNDON, MINN.

Grandsons of

Duchess Skylark Ormsby and of S. P. O. M. 38th.

for sale. These youngsters are from A. R. O. dams that are now making good yearly records. Write today for further information.

POPLAR HOLLOW STOCK FARM,
Bertram D. Scott, Prop., Richfield Station
Minneapolis, Minn.

Bull Calf

advertised last week is sold. Here is another good one ready for light service. Sired by a 30-lb. bull. Dam a 14-lb. 2-year-old who will be tested again next spring. Priced so reasonable that you can't afford to be without him. $150.00 for immediate sale.

V. R. Holmes, Anoka, Minn.

Get A Calf

We have a grand bunch of youngsters on hand. Come and pick out a calf while you have a big choice. Grow him to suit you. Saves you money and we are selling them as cheaply as we can. Show calves that are backed by generations of official testing and careful breeding. Sons of DUTCHLAND CREAMELLE COLANTHA LAD No. 165049. His yearly daughters all average over 834 lbs. of butter at 26 months of age.

GRAHAMHOLM FARMS,
H. R. Searles, Mgr., Rochester, Minn.

Sir Korndyke Ormsby De Kol 15th—21 Months Old

His sire is a son of Sir Korndyke Hengerveld De Kol; 51 A. R. O. daughters, one of whom has a 7-day record of 39.56 lbs. and several above 1000 lbs.

His dam has a record of 23.778 lbs. and now on yearly test.

Geo. H. Elwell, - Minneapolis, Minn.

HOLSTEINS—Females

We offer some very choice females, all ages, priced very reasonable. Mostly bred to our 34-lb. bull, Piebe Count Com. One or a carload.

BLACK AND WHITE STOCK FARM,
Route 3, Melrose, Minnesota

Serviceable Sons of Dutchland Aaggie Tidy Prince

I have three of these youngsters for sale, all ready for service and from A. R. O. granddaughters of S. P. O. M. Their sire is from a sister to Tidy Abbekerk Prince and already has a good list of tested daughters, including one above 36 lbs.

Write today for complete information.

E. J. BROSIOUS, - - Stillwater, Minn.

We Still Have

Two sons of King Segis Pontiac Fayne Star that are ready for service. They are real ones. Let us mail to you a bull circular. Won't cost you a cent and we like to do it.

Flecks Farm, Faribault, Minn.

A BULL BARGAIN

Bull calf born July 19, 1920.
Sire's nine dams average over 1,000 lbs. butter in year.
Dam has over 500 lbs. butter in 263 days.
This calf is an excellent individual.
Straight top line. Price $500.

MANKATO HOLSTEIN FARMS
Marlow & Randall, Mankato, Minnesota.

Holstein Bulls

At Farmers' Prices

We are not in the game to get rich but to help promote the breed by offering pure-bred bulls at the lowest prices, enough to cover raising. Write for prices and descriptive list. The Ormsby kind.

RAMSEY COUNTY HOME,
J. E. McMahon, Supt., North St. Paul, Minn.

RICHLY BRED

HOLSTEIN BULL CALVES

out of A. R. dams and sired by our two richly bred herd sires — **King Piebe Ormsby Mercedes,** a 35-lb. son of Sir Korndyke Bess and every dam in pedigree over 22 lbs. and **King Pietertje Mercedes Ormsby,** a son of Sir Pietertje Ormsby Mercedes and out of a 19-lb. senior two-year-old dam.

Herd tuberculin tested. Write for information or visit herd.

P. FROST SPAULDING FARM CO.
C. L. Spaulding, Mgr., Warren, Minn.

Richly Bred Ormsby Bulls

From Yearly Record Dams—Age 1 to 14 Mos.

Six three-year-old heifers in my herd (under ordinary farm conditions) have just finished yearly records averaging 722 lbs. butter from 16,639 lbs. milk. To make room for calves now coming on, am offering at bargain prices three grand individual sons of above cows ready for service. Act quick. Herd under Federal Supervision.

F. A. STILLINGS, Frazee, Minn.

"DUKE"

The only place you can buy sons of serviceable age sired by DUKE PIETERTJE KORNDYKE ORMSBY

The bull selling at the last Minnesota state sale for $33,000.00 is from the herd where he stood for three years prior to the sale. "Duke's" dam now has three records above 1,000 pounds, the last one was 1,190 pounds.

Now is the opportune time to buy one of these bulls as their sisters will be given every opportunity. Get a son now and be in line. Clean bulls from a clean herd. Prices reasonable. Write

EDW. H. ULRICH, Biscay, Minn.

COME TO BISCAY

for your next purchase of pure-bred or grade Holstein cattle, mature or young stock. Large selection, also a few select male calves to offer. Located near station

BISCAY SALES CO., BISCAY, MINN.

Proven Sire For Sale

A 29-lb. Bull—Priced Right

His sire is a yearly record grandson of King of the Pontiacs. His dam a 29-lb. cow, 663 lbs. milk in 7 days—has a creditable yearly record.

He is 5 years old, well grown, a good individual and already has some excellent producing daughters. Guaranteed to be right.

BROWN BROS., Waverly, S. D.

BULL CALF

Sire's dam, butter, 1 yr., 848 lbs.; her daughter, 1,055 lbs. Grandsire's dam, 987 lbs. at 11 yrs.; her full sister, 1,344 lbs.; another, same dam, 1,322 lbs. Dam, Miss Pietertje Alexina 3d, sister to Miss Pietertje Alexina 2d, 1,290.91 lbs. A dandy calf, priced right. Write quick to

McKAY BROS., - - CADDOA, COL.

Edinboro Lake Farm

Show Type HOLSTEINS Production

Six state yearly record champions 1918-19.

We offer bull calves by Sir Paul Veeman Hengerveld and Sir Ormsby Skylark Fredericka, out of yearly record dams with type.

Edinboro, Pa.

SONS

of Sir Echo Sylvia Johanna —

⅞ Brother to the $106,000 Bull

From high bred fine individual A. R. O. cows up to 30 lbs. Several on test now. All good, straight individuals, backed by lots of milk and butter. Some are ready for service. Priced very low. Write for catalog.

(Herd Under Federal Supervision)

CHESTNUT HILL FARMS,
G. A. Burdick, Mgr., Gibsonia, Pa.

ORIGIN FARM

HORNLESS HOLSTEINS, Registered and A. R. O. Animals, all ages, for sale. Federally Tested.

GEO. E. STEVENSON, Scranton, Penna.

M. & P. Healthy Holsteins

A year ago we sold a bull calf to a Virginia breeder. The dam of that calf has just finished a year's record of 17,600 lbs. of milk, 800 lbs. of butter. Was he pleased? His letter states "The bull is growing nicely, and I am glad his dam made so good a year's record."

We supply this kind at moderate prices. Write

Markham & Puffer
Avon - New York

YEARLING BULL

READY FOR SERVICE

Here is a show bull whose dam has a three-year-old record of 23 lbs. butter and 511 lbs. milk. His sire's dam is a 31-lb. daughter of LORD NETHERLAND DE KOL, while his sire's sire is by a son of KING OF THE PONTIACS.

Write for pedigree.

G. BURLINGAME, Cazenovia, N. Y.

A CARLOAD OF EXCEPTIONAL PRODUCERS

GRADE OR PURE-BRED HOLSTEINS

We recently purchased a large number of grade and pure-bred cows thrown on the market by the unsettled condition of the milk market in this section. They are large, typy animals, due this spring, tuberculin tested and just the kind we like to get. Will average close to 10,000 lbs. a year. If you need such cows, write at once.

Also grade heifer calves, pure-bred cows, heifers and bulls of all ages. Every Sale Means a Completely Satisfied Customer.

RIVER MEADOW FARMS, Portlandville, N. Y.

Holstein Bull $150

Ready for service. Sired by a good son of Tidy Abbekerk Prince. Seven 30-lb. daughters. Dam a good A. R. O. daughter of King of the Changelings, he by King of the Pontiacs who has three 40-lb. daughters. He is ¾ white, well-grown, and a show bull. Satisfaction guaranteed.

HARRY W. PETZOLD, R. 3, Owego, Tioga Co., N. Y.

REGISTERED HOLSTEINS



FEDERALLY tested herd of 800 selected Holstein cows headed by world's record sires. Young bulls for sale. Satisfaction guaranteed.

Write for Sales List No. 105

411 Consumers Bldg., Chicago, Ill.
411 Stuart Bldg., Seattle, Wash.

Carnation Stock Farms

THE TRAVERSE HERD

We have what you want in

BULL CALVES

the large, fine growthy type, guaranteed right in every way. They are from high producing A. R. O. ancestors. Dams' records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.

Traverse City State Hospital, - Traverse City, Michigan

The Pontiac Herd

"Where the Champions come from"

Offer Bull Calves sired by sons of *Pontiac Korndyke, Hengerveld De Kol, Pontiac Dutchland, or Admiral Walker Pietertje.*

Do you want a Pontiac in your herd?

PONTIAC STATE HOSPITAL, Pontiac, Mich.

Fairhurst Herd

On the Accredited List

We offer young bulls, fine individuals and well grown. Sired by 33-lb. bull and from dams with records up to 30 lbs. Write for pedigree and price.

KITTLE BROS., Holland, Ohio.

Bull Calves

One calf: Born October 5, 1920. Dam: 16.76 lbs. butter, 7 days. Sire: A grandson, Sir Piet. mostly white. Calf born November 20, 1920. Dam: a dam of a 35-lb. sire. Sire: a son of Miss Pietertje Alexina 2nd, 42.42 7 days, 1290 year and making 3rd yearly record.

Hubert Stuckart, Raymond, Iowa.

HOLSTEINS LEAD

In Consistent Production

We offer a bull born July 29th, 1920, grandson of Sir Pietertje Ormsby Mercedes; dam a granddaughter of Colantha Johanna Lad. Mighty good individual, rugged with perfect top line. This calf will be a snap for somebody. Write for price and photo.

Cerro Gordo Farms, Mason City, Iowa.
Herd Under Federal Supervision

Yearling Bulls

From 21-lb dams. One has 662 lbs. butter, over 17,000 lbs. milk at three years. By proven bulls with daughters up to 30 lbs. Best of Ormsby and yearly record backing. Good size and type. Guaranteed to please and stand a 60-day retest. Priced to sell. Write

RIVAL STOCK FARM, Laurens, Iowa

Bull of Ormsby Breeding

We offer Chief Segis Lyons Ormsby No. 280751 Born March 8, 1919, a grandson of Sir Pietertje Ormsby Mercedes 41st. His sire a 33-lb. bull; his dam a granddaughter of Sir Pietertje Ormsby Mercedes, who had more 1,000-lb. daughters than any other sire in the world. Also some splendid bull calves ready for service, from A. R. O. dams. Herd tuberculin tested. Write for prices.

Schermerhorn Farms, Mason City, Iowa.

A Son of LIEUTENANT RAG APPLE

from a ⅞ths sister to a 948-lb. junior two-year-old daughter of a 1,281-lb. cow. $100.00. Let us tell you about him. Serviceable.

BLUEBELL FARM, Riceville, Iowa

HOLSTEIN CATTLE



C. H. Davies, Prop. Springvale Stock Farm, Shipman, Illinois, writes:

"Nine years ago I purchased a two-year-old heifer and a five-year-old cow. Now I have a herd of 50 head, conservatively valued at $25,000. Where is there a business good enough to net a man $25,000 plus a good living for himself and family in nine years time?"

Send for Free Booklets

The Holstein-Friesian Association of America

101 American Building, Brattleboro, Vermont

The Best We Have For Sale



FRIEND PIEBE
(Unretouched snapshot).

Friend Piebe

A son of King Pietertje Ormsby Piebe, of course. He is from Lady Mutual Friend, the world record cow that made 41 lbs. as a 10-year-old and 1,281.46 lbs. butter from 23,388 lbs. milk in a year.

The 2 nearest dams of this youngster average 1,335.46 lbs. butter and 26,819.6 lbs. milk.

Friend Piebe is one of the best bulls we ever had for sale. Individually he's a winner. He's a bargain at the price we ask.

Easy terms of payment offered.

HARGROVE & ARNOLD, - Norwalk, Iowa
Herd Under Federal Supervision

SIR JOHANNA FAYNE



42147

now has 9 daughters 20,000 pounds or over. All of his yearly tested daughters, 3½ years old or over average 21,465.1 pounds milk and 831.45 pounds butter. 17 daughters average 20,000 pounds. A few young sons left at reasonable prices. Herd under Federal Supervision.

IOWANA FARMS
DAVENPORT, IOWA



Lakeside Farm Herd

The records of his dam, dam of sire, and dam of grandsire, average 31.33 butter 7 days, milk 548.84. This bull was 2nd prize winner in New York State Fair in class of thirty. His dam was also prize winner in same show. Send for pedigree. Herd under State and Federal supervision.

E. A. POWELL, Syracuse, N. Y.

A 26-Pounder For Sale

A handsome, large, straight bull calf born Nov. 8, 1920. White in color except a few black spots. Sired by my De Kol Hengerveld Burke bull, and out of a very large, straight, square, handsome cow with a perfect udder and teats. This cow recently made in a 7-day official test 552.0 lbs. milk and 26.14 lbs. butter. Her sire is the best son of Pontiac De Nijlander, the champion butter cow of the state of Michigan. $300.00 will buy him.

A few others for less money out of cows with records up to 24 lbs.

I. M. SHORMAN, - - - - - Fowlerville, Michigan

ZEHRINGHURST HOLSTEIN FRIESIANS

A Few Splendid Young Bulls

for sale that have show ring type, that are backed by 7-day and yearly records and by the best productive breeding in Ohio. They are from an accredited herd, are guaranteed right and are priced to sell.

Zehringhurst Farm, Germantown, O. Oscar O. Zehring, Prop.



SADIE CORNUCOPIA EIBERTJE

Her Son For Sale—

This cow was 2nd prize A. R. cow and 3rd prize 4-year-old at Dairy Congress, 1920. She is by the best son of the 1st 30-lb. cow and has a 20-lb. 2-year-old record with 510 lbs. butter in 345 days. Now on test as a 4-year-old with 400 lbs. butter in 1st 6 months. Her dam 530 lbs. butter in 10 months; next dam 516 lbs. butter 365 days at 2 years. Calf is by Woodcrest Sir Clyde, who is from a 33-lb. and 970-lb. dam; born May, 1920. More black than white. Given a Federal Certificate of Health.

Write for photo and pedigree today.

W. B. BARNEY & SONS, - - - Chapin, Iowa

BUY DIRECT

Reasons for Buying Holstein Cattle in Waukesha County:

1. You can buy direct from the breeder through the breeders' association, organized by the breeders to promote the breeding of more and better Holstein cattle and to assist in a fair marketing of the same.
2. There are over 50 pure-bred Holstein sires in service in Waukesha County whose dams have records of over 30 lbs. butter in 7 days or 1,000 lbs. butter in a year.
3. There were 1,307 long-distance tests made on Holsteins in Waukesha County during the past year, which is more than the total in the next four leading counties in the state.
4. There are more tuberculin tested cattle in Waukesha than in any other county in the world.
5. The breeders' organization is in a position to put you in touch with "bred-for-production-stock" at reasonable prices.
6. When buying through the Association, you obtain the services of men who devote their entire time to the Holstein industry. It saves you time. You get more for your money.

Write or Wire for information

Waukesha County Holstein-Friesian Breeders' Association.

254 Broadway, Waukesha, Wisconsin

HOLSTEINS FOR SALE

SPECIAL—Prize winning yearling Holstein bull. 30-lb. sire; 19.58-lb. dam. Splendid individual.

PURE-BREDS	161 Cows 134 Heifers 19 Heifer Calves 290 Young Bulls	GRADES	93 Heifer Calves 127 Heifers 418 Cows

Some good carloads at reasonable prices. Listed for sale through Wisconsin banks. Other Live Stock: Breeders are listing with us other dairy cattle, beef cattle, horses, sheep, and swine. Write us if you want stock. We will answer promptly.

BANKER FARMER EXCHANGE

D. H. Otis, Director, 1822 Chadbourne Ave., Madison, Wis.

Cows and Heifers

A Few Good Bulls

Because I am overstocked, I am offering some very good registered females for sale. They either have A. R. O. records or are from A. R. O. dams.

Can also offer some excellent young bulls by a 33-lb. sire and from A. R. O. dams with records up to 28 lbs.

Every animal sold is guaranteed to be as represented.

Write or come and see for yourself.

J. D. McDonald West Salem, Wis.

$100 to $200 Buys A Bull From A Good Record Dam

Am offering several for those prices sired by a 26-lb. bull and from A. R. O. dams with records up to 25.46 lbs.

Write at once. They'll go fast.

H. W. Crawford, R. 5, Campbellsport, Wis.

A BULLY CHANCE

to get a serviceable sire—born March 15, 1919. A fine individual—well bred—well marked—well grown. Sire, a son of King Segis Pontiac out of a 26-lb. daughter of Juliana King of Rock. Dam, A 26-lb. daughter of King Korndyke Veeman Wayne, he out of a 31-lb. daughter of Sir Veeman Hengerveld. Will trade for pure-bred Holstein females, liberty bonds or cash. If you want a herd sire—what have you got that you don't want? Write or call for price, pedigree, photo. Also have some younger bulls. Herd tuberculin tested.

RIDGEHURST STOCK FARM.

Glen C. Ramsey, Ft. Atkinson, Wis.

1000---HERD---1000

Quality Holsteins

GRADES AND PURE-BREDS

Just now we have a splendid lot of grade heifers. Write for our pure-bred bull list.

Jefferson County Holstein-Friesian Breeders' Association.

A. F. Gafke, Secretary, Jefferson, Wis.

Registered 3-year-old—Fresh Dec. 1, milking 45 lbs. Bred to a good bull. Weight 1,200 lbs. Price $275.

ORINE W. BEHNCKE, Route 7, Marshfield, Wis.

Holstein Bulls, from $100 to $500

We have a few exceptionally good bulls from tested and untested cows that are sure to develop into excellent herd sires. They are priced very reasonably at $100 to $500, depending on breeding, age and individuality.

We also have a few exceptionally good young cows for sale at bargain prices.

Our herd is under Federal and State supervision. For full information write

BERTLEY FARMS, Glenwood, Ill.

We Offer a Yearling Son

Of King Pietertje Homestead Ormsby No. 221488, out of the State record Junior 2-year-old with a record of 17,860.2 lbs. of milk and 716.16 lbs. of butter. His name is Prince Korndyke Ormsby Fayne No. 323802 and he took 5th premium at the last Dairy Show as a Junior calf. Write for pedigree and price. Herd under Federal Supervision.

BUFFALO CREEK FARM,

H. L. BINGHAM, Supt., Arlington Heights, Ill.

For Immediate Acceptance—

Three young bulls ready for service—Holsteins.

No. 1—Sire a 30-lb. bull. Dam a 27.5-lb. cow. Price $300.00.

No. 2—Sire 30-lb. bull. Dam 23-lb. 3-year-old. Price $250.00.

No. 3—Sire 30-lb. bull. Dam 16-lb. cow. Price $100.00.

King of the Pontiacs breeding, well grown and good individuals. Send for extended pedigree.

R. F. JOHNSON, Assumption, Ill.

Send For Our Bull Sales List

Three bulls of serviceable age—four others will be old enough for service in a month or two—others three months old and older. Almost all of them sired by SIR ORMSBY BEAUTY PONTIAC SEGIS, the son of a 37-lb, 1112-lb. three-year-old daughter of KING SEGIS PONTIAC COUNT.

If it will be of an accommodation to the purchaser, we will accept a six months' note in payment, WITHOUT INTEREST, or will accept payment on installment plan basis.

Pinehurst Farms Co., Sheboygan Falls, Wis.

Bull Calves

by

SIR BESS ORMSBY FOBSE

out of

Cows with 7-day records now on semi-official; two-year-olds milking as high as 70 lbs. and mature up to 92 lbs.

LINDEN LAWN STOCK FARM

B. W. RABENHORST, Jefferson, Wis.

Holstein Service Bulls

sired by

King Bess Burke Ormsby

whose 5 nearest dams average 36.56 lbs. butter in 7 days, 1005 lbs. in 1 year.

PRICED TO SELL
TUBERCULIN TESTED

Milford Meadows Stock Farm

Lake Mills, Wisconsin

Serviceable Bulls For Sale

Sired by Pabst Pontiac Hengerveld, a son of King Pontiac Champion from Pabst Hengerveld Colanthus (31.5 lbs. butter in 7 days, 1,057 lbs. in a year.

These are nicely marked, well grown youngsters out of good producing dams. Several are ready for service, others are younger.

Write today.

John Alexander, Baraboo, Wis.

Sons of a 36-lb.—1315-lb. Sire

They are sons of Dutchland Creamelle Denver Prince. His sire is a 30-lb. 1,028-lb. grandson of Colantha Johanna Lad and his dam, the highest record daughter of the same sire, with 36 lbs. in 7 days, 1,315 lbs. in a year.

They are from tested (records up to 20 lbs.) and untested dams — Good producers rich in the blood of Mooie Mutual De Kol and King Segis Pontiac.

The calves are from 2 to 8 months old. Priced right.

Jefferson County Asylum, Jefferson, Wis.
W. E. Voigt, Supt.

Wayside Lawn Farms

offer

Young Bulls Ready for Service

sired by 31-lb. bull, Hengerveld Banostine Gudultje, whose two nearest dams average 30.65 lbs. butter in 7 days and 848 lbs. butter in one year. The bulls are from tested and untested dams. They are well grown and right in every way. Price $100.00 to $200.00. Herd Federally Accredited.

WALTER SORGE. Reedsburg, Wis.

Son of a World-Record 3-Year-Old

Ready For Service

He's very well grown, well marked, and a first class individual

His dam, Circe Fyke Canary De Kol, holds the world's record in her class for 305-day milk production with 18,791.4 lbs. In 7 days at the same age she made 28.85 lbs. butter from 613 lbs. milk.

His sire is King Pontiac Artis Sadie Vale, the 34-lb. son of K. K. S. V. whose daughters are doing so well in our herd.

Write today for complete information.

He'll suit you and the price is reasonable.

Gustave Pabst's Hollyhock Farms

Fred J. Southcott, Manager Dousman, Wisconsin

For Sale—Grandsons of S. P. O. M. 37th

Sired by a son of "37th" and of Wisconsin Fobes 4th that is now going at better than a 1,000-lb. gait on year test.

No. 1—From a 25-lb. dam that has several A. R. O. sisters. Ready for service. Price $500.

No. 2—From a 22-lb. dam. One year old. Price $300.

No. 3—From a daughter of a 25-lb. cow. Ready for service. Price $150.

Several younger calves for sale. All are well grown and light in color.

Several Females For Sale

Well bred and priced right.

Write for further information.

W. O. Williams & Son

Wild Rose, R. 3, Wisconsin



WISCONSIN FOBES 4TH

A daughter of the great Wisconsin Fobes and a sister to Wisconsin Fobes 5th. (State Champion 2-year-old).

A SERVICEABLE SON

Of the 1235-lb. Yearly Sire

Sir Korndyke Bess

His Dam has a remarkable 305-day record.

R. E. BENSON, - Dousman, Wisconsin

A. R. O. BULLS—2 Weeks to a Year Old

At Bargain Prices

They are sons of Rag Apple Pontiac, a 30-lb. grandson of King of the Pontiacs, from well bred dams with records up to 27 lbs. in 7 days. Write today for prices and pedigrees. I'll answer your inquiry promptly.

W. W. Quackenbush, - West Salem, Wis.



Yearly Records

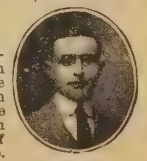
Choice Young Bulls

from one to fourteen months old for sale. Sired by Cloverlawn Johanna Piebe whose five nearest dams average 1,070 lbs. of butter, 23,809 lbs. of milk a year. Herd numbers 140 head, forty cows with yearly records. State exactly what you want.

JOHN PULS, - HARTFORD, WISCONSIN



Colantha Changeling Lad



Whose dam made 30 lbs. at 4 years, has daughters making up to 32 lbs. at 3 years old. On them a 30-lb. son of 37th whose daughters are now making 23 and 24 lbs. as 2-year-olds. On them we are using a 30-lb. son of 41st. We are clearing our stables at bargain prices on bulls up to serviceable age. Also a bunch of females for immediate sale. Bulls $150 up.

Badger Stock Farms, Hartford, Wis. Lawrence F. Murphy

HOLSTEIN BULLS AND HEIFERS!!

To make room in our barn we offer a dozen or more heifers from 1 month to 3 years of age. They are backed by some of the best families of the breed. Also a few bulls sired by King Korndyke Veeman, whose two nearest dams average over 37 lbs. butter in 7 days. Come and see them or write to

WISCONSIN STAR STOCK FARM, ED. M. SCHULTZ, HARTFORD, WIS.

Bull Ready For Service

Nicely marked and a good individual. Dam 20 lbs. butter at just 3 years. Next dam a 23-lb. 4-year-old. Two nearest dams of his sire average over 32 lbs. and ten nearest dams over 29 lbs. in 7 days Not a break in a three-generation pedigree. Priced to sell. Call or write

Halsey J. Sedgwick, Limeridge, Wis.

GREENBUSH FARM

REGISTERED HOLSTEINS

Offering a service son, by a 1225.67-lb. sire, from a 657.1-lb. senior 4-year-old dam. Good individual. Price $400. Several others at $150 and up. Herd under federal supervision. For complete information address

GREENBUSH FARM,

R. Turano, Herdsman, Glenbeulah, Wis.

Grade Heifer Calves—$20

Good grade Holstein heifer calves by pure-bred sires $20 f. o. b. cars. Pure-bred bull calves $40 and up. Good, registered heifer calves at reasonable prices.

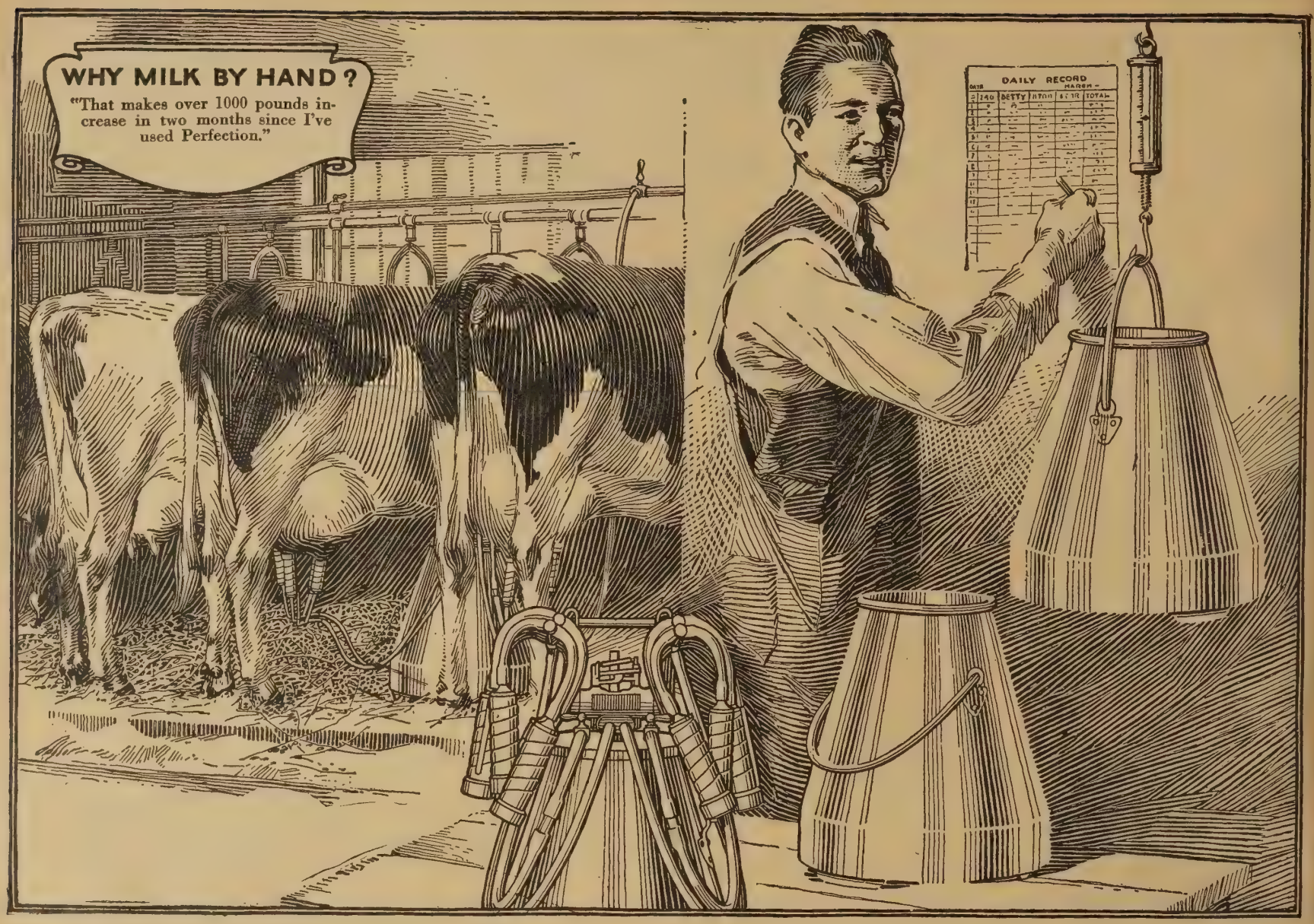
J. C. BOLGER, Waterloo, Wis.

ORMSBY BULL - Born Feb. 28, 1919

Sire, King Ormsby Pontiac De Nijlander, whose two nearest dams averaged over 30 lbs.

Dam, Aaltje Hengerveld Tritomia Segis. A. R. O. 17 lbs. at 3 yrs., next dam 29.68 in 7 days. Color light, fine individual. Ready for service. Price $300.

Fairview Stock Farm Whitewater, Wis., W. G. Marshall, Prop.



"Since I commenced to use the machine my cows increased 501 pounds the first month and 525 pounds the second month over the last month I milked by hand. I believe I have made 1025 pounds more milk than I would have had I continued to milk by hand. —E. W. EAYRS.

Increase Your Production With The Perfection

DO you want to increase the production of your herd? One dairyman got an increase of over 1000 pounds in two months. How did he do it? He milked his cows with the Perfection Milker. Get a Perfection and increase the production from your herd.

Hand milking is not the natural way of milking. Perfection duplicates the natural action of the calf. That's why cows give more milk. Perfection can be quickly adjusted to milk each cow in the way she likes best.

It's this natural action of the Perfection that enables thousands of owners to write and tell us about their increase in milk flow. They say their cows take to Perfection from the start.

Increased production is not the only way Perfection increases dairy profits. One man with a Perfection replaces three hand milkers. It saves you the time and wages of labor. It makes you less dependent on hired help and relieves you of drudgery. Can you afford to overlook this method of milking?

Investigate Perfection Way of Milking

Send for book, "What the Dairyman Wants to Know." We will also send you a list of Perfection owners names and addresses near you. Why Milk By Hand? Perfection increases production.

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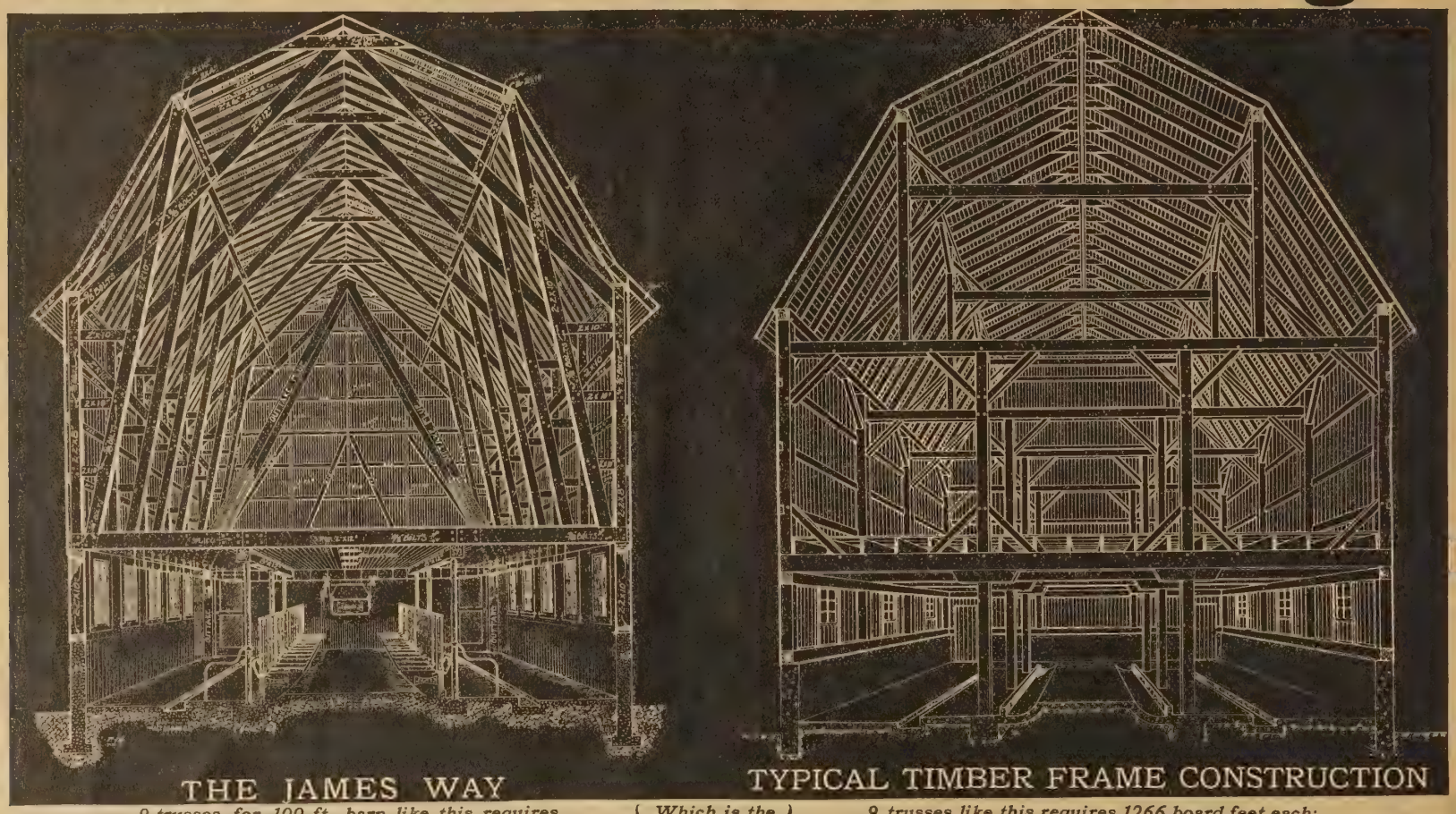
HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING



Fort Atkinson, Wisconsin Volume LXI, No. 12 April 8, 1921

You Build But Once—Be Sure You Plan It Right



THE JAMES WAY

9 trusses for 100-ft. barn like this requires 706 board feet each. At $45 per M—$285.93.

Which is the better way?

TYPICAL TIMBER FRAME CONSTRUCTION

9 trusses like this requires 1266 board feet each; at $60 per M—$683.64. A difference of $397.71.

Mistakes on paper are easily rectified and buildings on paper are readily moved. Once built, changes can be made only at great expense.

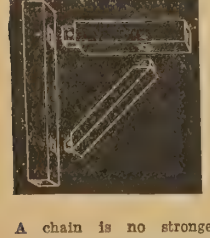
It pays to plan a remodeling job or a new dairy barn, *on paper, before* the foundation is dug, *before* the carpenters come, *before* actual work is begun.

The dairy barn is your factory, your workshop, in use almost daily throughout the year.

If it is not built right, if it is not correctly planned, it may lose you money every day.

Wrong location of posts, inconvenient arrangement of feed bins and feed rooms, incorrect arrangement of carrier tracking or stalls or pens, or the wrong designing of the hay loft, may compel you to take more steps, do more work and pay out more money for help each day during the life of the barn.

Save Work Daily — Save Building Costs



A chain is no stronger than its weakest link. A timber is no stronger than its tenon.

A silo or a door in the wrong place, poor arrangement of equipment, ventilating intakes or outtakes improperly installed, mistakes in size in stall floors, gutters, passages and alleys—even these smaller errors may be a source of daily expense and annoyance.

A barn correctly designed and built right in every detail is a constant money maker because it is a constant money saver.

If rightly planned, cow comfort and cow cleanliness may be assured; plenty of light, abundant ventilation and easy disposal of litter will be provided; floor space will be used to best advantage; and all the chores made easy. In many a case, careful planning has cut barn work squarely in half.

What a barn will cost depends in no small degree on the care with which it is planned in advance.

It is no uncommon thing to see a man with the "Know how" build a barn at 20% to 30% less cost than another, although the barn accommodates the same number of cows.

And the man with the "Know how" gets a handsomer building, more convenient and better.

How to Get the Low Bid

Regardless of who designs the barn it is well to submit the final plans to several contractors, getting bids from each.

By having as many sets of blue prints and specifications as there are contractors figuring on the barn, you can safely let the contract to the lowest bidder.

You get the low price, and the successful bidder binds himself to give you the same workmanship, construction and materials as those who bid higher. You hold him to the blue prints and specifications.

National Clearing House of the Best Barn Ideas

To help our customers and others get the best barns possible, we, years ago, established the Jamesway Barn Plan Service under direct supervision of Mr. W. D. James, known as the leading dairy barn authority in the U. S.

Associated with him in this department is an architect and engineer of unusual experience in ventilation, reinforced concrete, steel work and structural design.

Another architect with many years of experience in planning, building and remodelling of dairy barns, a large force of skilled barn designers and draftsmen, and barn experts in charge of divisions of the field force, complete the office staff.

In the field, are more than sixty men who practically every day are consulted by farmers on remodeling and other barn problems, drawing preliminary plans and reporting new ideas and unusual conditions.

For years, Mr. James and these associates, have studied dairy barns—how to best remodel; construction, lighting, ventilation, drainage; how barns should be arranged for labor-saving. Every year they plan or help to plan thousands of dairy barns.

The experience and help of these men is yours for the asking. No charge is made excepting when complete plans and specifications are ordered.

Barn Book Free

Much of their experience and the best of their ideas are contained in a 320-page book which will be sent postpaid on request.

In addition to 28 pages of blue prints, 62 pages of pictures of barns in all sections of the country and many pages on barn planning, ventilation, remodeling, etc., this book tells all about James inventions that save so much of labor, prevent spread of disease, promote better cow health, make simpler the care of calves and sick cows, protect against dangerous bulls, and increase milk yields.

Write us now. Tell us what barn problems are bothering you; perhaps we can help solve them.

If you want the book, ask for Jamesway Book No. 23.

James Mfg Co., Ft Atkinson, Wisconsin, Elmira, New York

James way

Labor Saving Equipment for the Dairy Barn

HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING

Volume LXI — FORT ATKINSON, WIS., APRIL 8, 1921 — Number 12

How Gurnee Solved the Rural School Problem

D. Q. GRABILL, WISCONSIN

THE rural school problem has been almost perfectly solved, and at the same time an answer provided to the question "How shall we keep our young people at home on the farm?" by the Warren Township High School at Gurnee, Lake County, Illinois.

For more than a generation, there has been a growing feeling that our rural education system did not meet the needs of an agricultural community. There was nothing in either the curriculum itself, or in the social activities of the school, in any way related to the life of the community. The school-house was little, it was set in a little school yard, it had the smallest possible amount of equipment, and the boys and the girls found no possible point of contact between school life and home life.

There has been nothing in our country schools to encourage a boy or girl to think of the problems of the farm or the home, and certainly they have never dreamed of bringing these problems to the school in an attempt to find a solution. The whole influence of the country school has been away from the farm.

While many of our educators and leaders of rural opinion have recognized this condition, and both on the platform and in the press have insisted that it should be remedied, it is fortunate to know that at least one community in the United States has really solved the problem.

Lake County, at least the western two-thirds, is almost strictly agricultural, the dairy industry predominating. It has no unusual natural advantages. The soil is good, but there is just as good soil in many other sections of Illinois and many other states. The farmers, on the whole, are more prosperous than the average which is due to their belief in the dairy cow and the practice of intelligent methods of dairy farming.

Possibly the farmers in Warren Township, in some respects, are a little more progressive and have realized there is something else in life besides raising crops to feed good cows to produce milk. They have taken into account that greatest of all crops, the boys and the girls, and have attempted to provide a real place for them, increasing their opportunities for success while making of them the best possible citizens.

Gurnee is so small it can scarcely be called a village. Perhaps there are not over 75 people residing within what might be spoken of as the limits of the village, yet here is located one of the most perfect rural schools in the United States. It is the outgrowth of the desire of the farmers of Warren Township to provide more adequate high school facilities for their children. This desire became so strong that a consolidated high school was organized and tried out in temporary quarters for a year or two, with results that were so successful and hopeful that the school trustees, backed up by the sentiment of the township, decided to provide adequate housing and equipment facilities.

The new high school building is known not only throughout Lake County, but by all who have ever seen it, as "The school beautiful". It



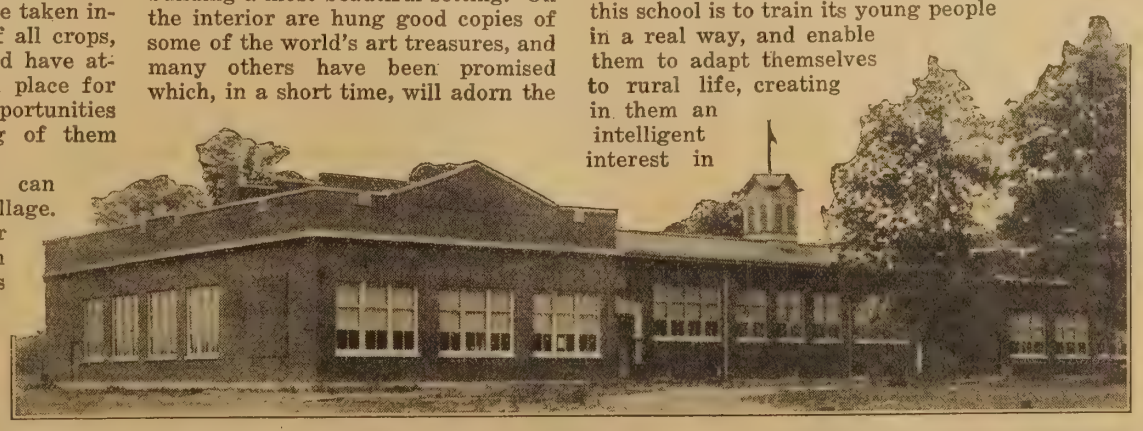
PRACTICAL PRACTICE IN HOME ECONOMICS

is almost impossible to believe that out in a country community one can find a school-house equipped as this one is, and costing in the neighborhood of $85,000 and paid for through taxation by the prosperous farmers of Warren County.

The building is beautiful in external appearance and is both pleasing and practical in its internal arrangement. It is located in an ideal spot, with many natural forest trees surrounding it. The planting of shrubs and foliage plants in accordance with a carefully designed plan gives the building a most beautiful setting. On the interior are hung good copies of some of the world's art treasures, and many others have been promised which, in a short time, will adorn the walls of the main hall and various school rooms.

This point is emphasized because it is so important. There is nothing about the average rural school in any way attractive. The exterior is often ugly, and no thought has been given to the right sort of interior decorating. Children of school age are unconsciously influenced by the appearance of the school building as well as by the appearance of their own home. The trustees and the faculty of Warren Township High School have been wise enough to recognize this fact, and no student can pass through this modern rural school without being influenced toward better things and higher ideals by the appearance of the building itself, and by the class of pictures which adorn the walls.

Of course, there is the regular standard course of study one expects in any modern, first class high school, but which we have hardly ever been optimistic enough to expect to see in a really rural community, but the school trustees and the principal, Mr. R. B. Henley, have realized that if this school is to train its young people in a real way, and enable them to adapt themselves to rural life, creating in them an intelligent interest in the things of the farm, other studies and activities must be provided.



A HIGH SCHOOL AT GURNEE, ILLINOIS, WHICH HELPS ANSWER THE QUESTION, "HOW SHALL WE KEEP OUR YOUNG PEOPLE AT HOME ON THE FARM?" THE BUILDING IS BEAUTIFUL IN EXTERNAL APPEARANCE AND IS BOTH PLEASING AND PRACTICAL IN ITS INTERNAL ARRANGEMENT

Naturally, there exists a very strong agricultural department fully awake to its opportunities. This department is indirectly connected with the normal farm organizations of the township and county. The county grain show was held in the school last year, managed by the farm bureau. The farmers' institute was held in co-operation with the regular farmers' institute organization. Whenever the county adviser wishes to meet the farmers of this part of the county, and consult with them on their problems, the natural meeting place is in the agricultural department of the consolidated high school at Gurnee. The work of this department has become so important it is now housed in a separate building, while still using the laboratories and library of the main building.

Each year, the school offers a short course of two weeks, having the cooperation of university and state extension workers, in farm and rural life opportunities. This year, the short course was held during the third week of February. One day was known as patriotic day, one was devoted exclusively to hogs and beef cattle, one to dairying, one to soil and fertilizer. Every session was largely attended, and intelligent interest created in the special subjects, as well as in general farm conditions. Each day there is at least one talk of general interest, then sectional meetings for men on farm problems and for the women on some phase of home economics. The evenings are given over to popular lectures and entertainment programs.

Last year the class in farm mechanics constructed a model farm repair shop. It is completely equipped in every detail and the boys with the aid of their instructors did all the work. As a further addition to the equipment, a hog house and a poultry house have been constructed on the grounds and enough animals of this type provided to be used for demonstration purposes. The course was built around this, as a class project, and included the planning and construction of buildings, together with the installation of such machinery as should be in a farm shop. The machines, themselves, were carefully studied, together with methods of selection, of care and repair, thus relating the school directly with the practical life of the farm.

In the regular Manual Training Department, the students enjoy the

(Continued on page 504)

MARKETING BY FEDERATIONS

THEODORE MACKLIN, Wisconsin College of Agriculture

The viewpoint of an agricultural economist on the big problem of marketing farm crops, with his analysis of the operation of the Wisconsin Cheese Producers' Federation. In a subsequent issue there will appear a discussion of the federation by Math Michels, giving the viewpoint of a successful and practical cheese factory operator and dairy farmer well known in Wisconsin.

MANY farmers would like to have their products marketed by their own co-operatively employed middlemen. In the past, agitation along this line has resulted in numerous, small, local marketing concerns. These disconnected local cheese factories, creameries, live stock shipping associations, and other companies have been unable to do more than influence conditions locally. Farmers desire to accomplish more than this. They want to control both local and terminal conditions. Their ambition is to build up a system which will enable farmers to retain ownership of their products until consumers need them. This they can accomplish only by having their own middlemen. Farmers are weary of a system in which farm products pass into other people's hands at low prices to be held until needed by consumers and then sold at much higher prices.

Functions of Middlemen

Without finding out just what the different kinds of middlemen actually do with the products they buy, the farmer considers them all part of a bad system. As a matter of fact, some marketing concerns do no storing. Having an established patronage they buy regardless of price in order to deliver the goods to their customers. These concerns care very little how high or how low the price may be. They buy just as much one time as another because they deal with retailers who must have the goods for their customers. Such middlemen make their profits from a rather fixed and narrow margin. To make much money they must sell immense quantities.

Another kind of middleman specializes almost entirely on the holding of farm products from the time that farmers sell, shortly after they are produced, until consumers want them. Naturally, these middlemen desire to pay as little as possible. They are equally anxious to sell these goods at the highest possible prices. Unlike the first kind of middlemen, whose volume of business is assured and who are almost certain to make reasonable money, this second kind of middlemen must take a chance in buying with the possibility of either heavy losses or handsome gains. They must risk their judgment that prices will be enough higher later on to justify them in paying what they do when buying. Virtually all farm products are harvested and become available on farms in greater quantities during a part of the year than can be consumed in the same period. During the balance of the year less of these products are produced than consumers require. If part of the plentiful supply, during summer and fall, were not stored until winter and spring, there would be a part of the year in which people would be unable to secure sufficient food.

Need for Storing Farm Products

Someone must serve the public by storing farm products. The farmer mistakenly condemns the service when in reality he is dissatisfied merely because this service is controlled by private middlemen. As a matter of fact, a number of people may store products. The farmers may store some on their farms. But because farmers do not store the greater part of the seasonal surplus of products it is inevitable that middlemen should be in the storage business. It is equally certain that if private middlemen are to render this service they will endeavor to buy at low prices and to sell at high prices. Farmers are finding out that not all farm products can be as cheaply stored on farms as they can be in warehouses. Since there are three important kinds of middlemen —the private, the co-operative, and the governmental—farmers who desire to co-operate are legally and morally just as much entitled to develop marketing enterprises as anyone.

Federations Subject to Losses Same as Private Concerns

In establishing warehouses and in securing managers to market their products, however, farmers are in reality employing middlemen on a salary rather than a profit basis. Precisely the same methods of marketing are followed by private and co-operative agencies. Risks, due to changing prices, which private agencies have been accustomed to take, must also be taken by co-operative agencies. Farmers should realize, therefore, that in marketing products through the efforts of their own federations they must be willing to be hit by losses. Formation of co-operative federations shifts upon a group of farmers the responsibilities and problems formerly confronting private middlemen. To the extent that farmers are willing to assume these duties and risks loyally and continuously with full recognition of the obligations, they have prospects of success. They might well plan to establish co-operative federations to hold products from harvest time until they are needed by consumers, instead of leaving this phase of marketing to private middlemen. With such a system all those products which must be held over, but which cannot wisely be farm-stored, may be stored by co-operative middlemen. Farmers then would not be obliged to part with their products at depressed and unnecessarily low prices. They would not part with their products at all, until they are sold for continuous movement to consumers.

Financing Surplus Hold-over

If farmers wish to hold over surplus portions of their products to be marketed by hired middlemen instead of by private concerns, they must be willing to (1) delay payment to themselves until the products have been sold and cash received, or (2) they must obtain loans based upon their stored goods as security. In the past, private middlemen have provided the funds to pay farmers for their products. If farmers expect to market products co-operatively and are unwilling or unable to wait for their returns, they are obliged to cope with the problem of financing. While most farmers, hitherto, have preferred to accept lower prices rather than risk holding products for an uncertain future price, there are certain advantages to be gained by having this service provided co-operatively.

Advantages of Co-operative Service

By delaying the sale of products until they are to go forward to consumers, farmers can prevent a large part of the yearly fluctuation in the prices of farm products. The temporary surplus of certain seasons would be stored co-operatively instead of going onto the market as at present with the common seasonal falling of prices as a result.

In coming to realize that local marketing associations are too small to hold farm products until they are needed for direct movement to consumers, farmers are learning the importance of having marketing federations. A marketing system, if it is to be really efficient, must control the movement of farm products from farm to consumer. It must deliver goods in good variety, in proper quality and quantity, and when consumers want them. It must also give the farmer the greatest possible proportion of what the consumer pays. To obtain this ideal, farmers have learned that they must bind their local associations into powerful united organizations employing the most expert management to be had. To feed farm products to the market, without creating either glutted conditions or shortages, requires very large scale marketing. This means that the marketing concern which does this feeding must have a tremendous volume of business. To secure such a great volume of products and in turn to feed it to the market makes necessary both numerous local branches for assembling the products and numerous distributing connections for disposing of them. The fully developed federation is able to accomplish these objects. Disconnected local associations are not.

Co-operation in Practice

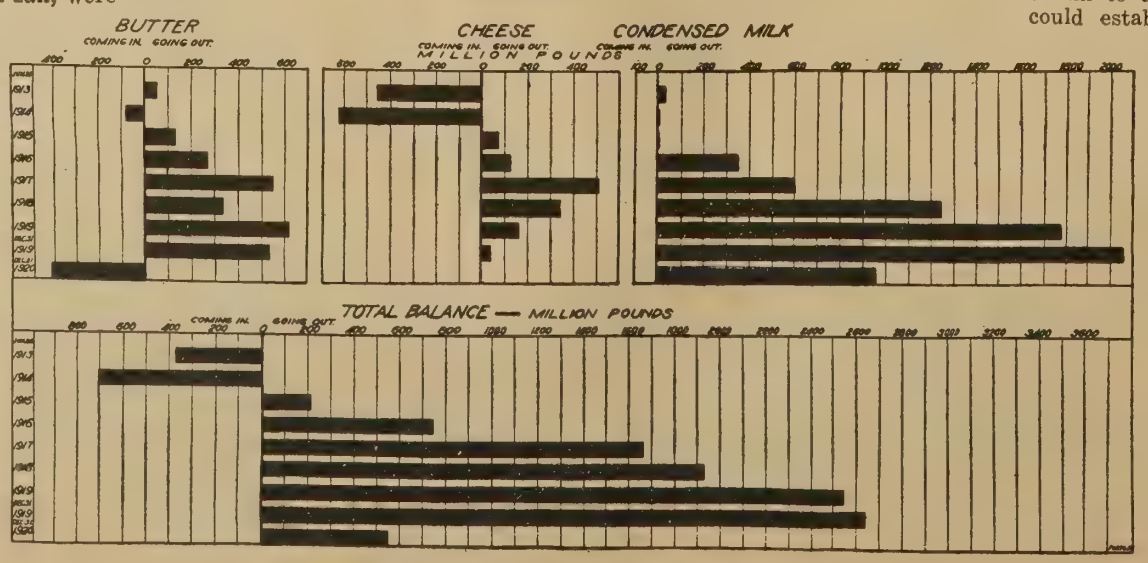
Co-operative marketing federations are being successfully developed by farmers in many sections of the United States. Up to the present the federations in California, such as the California Fruit Growers' Exchange, the California Prune and Apricot Growers, Inc., The California Associated Raisin Co., and many others have been the most widely known. Following the lead of these older federations, farmers in California are now united, both in local and in federated organizations, to market various kinds of large and small fruits, nuts, eggs, poultry, milk, rice, and other products. These federations are actually doing what many conservative people have regarded for years as impossible for farmers to accomplish. In the light of their success it is no wonder that farmers of other states are looking to California for inspiration and guidance.

Wisconsin Cheese Federation

Wisconsin farmers have within their home state a federation of notable success. What it is doing for the producers of American cheese, a similar federation could easily do for the producers of foreign cheese. Still other federations could be created by combining as separate groups local co-operative creameries, live stock shipping associations, fruit marketing concerns, and the other farmer marketing companies. Farmers might have a co-operative feed warehouse in each town, and a central federation including all of the local warehouses. The co-operative federation could then mix feeds and distribute them to the local warehouses. High testing cottonseed meal could be purchased directly from Texas and other states having this high testing protein concentrate. Farmers now supplying cream to a number of small buyers could establish at their respective shipping points a single co-operative cream station. Each of these in turn would be part of a cream station federation. This federation could then operate a co-operative centralized creamery and market butter in the cheapest manner.

In federating local marketing concerns farmers will have much of interest to read in the experience and progress of the Wisconsin Cheese Producers' Federation. Because it is both a success and a home prod-

(Continued on page 492)



DEMONSTRATIONS CONVINCE

L. F. GRABER, WISCONSIN



ONE 25-CENT BOTTLE OF SEED INOCULATION MADE THE DIFFERENCE

Inoculation of the soy bean seed with experiment station inoculation culture more than doubled the yields of hay and seed on this run-down, sandy soil.

IN a sense it is logical to suppose that the demonstration idea was started in Missouri, for at best demonstrations are real "show me" propositions. Be that as it may, let me take you up in the little county of Green Lake, Wisconsin, where one James Lacey—"Jim" as he is popularly called—has been holding forth in the capacity of county agricultural agent since the establishment of this functional rural service two years ago. I mean to say that if "seeing is believing" you will be convinced that no matter where the demonstration idea had its inception, it is receiving the most thorough application as the principal and outstanding feature of this county agent's activities. Frankly this epistle is not particularly concerned about Jim himself, but it is concerned with the efficacy of "show me" methods in delivering the goods agriculturally and as an illustration Lacey is hereby mildly inaugurated as the goat of this dissertation.

In passing I'll just say that he is a big, broad shouldered, hale, hearty, well-met fellow, full of hustle and bustle, with genuine enthusiasm back of what he is trying to accomplish. No—he is not much of a talker, but when he says anything it is definite and comes right straight from the shoulder. He believes in making his work speak for itself and perhaps that is why he is capitalizing demonstration activities to the limit. But, as I said, we are not so much interested in Jim Lacey as we are in demonstrations for putting county agent work across.

Thirty Thousand Acres Inoculated by Demonstrations

A year ago he established a soy bean inoculation demonstration on a light blow sand in a prominent corner field on the main road to the little town of Princeton. For twenty-one years this field had not been blessed with a single crop of clover. At best it would probably produce ten bushels of rye an acre. These were facts widely known over that entire community. Lacey planted one acre of soy beans. Half of the seed was inoculated with culture that was available to farmers from the experiment station and the other half was not inoculated. The beans came up in splendid shape, but the variation in growth was amazing. That a little twenty-five cent bottle of seed inoculation should have made the difference between success and failure in that field was almost unbelievable, still the most skeptical were convinced. The inoculated soys were a healthy, dark green growth of about twenty inches compared with a sickly, yellowish, spindly green growth of not more than ten inches for the uninoculated beans.

Some of those who attended the demonstration asked for assurance that two varieties of soy beans had not been used. "Inoculation on this kind of land speaks for itself," said Jim. "Come in and pull up the plants of the inoculated and uninoculated rows and see for yourself." They did and where the seed had been treated with cultures the plants were not only large and healthy, but the roots were covered with nodules, while not a nodule was found on the sickly yellow uninoculated soys. The relation of all this to soil improvement was brought out when Jim stated that those nodules were nitrogen fertilizer factories, the true function of which had only become known some thirty years ago and which were worth thousands of dollars to that community in the way of soil enrichment. This is one of several such demonstrations which have largely brought about the use of inoculation culture on legume crops covering more than 30,000 acres of land in Wisconsin during the past year.

Roadside Signs Advertise Demonstration Proofs

Go along most any road in Green Lake County, you will see prominently among the customary wayside ads, Lacey's demonstration labels with fields back of them to prove his contentions. "Lime, inoculation, and manure make alfalfa doubly sure. Here is the proof," "Do fertilizers pay?" "Walk through this field and see for yourself." "Seeing is believing. See how inoculation has helped this sandy soil," etc., are signs which loom out pronouncedly and have a most wholesome effect on the hundreds of travelers who would otherwise have passed the demonstration fields without notice.

"It pays to advertise," he declared. "I believe it just as important in extension work as for the salesman out in the commercial field."

Of course, Lacey has a splendid opportunity for soil and crop demonstrations, for his county has soils which range all the way from the lightest sands up to the heavy black prairie loams.

That alfalfa can be grown on this wide range of soil conditions and types is the object of a series of splendid alfalfa, lime, and inoculation demonstrations. On G. B. Horner's farm, for instance, where at Lacey's direction a ten-acre field was limed and inoculated and Grimm alfalfa seed sown a year ago, 4.6 tons of cured hay per acre were secured in two cuttings this past season and a fall growth of fully fifteen inches obtained in October. This was left for winter protection. It was one of the finest stands and growths I had observed for a one-year-old field.

Demonstrations for Wholesale Results

Demonstrations are not necessarily easy to put across. They require a bed rock understanding of the ins and outs and isms of the proposition to be demonstrated and a multiplicity of detail is often times required to establish some of these "show me" shows.

At the outset the whole sum and substance of a demonstration should be to prove, to show, to convince, to substantiate that the proposition, the idea, the doctrine—whatever you want to call it—to be put across, is a paying practical proposition. There are any number of first rate farmers who agree that lime is good for the soil—that fertilizers help, that the right kind of seed is at the foundation of a good crop, that the better sires mean better calves and all that—but to get these things going on a community basis—to produce a widespread and virile inoculation of these ideas often requires more than oratorical or rhetorical assurance. And this is where the demonstration supplies a connecting link in that endless and proverbial campaign for bigger and better crops and more and better live stock.

For example, down in Green County, Wisconsin, where our friend, Lacey, was on the job for a short period we put in an alfalfa-lime demonstration. This is one of the biggest alfalfa growing counties in the state—



PROOF OF THE PUDDING

Ground limestone more than doubled the yields in this demonstrational test.

still there were many failures—many poor, unsatisfactory fields of alfalfa in that county, largely due to a need of limestone in the surface soil.

Practice What You Preach

As a community matter it was hard to convince these splendid farmers that a lime deficiency could obtain on their land, for there are outcroppings of limestone along almost every road.

While it might have sounded reasonable to say that the abundant annual rainfall, together with the years of cultivation, had leached so much of the lime out of the surface eight inches of soil that a deficiency and consequent sour condition obtained, which made alfalfa and oftentimes clover very problematic in their growth—this sort of eloquence did not bring prompt results. Lacey tested some 226 soil samples, 149 of which showed a lime requirement of from two to four tons per acre. But this information and all the previous agitation at farmers' meetings and local gatherings, a large number of which I attended myself (which may explain the weakness of the situation), was not really sufficient to put this liming proposition over on a big scale. But a demonstration did the trick and I want to tell you about it.

Out on the county farm, where land was selling around $300 an acre, they had had trouble growing alfalfa. Clover did fairly well but alfalfa was considered fearfully and wonderfully made. Superintendent Whitcomb gave us the privilege of trying our hands at alfalfa growing—a chance to "practice what you preach," as he remarked. This land was sour. It required between four and five tons per acre of finely ground limestone, according to Truog's test. We got the lime—put it on, except for a 30-foot strip through the center of the field, and in the spring of 1918 sowed the alfalfa—several kinds—with one bushel of barley as a nurse crop.

Alfalfa Jaundice Cured

Despite a very droughty summer a good stand obtained in the fall, largely due to the "play-safe" precaution of cutting the nurse crop for hay and getting it off early to give the alfalfa a chance to prepare itself for dry weather. There was but little observable benefit from the lime, due largely to the slow growth of the alfalfa the first season. The following spring the alfalfa all started out fine. Many who

(Continued on page 500)



SEEING IS BELIEVING

These Green County farmers are seeing for themselves what ground limestone did for alfalfa.



Bring Me A City!

Heeding no barrier of river, mountain, forest or desert; unmindful of distance; the telephone has spread its network of communication to the farthest outposts of our country.

The ranchman, a score of miles from his nearest neighbor, a hundred miles from the nearest town, may sit in the solitude of his prairie home and, at will, order the far-distant city brought to him. And the telephone obeys his command.

Time and space become of small account when, through desire or necessity, you would call across a continent.

This is what the "Long Distance" service of the Bell telephone has accomplished for you; what science in construction has created; and what efficiency of workers has maintained.

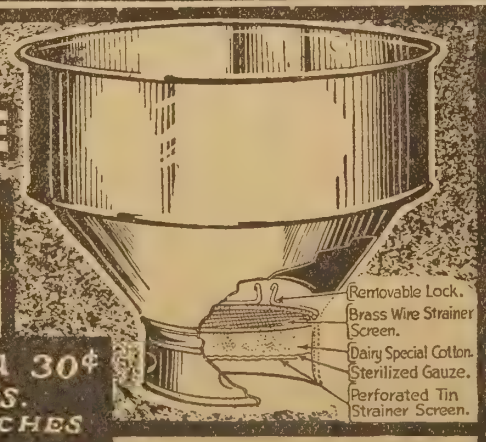
You take the telephone as much for granted as you do the wonder of the changing seasons. You accept as a matter of course the company's ability to keep all the parts of this great nation in constant contact.

By so doing you offer a fine tribute to the Bell organization which has created this "Long Distance" service—a service no other country has attempted to equal.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy *One System* *Universal Service*
And all directed toward Better Service

PRICE COMPLETE
$2.50
POSTAGE EXTRA 30¢
WEIGHT 2 LBS.
DIAMETER 12 INCHES



CP CHAPMAN STRAINER & FILTER

DAIRY SPECIAL ABSORBENT COTTON
Single lb. lots 50c
25 lb. lots 45c a lb.
50 lb. lots 40c a lb.
100 lb. lots 37½c a lb.

DAIRY SPECIAL STERILIZED GAUZE
Less 100 yards 8c per yard
100 to 150 yards 7c per yard
500 yards or over 6c per yard
Above prices guaranteed until May 8th only.

To use as a filter, insert a layer of cotton and a sheet of gauze between the two screens. The filter will remove dirt, hair, bacteria, blood corpuscles and other substances which a strainer only cannot catch. This will greatly improve the quality and flavor of the milk and prevent it from souring quickly. It can be quickly taken apart for cleaning. Cotton and gauze at extra prices here given.

Send for Big Dairy Mail Sales Catalogue.

The Creamery Package Mfg. Company
68 West Kinzie St., Chicago, Ill.

When Writing to Advertisers, Mention Hoard's Dairyman

Cow Testing Associations

RECORDS, PRICES OF FEEDS, FAT, AND MILK

Following is the summary of reports received during the week and up to the time of going to press of this issue:

State	Association	Tester	Month	No. of cows tested	No. of cows producing over 40 lbs. fat	Fat production of high cow	Owner
Pa.	So. Franklin Co.	H. M. Graff	Feb.	255	34	65.6	W. F. Barkdoll
"	North Branch	F. J. Holt	"	294	30	66.8	J. E. Lenker
"	Troy	Marion V. Bennett	"	286	48	74.1	W. D. Huntington
"	Canton	B. E. Whitney	"	434	124	85.9	L. D. Mav
"	Towanda—Wilmot	Leslie Warren	"	317	32	62.5	Frank Ennis
"	Lycoming	Floyd A. Mutchle	"	252	47	72.9	H. R. Paulhamus
"	Canaan	B. F. Dibble	"	237	34	67.2	G. Carlson
N. Y.	East Aurora	C. C. Spaulding	"	314	35	57.0	Albert Link
Va.	Fairfax County	Geo. H. Carey	March	296	63	72.6	F. N. Mohler
Ohio	Delaware County	Edw. L. Creager	Feb.	105	18	68.5	J. W. Lawrence
Mo.	Webster County	Frank M. Herman	"	292	12	62.3	J. & E. Felin
Wis.	Arkansaw	Leo. M. Harder	"		21	65.9	Peter Krings
"	Wilton	E. V. Doemming	"	469	63	84.9	L. H. Schlinder
Ill.	Macoupin County	H. R. Fletcher	"	319	43	80.3	F. J. Slivka
Ore.	Rogue River	J. B. Bichan	"	230	25	56.2	J. R. Hawes
Wash,	Snohomish Valley	Arnold C. Sweet	"	303	38	80.0	L. F. Krassin & Son
"	Stillaguamish Valley	M. C. Hong	"	429	30	67.3	J. Farrington

Association Notes

Southern Franklin County, Pennsylvania—During February four unprofitable cows were sold. Several members have started feeding home balanced rations, some according to production. No steps have been taken toward co-operative buying of feed. February market milk testing 3.5% sold for $3 per cwt. and 4c per point above. The condensery paid 50c per lb. for fat, and in addition $1 per cwt. milk. The creamery paid 47c per lb. for fat. Milk retails for 10—12c per quart, butter for 45c per lb., and cheese for 28c per lb. Feed prices are: Unicorn, $56 per ton; Union Grains, $53; cottonseed meal, $45; linseed meal, $50; Larro, $52; hay, $20; corn silage, $8; corn stover, $6.

North Branch, Pennsylvania—One member discontinued work, stating he guessed "it didn't pay". His herd would have probably averaged 4,500 lbs. milk per year. By his action, this association becomes 100% efficient in the use of pure-bred sires. Two pure-bred bulls were purchased in February. One member is feeding potatoes, rather than sell them at 35c per bushel, and satisfying results are shown. Three per cent market milk sold for $3.38 per cwt. and 4c per point above. Milk retails for 12c per quart, butter for 52c per lb., and cheese for 35c per lb. Feed prices are: Mixed hay, $20 per ton; corn silage, $8; potatoes, $12; root crops, $8; wheat bran, $40; corn and cob meal, $24; ground oats, $28; cottonseed meal, $60; linseed meal, $55.

Troy, Pennsylvania—Ten poor cows were sold during February. Feeds here are rated as follows: Gluten, $57 per ton; ground oats, $40; oil meal, $55; corn meal, $38; cottonseed meal, $52; bran, $42.

Canaan, Connecticut—A co-operative grain buying association has been formed. Balanced grain rations are being fed more extensively. February 3% milk sold for $2.67 per cwt. and 4c per point above. Feed prices are: Hay, $20 per ton; silage, $6; cottonseed meal, $40; oil meal, $42; oats, $38; corn meal, $38; gluten, $45; bran, $40; beet pulp, $45; middlings, $40.

East Aurora, New York—As the price of milk decreases, the members are paying greater attention to feedin problems, endeavoring to keep as wide a margin of profit as possible. Several good cows are being fitted for official records. One member recently held a sale and his association records added greatly to the success of the sale, all cows bringing good prices in spite of the light demand for cows at this time. Three per cent market milk sold for $2.42 per cwt. and 4c per point above. The creamery paid 50c per lb. for fat. Milk retails for 11c per quart, butter for 60c per lb., and cheese for 45c per lb. Feed prices are: Hay, $20 per ton; silage, $6; gluten feed, $48; bran, $38; corn meal, $40; oil meal, $48; D. D. grains, $56; cottonseed meal, $50; ground oats, $40.

Fairfax County No. 1, Virginia—Three unprofitable cows were sold in March and one bull calf and one three-year-old bull were brought into the association. Twenty-one cows and two heifers were bought by

(Continued on page 494)



GUERNSEY COW, NEDRA OF CHICONA, LEADING COW IN THE SOUTH-WESTERN WASHINGTON COW TESTING ASSOCIATION

She has a record of 505 lbs. fat and had two calves within a year. She was owned by A. L. Gile, Washington, who sold her to Wm. Bues, Washington.

The Birthday of an Idea

Broome County, New York, Celebrates Tenth Anniversary of the First Farm Bureau

ON March 21, at Binghamton, New York, Broome County commemorated the tenth birthday of the farm bureau idea. Ten years before, March 20, 1911, the American Farm Bureau Federation had its beginning. On that date a committee representing the Binghamton Chamber of Commerce, the Lackawanna Railroad, and local farmers met in the Chamber of Commerce rooms, laid out a program of work on farms, and employed John H. Barron, the first county agricultural agent in the northern and western states. The meeting last month was a celebration of the rapid spread of the idea, originating only a decade ago, the idea of the county agent movement in the north and west—the forerunner of the farm bureau.

The first half of the day's program before an attendance which numbered several hundred was a review of the origin of the farm bureau plan and its growth until there are now 1,166 county agents employed in the northern and western states and over 2,000 in the whole country. In the North and West there are now over 1,000,000 farm bureau members, with several hundred thousand more in the South.

W. J. Spillman, formerly with the United States Department of Agriculture, was credited by Chairman S. L. Strivings with being the first to conceive the county agent plan for agricultural improvement. In his remarks Mr. Spillman told of the preliminary visits among Broome County farmers before an agent was employed. B. H. Gitchell, who as secretary of the Chamber of Commerce persuaded that organization to assist in the movement, gave credit to the Roosevelt Country Life Commission for the inspiration which resulted in starting the work. John Deegan, representing the Lackawanna Railroad, told of its assistance in "fostering the infant" which has made so remarkable development. W. A. Lloyd represented the Department of Agriculture in the important relation it bears to the farm bureau.

A strikingly unique representation of the founding and development of the first farm bureau in the United States was given in a three-scene pageant. Most of the principals of the drama actually enacted ten years ago took part, the illustration published herewith showing a number

The first scene represented the March 20, 1911, meeting, at which the farmers, the Chamber of Commerce, and the railroad representatives agreed upon a working plan and employed Mr. Barron.

The second scene portrayed a meeting held October 13, 1914, in which it was voted that the farmers themselves would take over the work, which to that date had been a bureau of the Binghamton Chamber of Commerce. "This step marked the inception of the farm bureau as it now exists in the United States—an organization for, of, and by the farmers themselves."

The third scene is one familiar to many farm bureau members. It showed an executive committee of the Broome County Farm Bureau January 15, 1921, at which such business as is now carried on in the great number of bureaus was transacted. The "idea" was shown "full grown".

In the afternoon Dean A. R. Mann of the New York College of Agriculture introduced three speakers and made some very appropriate remarks at the close of the day's program.

S. L. Strivings, president of the New York Farm Bureau Federation, declared, "The farm bureau cannot be viewed wholly as an economic organization. It is educational and, therefore, ethical." He outlined the need for educational, social, and spiritual betterment of farm life and said, "Our greatest poverty is the lack of rural leadership".

Mrs. A. E. Brigden, president of the New York Federation of Home Bureaus, outlined the growth and the work of the "farm bureau's sister". She stated that while there were only four county home bureaus previous to the war there are now twenty-nine in the state. New York organized the first state federation.

O. E. Bradfute, president of the Ohio Farm Bureau Federation and vice-president of the American Farm Bureau Federation, discussed the work the latter organization is doing and reviewed its development. The first organization meeting was held in Ithaca, New York, in February, 1919, where twelve states were represented. In November of that year thirty-three states sent delegates to a meeting in Chicago when a constitution and by-laws were drawn up. By March, 1920, twenty-eight states had ratified the constitution. At present, says Mr. Bradfute, only two states are not organized wholly or in part.



Above, left to right—Chas. Moore who represented the Binghamton Chamber of Commerce in the March 20, 1911, meeting; J. F. Eastman, Broome County Agricultural Agent since January 1, 1911; Hugh Failey; Robert Eggleston; Wm. Golden; G. W. Young, present member executive committee; R. A. Gray, present treasurer. Seated, left to right—Wm. Adams; John Deegan, Lakawanna Railroad; A. A. Walling, one of committee which voted to make the bureau a farmers' organization at the October 13, 1914, meeting and present chairman of the executive committee; L. J. English, a member since the beginning, March 20, 1911; M. C. Burritt, State County Agent Leader who proposed formation of farm bureau at October 13, 1914, meeting; James Quinn, a member since March 20, 1911, chairman in 1914, and at present vice-president of bureau.

A Good Word for Sunflowers

HOARD'S DAIRYMAN:—Reading the good and bad results about sunflower silage decided me to give it a fair trial. I had the seed ordered early but it did not reach me until May 30, 1920. By that time, I had my corn all planted and one field had received its first cultivation. I noticed that some of the corn was missing so took hand planters and planted the sunflower seed wherever there was room. The corn kept ahead in growth until it was eared out, so that it can be seen that the sunflowers did not interfere with its growth. When the corn was ready for the silo, some of the sunflower seeds were in the milk stage but the most of them were solid. The stalks were not very coarse as there were four to five plants in a hill and the hills were about 14 inches apart in the row. Some stalks had as many as 50 leaves.

I was not troubled in cutting or filling. The sunflowers were as tall as the corn and some were larger. People have told me that in raising sunflowers alone, the stalks become too coarse and are hard to handle. With my method of planting, two men can plant a good many hills in a day if there is any work in them.

Having three silos, I filled one of them with the mixture of corn and sunflowers. This past winter I used the mixed ensilage for the cows kept in one barn. The cows ate every bit of the silage. I fed them up to 40 to 50 lbs. a day and they did fine on it—not alone in appearance but also in flow of milk. I have taken cows from one barn to another and after they had been fed the mixed ration a few days, I have noticed an increase in the flow of milk.

I can recommend the mixed planting to anybody. I invite those who are interested in this crop to come to my farm and be convinced of its value.

J. M.
Mukwonago, Wis.

You owe it to the boss to be steadfastly loyal and to give a full, honest, good measure day's work every day.

The boss, then, owes you a fair wage, a wholesome working place, co-operation with your efforts to make yourself more efficient, and a friendly personal interest. — FRANK ANDREWS FALL.



Rachmaninoff himself chose the Victor

Rachmaninoff knows music. Knows how to compose it, how to play it—and how it should be reproduced. It is significant that the great composer-pianist in the light of previous experience has chosen to associate himself with the other famous artists of the world who make records for the Victor.

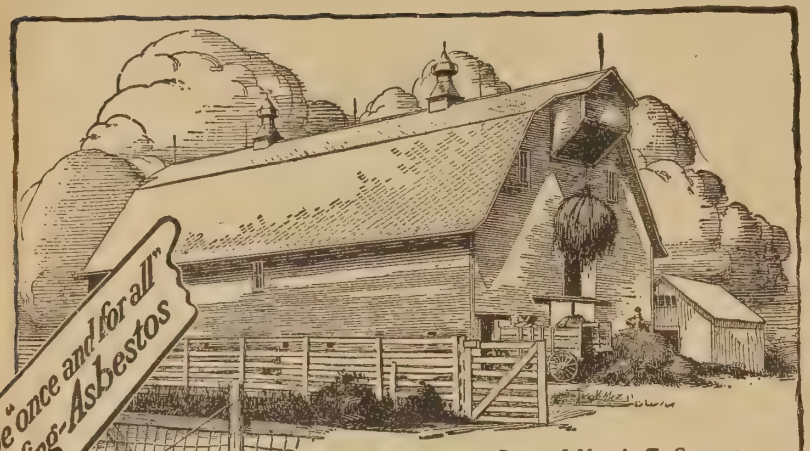
Hear Rachmaninoff's Victor Record of Mendelssohn's "Spinning Song" played on the Victrola and you hear the great pianist exactly as he wishes you to hear his own work.

Victrolas $25 to $1500. Write to us for catalogs and name of nearest Victor dealer.

The trademark "His Master's Voice" and the trademarked word "Victrola" identify all our products. Look under the lid! Look on the label!



Victor Talking Machine Co., Camden, N. J.



Barn of Mr. A. T. Sumner, Milford, Ill., roofed with Johns-Manville Asbestos Shingles.

If a banker owned your barn he'd have Asbestos Roofing on it

YOUR barn is the storehouse for your wealth — live stock and crops.

Insurance of wealth is a sound banking principle that is inducing economical farmers all over the country to use Johns-Manville Asbestos Roofing.

Not only does an Asbestos Roof protect live stock and crops from bad weather and fire, but, being a permanent roof, it is most economical.

Fast becoming America's standard farm roof

Go east, go west, go anywhere throughout the farmlands of America and you will see barns roofed with Johns-Manville Asbestos, either in shingle or roll form — large barns and small barns, whose owners value both appearance and economy.

The great economy of Johns-Manville Asbestos Roofing is apparent, for, during the life of the building it protects, it remains unchanged, unharmed by the elements which attack other roofings less fortunately endowed in weather and time resistance. So it is actually less expensive than any other roofing.

Fire-safe, of course

The fire-safety of Asbestos Roofing is so generally known that we need only mention the fact that the Underwriters' Laboratories, Inc., whose business it is to classify building material in relation to fire-risk, give to Asbestos Roofings the highest classifications—an irreproachable endorsement.

Because it is all-mineral, Johns-Manville Asbestos Roofing is impervious to rain or snow, dampness or wind. Like the rocks in your field, it is immune to rot, corrosion and disintegration.

Your local dealer has Asbestos Roofing in several varieties selected for farm building service out of the complete line of Johns-Manville Asbestos Roofings which include material for any type of building.

Booklets on each or all of these types sent on request:

Johns-Manville Asbestos Shingles in gray, brown and red. Ready Roll Roofing for sloping roofs. Built-Up Roofing for flat roofs. Corrugated Asbestos Roofing for skeleton frame buildings.

Lay them right over the old wooden shingles

Johns-Manville Asbestos Shingles can be laid this way—we recommend it without reservation. This booklet tells how and why. The farmer with an eye to economy and permanence in his farm roofs will want to read it. Write for it!



Through—
Asbestos
and its allied products
JOHNS-MANVILLE
Service in Conservation
Heat Insulations, High Temperature Cements, Asbestos Roofings, Packings, Brake Linings, Fire Prevention Products

JOHNS-MANVILLE
Asbestos Roofing

JOHNS-MANVILLE, Inc.
Madison Ave., at 41st St., New York City
Branches in 66 Large Cities
For Canada: CANADIAN JOHNS-MANVILLE CO., Ltd., Toronto

Marketing by Federations

(Continued from page 488)

uct it may well be taken as a guide. The difficulties which have been met and overcome, the problems which are unsolved, the method of organization, and the success won, all mean much to those who will sooner or later federate the co-operative concerns marketing other products.

How the Federation was Organized

Before the cheese producers of Sheboygan County, Wisconsin, formed their infant federation, there was much dissatisfaction. The farmers felt certain that the Plymouth Board prices were manipulated downward for the special advantage of its members. They were sure that private cheese buyers were unfair in refusing to pay for fractional weights of cheese. They were also convinced that many unfair practices were used by cheese buyers and cheese makers to the detriment of the producers. Out of the general desire to improve these conditions, Sheboygan County cheese producers—led by Henry Krumrey—organized their federation. At first they had a membership of 45 local cheese factory associations. A manager was employed to supervise the handling of cheese at a warehouse in Plymouth and to sell cheese assembled at this point. On April 1st, 1914, the new management began to receive cheese and was faced with the problem of selling it.

Increase in Value of Federation's Business Shown by Total Annual Payments to Factories

Year	Paid to factories for cheese	Paid to factories each year for each dollar paid in 1914	Net price per lb. for cheese paid to factories	Per cent increase over year 1914
1914	$ 855,328.64	$1.00	14.302	
1915	1,115,792.20	1.30	15.085	5.4
1916	1,300,520.24	1.53	17.567	22.8
1917	2,144,005.05	2.51	24.087	68.4
1918	2,258,163.73	2.64	27.052	89.1
1919	4,243,938.56	4.96	30.108	115.4

Marketing Problems

The new concern had a volume of business assured but no outlet for its cheese. A marketing federation must have both a source from which products are drawn and outlets to forward them to consumers. It was not surprising then that this new cheese federation was met by serious problems. First, it was obliged to pay farmers for cheese before the cheese was sold. Second, it lacked connections which would enable it actually to sell cheese. With no outlets of its own, it was forced to sell to other cheese concerns which had contact with consuming centers. It was unavoidable, therefore, that the cheese federation should sell most of its cheese during the first few years to large packers and others with numerous and dependable cheese customers. This, however, was remedied as soon as the management was able to go out and solicit its own regular customers. How much this customer trade has been built up is shown by the fact that during 1919 less than 6 per cent of the federation's cheese was shipped to the five larger packers. The early lack of market connections which was the most serious weakness of the federation has been largely overcome.

Problems of Distribution

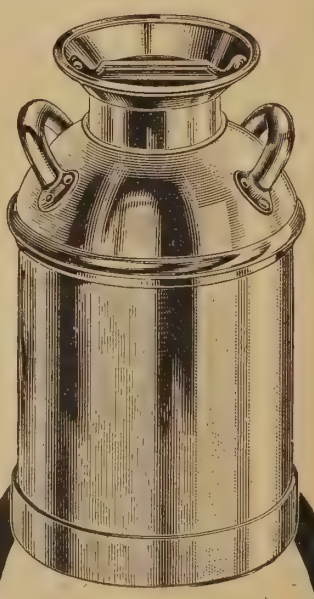
As the federation established enough of its own customers to take all its cheese and thereby become independent in selling, it faced increasingly severe and unfair competition on the supply or membership end. A co-operative marketing concern rapidly growing both in assembling products and in distributing them spelled eventual ruin to the many private concerns which had marketed the cheese for the local factories before. Much unfair competition apparently developed in the struggle for survival between the federation and its private competitors.

Growth of Federation

In spite of obstacles, the Cheese Federation has made substantial growth. During 1919, it handled 6 per cent or 14,098,021 pounds of the total of 235,740,173 pounds of American cheese produced in Wisconsin. Far more important than volume of business, it has shown that Wisconsin farmers can unite their local associations. It has proved that such federations can hire experts who will efficiently sell products in consuming markets. Furthermore, it has made Wisconsin farmers think in terms of comprehensive marketing systems. While this undertaking has not done all that farmers want to accomplish, it has gone as far as its volume of business permits.

Storage of Cheese Surplus

As yet the federation has not tried to hold over until winter the surplus cheese of spring and summer. First, it markets too small a fraction of the cheese of the state to be able to feed the market and thereby stabilize prices. In answer to the farmers' question, "Why doesn't the federation prevent low prices in summer?", there is but one answer. Before it can hope to do this, the federation must be large enough to keep the surplus cheese of the flush season off the speculator's market and hold it for the effective consumers' market during the following winter. That is, if farmers hope to do away with the drop in cheese prices that usually comes in summer, they must have a federation so large that it can prevent the temporary glutting of any market by holding the surplus cheese until win-



The Milk Can That Lasts

Made to stand abuse. Easy to clean and keep clean. Capacity guaranteed. See your dealer or write for Catalog No. 51.

Sturges & Burn Mfg. Co.
Established 1865
Chicago, Ill.

Eastern Office and Warehouse, 30 Church St., New York City

Sturges Milk Cans

ter before selling. A large part, or even all, of this surplus is being stored at present by private agencies. The farmers contend that there is manipulation to get this cheese at low prices. As a matter of fact, if prices were not relatively low these speculators would not buy cheese to be held over for winter sale. It is the great surplus during the flush producing season, out of all proportion to current use, which gives the speculator his chance. The only remedy worth considering by farmers is to retain ownership of the surplus until consumers need it. This in turn can be done only through a large, powerful federation which really feeds the market. At present the very lack of this organization makes it unavoidable for farmers to glut and starve the cheese markets periodically. For the same reason, the markets for other farm products are periodically either oversupplied or undersupplied.

Although the Cheese Federation, during its six and one-half years of operation, has not solved all the problems of cheese marketing, it has built a firm foundation for future growth. Similar early stages of growth must be passed through by any new federation designed to market other products.

Steady Growth of Federation

When the federation started business on April 1st, 1914, cheese began coming in from 45 local cheese factories in and about Sheboygan County. During the first nine months of operation 6,125,480 pounds of cheese were received. The cheese producers marketed $855,328 worth of their product. During the following two years the federation held its own in spite of many difficulties; and in 1917 a period of substantial growth began.

Growth of Wisconsin Cheese Producers' Federation Shown by Quantity of Cheese Handled Each Year

Year	No. of factories	Lbs. cheese received from factories	Lbs. cheese received from factories each year for every 100 lbs. received in 1914
1914	45	6,125,480	100.0
1915	43	7,558,796	123.4
1916	45	7,490,020	122.3
1917	56	8,981,308	146.6
1918	63	8,522,509	139.1
1919	120	14,098,021	230.1

By 1919 the quantity of cheese handled had more than doubled while the value of the business had increased almost four times. The number of factories sending cheese had increased from 45 to 120. As the federation enlarged not only in the quantity and value of its products but in the number of counties from which cheese came, a warehouse at Spring Green was necessary. The largest of the 115 factories sending cheese to the federation in 1919 contributed 313,383 pounds, while the smallest sent only 4,514 pounds. These factories, averaging 121,070 pounds, marketed 13,923,000 pounds through the federation.

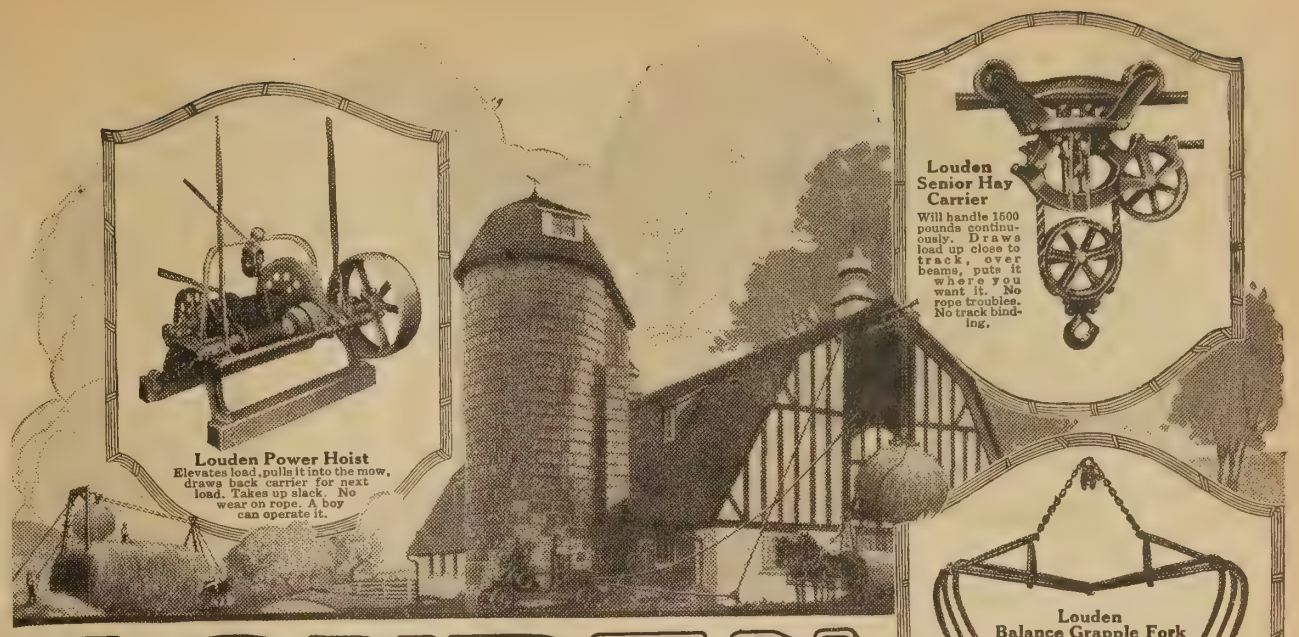
Distribution of Sales

When most of the business of the federation came from farmers in Sheboygan County, all of the cheese was assembled at the Plymouth warehouse. During 1919 less than two-fifths of the business, or 39.7 per cent, went to Plymouth from Sheboygan County farmers, while 46.4 per cent of the cheese went there from farmers in nine counties surrounding Sheboygan County. In the southwestern part of Wisconsin the farmers in four counties supplied 13.9 per cent of the cheese received by the federation. This was assembled at the Spring Green warehouse. As the expansion spreads to other parts of the state more warehouses will be operated to facilitate efficient paraffining and shipping of cheese. Both of the warehouses at present are managed by the federation. Cheese is shipped from them to various parts of the United States on orders given by the manager of cheese sales. During 1919 over 14 million pounds of cheese were sold in 37 states. More than 100,000 pounds were shipped to each of 22 states. It must be gratifying to these cheese producers to know that they are actually selling cheese through their own company, direct to distributing wholesalers and to retailers. In doing this they have built up a sound and independent mechanism. They have founded an organization which will bring fundamental improvements in the system of cheese marketing as soon as cheese producers expand it to state-wide importance.

Operating Costs Steadily Decreased

Farmers planning to establish other federations will find their greatest encouragement in the efficiency of this one. Being owned by farmers, the federation pays all its receipts, less expenses, to the account of the local cheese factories. The deduction for expenses has amounted

(Continued on page 513)



LOUDEN

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Louden Balance Grapple Fork is the one fork which handles any kind of hay or fodder with equal efficiency—alfalfa, clover, cow peas, soy beans, corn fodder, straw, or long timothy. Lifts half a ton without straining, holds it tight without dribbling, drops it exactly where wanted, well spread out, saving half the labor of mowing back. Its perfect balance makes it easy to handle—ask the man who owns a Louden.

Louden Senior Hay Carrier enables you to store tons more hay in the mow, because it draws its load close up to the rack and over beams. Swivel rope clamp prevents rope troubles; never fails to register regardless of angle the load is lifted from; no bintling on track; easy on draft rope.

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Oil an Aermotor once a year and it is always oiled. Every moving part is completely and fully oiled. A constant stream of oil flows on every bearing. The shafts run in oil. The double gears run in oil in a tightly enclosed gear case. Friction and wear are practically eliminated.

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Association Notes

(Continued from page 490)

members. One member has installed individual drinking cups and is installing a litter carrier. Another member has fitted up his dairy and wash room with multiple steam jets for sterilizing cans, etc., and is putting extra windows in his cow barn for lighting purposes. One other has lighted his farm with the popular Delco-Lighting outfit. Seven cows are on official test this month.

Delaware County, Ohio—During February the price of milk ranged from $2 to $3.25 per cwt. for 4% test. Grain prices were: Corn, 60c per bushel; oats, 40c; bran, $38—$40 per ton; oil meal, $53; cottonseed meal, $45—$48. This month all members were feeding home-mixed rations. Four pure-bred sires were added to the association during the year. The association average on 236 cows was 6,866.9 lbs. milk containing 285.24 lbs. fat per cow for the year. Three herds averaged over 10,000 lbs. milk per cow. Ed. Slocum's herd of three registered Holsteins and one grade Jersey averaged 12,101.4 lbs. milk and 417.59 lbs. fat. W. W. Warren's seven registered and one grade Holsteins averaged 11,869.4 lbs. milk containing 371.56 lbs. fat; and W. P. Smart & Sons own 15 registered Holsteins and five grades which averaged 10,523.9 lbs. milk and 358.0 lbs. fat. Fifteen cows averaged over 400 lbs. fat and ten cows over 12,000 lbs. milk.

Webster County, Missouri—Skimmilk was figured worth 50c per cwt. during February when fed to hogs and calves. The creamery paid 40c per lb. for fat. Feeds are rated as follows: Cottonseed meal, $38 per ton; bran, $30; crushed oats, $38; crushed corn, $26; silage, $6; mixed hay, $17; alfalfa, $20.

Wilton, Wisconsin—During the association year beginning July 13, two scrub bulls were sold to the butcher. Nine pure-bred bulls of good breeding were purchased. Twenty-five cows were sold for beef. In February the creamery paid 53½c per lb. for fat. Feed prices are: Mixed hay, $20 per ton; alfalfa, $23.50; bran, $28; oil meal, $44; oats, 50c per bushel; corn, $1.20 per cwt.

Macoupin County, Illinois—Ten unprofitable cows were sent to the block in February. The average feed cost per 100 lbs. milk was $1.75. The average cow produced 67c worth of milk and her feed cost 43c, leaving a profit over feed cost of 24c per cow. One member has purchased a pure-bred sire. Market milk testing 3.5% sold for $2.72 per cwt. and 3c per point above. Milk retails for 14c per quart. Feed prices are: Alfalfa, $30 per ton; clover hay, $25; oat hay, $18; silage, $7; corn, 70c per bushel; oats, 50c; bran, $1.50 per cwt.; hominy feed, $1.50; linseed oil meal, $2.80; cottonseed meal, $2; barley feed, $2.25; malt, $2.40; Purina Cow Chow, 3; molasses feed, $2.40.

Rogue River, Oregon—During the first year of association work, 67 unprofitable cows were weeded out. In February the creamery paid 44—55c for sweet cream and 39—49c for sour cream. Farm bureau grain mixture, "Milk Make", sold for $51 per ton and alfalfa hay, $16 to $20 per ton.

Snohomish Valley, Washington—In making out reports for the two associations in Snohomish County (Snohomish Valley and Stillaguamish Valley), the herds have been divided into two classes—Class 1 including herds of 15 or more milking cows and Class II including herds of less than 15 milking cows. The reason for this is that many times a member with a few cows can remain at the head of

the association and still not be the best dairyman. February market milk testing 3.8% sold for 2.75 per cwt. and 6c per point above. The condensery also paid this price for milk. Butter retails for 55c per lb. and milk for 11c per quart.

Coquille-Myrtle Point No. 2, Oregon—During the year ended February 1, 1921, the 549 cows completing their records averaged 5,391 lbs. milk containing 267.55 lbs. fat. Nine cows produced over 400 lbs. fat. W. E. Cross owns the highest fat producer with a record of 575.18 lbs. fat and 9,371 lbs. milk; he also owns the cow with the highest milk record for the year, 10,245 lbs. milk containing 533.66 lbs. fat.

Ten Years a Tester

A close study of herd improvement work covering a period of ten years has shown us clearly that, when properly conducted, the work of a cow testing association benefits people mentally, morally, and financially. A proper understanding of the work on the part of the members has proven this claim to be true in hundreds of instances. Hundreds of successful dairy farmers in Wisconsin and other states take a just pride in referring back to the time that they first joined an association.

Usually it takes only a few months' work to create within the new member a strong desire to own a higher producing herd of cows, and when one begins to study along these lines in most cases he or she is sure to develop a wider vision, a broader mind, better judgment, which means a better farm home equipped with the comforts of life and a better citizen.—FRANK LYNN, Tester, Wisconsin.

Profit From Testing

(Actual Experience by a Virginia Tester)

The tester of a cow testing association meets with many interesting experiences. He has many hard problems to solve, and quite a few people to keep in a good humor before he can call his work a success. The following account of one of his experiences in the Prince William Association by Mr. Scott, the tester, is instructive:

"When I came to the farm of Mr. A. who owned a herd of 25 cows and has another man running it for him, I found that which is generally expected, a low producing herd of cows. Mr. A. and I had quite a little talk together and he told me he was expecting me to make suggestions that would bring the herd up to the point where seventy gallons of milk a day could be shipped. At that time from the entire herd of 25 cows they were only shipping 40 gallons of milk per day. Mr. A.'s request was reasonable but as you know I can only advise a man and then it's up to him. However, Mr. A. assured me of his co-operation in carrying out my suggestions.

"After weighing the milk each cow gave and the feed she was given, I tested the sample of milk from each cow that I had saved and worked up the records so I could easily see in black and white just what each cow was doing. I saw several changes that would bring results, but, as you know, no matter how good a cow is she can't produce milk without feed, and it is lots better if it is the right kind offered. So I recommended a change in the kind of feed, that is, I gave him a balanced ration. Some cows are just like some people, they require more feed than others, but it is a safe way to feed 1 lb. of grain to each 3½ lbs. of milk, provided the cow gets all the roughage, such as silage and hay, she wants. So I made a list of the cows and the amount of feed each should have, thereby cutting down the feed where it was not needed, and giving more to those that did need it. That is, I suggested that each cow be fed according to what she produces.

"I then explained my suggestions fully, how they could best be carried out, and started out for the next place.

"When I came the next month I found that Mr. A. was shipping 50 and 55 gallons of milk, a gain of between 10 and 15 gallons, which was worth about 45c a gallon, or between $4.50 and $6.75 per day. You see that figures into money mighty fast so Mr. A. seemed very much pleased indeed with the association.

"Since then the cows have been steadily increasing until now Mr. A. is shipping 75 gallons of milk a day. The Virginia—Maryland Milk Producers' Association paid 36c a gallon for milk in January, so if we figure the actual returns in dollars and cents for the month of January it means $12.60 per day, or $390 for the entire month.

"Mr. A. is very enthusiastic about the association. It charges him less than $50 dues for the entire year and he thinks that before spring he will be getting over 100 gallons of milk per day. This increase was made from the same cows. It is true that three of these cows have freshened since I began testing, but three others have gone dry, and five others will soon be dry. So you see the increase is mainly due to feeding a balanced ration in the proper way, and the real results are really greater than they seem for it is especially hard to bring a cow back in her flow of milk after she is allowed to fall off."



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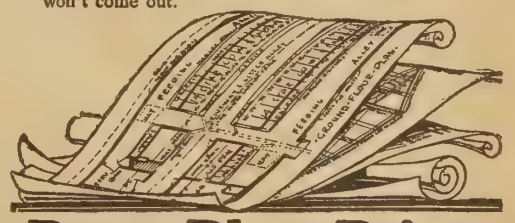
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EDITORIAL COMMENT



THE food product inspectors of the Bureau of Markets, United States Department of Agriculture, suggest that every churning of butter be numbered. There is often wide variation in the scores of a shipment of butter and unless there is some way of picking out the different churnings, there is a loss to the creamery manufacturing the butter, as it is too much work to score every tub. There is such a wide difference in price between butter scoring 86 and 92 and over, that it is well worth while for the creameries to follow the suggestion made by the Bureau of Markets. It would be still better for a creamery to manufacture no butter scoring less than 92 points, but since some creameries do manufacture butter scoring less, it would be well to number each churning.

EXPERIMENTS at the Wisconsin Station have shown that some forages contain so little calcium as not to provide for successful nutrition. It has been found that hays grown on marsh lands vary widely in their content of lime, whether the soil is acid or alkaline. Blue grass grown on acid soil may have as little as .3% of calcium while that grown on an alkaline soil may contain twice as much. Cows with calf were fed very satisfactorily with marsh hays, grown on the University marsh, containing one per cent of calcium oxide, the cows dropping normal offspring of good weight and vigor. Timothy hay which was grown on this marsh was also high in calcium and also gave good results as a feed for pregnant animals. The conclusions of the station indicate that such roughages when grown on alkaline soil and fed dry are efficient for reproduction. Animals which are in heavy milk flow, however, will not be so successfully nourished on such roughages as with dried alfalfa or dried clover hay. At one of the substations, hay from an acid marsh has given trouble with reproducing animals. Analyses of samples of these acid marsh hays have shown that they are not sufficiently high in their calcium content to permit successful reproduction.

CHEER UP

The increased demand for grades throughout the dairy sections and the high prices being paid for them shows conclusively that dairy conditions are improving. We find upon investigation among the dealers in grade cattle and farmers who have them for sale that inquiries are coming from various sections of the United States for grade cattle. Last week 48 head of grades, most of them cows, sold in Minnesota for an average price of $168. This is a good price for grades and is somewhat out of proportion to the price for which pure-breds are selling. It may be also stated that there is a larger demand now for pure-bred cattle than there has been in the past few months, and it is our belief that those who desire pure-bred cattle in the near future should purchase them now. We do not believe they will be cheaper. There is a much brighter outlook for dairying at present than there has been in the past few months. When it is considered that the dairy industry has not suffered as much as other branches of agriculture, this indeed should be very reassuring and encouraging as to its future prospects.

EAT MORE MILK

One of our subscribers has written to us as follows: "I would like to have you write a good argument against farmers using so-called dairy substitutes. First, touch on the fact that less milk and butter are used in the country than in the city. Touch upon the farmers buying so-called substitutes and thus undermining their own industry and also injuring their children. Then upon the fact that the manufactures of so-called dairy substitutes are working continuously and in various ways to inform the consumer of their products."

Surveys made regarding the relative consumption of milk in the cities and in the country show that less milk is consumed in rural communities than in the cities. This is not a comforting fact, for the people who produce milk should consume more of it than those in the city. The growing child of the country needs milk just as much as the growing child of the city. Further, the people who produce milk set a poor example for the consumer of the city when they do not consume their own product. If the dairy farmer will not consume his products liberally, or if he holds that they are too expensive, how can he reasonably expect the city consumer to purchase dairy products?

More effort should be made to reveal to the consumer the food value and importance of dairy products. We should not let the manufacturers of so-called dairy substitutes continue their statements and have nothing to say about the superiority of dairy products.

GOOD CATTLE AND HONESTY

Those who have bred good cattle, have dealt squarely with their customers, and have advertised judiciously are enjoying good sales of their young and surplus stock. It is a well known fact that any business built upon the proper basis suffers less through a period of depression than one which has not been built upon a sound basis. The breeding of pure-bred live stock is no exception to this rule. It is generally held, by those well informed upon the value of good pure-bred animals, that it would be unwise for any breeder to sacrifice good cattle, for there is always a large demand for them. Every business is subject to temporary depression, but the serviceable enterprise suffers least and for the shortest while. The prices of live stock have gone down, but dairy cattle properly developed and owned by reliable, trusty breeders are now finding a better demand than was experienced several months back. It may be said that inquiries are coming from various sections for good grade cattle. This indicates that the demand for cattle will be much larger than it has been and that we may look forward to a steady improvement.

This is a most advantageous time to secure foundation stock as we do not expect to see prices cheaper. Good stuff, owned by men who take pride in furnishing their customers with capable, clean cattle, has not declined in price as has the poorer quality sold by men who have not been careful in the selection of their animals or exercised the responsibility they should toward their purchasers. This situation shows that it pays to breed good cattle and to sell no animal unless it is sound in every particular. Being honest and reliable is a business asset.

VALUE OF CO-OPERATIVE MARKETING

Those earnestly striving to bring about a more economical system of handling farm commodities may not be able to reduce the cost of marketing that is hoped for by some, but they will gather information which will be quite as valuable to those concerned. Lack of understanding and ignorance of factors influencing marketing conditions often lead to dissatisfaction and false conclusions. This is bad and does not solve or improve our marketing system.

In the study of the grain market fluctuations, Mr. C. H. Gustafson, chairman of the Grain Marketing Committee of 17, found wide variation in prices and cannot account for them unless there has been arbitrary manipulation of prices. He states that two years ago South America shipped corn to the United States and when it started for this country the price of corn in Chicago was $1.50 per bushel, but it immediately declined to $1.00 per bushel. Then before the next year's crop was produced this same corn went up to $2.00 per bushel. The price of corn went down from $1.50 to $1.00 and then up to $2.00 without any corn being produced. Mr. Gustafson has come to believe that there must be something fundamentally wrong with a price-fixing machine that functions in that manner.

We have pointed out many times the advantage of dairy farmers marketing their products co-operatively. It will assure them a full market price for their products and it will also give them information regarding the factors which cause wide fluctuations in prices of farm products. There is perhaps no system of marketing that will prevent fluctuations in prices unless the system monopolizes a particular product, and this would be a wrong system. Farmers should proceed to perfect a system of co-operative marketing carried to such an extent that the men who produce farm products will be assured that prices are not being fixed arbitrarily by any body of men and that they may know they are receiving the market prices for their products. The information and satisfaction which can be obtained through co-operative marketing, even though it does not affect any saving or bring any larger returns to the farmer, will be worth all it costs in effort and in money. However, there is every reason to believe that co-operative marketing would also bring a financial return.

HOG CHOLERA SERUM

Since the discovery of hog cholera serum, the losses from hog cholera have been materially decreased. This has led many to believe that hog cholera serum is a curative agent but this a misconception of its purpose. Hog cholera serum is very largely a preventive. According to Farmers' Bulletin No. 834, published recently by the United States Department of Agriculture, the serum has some curative value but its chief purpose is to immunize the hogs; that is, place them in a physical condition so they will not contract cholera. It has been observed that hogs suffering in the early stages of cholera have gotten well after the administration of hog cholera serum but to rely upon serum for curing cholera will lead to heavy losses. It would be wise for hog raisers, if they find their herds suffering from disease they cannot diagnose, to employ a competent veterinarian because no time should be lost in the administration of hog cholera serum if the hogs are suffering from cholera.

It is well, too, for all hog raisers to remember that good sanitary conditions are preventive measures, although hogs kept under the best sanitary conditions may contract hog cholera. It is not the filth of the hog pen that produces hog cholera—it only provides favorable conditions for the rapid growth of the germ of the disease that may have been brought to the hog yard. Hog cholera is a germ disease, and hogs cannot have it unless this germ is present. It is economical to provide sanitary surroundings, especially concrete or board floor for feeding and clean sleeping quarters.

Those desiring detailed information regarding hog cholera serum, methods of inoculating swine, and general information concerning hog cholera, should obtain Farmers' Bulletin 834 from the Bureau of Animal Industry, U. S. Department of Agriculture, Washington, D. C.

MEAL FOR COW OR SOIL

What would the dairy farmers think if they were advised to use cottonseed meal as a fertilizer? If we were to suggest this method of keeping up the fertility of the land, we are sure most of our readers would question our sanity.

The dairy farmer gets the fertility to his soil by an indirect route. He first gives feed to the cow and then conserves her manure, but the southern farmer is directed by a reliable farm paper, "The Progressive Farmer", to use cottonseed meal as a fertilizer. The editor knows this method is not the best practice but he also appreciates that the farmers of the South do not have sufficient live stock to consume the amount of cottonseed meal

necessary for fertilizing their acres. He knows it is uneconomical to plow, harrow, and plant land low in available plant food, and that cottonseed meal applied to the soil will increase the production of that soil. How much better would the southern farmer be if he followed diversified farming and fed more of his by-products to his live stock rather than to use them directly as a fertilizer or to sell a good portion to the farmer of the North.

The South is suffering today from the single crop system, the same as many of the northern states suffered in years past, and as some are still suffering by raising very largely one kind of crop. The weakness and risk of the single crop system of farming is emphasized by our present conditions. The dairy farmer following diversification is weathering this period much better than any other class of farmer.

There could be no greater argument for the dairy cow than the stable conditions found where she is kept as compared with those where she is not kept. We do not believe any system of farming can be approved where as good feed as cottonseed meal is used directly for fertilizing the soil. It should first be fed to live stock and then the manure carefully conserved and applied to the land.

A Pasteurization Outfit—Clarification

What kind of an outfit should I use to pasteurize my product—200 to 300 gallons? Which system is the best to deliver pasteurized milk with a perfect cream line in the bottle and a natural fresh raw milk taste, to keep easily in clean, sterile condition and in good working order?

Have you any preference for a pasteurizing outfit for a small milk plant?

I have plenty of steam and mechanical refrigeration. Would you advise to use a clarifier or a filter for cleaning milk?

The proper outfitting for my plant, although small, is of vital importance to me.

Miles City, Mont. W. S.

The important results to be accomplished by pasteurization of market milk, besides the economy of pasteurization, are maintenance of the cream line, prevention of cooked taste, and high germ-killing efficiency. Temperatures above 150 to 160 degrees F., diminish the cream line and must therefor be avoided.

Flash pasteurization at 160 degrees F., or below, is not sufficient to secure the desired germ-killing efficiency. Such pasteurization would offer no guarantee of freedom of milk from germs of milk-born diseases, such as the germs of tuberculosis, typhoid fever, diphtheria, etc.

For these reasons, flash pasteurization in itself is inadequate. The milk must be held at the pasteurization temperature for a sufficient length of time to make possible maximum germ-killing efficiency. This, then, means that while the heating may be done by means of a flash pasteurizer or in a vat, the heating must be continued by the use of a retarder or a holding device.

For the pasteurization of a limited volume of milk, such as from two to three hundred gallons per day, the use of elaborate heating and holding devices is out of question from the standpoint of economy, both in initial cost and cost of operation. There are, however, available on the market some simple flash pasteurizers that may be used in connection with a retarder or a holder, such as a vat, with good results. In this case the pasteurizer should not be crowded too much as the cream line would be diminished and the product would take on a cooked taste. The heating should be controlled carefully so as to insure a sufficiently high temperature for maximum germ-killing efficiency, and in the use of the retarder and cooler the necessary precautions should be taken to prevent excessive recontamination.

For all practical purposes, however, the vat or holding process is the most dependable and most easily operated and controlled in the case of relatively small volumes of milk. In this process the milk is pasteurized, held, and cooled in one and the same vat equipped with a revolving coil.

The chief drawback of the flash pasteurization of milk lies in the relatively slow heating and cooling, owing to the necessity of keeping the heating medium at or below 160 degrees F. This process can be hastened by not depending on the self-circulating system for circulating the heating and cooling medium and by using the positive circulation system. In this system the hot water and the brine, respectively, are circulated through the coil by means of a pump. In this manner the media pass through the coil at maximum speed and keep the coil constantly filled with the hot water or brine, thus insuring maximum volume and rapidity of transmission of heat or cold.

There is another vat pasteurizer that lends itself well to the pasteurization of relatively small volumes of milk. This is a jacketed vat and in the jacket the hot water is sprayed against the heating surface near its top and runs down on the water side of the heating surface. The milk in this vat is agitated by mechanical paddles moving back and forth lengthwise in the vat. This is a very inexpensive equipment and those who have used it claim that very effective pasteurization is accomplished by its use. It is also easy to clean and to keep in sterile condition.

With reference to methods of mechanically purifying the milk I wish to state that either a filter or a clarifier may be used. The filter has the advantage of not causing the milk to foam, of not affecting the cream line, and of not removing from the milk elements which might be of value, such as leucocytes. On the other hand, the filter has the disadvantage of causing the milk to flow through the very material which you desire to have filtered out. The filters that have found most general use for this purpose are the quartz filters. Absorbent cotton filters also have been made use of in many instances.

The clarifier has the advantage of removing more completely anything of a slimy nature in the milk, but unless this work is done at the proper temperature it may cause the milk to foam profusely and therefore interfere with the ease of filling the milk into the milk bottles. Those who have had experience in the operation of clarifiers have found that the foaming is most troublesome with milk at temperatures below 60 degrees F., and above 100 degrees F., while at temperatures between 60 and 100 degrees F., the foaming is less intensive.

Great claims have been made in the past for these mechanical purifiers of milk, both the filtration and the use of the clarifier. In reality very little is accomplished by their use. Most of the foreign matter that has gone into the milk is present in solution, if it is at all soluble, and by the time the milk reaches these mechanical purifiers these impurities can no longer be removed by such mechanical means. Neither the filter nor the clarifier reduces the number of bacteria in the milk to any appreciable extent, nor do they make the milk keep better. Filtered or clarified milk sours as quickly as the same milk not so treated, nor do they affect the cream line either way to any appreciable extent. Whether or not the removal of the material, which is called slime and which is found in the bowl of the clarifier, makes the milk more or less wholesome, is a disputed question. In the case of gargety milk it would seem that it would improve the wholesomeness of the milk, otherwise it is doubtful that the removal of the slime (which may contain many valuable elements belonging to natural milk) really makes that milk more desirable from the standpoint of the welfare of the consumer.

Aside from the fact that the use of the clarifier furnishes an attractive and convincing sales argument, its only commercially valuable feature lies in the freedom of the milk from visible specks or sediment in the bottom of the milk bottle.

O. F. HUNZIKER.

Cheese Factory Refrigeration

Would like to have you give us some advice. We built our cheese factory last summer and run about two months last fall. We have had difficulty selling what cheese we did make. Would it pay to make Primost or whey cheese? What extra equipment would be needed?

We are planning on building an ice house for next summer but don't know just how large to build it. We expect to handle about 4,000 to 5,000 lbs. milk per day next summer. Would like to have some suggestion as to how large to build ice house and what sort of refrigeration is used in cheese factory.

Minnesota. RADIUM DAIRY ASS'N.

I judge that you had less than 4,000 lbs. of milk per day last summer, and if so the cost per pound of making cheese was higher than would be the case at a larger factory handling more milk. The total cost of making a pound of cheese in Wisconsin at present is about 4c a pound, including labor and supplies and everything.

If you can get plenty of cheap wood for fuel and especially if there is a demand for Primost in your neighborhood so that you could sell all you could make, it might pay to make Primost. This is done by boiling down the whey in a large iron pan which may be 8 or 10 feet in diameter and 2 feet deep with a double walled flat bottom, which is steam heated. The hood over the kettle carries off the steam from the boiling whey.

Most factories do not have any refrigeration, but ship the cheese out every week or twice a week to the buyer. Just as soon as the cheese is dry on the surface, it is boxed and shipped. If the factory is some distance from the buyer, so that the cheese is on the train for more than a day, it may be that the buyer will prefer to have you paraffine the cheese at the factory.

It is possible that if you have a pond or river nearby, you might cut ice in the winter and build an ice house next door to your curing room so that the cold air can circulate through the curing room. This plan is followed in a great many Canadian cheese factories where the curing room is kept cool, that is, at about 60° by this process. A thick wall separates the ice house from the curing room, but there are two holes cut in this wall—one near the floor and one near the ceiling. The ice is so placed that the air passing from the ceiling of the curing room through the opening in the wall is cooled by the ice and then enters the curing room again through the hole in the floor. Most of the factories in Wisconsin do not have cold storage but ship their cheese twice a week to the buyer.

A cheesemaker can safely handle 5,000 or 6,000 lbs. of milk a day when fully employed, and he expects to make about $150 a month even if you do not keep him busy, so that with only 4,000 lbs. of milk you would have to pay him a rather large price per pound for his labor. In addition to labor costing about 1c a pound for making, the supplies cost about 3c.

Wisconsin. J. L. SAMMIS.

Wooden Mangers

Will you kindly submit form of mangers to build in my dairy barn? I wish to construct them of wood. I have a cement floor that is perfectly level before the stanchions. I have plenty of room before the cows, with about ten to eleven feet from stanchions to wall. My barn is constructed for two rows of cows and I drive through with team to clean same. I wish plans for mangers that will be easily kept clean and still be able to feed each cow separate.

Franklinville, N. Y. F. P. G.

It would be next to impossible to construct wooden mangers that can be kept clean easily and that will prove economical in the long run. The solid type of manger will work very well except that these will always be difficult to clean. Self-dumping mangers built of wood are heavy to lift and will need frequent repair.

Wooden mangers of the same general type as concrete can be built with a partition that will swing forward or upward to allow sweeping out the manger and which may be let down when the cows are fed. A somewhat less convenient arrangement would be to put in sliding partitions between each cow and remove these when cleaning the manger.

We anticipate that galvanized iron mangers, such as manufactured by the barn equipment companies that advertise in our columns, will prove more satisfactory than wooden mangers, and would probably prove cheaper in the long run. If any reader has solved the problem of wooden mangers in a way satisfactory to him, we would be glad to have the description of his methods. At present we prefer the concrete manger with the steel division or so-called steel mangers.

Repairing Concrete Silo

Our concrete silos have become very porous and the juice leaks out badly. Besides this, sand comes loose on the inside and slides down with the corn. It looks as though it were slowly dissolving. What is the best preparation to put on the inside to plug the holes and prevent this deterioration?

Hollywood, Washington. H. C. S.

The concrete silo was evidently not properly erected; either not enough cement was used or it was of poor quality or the sand may not have been sharp and clean. From the description given, we apprehend that the best procedure will be to plaster the entire interior of the silo with a good cement mortar. The usual directions for plastering would be applicable, such as cleaning out all loose material, wetting the walls well and putting on a coat of the proper thickness. If the deterioration of the wall has not been as serious as we apprehend, possibly merely whitewashing the interior with cement and water will be sufficient. This cement should be mixed to the consistency of thick cream.

Hoard's Dairyman

Fort Atkinson, Wisconsin

Founded 1885 by W. D. HOARD

W. D. HOARD & SONS CO., Publishers
H. L. HOARD, A. R. HOARD, F. W. HOARD
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Subscription Rates

Subscription in United States and Mexico $1.00 per year; 3 years, $2.00; Canada, $1.50 per year.

FOREIGN SUBSCRIPTIONS may be sent through news dealers and book sellers in all foreign countries.

All foreign countries in the Postal Union $2.50 a year; not in the Postal Union $3.00, including postage.

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Entered at Fort Atkinson, Wis., as second class matter.

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Coming Events

May 23—Missouri State Holstein Association first Annual Show of Sale Cattle at Sedalia, Mo.

June 9—Ayrshire Breeders' Association meets in Springfield, Mass. Secretary, J. G. Watson, Brandon, Vt.

Jersey Cattle Notes

For week ending March 18:

Number of animals registered: Bulls, 229; cows, 759; total, 988. Number of transfers recorded: Bulls, 170; cows, 507; total, 677.

Maybe you can't afford to keep a pure-bred bull, but you could co-operate in a neighborhood ownership and maintenance of one.

Second Brentwood National

164 Holsteins sell for $209,540. Pietertje Prospect Colantha goes for $27,100

NO single event of the year will do more to hearten breeders of pure-bred dairy cattle than the Second Brentwood National where 164 Holsteins sold March 29-30-31 for an average of $1,277. Staged in a season of depression when pessimism has laid hold of many breeders, it demonstrates that there is a healthy market for first quality animals. Not only the breeders of Holsteins but of the other breeds as well are obligated to Brentwood Farm for the proof it furnishes that good breeding stock is in demand at par.

⚜

Chief interest centered about Pietertje Prospect Colantha, consigned by Carnation Stock Farms, and out of Segis Pietertje Prospect, world champion milk producer. The bid of $27,100, which made Huntington Valley Farm and Brentwood Farm his owners, was made after a three-cornered contest with Bell Farm and A. S. Deysher. This bull, in addition to his value because of a strong pedigree and his dam's phenomenal record of 37,381.4 lbs. milk, is of exceptional individuality. His photograph will appear in next week's issue.

The top priced female of the auction also came from Carnation Stock Farms, a two-year-old daughter of Matador Segis Walker bred to Carnation King Sylvia. She went to John Crozer of Pennsylvania for $5,500. An eleven-year-old cow, Katie Pietertje Paul 5th, consigned by J. Smith & Son of New York, was second high female, going to V. M. Montgomery of South Carolina and completing four generations in that herd. Bell Farm, Pennsylvania, paid Bridgford Holstein Co., California, $4,500 for Prilly Adirondac Dairy Maid, a yearling daughter of King Segis Alcartra Prilly and out of a 41.02-lb. cow, and sold Polly Douglas Fayne, a 32.47-lb. four-year-old, to C. W. Bray of Pennsylvania for $4,700. Bell Farm also purchased Maple Side Adelaide Walker, paying Rancocas Stock Farm of New Jersey $4,400 for this 31.68-lb. eight-year-old. The grand champion cow of the show, winner of the $1,000 prize, from Bell Farm, sold to Carl Schmidt of New Jersey for $4,050.

Sir Model Sylvia, the only other bull in the top ten animals, brought $4,500. E. Muirhead was the purchaser and A. C. Hardy the consignor, both of Canada.

Nooksack Jewel Fayne and a heifer calf by Ormsby Korndyke Lad each brought $4,000. The former was consigned by Herbert J. Evans, Washington, and sold to Maaikenshof, New York, and the latter, consigned by Walton Lake Farms, went to Julius Schmid, New York.

A more complete list of sales will appear next week.

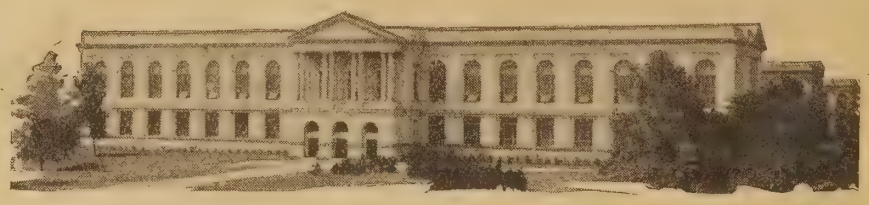
⚜

A pleasing feature of the Brentwood Sale was the exhibition of animals for prizes totalling $2,600. W. S. Moscrip of Minnesota made the awards.

The grand champion cow was Gertrude Titania De Kol, the award being a prize of $1,000. Pietertje Prospect Colantha led the males and, as grand champion, won a $500 award.

Hazelwood Ormsby Posch owned by C. A. Harrison, Washington, won $200 as the best aged cow in milk. She sold to A. S. Deysher for $2,600. Allamuchy T A K Alice Wanda led the aged dry cows, receiving $200. She went to Cary Farm, Massachusetts, for $2,000. The best two-year-old in milk was Reformatory Hengerveld Fayne from Cary Farm. Mountain View Stock Farm, Maryland, later paid $1,100 for her. First Lady of Earl Crest, owned by Carnation Stock Farms, won first among the dry two-year-olds.

W. A. Woods of Pennsylvania showed a yearling heifer, Ormsby Nell Viola, which won in her class and made close competition in the championships. John Arfman led in the winning heifer calf.



COMMERCIAL MUSEUM, PHILADELPHIA, WHERE SECOND BRENTWOOD NATIONAL HOLSTEIN SALE WAS HELD

Holstein Activity in Kansas

HOARD'S DAIRYMAN:—Getting together for its annual meeting and sale at Topeka, March 25, the live Holstein-Friesian Association of Kansas laid plans for furthering its usefulness in promoting this breed and dairy interests generally. During the five years of this organization's existence it has made notable progress, taking an active and constructive part in the dairy affairs of the state. Its membership now consists of about 200 breeders. These men have been paying annual dues of $2 apiece, but the resulting fund was deemed insufficient for carrying on the work which the association's leaders felt that it should do. Accordingly the members voted at the recent meeting to increase the dues and to make other changes with a view to facilitating the work of the association.

Under the new plan the members will pay dues according to a sliding scale designed to cause the breeders to bear the expense of the organization in proportion to the number of pure-bred cattle owned and so in relation to the benefits received. Thus, members having fewer than 25 pure-breds over six months old will now pay dues of $5 a year; those having from 25 to 50 pure-breds will pay $10; from 50 to 75 head $15; while those having 75 head or more will pay $20.

Owing to the increasing number of Holstein breeders in every part of the state it was decided, in order to obtain better representation, to increase the board of directors from five to nine members. As the board is now constituted, therefore, J. P. Mast, G. Regier, and John Appleman hold terms of one year; Elmer Engle, Charles Schultz, and C. L. Goodin terms of two years; and Ira Romig, J. B. Fitch, and Major Harding Polk terms of three years.

Because of the difficulty in getting a large board of directors together quickly for the dispatch of urgent business, an executive committee of three members was determined upon, this to consist of the president, secretary, and one member chosen from the board of directors by that body. It was decided, too, to combine the positions of secretary-treasurer and sale manager, in which capacities W. H. Mott will serve the coming year. Walter A. Smith and Harry Mollhagen, respectively president and vice-president, were re-elected. To serve on the executive committee with Mr. Mott and Mr. Smith the board of directors chose Mr. Romig.

Throughout its existence the Holstein-Friesian Association of Kansas has taken a determined and advanced stand relative to tuberculosis, its members giving excellent co-operation to the federal accredited herd work in this state. Commenting on this co-operation and the fact that Kansas dairy herds now have a better health status than those of some other states where breeding stock is more frequently sought, Dr. H. M. Graefe, the federal inspector in charge, brought attention to the possibilities in continuing the tuberculosis eradication work in the state until it should be known as headquarters for healthy cattle. He also presented the question of the advisability of an official order requiring that all animals be certified as free of tuberculosis before they may be exhibited at public shows or sold in public sales. The association voted unanimously to support him in such a move.

In the association's consignment sale held the same day as the meeting, 81 head were sold at an average price of $204.04. This was about one-third less than the average price obtained in the association sale held at Topeka a year ago, when the average price of 133 animals was $321. The general downward trend of prices, of course, accounts for much of the difference. It was thought, however, that, though some excellent bargains were found in this year's sale, the standard of quality was not quite up to that of 1920; some of the breeders feeling that the market may soon turn for the better, and that there

Continued on page 511)



B. H. RAWL

B. H. Rawl, assistant chief of the Bureau of Animal Industry, United States Department of Agriculture, has resigned, effective April 30, to take charge of the educational work of the California Central Creameries. He will have headquarters in San Francisco. We shall say something about his work in our next week's issue.

Holstein Breeders' Sale

"The best cattle we ever sold" was the way the Holstein Breeders' Sale Co. of Central Wisconsin advertised their March 15—16 sale and such it proved to be. Those buyers who were at the Fond du Lac sale pavilion on those dates saw good cattle, and that they appreciated them is evidenced by the fact that the entire 142 head sold for an average of $323.

Fletcher Bros. were the heaviest consignors with their entire herd of 37 head. These brought $15,750, a good price considering the presence of several bulls in the consignment which were not as well received as they should have been.

The top figure for females was $1,100, three cows going for that price. Among them was Korndyke Queen Myrtle Segis, a 31-lb. 4-year-old granddaughter of Johanna McKinley Segis from the herd of Fletcher Bros. She was purchased by Carl Brugger, Wisconsin.

A 30-lb. 10-year-old daughter of that famous old cow, Jewel Duchess, also brought $1,100. She was consigned by W. W. Williams and purchased by C. A. Williams.

W. W. William's herd sire, a 31-lb. grandson of Spring Farm King Pontiac, brought the top price for males going to C. A. Williams for $1,000.

Perhaps no one animal of the sale aroused as much interest as 13-year-old Joe Oak De Kol Fobes, a grandson of Mooie Mutual De Kol and Homestead Jr. De Kol. He has for years seen service in the herds of Fletcher Bros. and S. M. Randall and today has a very creditable list of A. R. O. daughters to his credit. Coming into the ring at just a month less than 13 years of age he showed in a form that many a younger bull fails to equal and certainly proved a bargain at $500. He was purchased, on a wire bid, by Jno. A. Bell, Jr., of Pennsylvania.

Kelly, Mack, and Pohlman did the selling with F. H. Everson in the box. S. H. Bird managed the sale.

The following lists the animals selling for $300 or over and their buyers:

John A. Bell, Jr., Pennsylvania	
Joe Oak De Kol Fobes	$500
C. A. Williams, Wisconsin	
Ensign Pontiac The Great	$1000
Jewell Duchess 4th	1100
Netherland Boon Colantha	370
K. W. P. E. Colantha Rag Apple	300
John Wuethrick, Wisconsin	
Wa Wa Pontiac Grace	$360
Catalogue No. 78	380
Johanna Bonheur Hengerveld	450
Johanna Jessie Pearl 2nd	355
Caroline Hengerveld Johanna Piebe	460
H. F. Schimmel, Wisconsin	
Wa Wa Sarcastic De Kol Rue	$680
John Blaska, Wisconsin	
Syntha Hengerveld Mooie	$300
Lola Segis Pontiac	300
Lucy Segis Urmagel	405
Piebe Pontiac Parthenea 2nd	475
W. H. Olson, Wisconsin	
Dorothy Hesseltje Johanna	$205
Bessie Gewina Champion	320
Bertina Queen Korndyke	550
Theresa Piebe De Kol Fern	370
Highland Lottie Belle De Kol	305
Susan Johanna Darkness	310
Catalogue No. 113—Korndyke	325
Ed. Nitschke, Wisconsin	
Oak Fobes Mutual	$315
Clement Bros., Illinois	
Floy Bonibel Pietertje	$410
Ed. Missling, Wisconsin	
Bluebird Canary Ormsby Beauty	$410
Amelia Queen De Kol 2nd	410
Harriet McKinley Segis	370
Elmwood Fobes De Kol Segis	525
Caroline Fobes Segis	530
S. E. Jones, Wisconsin	
Bluebird Colantha Hilda Esther	$510
Elta Fobes Queen De Kol	500
Bertina Maid Mutual Fobes	370
R. F. Clark, Wisconsin	
Sunshine Ormsby Homestead	$650
G. Hauber & Sons, Wisconsin	
Flossie Mutual Fobes De Kol	$330
Catalogue No. 52	390
Ormsby Rag Apple	345
Erhardt & Erhardt, Wisconsin	
Laura Fobes Pontiac	$240
Rose Lawn Bess Piebe	350
C. W. Keys, Wisconsin	
Daisy Nelson Segis	$650
Catalogue No. 54	340
Bernice Rag Apple Veeman	320
Sarah Nelson Segis Johanna	300
Chic Dairy Farm, Wisconsin	
Laurel Clothilde Segis	$425
Carl Brugger, Wisconsin	
Korndyke Queen Myrtle Segis	$1100
Gay & Williams, Wisconsin	
Elmwood Nell Segis Fobes	$300
Johanna Nelltje De Kol 2nd	310
Wm. Knapstein, Wisconsin	
Josie Nelson Segis	$450
Rose Clothilde Fobes	700
Laverne Segis Fobes	320
Louise Queen Korndyke Segis	550
H. L. Hill, Wisconsin	
Elmwood Segis Fobes	$675
Jas. Winninger, Wisconsin	
Queen De Kol Maria Korndyke	$380
Caroline Brahma Segis	325
Anola Zetta Segis Colantha	300
Johanna Piebe Polkadot	350
Estella Wegel De Kol	315
Johanna Arcady De Kol	355
Ray Clark, Wisconsin	
Korndyke Queen Oak Fobes	$510
Aug. Summerfield, Wisconsin	
Queen Korndyke De Kol Fobes	$420
Netherland Sadie Vale of Wayside	420
Roselawn Bess Jewell	505
J. S. Allen, Arkansas	
Catalogue No. 53	$700
A. E. Tulledge Co., Wisconsin	
Sir Oak Mutual Fobes	$500
Henry Weber, Wisconsin	
Catalogue No. 61	$825
O. F. Druckery, Wisconsin	
Belle De Kol Goldie	$335
Jeanette Korndyke Rue	305
Rose Segis Melchoir Pontiac	300
C. O. Jorenby, Wisconsin	
Anola Rose Johanna	$510
W. H. S. Rhoda, Wisconsin	
King Bergsma Netherland	$1100
Robt. Burnes, Wisconsin	
Mountain Ash Marie De Kol	$325
D. Lorfeld, Wisconsin	
King Waldorf Pietje Echo 11th	$500
J. F. Duncan, Wisconsin	
Jewell Colantha Rag Apple	$315
W. F. Braatz, Wisconsin	
Watson Sadie Vale of Wayside	$335
Madam Colantha Lass (Twin)	355
G. Widmer, Wisconsin	
King Waldorf Pietje Echo	$350
E. M. Cowles, Wisconsin	
Abbekerk Lady Colantha	$500
Washington Co. Asylum, Wisconsin	
Harvest Sadie Lass	$400
Max Kleman, Wisconsin	
Rue Queen Johanna Segis	$310
Chas. Hughes & Son, Wisconsin	
Caroline Paul Piebe 2nd	$340
F. B. Mertes, Wisconsin	
Caroline Paul Piebe 3rd	$310

Jersey Cattle Notes

For week ending March 25:

Number of animals registered: Bulls, 195; cows, 633; total, 828. Number of transfers recorded: Bulls, 222; cows, 677; total, 899.

"While your grit lasts, you will."

"If you don't believe in yourself, you've lost before you've fought."

"Work it off! Worry is a disease of idlers."—HERBERT KAUFMAN.

You cannot get a truck for less money that will work as well or last as long

We doubt if you can get a better truck no matter what price you pay

Eleven years reliable performance proves the merit of Federal Trucks

Another FEDERAL

One to Five Ton Capacities

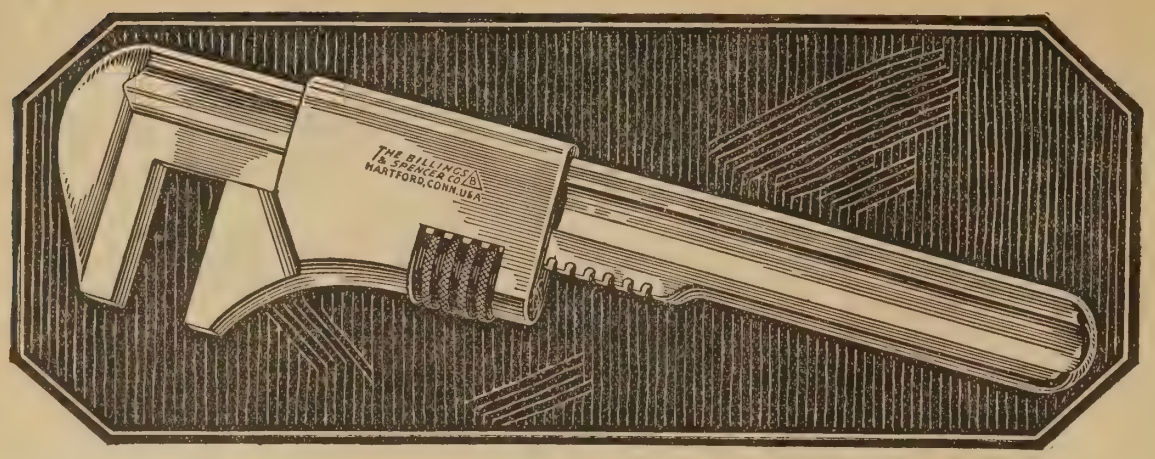
FEDERAL MOTOR TRUCK COMPANY

33 FEDERAL AVE. DETROIT, MICHIGAN

Federals in the Dairy Business

"The profitable marketing of dairy products depends upon motor transportation with Federal," — so writes H. Marks, of Waukesha, Wis. His route covers 36 miles with 47 stops. 22 miles of the road are unpaved, but every day, rain or shine, his two-ton Federal delivers from 75 to 85 cans of milk to the Gridley Dairy Co., of Milwaukee.





HORSE gang and tractor gang plows mean plenty of machinery to get out of order, unless nuts are kept tight by constant watchfulness and the accurate, steady, never-failing twist of Billings & Spencer wrenches.

The farmer knows a good tool when he sees one. At your hardware dealers.

"RELY B ON ME"

The BILLINGS & SPENCER CO.

HARTFORD, CONN.

Cow Waters Herself



with this wonderful new Libbey Automatic Water Bowl. Animal moves lever, opening water valve, when it starts to drink. Lever swings back, closing valve, when animal stops drinking.

15% More Milk

Milk is 87% water, and cows cannot give their greatest yield unless they have plenty of water constantly within reach. Farmers who use Libbey Bowls report an increase of 15% to 20%, which soon pays for the bowls.

Libbey Automatic Water Bowls

are the most sanitary and successful ever invented. Each bowl controls its own water supply, operated entirely by cow, and may be put at different heights, or in any stall or pen. No float tank required. Cannot overflow; cannot get out of order. Almost no water left in bowl to become stagnant. They save labor and feed and increase milk. Prevent spread of contagious diseases, as each cow has her own bowl and no water can pass from one to another, as with old-style bowls. Very simple and easy to install. Write for circular and prices, also FREE DAILY MILK AND FEED RECORD.

If interested in Stanchions, Stalls, Carriers, etc., ask for free General Catalog.

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195 Marion Street Oshkosh, Wisconsin

"B-V-T" Silo

Will last forever. You will never have to rebuild it! Neither will your grandchildren. Built from the famous BRAZIL VITRIFIED FIRE CLAY. The "B-V-T" has been on the market **nine years without a failure.**

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Brazil Hollow Brick and Tile Company
BRAZIL, INDIANA

GREEN MOUNTAIN SILO

has five feet more capacity, size for size, than any other. Selected creosoted fir staves make it weather proof and add years to its life.

Secure anchorage to concrete foundation makes it wind proof. Many other exclusive features.

Silo book giving all details furnished upon request.

THE CREAMERY PACKAGE MFG. COMPANY

Harvest 20 to 45 Bushel to Acre Wheat in WESTERN CANADA



Think what that means to you in good hard dollars where land costs less, perhaps, than you are paying in rent. Many farmers in Western Canada have paid for their land from a single crop. The same success may still be yours, for you can buy on easy terms.

Farm Land at $15 to $30 an Acre

located near thriving towns, good markets, railways—land of a kind which grows **20 to 45 bushels of wheat to the acre.** Good grazing lands at low prices convenient to your grain farm enable you to reap the **profits from stock raising and dairying.**

Learn the Facts About Western Canada

—low taxation (none on improvements), healthful climate, good schools, churches, pleasant social relationships, a prosperous and industrious people.

For illustrated literature, maps, description of farm opportunities in Manitoba, Saskatchewan and Alberta, reduced railroad rates, etc., write Department of Immigration, Ottawa, Canada, or

WESTERN CANADA Farm Lands at Low Prices The Wheat Belt of America

GEORGE A. HALL
123 Second St., Milwaukee, Wis.
Canadian Government Agent.



Cools Milk—Kills Germs
Stop waste and loss—improve milk quality—insure uniform product. Use
THE GENUINE CHAMPION
Saves time—and saves its cost in one week. Folder Free.
CHAMPION MILK COOLER CO.
Dept. D, Cortland, N. Y.

Ear Tags FOR STOCK

Tag your stock—best and cheapest means of identification for Hogs, Sheep and Cattle. Name, address and number stamped on tags. Catalog mailed free on request.

F.S. Burch & Co. 156 W. Huron St. Chicago

Demonstrations Convince

(Continued from page 489)

were watching the field were amused in an I-told-you-so attitude by not seeing a pronounced initial benefit from the lime. But their doubts were dispelled during May and June. The munificent rain, the warmth, and sunshine put an inch-a-day pep into the growth of healthy dark green alfalfa, save for the unlimed thirty-foot strip. It took sick. As one man told me, "It got the jaundice". At any rate, it stopped growing, turned yellow, began dropping its leaves, and you could see for a distance of a half mile, as plain as day, that miserable failure through the center of an otherwise splendid field. Well, here was a chance to show what lime would do—to let lime speak for itself, and to put dollars and sense punch into the lime campaign. A field meeting was called. Some 75 farmers attended. There was a brief program before the alfalfa was inspected, at which the details of the trial were explained. The group was then led around the edge of the field where some plainly visible results with varieties could be observed without distraction by showing up the lime results. When the crowd reached the lower end of the field, the sudden view of the outstanding benefit of lime for alfalfa on that field convinced the most skeptical—particularly those who had trouble growing alfalfa.

4,700 Tons of Ground Limestone Used; $12,000 Saved

Lime told its own story more effectively than words could describe. That short, sickly, yellow strip of "no-lime" alfalfa through the center of an otherwise splendid field brought more serious thought and discussion on the use of ground limestone than had ever obtained before. The iron was hot and it was time to strike.

Jim Lacey had previously located twenty splendid high testing limestone quarries. There was a good, well equipped limestone grinder which had been lying idle in the county for some time. Through the assistance of Arthur Preston, a prominent farmer who helped finance the deal, a cement contractor was induced to buy this outfit and go into the lime grinding business. Lacey helped him round up the orders, and the two and one-half years following the demonstration he (the lime grinder) ground 4,700 tons of limestone for Green County farmers, and the work is still going on. Think what this meant in the way of service to that community!

First of all, most of the farmers who had this limestone ground, lived four, five, and six miles from a railroad station. To have finely ground limestone shipped in it would have cost around three dollars a ton at the track. The uncertainty of railroad service made it problematic as to the time of arrival of shipments. When they did arrive, regardless of how busy the farmers were with farm work, the limestone must be unloaded or else heavy demurrage paid. Then the time, labor, and expense of the long haul from station to farm and the rehandling, should fields not be ready for immediate application of the limestone. These were all factors which interfered with the previous use of lime. But with the enthusiasm developed at the demonstration, coupled with the possibility and convenience of getting limestone ground right on their farm or near at hand at a cost of about two dollars a ton, and where it could be hauled when the field was ready for the application without rehandling—with

previous obstacles eliminated, the limestone proposition was put across on a big scale, largely due to this alfalfa lime demonstration.

Considering all the items previously mentioned, there was a saving on this limestone laid down on the field, conservatively estimated, at from two to three dollars a ton or a total of about $12,000.00. Of course, this is but a drop in the bucket compared with the long time results and increased feed production and economy of production effected by the use of 4,700 tons of ground limestone.

It is not the purpose of this illustration to suggest the limestone grinding idea only under those special circumstances where it is advisable and practical, but it is the object of this incident in agricultural progress to show the true value of demonstrations in "delivering the goods" agriculturally on a wholesale basis.

Summary of Census of Holstein-Friesian Cattle

The Holstein-Friesian Association of America over a year ago decided to determine how many pure-bred animals and breeders there are in the United States. This work has been completed and the following is a summary of the census of Holstein-Friesian cattle:

	Number animals	Number breeders	Average per herd
NEW ENGLAND STATES			
Maine	4,557	498	9
New Hampshire	3,722	362	10
Vermont	8,924	643	14
Massachusetts	6,986	500	14
Rhode Island	339	28	13
Connecticut	3,471	251	14
	27,999	2,282	
MIDDLE ATLANTIC STATES			
Delaware	1,171	93	12
District of Columbia	406	14	29
Maryland	2,048	200	10
New Jersey	4,994	497	10
New York	82,953	5,761	14
Pennsylvania	26,375	2,345	11
Virginia	2,619	159	16
West Virginia	532	53	10
	121,098	9,922	
CENTRAL STATES			
Illinois	17,308	1,169	15
Indiana	5,440	499	11
Iowa	7,251	521	14
Kansas	6,445	610	11
Kentucky	800	76	10
Michigan	24,602	2,336	10
Minnesota	14,855	1,302	12
Missouri	3,182	262	12
Nebraska	3,154	240	13
North Dakota	1,461	166	9
Ohio	29,061	2,731	11
South Dakota	2,444	194	13
Wisconsin	59,266	4,083	15
	175,269	14,189	
SOUTHERN STATES			
Alabama	325	38	8
Arkansas	359	56	6
Florida	78	9	9
Georgia	421	43	9
Louisiana	311	27	12
Mississippi	452	65	7
North Carolina	316	28	11
Oklahoma	1,552	222	7
South Carolina	384	34	11
Tennessee	777	72	11
Texas	1,138	170	7
	6,113	764	
WESTERN STATES			
Arizona	1,034	56	18
Colorado	2,604	200	13
Idaho	944	105	9
Montana	822	70	12
Nevada	47	7	7
New Mexico	65	12	5
Utah	453	56	8
Wyoming	161	23	7
	6,130	529	
PACIFIC COAST STATES			
California	8,760	335	26
Oregon	2,185	219	10
Washington	4,517	381	12
Total	15,462	935	
	352,071	27,821	

Government Issues Farmers' Almanac

"Beware of false prophets. Don't plant by the moon; but get the best seed and prepare the seed bed, then plant when soil and moisture conditions are right." "Keeping farm accounts never worried Adam; but he was only a gardener." "The owner of a scrub bull should have a leather medal—made from the bull's hide." These bits of farm advice are contained in "An Agricultural Almanac for 1921" issued by the United States Dept. of Agriculture to remind farmers to do the right thing at the right time and to tell them where to secure information on agricultural subjects.

The almanac, which appears as Farmers' Bulletin 1202, is published, the Department says, in response to a large demand from farmers for a calendar of work showing the timely use of new farm facts. Seasonal advice and suggestions are given on such topics as the weather, farm plans, fruit, live stock, poultry, farm operations, marketing, wild life and woods work. References to other publications of the department tell where detailed information on each subject can be had.

A section on "Farm Helps" discusses farm laws and gives tables and directions for such things as mixing stock feed, fertilizers, and spray solutions; weights of seed and grain, and other information needed by farmers and their families. A limited number of copies is available for distribution by the United Stats Department of Agriculture, Washington, D. C., and may be had upon application.

Waupaca County Holsteins to Nebraska

HOARD'S DAIRYMAN:—During the past month M. N. Lawritson, Dairy Extension Specialist of the Nebraska College of Agriculture, selected two carloads of grade cows in Waupaca Co., Wisconsin, for shipments to Nebraska. The buyers were attracted to Waupaca Co. by Holstein Association advertising and the prices received bear testimony to the value of a breeders' association when it is properly used. The only charges to the members of the Holstein Association was the regular 2 per cent commission taken by the association to pay advertising and for correspondence expenses.

The first carload shipped went to Hastings, Nebraska, where the animals are being passed on to the farmers at cost through the First National Bank of that city. The 16 head cost them $1,750, or an average of about $110 per head including five two-year-old heifers. The second carload of 20 head cost them $2,385, or an average of about $112 per head. They were shipped to a large mercantile company at Lincoln and are to be used to supply milk for a large restaurant.

JAMES H. DANCE, Co. Agt.
Wisconsin.

Durable, Safe, Sanitary Floors For Farm Buildings

LONG-BELL Creosoted Yellow Pine Blocks solve rightly and for all time, the important problem of floor construction in barns, dairies and stock and poultry houses. Such floors are unusually durable, safe and sanitary. They provide the utmost comfort and convenience and are most economical.

LONG-BELL
Creosoted Yellow Pine Blocks

Floors made of these blocks are firm, yet resilient; smooth, even and dry; easily kept clean. There is no danger of warped surface or splinters to injure stock. They are warm in winter and cool in summer. Cost least in the long run.

Long-Bell Creosoted Yellow Pine Blocks are given long life and made to resist decay, fire and other destructive elements by a thorough injection of Creosote (Dead Oil of Coal Tar) by the pressure-vacuum process. Thus preserved, they remain firm and dependable for many years without replacements or repairs.

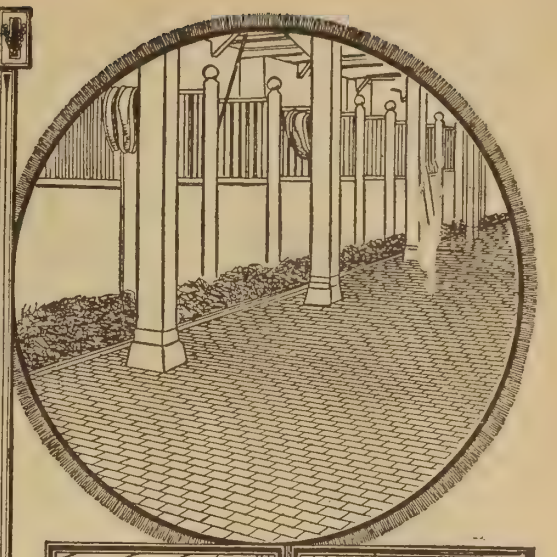
Look for the L-B Trade Mark in the Circle!

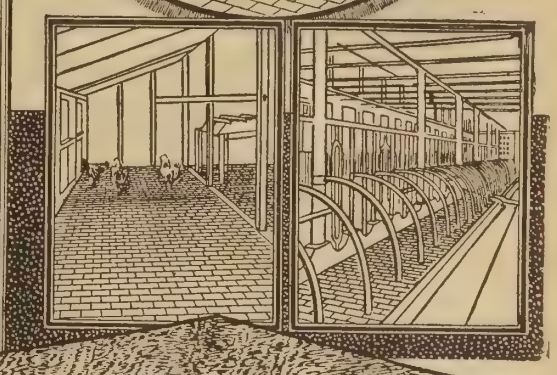
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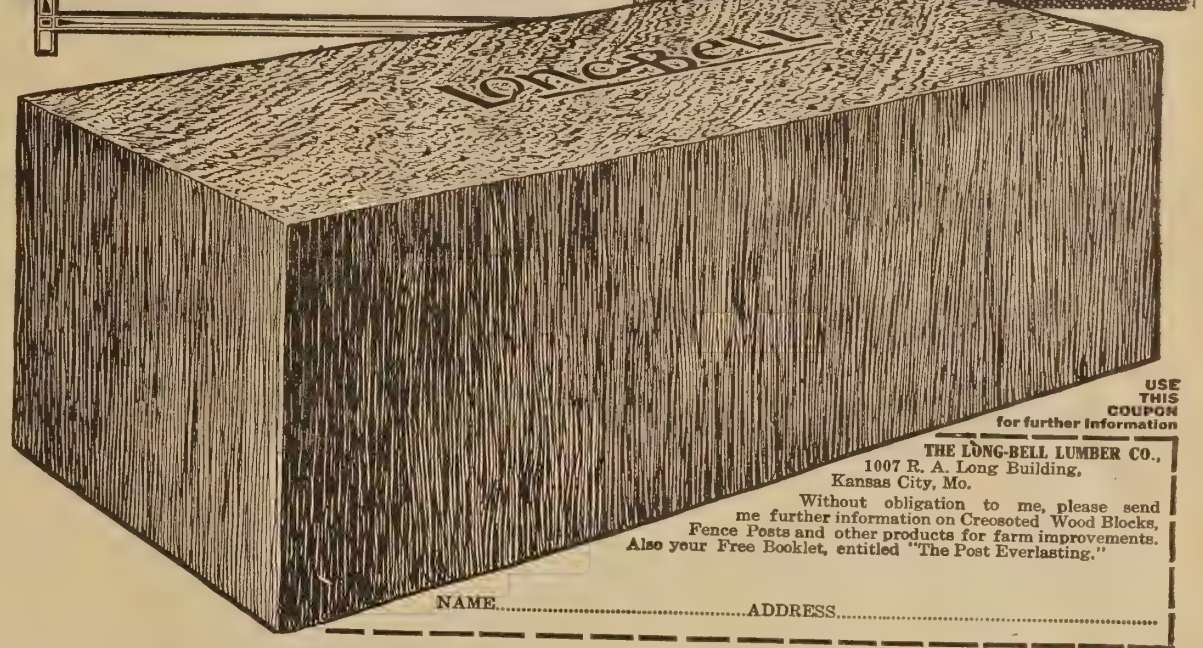
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The Long-Bell Lumber Company
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Creosoted Yellow Pine Wood Blocks, Ties, Lumber, Timbers, Posts, Poles, Piling; Southern Pine Lumber and Timbers; Oak and Gum Lumber; Oak Flooring; California White Pine Lumber; Sash and Doors; Standardized Woodwork







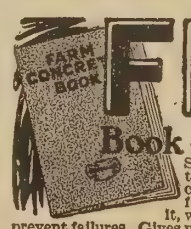
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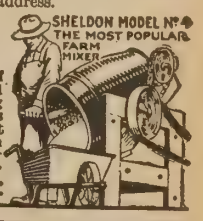
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Sheldon's free book gives you the "Know How" of Farm Concreting. Tells how to make forms, place concrete, reinforce it, what mixtures to use and how to prevent failures. Gives necessary facts on construction of walls, tanks, floors, etc., giving diagrams and plans. Brimful of valuable ideas. Gives you **Free** the benefit of our years of experience in farm concreting. Get copy today; send your name and address.

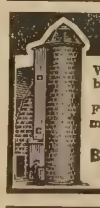
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"Take the Backache Out of Concrete" with the best and lowest priced farm concreting outfit on the market. Saves time, money and labor. Don't buy till you have seen Sheldon Catalog and prices. Send for Catalog and **Free** Concrete Book today.

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435 Main Street, Nehawka, Neb.

"B-V-T" Silo

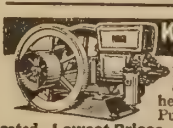


Will last forever. You will never have to rebuild it! Neither will your grandchildren. Built from the famous BRAZIL VITRIFIED FIRE CLAY. The "B-V-T" has been on the market **nine years without a failure.**

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KEROSENE ENGINES
OTTAWA LATEST DESIGN



Durable, Powerful, Reliable, Massive. Built to last; to do hard heavy work. Uses Cheapest Fuel. Pull ¼ to ½ horse-power more than rated. **Lowest Prices. 3 Months Trial. Easy Terms.** Sizes 1½ to 22 H-P. Easy to start. No cranking. No batteries. **10 Year Guarantee.** Most practical engine ever built. Engine book free. A postal brings it.

THE OTTAWA MANUFACTURING CO.
1521 King Street, OTTAWA, KANSAS



Cut the Cost of Milking And preserve your profits

LET one man do the milking that three men did before and you'll make more money even in times when the other fellow is finding it hard to "break-even."

Hand milking always has been wasteful—always has been slavish drudgery—never has been natural. Nature intended milk to be suckled out like a calf does it and that's the way a Sharples works.

No other milker has a positive squeeze. No other milker even squeezes the teats out of round. No other milker uses compressed air. Sharples patents protect this absolutely.

Most cows give down more milk to the gentle comfortable Sharples suckling action than they do to hand milking. They like it and it increases the milk yield.

The Sharples is made in two types. Our Pipe Line Milker (for large or small dairies) is now in satisfactory use on over one million cows and is to be found in nearly every country in the world. Our new Moto Milker is an electric, portable milker made especially for six to twenty cow dairies that have electricity. No installation is necessary—simply wheel it in the barn and milk. It will run from a farm lighting plant. Both machines have the same gentle suckling action on the teats and the intermittent squeezing by Compressed Air (patented).

A Sharples will cut your milking costs and increase your profits from the start. Let us send you our descriptive booklet. Sent free.

THE SHARPLES MILKER COMPANY
WEST CHESTER, PA.

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Saves time—clears your desk. Sorts, classifies and distributes your correspondence, papers, memos, etc. Occupies much less space than wire baskets. No more shuffling through piles of papers many times daily.

A Steel Sectional Device

Each compartment a separate section. Any number of compartments for flat or vertical filing can be added as required. Width of each compartment is adjustable, one to ten inches. Indexed front and back. Green, oak or mahogany finish.

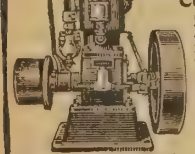
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4 H. P. **Light Weight Engines**



Cushman Engines weigh only 40 to 60 lbs. per horsepower. Easy to move around from job to job. They deliver four times as much power per pound as ordinary farm engines.

Saves a Team Saves the Crop

WEIGHS ONLY 190 LBS.

The Cushman 4 H. P., on the binder, saves a team, two horses easily pulling an 8-foot binder in heavy grain. A Cushman saves the crop in a wet season, as the engine enables you to cut grain in a wet field, when the slipping of the bull-wheel would make it impossible without the Cushman.

Equipped with Throttling Governor, Carburetor, Friction Clutch Pulley and other extra equipment not supplied with ordinary engines.

Cushman 2-cylinder Engines—8 to 20 H. P.—make wonderful power for silo-filling, grinding, sawing, threshing and all other farm jobs. **Ask for free book on Light Weight Engines.**

Cushman Motor Works, 817 N. 21st St., Lincoln, Neb.

Auto Owners WANTED!



To introduce the best automobile tires in the world. Made under our new and exclusive Internal Hydraulic Expansion Process that eliminates **Blow-Out—Stone-Bruise—Rim Cut** and enables us to sell our tires under a

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We want **an agent** in every community to use and introduce these wonderful tires at our astonishingly low prices to all motor car owners.

FREE TIRES for YOUR OWN CAR

to a representative in each community. Write for booklet fully describing this new process and explaining our amazing introductory offer to owner agents.

Hydro-United Tire Co.
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White's Weather Prophet forecasts the weather 8 to 24 hours in advance. Not a toy but a scientifically constructed instrument that works automatically. It's handsome, reliable and everlasting.

An Ideal Present

Made doubly interesting by the little figures of Hansel and Gretel and the Witch, who come in and out to tell you what the weather will be. Size 6½ in. x 7¾ in.

Agents Wanted Fully guaranteed. Postpaid to any address in U. S. or Canada on receipt of **$1.25**

DAVID WHITE, Dept. 54, 419 E. Water St. Milwaukee, Wis.

DAIRY MARKET NEWS

Cheese Markets Lack Steadiness

[Report by U. S. Bureau of Markets.]

Dullness in cheese markets the previous week developed into weakness during the week ending March 26th. Reports from all sources, both wholesale and distributing markets, and primary country markets in Wisconsin indicated that buying was practically at a standstill, and that goods were not moving at current asking prices. Receipts of fresh cheese were irregular, being only about sufficient at eastern markets to take care of a limited demand, but heavy enough at Chicago to accumulate considerable stocks.

Following the drop at Plymouth on March 21, which averaged about 2c on different styles, business at Wisconsin primary markets was even less satisfactory than the previous week. Some dealers report the markets there as almost demoralized, and state that southern distributors are not buying at any price. This is due partly to anticipation of lower markets, and also to generally discouraging business conditions. Other Wisconsin dealers report practically no sales, but that some cheese has been shipped on consignment.

The average wholesale prices on American cheese (style Twins) for the week ending March 26, 1921, and for the corresponding week a year ago, were as follows:

	Week ending March 26 1921	1920
	cents	cents
New York	27.7	29.2
Chicago	23.2	28.9
Boston	24.6	30.5
San Francisco	22.9	27.9
Wisconsin	23.1	29.0

The total receipts of American cheese at these markets were 2,924,420 lbs. as compared with 3,158,286 lbs. a year ago, and 2,533,940 lbs. a week ago.

Butter Markets Steady

(Report by U. S. Bureau of Markets)

The supply of fresh butter during the week ending March 26 was just light enough to stop the recent price slump and to hold the market fairly steady. Domestic receipts on the four markets were slightly heavier than during the previous week, but no new Danish cargoes arrived at New York and buying of butter was on a little broader scale.

Advices from New York during the week frequently mentioned 93 score and even 94 score Danish. Some of the lots are said to have scored 95. This is rather a remarkable showing and in the face of considerable complaint heard on the markets about poor lots of domestic makes, the competition appears all the more serious. Danish butter was reported as being offered and well received on Boston and Philadelphia markets. Philadelphia has heretofore found little favor for it. Some of the last shipment was in 56-lb. boxes, a fairly saleable package. Of course, it must be remembered in connection with our recent domestic make, that cream producers have not as yet adjusted themselves to the unusually warm weather this season. There was a real scarcity during the past week of butter scoring around 89 to 90, especially on Eastern markets. Sale of storage was further crippled by the liberal offerings of Danish.

Pacific Coast markets have declined considerably; San Francisco reported as low as 36c. So far, but little butter has been sold for shipment east. The Chicago market is the only other market which showed a decline for the week. At the close there was but little change in tone, possibly little more firmness on the surface but with the undertone still weak and unsettled.

The average wholesale prices on 92-score butter at five of the principal markets for the week ending March 26, 1921, and the corresponding week a year ago were as follows:

	Week ending March 26 1921	1920
	Cents	Cents
New York	46.2	67.7
Chicago	45.0	65.3
Philadelphia	47.0	68.7
Boston	46.3	69.0
San Francisco	35.5	59.0

The receipts of butter at these markets were 8,414,686 lbs. as compared with 8,248,189 lbs. a year ago and 7,777,231 lbs. a week ago.

New York Butter Market

NEW YORK CITY, MARCH 29:—Constant changes in butter prices are inevitable because of the very sensitive condition which prevails in the market at all times. There is a very large consumptive demand at present and domestic receipts are moderate, a condition which favors a firm, steady market ordinarily. However, heavy receipts of foreign butter constantly tend to keep the market in a state of turmoil and there is no method whereby future developments, even but a few hours off, can be forecasted as marked periods of weakness or strength develop unexpectedly. The foreign butter is quite welcome in the market at the present time as the domestic supply would be insufficient to supply the demand. Market conditions are singularly peculiar at present as even during times of apparent weakness practically all the butter that arrives leaves the receiver's hands shortly after delivery.

The long expected Oscar II reached port Saturday and its cargo of Danish butter, consisting of 18,865 casks and 468 boxes, aggregating more than 2 million pounds, was unloaded on Sunday and Monday. The availability of that butter was responsible for the price decline on Monday. However, the cost to the buyers was greater than could be realized for the butter on Monday which resulted in the butter being withdrawn from sale on that day. The result was that the supply of domestic butter was not sufficient to meet the demand and the price advanced today. The Danish butter is now moving freely at prices on a par with the quotation on extras.

Another boat, the United States, carrying a cargo of approximately 6,600 casks and boxes of Danish butter is expected the last part of the week. Following that, no more heavy shipments of Danish butter are expected because of the fact that France and England, particularly France, are now taking the greater part of the Danish surplus at prices which are higher than can be secured in this country. It was not expected that large

Carload Prices of Hay and Feed at Important Markets March 26

(In dollars per ton)

Commodity	New York*	Philadelphia*	Baltimore*¶	Richmond*	Atlanta	Jacksonville	Memphis*	New Orleans	Cincinnati*	Pittsburgh*	Chicago*	Minneapolis*	St. Louis*	Kansas City*	Omaha*
HAY															
Timothy and clover:															
No. 1 Timothy	31.50	25.00	.....	28.00	31.00	31.00	27.00	30.00	24.50	25.00	25.00	19.00	27.00	19.00	.....
No. 1 Clover, mixed	26.50	22.00	20.50	25.00	29.50	27.50	.....	.....	20.50	20.50	20.00	16.50	23.00	†16.75	.....
No. 1 Clover	24.00	.....	17.50	26.00	.....	.....	.....	.....	20.00	20.50	20.00	17.00	21.00	†13.75	.....
Alfalfa:															
No. 1 Alfalfa	.....	.....	.....	.....	32.00	32.00	27.50	.....	24.00	.....	24.00	20.00	23.00	20.00	19.00
Standard Alfalfa	.....	.....	.....	.....	29.00	.....	25.50	27.00	22.50	.....	21.00	19.00	20.00	18.25	16.00
No. 2 Alfalfa	.....	.....	.....	.....	28.00	.....	20.50	24.00	17.00	.....	17.50	17.00	16.00	14.75	11.00
FEED															
Wheat Bran:															
Spring	30.00	29.00	30.00	30.00	31.00	30.00	.....	.....	26.00	28.50	21.00	19.00	.....	.....	.....
Soft Winter	30.50	31.00	31.00	31.00	32.00	32.00	24.00	.....	27.00	31.00	.....	.....	23.00	.....	.....
Hard Winter	30.00	30.00	.....	.....	31.00	.....	.....	30.00	26.00	29.00	.....	.....	23.00	†19.00	20.00
Wheat Middlings:															
Spring (Standard)	28.50	27.50	28.00	26.50	30.00	30.00	.....	.....	26.00	27.00	20.00	18.00	23.00	.....	.....
Soft Winter	.....	33.00	32.00	32.00	33.00	34.00	.....	.....	28.50	30.00	.....	.....	28.00	.....	.....
Hard Winter	.....	.....	.....	.....	30.00	.....	.....	.....	26.00	30.00	.....	.....	25.00	.....	.....
Rye Middlings	.....	25.00	.....	25.00	.....	.....	.....	.....	25.00	24.00	16.00	17.00	.....	.....	.....
High protein meals:															
Linseed	46.00	44.00	.....	.....	.....	.....	.....	.....	43.50	42.50	43.00	40.00	44.00	46.00	43.00
Cottonseed (41 per ct)	.....	35.00	.....	.....	.....	.....	27.00	33.00	.....	34.50	.....	36.00	30.00	31.00	.....
Cottonseed (36 per ct)	.....	32.50	.....	32.00	27.00	28.00	25.00	31.00	29.50	32.00	32.00	34.00	27.00	.....	.....
No. 1 Alfalfa me'l (med)	34.00	.....	31.00	.....	29.00	30.00	23.00	29.00	24.00	.....	24.00	.....	21.00	†19.00	18.50
Gluten feed	.....	44.21	42.00	.....	.....	.....	.....	.....	40.30	41.43	37.00	.....	40.00	.....	.....
Hominy feed (white)	30.00	30.00	28.50	30.00	32.00	.....	.....	28.00	26.50	27.00	22.50	.....	23.00	.....	19.00
Ground barley	.....	40.00	.....	.....	.....	.....	.....	.....	30.00	.....	32.50	23.00	.....	26.00	.....
Beet pulp	29.00	31.50	32.00	.....	.....	40.00	.....	.....	34.00	30.00	.....	45.00	.....	.....	.....

*Hay quotations represent average of cash sales at these markets. †Nominal.

Straw—Oat and wheat straw is in good request in Omaha. Oat straw is easier in Baltimore with other kinds steady and unchanged. In Chicago oat straw is scarce and wanted. Cincinnati dealers expect the usual good demand for rye straw next month when the horse racing season opens at Latonia, Ky. Quoted prices are: Wheat straw, $18 Philadelphia, $14.50 Baltimore, $15 Richmond, $15 Pittsburgh, $12.50 Chicago, $8 Omaha; oat straw—$18 Philadelphia, $16 Baltimore, $15 Pittsburgh, $13.50 Chicago, $8 Kansas City, $9 Omaha; rye straw—$20 New York, $19 Philadelphia, $17 Baltimore, $15.50 Pittsburgh, $14.50 Chicago.

shipments would be forthcoming during the coming summer months because of the scarcity of refrigeration space in boats plying between Denmark and this country. It is very probable that Danish butter receipts will be so small as to be almost negligible during the coming months. It is interesting to note the quantity of Danish butter that has been imported into this country since January 1. The total quantity marketed in this country since that time is 73,388 casks, 2,510 boxes, and 50 tubs aggregating 8,363,116 pounds Of that quantity 34,400 casks and 1,288 boxes, aggregating 4 million pounds, were received in March Other imports of foreign butter during the last three months approximate 1¼ million pounds, the origin of which was the countries of Holland, New Zealand, and Argentine. The quality of the Danish butter in the recent shipments has been excellent. None of it has scored lower than 93 points and the official inspection of large quantities of it showed some of the butter to score 95 points. It is not to be wondered at that the consumer is beginning to demand Danish butter.

Established quotations today are as follows: Extras (92 score), 45½@46c; higher scoring than extras (93 score), 46¼@47c; firsts (90—91 score), 44@45c; firsts (88—89 score), 42½@43½c; and seconds (83—87 score), 37@42c.

W. B. LIVERANCE.

Dairy Markets

CHICAGO, Mar. 31—Butter—Creamery, extras, 44½c; standards, 42c; dairy, firsts, 38@43½c; seconds, 30@35c.

Eggs—ordinary, 20@21c; firsts, 23½@24c.

Cheese—Twins, 24c; Young Americas, 25½c.

MILWAUKEE, Wis., Mar. 31—Butter—Creamery, tubs, 44c; prints, 44½c; extra firsts, 41@42c; firsts, 38@40c.

Eggs—Miscellaneous receipts, country candled, cases included, 23½c; cases returned, 22½c; seconds, 19@20c; checks, 18@19c.

Cheese—Twins, 22@22½c; Daisies, 23½@24c; Young America, 24@24½c; Longhorns, 23½@24c; Brick, 19@20c; Limburger, 27@28c.

NEW YORK, Mar. 31—Cheese—Quiet; state milk; common to specials, 18@29c; skims, common to specials, 5@19½c.

Butter—Firm; receipts, 7,091 pkgs.; creamery, extras, 46c; state dairy, tubs, 28@45½c; imitation creamery, prints, nominal.

Eggs—Firmer receipts, 39,888 cases; nearby white fancy, 38@39c; nearby mixed fancy, 25@34c; fresh firsts, 26½@31½c.

SHEBOYGAN FALLS, Wis., Mar. 29—On the Wisconsin cheese exchange at Plymouth on Monday twenty factories offered 2,876 boxes of cheese. All sold as follows: 100 boxes Twins at 19c; 50 boxes at 19½c; 1,100 boxes daisies at 20¾c; 400 boxes at 21c; 100 boxes at 21⅛c; 150 boxes Double Daisies at 20c; 100 boxes at 20¼c; 651 cases Longhorns at 21c; 325 boxes square prints at 21c. Compared with a week ago these prices show a sharp decline of 2¾c on Twins, 2½c on Daisies, 2¼c on Double Daisies, and 3c on Longhorns and squares.

Washington, D. C., Weekly News

[Special to Hoard's Dairyman.]

WASHINGTON, D. C., MARCH 28—Mr. Rawl, accompanied by Dr. C. W. Larson, now chief of the Dairy Division, has just returned from a trip to the demonstration farm of the Bureau of Animal Industry at Iberia, La. The "round-up" held there last week was a great success, they report, attended by many farmers and by extension workers, and the dairy and animal industry in general seems to be attracting much favorable attention in the section of which this is the center. They report especially the awakened interest in the Louisiana State College of Agriculture at Baton Rouge, supported by the Severance tax, which is providing much increased revenue, has already added a thousand-acre farm to the college equipment, and is planning new buildings, new courses, and generally increased efficiency and service.

No news yet of the neutralizer ruling. Neither is there any change yet as Commissioner of Internal Revenue, although the political gossips are busy with the place. There is some reason to believe that Secretary of the Treasury Mellon, who is the real power now in both matters, is likely to be so busy with those matters which involve the preparation and consideration of legislation on the prohibition, income tax, and other tax problems, that there is likely to be a continued delay of several weeks.

The gossips are busy with the appointments to be made of successors to Chief Alsberg of the Bureau of Chemistry of the Department of Agriculture, of a successor to Floyd H. Harrison, assistant to the secretary, and of the two new directors to be named effective July 1st, director of research, and director of administration. At this writing the situation, officially, is no appointment likely to fill the assistant to the secretary vacancy; no appointment decided on for Chief of Chemistry, but many applications received and all being given careful investigation; no decision on either directorship, but organizations interested being asked to submit recommendations for both positions and appointment not to be made until careful consideration has been given men for the positions.

The two weeks in April beginning April 11, are to be big weeks in Washington for agriculture. First of all, Congress meets and the president's first message will give the country his state of mind on many things, probably on the agricultural problems. Then the Farm Bureau Federation is to open a meeting that day on legislation, with representatives of all the state federations and the executive committee to be present. April 12 the officers and executive committee of the Milk Producers' Federation are to convene and April 13 the National Grange officers and executive committee meet. April 14, a conference of farmer organization leaders has been announced. The same day the representatives of the All-American Farmer Labor Co-operative organizations will meet at the LaFayette hotel. April 10 the Farmers' Union is to hold a mass meeting. And on the same day the representatives of the newly organized National Association of Farm Loan Associations meet for its first session, formal organization, election of officers, and to determine its legislative and administrative program.

DODGE BROTHERS
MOTOR CAR

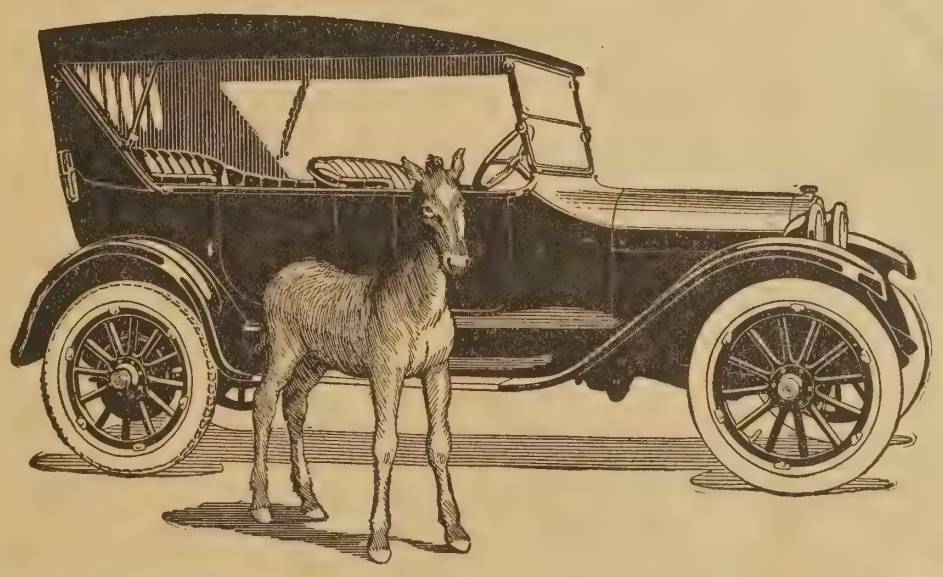
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"Is yo' all goin' to the pa'ty Sat'day night, Rastus?"

"I ain't says I ain't, is I?"

"Looky heah, nigger! Nobuddy ain't askin' yo' is yo' ain't—I'se askin' yo', is yo' is!—Ex.



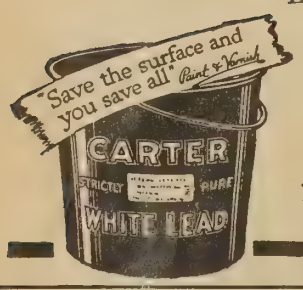
Will you pay the painter ***now*** and ***keep*** your buildings new and sound and attractive to look at?

—or will you delay and then pay the carpenter to patch and mend those surfaces when they have been too long bared and exposed to rot and decay — BESIDES the cost of painting at THAT time?

Decide this question ***now—today***—and prepare to paint ***this Spring*** everything on your property that needs painting. Remember, money lost by damage to paint-worn lumber by sizzling heat and freezing cold ***cannot be recovered on any insurance policy.***

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NOW IN EFFECT

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The Larrowe Milling Co.
Detroit, Mich.

How Gurnee Solved the Rural School Problem

(Continued from page 487)

use of a large wood working room, with 16 fully equipped carpenter's benches. Then, there is a blacksmith shop with six forges where the future farmers of Lake County are taught the rudiments of iron working. The subjects being studied here are naturally those arising out of agriculture itself.

The girls who study domestic science are just as fortunate as the boys. They have one of the most completely equipped kitchens in any high school in Illinois. They are taught cooking on modern electric ranges, and have the use of a most complete outfit of equipment, all of which is in keeping with the highest standards of this department. Here the future farm wives are taught food values, the proper selection of food, how to prepare balanced meals that are both satisfying and appetizing.

Last year, the Agenda Domestic Club began serving hot lunches intended merely to supplement the cold lunch brought from the farm home, for many of these students come from miles away, some driving automobiles, some with horses and buggies. This year, the lunch is organized on the cafeteria plan and a full meal is served with the aid of very little outside help.

This school gives opportunity for normal expression of all the normal, human instincts growing out of the desire for sociability, as well as meeting the mental and physical needs of the boys and girls enrolled as students.

Whoever heard of a country school athletic club? Yet, here we find one which is most successful, meeting with an average attendance of 25, once a week, playing basket ball, volley ball, and other games, in a gymnasium room which would do credit to a city of 10,000 people. When the principal, Mr. H. B. Henley, was asked if the young folks did not use this excellent gym floor a great deal for dancing, he replied: "Well, not as much as you might imagine. It is true a few of them like to dance once in a while, but we have so many other activities which they are so much more interested in that they don't seem to care very much for dancing. And it is the same with motion pictures. We have been thinking of installing a first class motion picture outfit in our auditorium, but we are not sure just yet that we want one. We could have one if we should simply say we wanted it, but our young folks, as well as the older ones, find so many other activities here and so many things to do they don't seem to have much interest either in dancing or motion pictures."

Can you read those words of Professor Henley without being struck with their significance? The pessimist who believes the country is going to the dogs because our young people can do nothing but dance or go to motion picture shows will at least see in this condition at Gurnee a ray of hope!

A group of about fifty men and women meet togther informally once a week to study community problems. Just now they are reading together "The Community Center". They have no real organization, but a community center organization undoubtedly will grow out of the activities of this club. The meetings are most informal, a prominent place being given to the social side, as well as to the refreshments, which usually form a part of the evening's attraction.



A "GYM" CLASS IN A GYMNASIUM ROOM WHICH WOULD DO CREDIT TO A CITY OF 10,000 PEOPLE

The school and those interested in the community provide an annual lyceum course of at least five numbers which is conducted with great success. Occasionally an evening is given over in part to community singing under the leadership of a competent director.

The school auditorium is provided with a stage sufficiently large and with the kind of scenery which lends itself to the production of home talent plays and entertainments open to the public and thoroughly enjoyed. There is an occasional banquet put on by the Agenda Club and the Ag Club, at frequent intervals there is a social for the young people, and literary programs are given in the high school every two weeks on Friday afternoon, to which the public is always



COMPLETE EQUIPMENT FOR MANUAL TRAINING

welcome, and the number of visitors is usually large.

Real extension work is being planned by Professor Henley and the Board of Education, which means that some of the good things enjoyed by the school itself in Gurnee will be taken to some of the outlying points of the country, resulting both in a more intelligent interest in rural problems in the points visited, as well as a greater appreciation of and interest in the consolidated high school.

The school publishes its own school paper, printed in the school print shop by the students who are studying printing. Besides this, some printing of a commercial nature is done for persons residing in the community. The practical phases of the subject are the only ones considered, the presses and the assortment of type being quite sufficient for a variety of work.

Plans are already under way for a Community or Patron's Day to be held in the spring. At that time, there will be a most credible exhibit of school work, a program of drills and pageants with a field day for boys from all of the grade rural schools in the township.

Last fall this school's exhibit at the state fair at Springfield won first honor in class of high schools, and also the sweepstakes in the entire school exhibit, and the exhibit next year will surpass that of 1920.

There is an annual May Day program. This year it will consist of a musical festival and community play given by community talent.

When Professor Henley was asked the secret of the school's success, he replied: "I think the secret of whatever success we have here lies, not in the things done, but in the fact that we try to do something that will interest everyone, and the spirit of cooperation on the part of the people of the community. I presume this spirit is the outgrowth of community service."

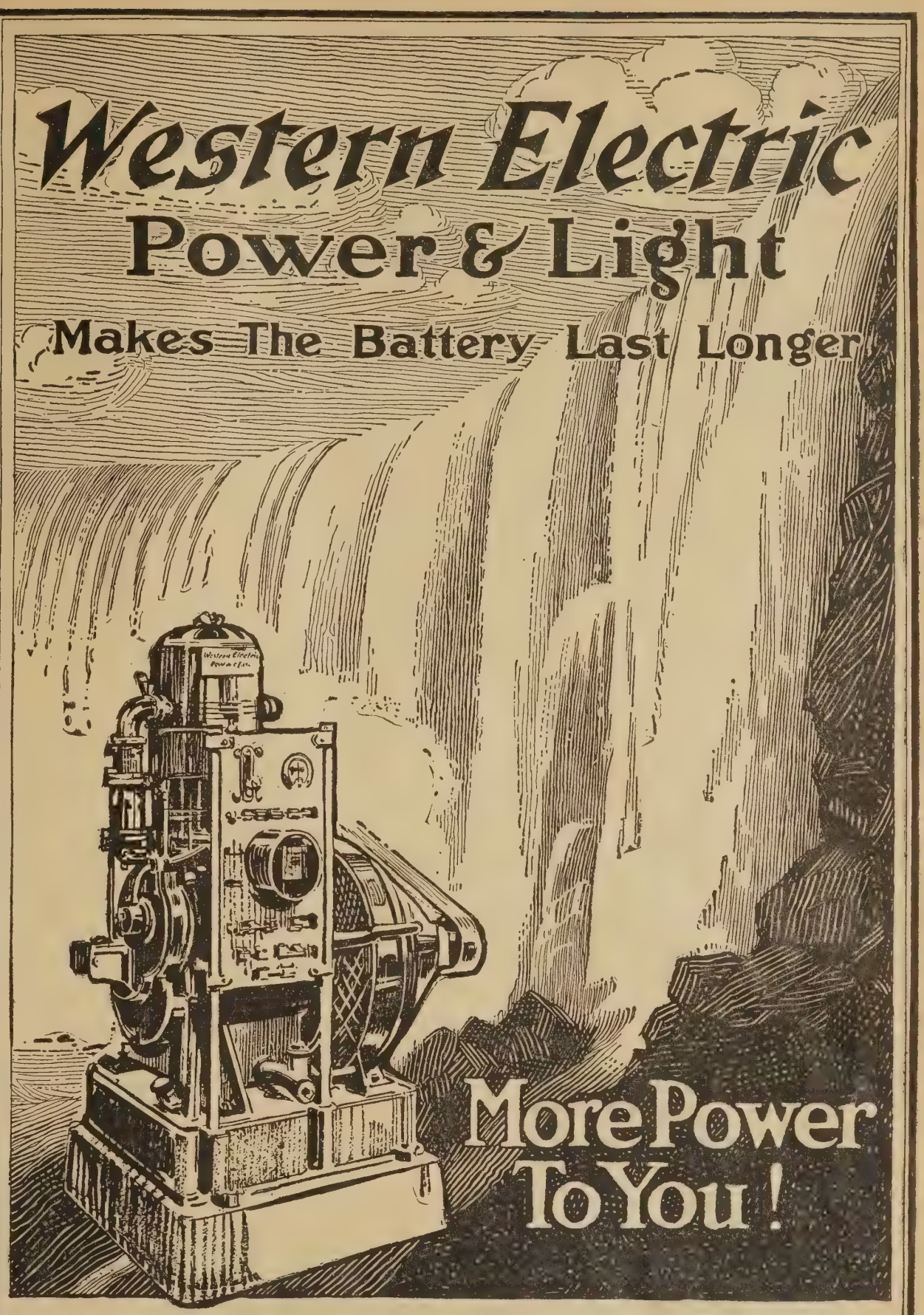
The beautiful thing about it all is there is nothing strained or forced about any of the programs or school activities. Everything seems to be perfectly natural, everybody is perfectly happy and contented, yet striving for personal and community betterment. Let the rural pessimist journey to Gurnee, Illinois, and he will become an optimist. Let him, who is discouraged over the proper solution of our rural problem, make this same pilgrimage, and he will be increasingly hopeful for the future of American rural life.

Dairy Production of Quebec

The preliminary report on dairy production in Quebec shows that there were in operation 1,813 creameries and cheese factories in 1920, a decrease of 54 during the year. The number of cows supplying these factories is 595,486, an increase of some 34,000 cows. There were 37,681,366 lbs. of butter manufactured, an increase of about two and one-third million pounds over the previous year. There were 52,441,504 lbs. of cheese manufactured, a decrease of over five and one-half million pounds. The average price of butter was 55.8 cents, an increase of not quite ½c a pound over the previous year. The average price of cheese was 25.4c in 1920, a decrease of nearly 1c per pound. The total value of both butter and cheese amounted to $35,708,603.

Birds are good neighbors. Nest boxes should be in place for them. A bird bath for the hot days of next summer might be planned now.

Sloth, like rust, consumes faster than labor wears.—FRANKLIN.



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This extra powerful Outfit with the pulley does a man's work for a few cents a day, running pretty nearly all your machinery. It saves your time in the bargain—and for a farmer certainly time is money.

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LIGHT—strong—humane! Cannot possibly injure cow or calf. Being made with a hinge-joint, it swings out of the way when calf eats or drinks, but **absolutely prevents sucking.**
Extremely easy to put in place. Endorsed by dairymen everywhere.
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Sent Prepaid: Calf size 45c: Cow size 60c
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PATD. AUG. 16, 1910

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THE "BUCKLEY" DEVICE
Is the leader. Why not use the best? Write to the manufacturers for a descriptive circular.
Poughkeepsie Foundry & Machine Co.,
POUGHKEEPSIE, N. Y.

Waukesha County Dairy Show

Waukesha County, Wisconsin, is undoubtedly better known among dairymen and dairy cattle breeders of the country than any one other county in the United States. It isn't because she has so many dairy cattle, for there are several other counties in the state with practically as many or even more. Neither is it simply because her cattle are good ones. It's the men who own those cattle that have done it. They not only have good cattle and know it, but they have left nothing undone to let other people know it. The Waukesha Dairy Show is one result of this Waukesha County characteristic.

Two years ago the leading breeders of the county felt that their county should have some kind of a fair or exhibit. They did not, however, apparently take kindly to the idea of ordinary county fairs like those held in 999 other counties so they conceived the idea of a county dairy show.

The first year it was decidedly a success, last year it was better, and this year it showed an even greater improvement. The showing of dairy cattle was one that would have done credit to any state fair, in fact, it included several of the winners from the big circuit of 1920. There was a good exhibit of sheep and swine; dairy products, grains, and vegetables had a place, and commercial exhibitors took all the space they could get, even to the extent of a large tent which housed the automobile and machinery exhibit.

The only serious criticism one could make of the show was a lack of space. It has outgrown the sale pavilion which housed it, but the proposed addition to this, which is expected to be built during the coming year, should do much to overcome this difficulty.

The Cattle

The dairy cattle exhibit this year was not larger than last, but it was only the limited space which prevented a very considerable increase in numbers. The committee in charge realizing that this difficulty had to be met, limited the entries to not more than eight from a herd and no more than two of them in a single class. The result was 135 head owned by 31 exhibitors, with the Holsteins and Guernseys well in the lead showing 53 and 41 head respectively.

Axel Hanson of Minnesota did the judging.

Seventeen Holstein exhibitors brought out an excellent showing with good competition in 13 of the 14 classes. Six yearling bulls made the best as well as the largest class among the males.

King Pontiac Parthenia Champion, owned by Wieffenback and Boller, and Sir Fobes Canary Ormsby Skylark from Riverdale Farm were particularly good ones and either of them would have been a creditable champion at a much larger show. The former had an advantage in size, more style, and enough better type to enable him to win out not only in his class but as junior champion over Bonair Farm's senior calf and Sir Segis Ormsby Bess, Aitken Bros.' junior calf. He was, moreover, good enough to beat the senior champion, Hengerveld Banostine Gerben, Finkler's aged bull entry for grand championship. The latter defeated Hartog Gerben Colantha, Bonair Farms' winning two-year-old.

Competition in the older female classes was far from interesting, Aitken Bros. owning the aged entries and Geo. Barte the only two-year-old shown. Doetje Nellie was the best aged cow as well as senior and grand champion.

The young classes were better filled with 8, 9, and 11 entries, and plenty of competition in each of them. Ormsby Queen Keyes, owned by Aitken Bros., and Bonair Princette Ormsby from Bonair Farm furnished particularly keen competition in the yearling class. Judge Hanson favored the former and later made her junior champion over Bonair Pearl Fytze Ormsby 2nd and Cloverdale Bess Ormsby, the winning senior and junior calves owned by Bonair Farm and Jno. J. Roets & Sons, respectively.

Aitken Bros. won the blue in all of the group classes.

Seven exhibitors brought out the 41 Guernseys and no one of them had things his own way, although in the end Goodhand Kingston and Son carried away 7 of the blue ribbons out of 10 for which they competed.

Imp. Itchen May King, owned by Fox and Kingston, was a popular winner in the aged class in spite of a slight lameness and nothing in any of the other classes was good enough to beat him for either senior or grand championship. C. J. & W. A. Connell's Belgrade of Beaver Ridge was the best two-year-old bull in a class of three.

Moede & Koebler, beginners, and with but two entries at the show, carried off junior championship with their junior calf, Rex'es Chief of Maple Hill, defeating Steadfast of Muskego and Aristocrat of Muskego, both owned by Kingston & Son.

The Guernsey female classes were the most interesting of the show. Some of them were smaller than similar Holstein classes but, as a whole, the entries were much more evenly matched.

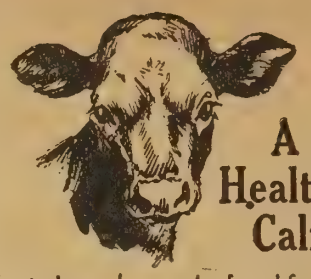
A few years ago when J. R. Love & Son bought Imp. Fawn of Sarnia for $180 they were not figuring particularly on a show cow, but she looked so good in her class that Judge Hansen had to put her first. F. E. Fox's Forest's Ramee of Hawthorne was her closest competitor in the aged class, but she lacked the substance to win. The old cow was a good senior champion over Benton's Mabel of Waukesha, the winning 2-year-old owned by F. E. Fox.

Among the junior entries, the very best one was Aviator's Jewel of Waukesha, an especially good junior calf, owned by Fox. She was an easy first in her class and a popular junior champion, but lacked the age to defeat so good a one as Love's cow for final honors. Kingston's Hopeful's Miss of Sunny Slope was first in the yearling class and among the senior calves J. M. Harvey's King's Emerande of Utility stood first. Goodhand Kingston & Son won first in each of the four group classes.

Three exhibitors, John Kaderabek, Phil. H. Jones, and John Swartz, with 17 entries made the Brown Swiss showing much better than a year ago. Kaderabek's Cincey's Nick was the only aged bull shown. He defeated Jones' two-year-old Mabel's College Carl for senior championship and won grand championship as well.

Stephen of Bryn-Coed, Jones' winning junior calf was junior champion.

Alice of Bryn-Coed from the same herd, was first among 4 aged cows, senior champion, and grand champion over Kaderabek's Ginger K. of Villa Pine, the winning junior calf and junior champion. Jones also won



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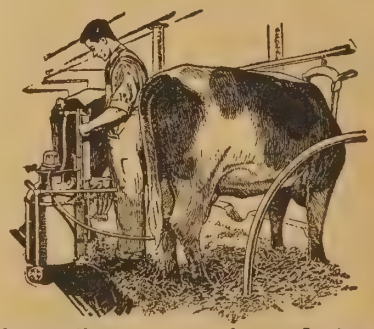
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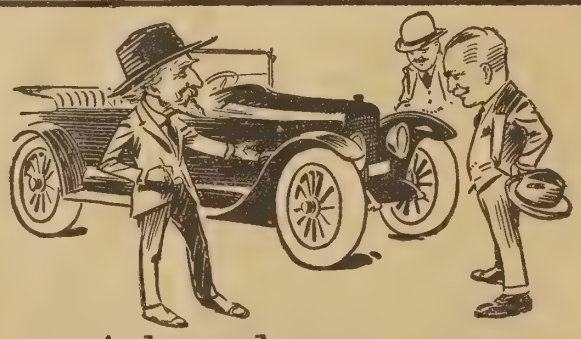
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Wife was considerably fussed. Declared the car wouldn't be fit to use. When I opened the door, there it was, just wreathed in smiles, and hard as you please.

Maybe we didn't feel all puffed up, when a lot of the folks at the picnic, accused us of buying a new car.

When a fellow can buy a couple of quarts of Lowe Brothers Auto Varnish Color for $4. and put it on the car himself, Thursday, and use his car, Saturday, looks like everybody who wants to, can have a new car. You can get this Auto Varnish Color down at the paint store. Comes in 11 colors. No trick to put it on, or I could never have done it.

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first on his senior calf, Judy of Bryn-Coed, but in the yearling class both he and Kaderabek had to give way to Swartz with twin entries, Twin Ada No. 1 and No. 2, first and second place winners.

Miss Clara Barker, Wm. Knight, and Julian Ries entered the sixteen Jerseys at the show. The latter had but one entry, Noble Majesty Raleigh, the only aged bull shown, but he managed to win both senior and grand championship on him.

Knight owned the only other bull entries, a two-year-old and a senior calf.

The three female championships were won by his senior and grand champion cow, Majesty's Golden Bessie and the junior champion senior calf.

Miss Barker showed the winning two-year-old heifer and junior calf.

When it came to Ayrshires, Adam Seitz and Sons had everything their own way, the only competition being in one class where they had two entries, and for four of the championships. No bulls over a year old were entered. Cavalier's Ping Pong was junior and grand champion bull, Cavalier's Ella, a senior calf, was junior and grand champion female, and Buttercup's Perfection was senior champion.

Blue Earth Co., Holstein Sale

The Holstein breeders of Blue Earth County, Minnesota, are never quite satisfied to hold a sale just as other counties do. They make their sales a get-together time as well as a sale. They're worth while attending.

This year their third consignment sale was held at Mankato. On the evening previous a very well attended smoker was held at which a registered heifer was raffled, going to a junior member of the firm of F. H. Sohre & Sons.

Fifty-one registered Holsteins were sold on March 22 for a $300 average with the females averaging just over $400. Top price of the sale was $1,200 paid for a two-year-old daughter of S. P. O. M. 14th bred to Ormsby Korndyke Lad 8th. She was consigned by Marlow & Randall and purchased by H. E. Salsbery & Brush Bros. of Minnesota.

Ten grade females including a heifer calf and several open yearlings sold for $1,250. The top priced grade, which brought $220, had a C. T. A. record of 544 lbs. fat.

The Minnesota Holstein Breeders' Association managed the sale, Sec. Scott in the box.

Following is a list of those animals selling for $300 or more and buyers:

C. A. Bartheleing, Minnesota	
Mankato Johanna Ormsby Bess	$700
Mankato Colantha Ormsby Bess	650
Lilamere Bonnie Clothilda	760
Mankato Mechthilde Ormsby	650
Acme Alice Spofford	410
Lady Pietertje Piebe	400
Far Oakes Lily Ormsby	300
Miss Korndyke Gerben Ormsby	430
Mankato Bess Burke Ormsby	475
Olathe Aaggie De Kol 2nd	700
W. Wiechman, Minnesota	
King Colantha Ormsby Bess 12th	$300
Schermerhorn Farms, Iowa	
Model Wayne Boon	$360
Chas. Hill, Minnesota	
Salsberry Lockhart Minnie	$425
Lakeside Lockhart Minnie	350
St. Olaf College, Minnesota	
Olga Nelson Segis Homestead	$515
Mankato Canary Ormsby Bess	630
T. E. Gage, South Dakota	
Johanna Tritomia Mercedes	$700
Brush Bros., A. M. Brush & Son, H. E. Salisbury, Minnesota	
Mankato Floa Ormsby Mercedes	$1,200

36th Cow With 1,000 lbs. Fat

I am pleased to announce that the Holstein-Friesian cow, Adirondac Wietske Dairy Maid 204072 has just closed a long-time test, and is credited with 31,899.8 lbs. milk containing 1,036.09 lbs. fat in 365 days, thus showing an average of 3.25 per cent fat in the milk. She freshened at the age of 7 years, 10 months, 2 days. Her sire is Gem Paul Johanna; her dam is Wietske Dairy Maid. She was bred by Mr. Harry Mason Knox, New York, and is owned by the Bridgford Holstein Company, California. Her best seven days' official production made during the lactation period is 860.3 lbs. milk containing 30.930 lbs. fat, this test being begun 19 days from freshening. Her 365-day fat production of 1,036.09 lbs., equivalent to 1,295.11 lbs. butter on the 80 per cent basis, gives her 21st place among the first 36 cows producing above 1,000 lbs. fat in 365 days.

Malcolm H. Gardner, Supt. A. R.

Don't think of New York as an industrial state solely. In 1920 it ranked fifth in total value of all crops produced; and Texas, Iowa, Illinois, and Kansas, which came ahead, are all larger than New York.

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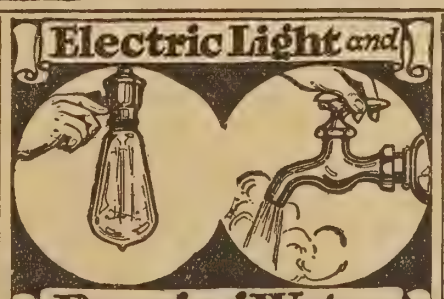
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HOARDS DAIRYMAN JUNIORS



A DEPARTMENT FOR THE DAIRY FARM BOY

The Truth About a Seed

Seed planting time will soon be here, boys and girls. Every one is interested in seeds either directly or indirectly. The city man needs seeds to furnish foods for himself and his family. The farmer and the gardener need seeds for this purpose, too, but there are other reasons why these two classes of people must have seeds and perhaps the most important of these is this: Seeds are necessary to produce more seeds and also for the production of crops with which to feed the animals.

Now there are good seeds and bad seeds and although the latter class is cheaper in the beginning, they are usually the most expensive finally because they do not do what we want them to. Nature's intentions are to produce good seeds, but owing to many reasons her plans are not always carried out. We must not forget that the most fundamental thing about the next crops which we intend to raise is to plant good seeds.

But as familiar a thing as a seed is, there are few people who can tell you much about just what a seed is and what it contains or how it starts to grow, and we think that every boy and girl should know the facts about a seed and now when we are about to plant them is a good time to learn. There are many interesting lessons to be learned from the wisdom of Mother Nature and to us there is none more interesting and vital than can be learned from a seed.

We perhaps all know that flowers are produced by the plants that seeds may be formed, and it is an iron clad law of Nature that whenever a seed is produced, there must have been a flower at some earlier date. Some people think that flowers are produced just because they are pretty and we like to have them, a fact which is far from the truth. They are ignorant of the real truth and they do not know that inside of the pretty parts of a flower are the parts that will make the seeds. There are two very necessary processes that take place within a flower. One is called pollination because it has to do with the yellow dust or pollen of a flower getting onto another part of the flower. The other is known as fertilization and it consists of a grain of this yellow dust uniting with a special cell to form the seed. Each of these acts is absolutely necessary if seeds are to be formed. And after these things take place the flowers usually dry up and wither away and at last we say the crop is ripe, meaning that its seeds are formed.

But we do not have to be as particular about some kinds of seeds as we do about others in order to have good seeds. Such crops as wheat and oats ripen their seeds at a time when the weather is warm and dry. This is a great advantage because such seeds dry out quite naturally and then we can store them away and they will keep. On the other hand, with a crop like corn which ripens its seeds late in the season, we are compelled to pick the seed and place it where it will dry out quickly if we want the best seed. And so we talk about curing seed corn in the fall and every good corn grower knows enough not to depend upon corn that remains in the field after the crop is mature if he wants good strong seed. It is not good to allow seeds to carry very much moisture after they are once mature for any length of time. They begin to mold and they lose their strength.

Some people would speak of a potato as a seed and we commonly talk about seed potatoes, meaning, of course, the ones from which our next crop is to come. But a potato is not a seed because it is not the direct result of a flower. What then is a seed? If we say that a seed is a small, dormant plant formed directly from a flower and having a supply of food for the little plant to live on, we are quite correct and then we will not regard a potato as a seed. We are little inclined to think that inside of a seed there is life as we shovel over the wheat in a bin or as we give a horse his feed of oats, and it is only at planting time that we are impressed with this fact. And so we all know from experience that if we surround a seed that is not too old and one that has been properly formed and taken care of with moisture, warmth, and air, it begins to grow. As interesting as this all is, it becomes more so when we examine the inside of a seed like a kernel of corn that has been softened by allowing it to soak in warm water for about six hours; so we are going to ask you juniors to do this and look for the following things. First we are interested in finding the little plant that we have already spoken of.



GOOD SEED IS THE BEGINNING OF A PRODUCTIVE GARDEN

On one side of the seed there is a whitish looking scar. Every seed that you may examine has this and so it must be of some importance. If we take a knife and cut off a thin slice from this side we will find just what we are looking for, the little plant. To be sure it doesn't look very much like a corn plant, it is so small, but that is exactly what it is. Two distinct parts are plainly visible, the upper one will form the stem and leaves and the lower, the first roots that the little plant will have. Although the two do not appear to be connected, they are, and this little stem has a special name that is rather difficult to pronounce, but we are sure that the juniors will master it. It is called hypocotyl and the two parts that it connects, the one to form the stem and leaves and the other the first roots, are known as the plumule and the caulicle. These are new and rather difficult names you will say, but if you want to be intelligent about seeds you will have to learn them. These parts are all there is to the new plant, but not all that there is to a seed.

Whether or not you know it, a seed does not have to be placed in the soil to make it sprout. But we do know that a plant cannot live very long unless it is growing in the soil, for there are certain things which plants must have that they take from the soil. So it would be a sensible thing to believe that since a seed can sprout without contact with the soil, there must be a place in the seed where all these things are stored, and that is exactly the case. The flour we get from the wheat contains these very things, and so what we live on, the plants must also have. Nature has seen to all this when the seeds are forming and so she packs a store house of food about the little plants. And so all that surrounds the small plant in the seed is stored food. This is called the endosperm of the seed and it feeds the plant with the same things that it will later get from the soil. It is but a simple matter to prove all this. If we dig out the germ from some soaked kernels of corn and place them in a germinator, the plant will grow but very little compared to those which we have not touched. This shows that the part called the endosperm feeds the little plant for a time.

On the outside of the seed is a covering which we can easily peal off. This is called the hull and it protects what is on the inside. And so we have seen that the kernel of corn consists of three main parts, the hull, the germ which is the new plant, and the endosperm which contains the stored food. But you ask, how can the little plant live on the starch and protein that is in the endosperm? It is not likely that it can use solids for food. In this respect it is very much like ourselves. We eat solid food, but it can only become of use to us after it has been digested so that it can be absorbed by the blood. Plants do a very similar thing and so we find that after the seed has become thoroughly soaked the stored food starts to become digested, and the growing parts are fed with the digested food. All very mysterious to be sure, but nevertheless it is the truth.

And now we should know some things about this digestive process that goes on within a seed that is sprouting. The very outside of the germ that lies next to the endosperm consists of a special layer of cells that acts as a digestive organ, and it would not be out of place to compare it to the stomach of an animal. This part of the germ is called the scutellum and from it comes a digestive juice very much the same as comes from our stomachs after we have eaten a good dinner. This juice acts upon the starch of the endosperm, changing it to forms of sugar which are soluble in water and hence when the growing plant absorbs the water, it also gets the food that it has dissolved (so nicely has this all been arranged by Nature) and by the time this store house of food has become exhausted the plant has become firmly anchored in the soil and draws from it the very things that the seed has been providing up to this time. And in all of this we can see a reason why the big seeds are usually the best, for they have a larger supply of stored foods in their endosperms and the little plant is liable to be considerably stronger.

The Junior who makes all of these examinations will get his information first hand and consequently will have a keen appreciation of the value of planting good seeds.

At Hemyock, Devonshire, England, the first Boys' and Girls' Calf Club in Great Britain has recently been organized. P. B. Tustin, who initiated the organization has written to "convey the best wishes of the first Brit-



ENGLISH BOYS AND GIRLS, MEMBERS OF THE FIRST CALF CLUB IN GREAT BRITAIN

ish Boys' and Girls' Club to their cousins in America". He says, "If any of the members of the American clubs will write to their British cousins at Hemyock, Devonshire, England, they will be very glad to hear from them and reply to their letters."

The "Devon and Somerset News" in reporting the organization of this club gives the following information which indicates the variations from the plan followed in the United States:

"The club is entirely composed of sons and daughters of local farmers, between the ages of 14 and 18. The business is conducted by the members themselves, who have selected an executive from among their number.

"The members number 21, and on Monday, in Hemyock Market-place, each was allocated a calf. The calves are Shorthorns, and have been selected from cows with good milk producing records—from 600 to 1,000 gallons. The calves will be under the care and attention of the holders for the next twelve months. At the expiration of that time they will be scored on points and prizes awarded to those who get the highest number of points over the original score. During the period the members will receive free instruction as to the rearing of calves from experts appointed by the United Dairies. It is hoped, also, to arrange visits to various dairy herds and shows, when demonstrations will be given by experts, also by authorities on "dairy farming on arable land".

"Parents of members issue promissory notes for the present-day value of the calves. If in twelve months' time the members wish to retain the calves they may do so on redemption of the promissory notes. On the other hand, if they do not want to keep them the calves will be put up by auction, and the members will receive the difference between their present-day value and what they then make."

Junior Letters

Hoard's Dairyman Juniors:—I have been reading the junior letters and I get more interested every time I read them. I think some of the boys have a very good idea about learning the creed by heart. I think very much of my creed, button, and fob, so I thought I would learn it myself. I am going to school now and like it very much. I am the oldest scholar in our school this year. We just had an awful snow storm last night. I make the milk route at 4 o'clock in the morning, then we get it ready to go to town. We sell from 80 to 100 gallons a day. We run two wagons and they have to hurry to get through or they get a late dinner. Then it takes two hours to wash bottles. We start to do our choring at 3:30 o'clock. When I get out of school I hurry home to water my horses, sweep cow mangers, then milk 2 cows, and I also feed them ensilage, myself, while dad and brother do something else. Then bed my horses and clean out the barn. My cow is doing fine; has had another calf since I wrote last. Both are heifers. They are all full blood Jerseys and registered. I hope the rest of the juniors are having good luck in the stock line.

Ralph Churchill had a riddle to ask so I can answer it but will give him one now. If a hog weighs 150 lbs. and half of its weight, how much does it weigh?

I wish some of the juniors would write me. My address is R. R. No. 6, Marysville, O.

Oliver Robinson.

Hoard's Dairyman Juniors:—We have 53 cows milking and we have 26 heifer calves. Our maize is about 4 feet high now, but we will not feed it to the cows yet. We had some one year that was 14 feet high. We can't get pollard now for the pigs so we feed them ground oats.

We got a Martin ditcher some time ago and are very well satisfied with it.

We've had bush fires all around us and one of our neighbors nearly burned out.

We killed a big tiger snake in the garden this morning; he was 4 feet long. This is the third snake we have killed around the house this season,

We have 9 acres of maize and an acre of potatoes. We sell the potatoes and feed the maize to the cows out in the paddock. One man drives a pair of horses hitched to a sledge and two or three other men follow the sledge and pull the maize out at the back. The cows run round and eat all the cobs and then afterwards they eat up stalks and leaves. We cut the maize with sickles and lay it in bundles ready to be loaded.

Victoria, Australia. Thomas E. Walker.

Hoard's Dairyman Juniors:—My father has taken Hoard's Dairyman a long time and I have been interested in the junior letters. I am ten years old and in the fifth grade at school. We had our examinations last week and I passed at an average of 85%. We live on a farm of 100 acres. My father has five cows, three yearlings, and three calves. I belong to a Holstein calf club which was organized last January. My calf was taken to the county fair at Fredonia last fall and took second prize. We have three horses, one colt, and one pony. My sister and I have four rabbits and about twenty doves for pets.

New York. Erlon L. Babcock.

Hoard's Dairyman Juniors.—We live on a 40-acre farm. We have now 35 head of cattle and are milking 16 cows, feeding 4 calves. We have 4 Guernsey cows on the R. O. P. test. We are going in especially for the Guernsey breed.

I have a Collie dog and his name is Captain. My cat's name is Dodger. We have 16 pure-bred chickens and a rooster.

Well, as it is bedtime I will close hoping some of the juniors will write to me. My address is Box 32, Armstrong, B. C., Canada.

Robt. Hornby.

Hoard's Dairyman Juniors:—I live on a farm of 103 acres; about 90 acres of the land are tillable, about three of scattered timber, and about 10 of pasture.

We have six good Holstein cows, a team of young colts, aged three, named Major and May; a team of work horses, aged 12 and 8, and named Bird and Nigger. They are all dandies. I broke Major to the saddle and he rides fine. Bird and Nigger are trained to ride and Nigger is a good saddle horse.

We did have six calves but we sold four and that leaves us two, a male and a female. Their names are Zero and Spot. We are going to keep Spot as she will make a dandy milk cow.

We have 8 pigs; one is a mother sow and seven are young ones. We weaned the young ones a week or more ago.

New York. Elbert Campbell.

Hoard's Dairyman Juniors:—I am thirteen years old and in the seventh grade in school. We have twenty head of cattle and three calves, one heifer and two bulls. The heifer is a Holstein. One of the bulls is a Holstein, the other is a roan. The little heifer is mine. I feed her separator milk. She is about six weeks old and weighs about one hundred and fifty pounds. I like to read Hoard's Dairyman.

Well, will close; hope the juniors will have good luck.

Wisconsin. Walter Wirth.

Hoard's Dairyman Juniors:—Last summer I worked on a farm of 260 acres belonging to my father. It is two miles from where we live. On the farm we had 4 head of horses, 6 head of cows, and 3 head of young cattle that we are raising. We had lots of fun besides our work we had to do. I would liked to have stayed but I had to come home for school. I am 14 years of age and in the 8th grade in school. I would like to hear from all the juniors. My address is Friedens, Pa.

Wayne McCarney.





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$0.70 per pound in 5-pound lots or more. Sacks extra, 50c.

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A purely co-operative, non-profit organization of over 150 growers

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STOCK FOR SALE

Holstein heifer and bull calves. Pure-bred, registered and high grade. Splendid individuals and breedings. Delivered to you, $25 and up. Your inquiry will be given our best attention. BROWNCROFT FARMS, McGraw, N. Y. 5*

I have usually 100 head of registered and high grade Holsteins on hand for sale. Also registered and imported Percheron and Belgian horses. RALPH HUDSON, Milton Junction, Wis. 12*

For Sale—At Elmwood Stock Farm, high grade Holstein cows, fresh and springers, by the carload. JOHN MURPHY, Mukwonago, Wis. 3*

"The Willows" offers fifty high grade Holstein cows for sale. S. D. SHAMBEAU, Waupaca, Wis. 12*

High Grade Holstein heifer calves, two to four weeks old, from tuberculin tested herds, $30 each, crated. Will ship C. O. D. WAUKESHA CO. HOLSTEIN-FRIESIAN BREEDERS' ASSOCIATION, Waukesha, Wis. 9*

High Grade Holstein and Guernsey calves. $25 crated. Safe delivery guaranteed. BROWN & COLLINS, Lima Center, Wis. 16*

Serviceable grandsons of Lola Segis Pontiac Homestead for sale, he a 34-lb., 1,000 lb. son of Piebe Laura Ollie Homestead King. Their dams are daughters of Joe Oak De Kol Fobes. Well grown, good individuals. Your choice, $150. R. W. MEAD, Stillwater, Minnesota. 10*

High Grade Holstein calves 6 to 8 weeks old, $30.00 each. We pay express and ship C. O. D. SPREADING OAK FARM, Whitewater, Wis. 11-tf.

For Sale—80 high grade Holstein milkers and springers. Will sell one or all. FRED JOHNSON, Waupaca, Wisconsin. 23*

Closing out herd of grade Holsteins, $100.00 each. H. A. KUHTZ, Waukesha, Wisconsin. 24*

For Sale—My entire herd of choice high grade Holsteins, mostly bred to and sired by thirty-pound bull. There is one full load of the best large heifers in southern Wisconsin, uniformly marked, about three-fourths white. C. L. SIMMONS, Belmont, Wis. 1*

Baby Bulls—Registered Holstein-Friesian by high class sires and heavy producing dams. Price is right. C. S. MULKS & SON, Whitewater, Wisconsin. 3-*

Holsteins—37-lb. herd sire, young bulls, cows, heifer calves. PHILIP LEHNER, Princeton, Wisconsin. 6*

Registered Holstein bulls, old enough for service. Fine individuals. Best of breeding. $100.00. Also heifers at reasonable prices. DR. BLACKBURN, Cuba, Ohio. 8-5

If you want the very best Holstein heifer calves delivered promptly, order from me. Will ship C. O. D. express prepaid at $25 each or $18 F. O. B. Oconomowoc. Also a fancy load of cows and a number of heifers priced to sell. E. F. THOMAS, Oconomowoc, Wis. 9-8

I don't want your money until you see my calves. I offer beautifully marked, high grade Holstein heifer calves at almost veal price. Registered bull calves $35.00. I ship C. O. D. and if calves don't suit don't pay for them. Safe delivery guaranteed. J. M. McFARLAND, Watertown, Wisconsin. 10-4

High grade Holstein and Guernsey heifer calves. Registered Holstein bulls fit for service. Grade cows, both breeds. W. R. GATES, Fort Atkinson, Wisconsin. 10*

Holstein show bull ready for service, large size, well marked, guaranteed right. For pedigree and price write ENOCH CARLSON, Roberts, Wisconsin. 11-2

For Sale—Registered Holstein bulls, ages from one month to one year old. JOHN STURM, Route 1, Beaver Dam, Wisconsin. 11-2

For Sale—Registered Holstein and Guernsey calves, 25 Holsteins and 20 Guernseys. BURR OAK FARM, Whitewater, Wisconsin. 11-6

Holstein bull, ready for service, 2 dams averaged 106 lbs. milk 1 day, 40.67 lbs. butter 7 days, $200. Terms. ROY HARRIMAN, Appleton, Wisconsin. 11-6

Registered Holstein bull nine months old. Beautifully marked, perfect individual, 19-pound dam. Priced right. Also younger bulls at reasonable prices. CITY LIMITS FARM, Watertown, Wisconsin. 11-3

Pure-bred Holstein bulls, all ages, for sale. High grade heifer calves, practically pure-breds at $20 each. S. E. JONES, Watertown, Wisconsin. 11-2

For Sale Three registered Holstein heifers to freshen in September. GEO. HOLMES, Route 31, Beloit, Wisconsin.

Registered Holstein bull calf. Pontiac Korndyke Mercedes breeding. Price right. HUSTED, Westboro, Wisconsin. 12-2

For Sale—2-year-old bull sired by King Segis Pontiac. His dam sired by a 31-lb. son of King Segis Pontiac. Well marked and good individual. T. B. tested. Price $150 00. O. H. HANSON & SON, Cambridge, Wisconsin.

Holstein milkers and springers. Sold farm and must sell 15 grades, $80.00. One registered cow, $175.00. Heavy producers. Easy milkers. Federally tested. No abortion. Years breeding. FRANK GARVEY, Lynxville, Wisconsin.

25 high-grade Holstein heifer calves, well marked, from producing dams, at $16.00 each, loaded in car. HARTWIG LUKKEN, Mt. Horeb, Wisconsin.

Registered Bulls—Six and ten months, from two-year-old heifers whose dams have A. R. O. records and sire No. 217150, $100 each. FRANK REYNOLDS, Lakeview, Michigan. 11-2

For Sale—Pure-bred Holstein bull 8 months old. Grandson of King Pietertje Ormsby Piebe, granddam, at 12 years, has 26-lb. record. Price $125.00. R. E. ADAMS, Woodward, Iowa.

Write me for prices on high grade Holstein heifer calves and registered bull and heifer calves. Special low price for next 60 days. Will ship C. O. D. PAUL McFARLAND, Route 7, Watertown, Wis. 12-4

My entire herd of grade Guernseys for sale. Also a few choice heifer calves at $30.00 delivered. SHADY HILL FARM, Whitewater, Wis. 23*

Guernsey heifer calves. Can ship you 10 at once about 4 weeks old. Calves out of my own herd, so know what I am shipping. $30 each crated. F. O. B. Waukesha. WERN FARMS, Waukesha, Wis. 18*

Guernseys—High grade Guernsey calves, either sex, four to six weeks old, bred for production of milk and butter. Thirty dollars apiece delivered to any station, express charges paid here. Send orders or write. LAKE VIEW GUERNSEY PLACE, Whitewater, Wisconsin. 26-tf

For bargains on May Rose bulls with type and production, write KUHTZ BROS., Waukesha, Wis. 21*

For Sale—Registered Guernsey bull calves, good producing dams at farmers' price. OTTO KRUEGER, 427 East Broadway, Toledo, Ohio. 24*

Guernsey bulls—May Rose and Segurl breeding, of serviceable age. Prices very reasonable. Write for sale list. "State your wants." DALE E. RUNDELL, Ore Hill Farm, Livingston, Wis. 8-spl

STOCK FOR SALE

For Sale—Six pure-bred open Guernsey heifers. 5 are from A. R. cows. May Rose and Sequel breeding. See ad page 518. DALE E. RUNDELL, Livingston, Wisconsin. 9-spl

For Sale—Registered Guernseys. Both sexes. Herd under Federal Supervision and free from disease. CLOVERNOOK FARM, Whitefish Bay, Milwaukee County, Wisconsin. 6-10

Guernsey calves six weeks old, $20. F. O. B. Knapp. THOMAS HAGERTY, Knapp, Wisconsin. 2*

Guernseys—Registered males and females, all ages. Breeding and type unexcelled. Grade cows, yearling heifers, heifer calves. No better quality anywhere. Tuberculin tested. Prices reasonable. Why not buy through an association and from breeders in the business to stay? Write your wants today. F. E. FOX, Secretary Waukesha County Guernsey Breeders' Association, Waukesha, Wisconsin. 6*

High grade Guernseys—Twenty young cows and heifers to freshen. Some with records. Almost pure-bred. Tuberculin tested. OAKLAND GUERNSEY FARM, Mukwonago, Wisconsin. 9*

May King Vrangue 15430—One of the leading May Rose sires. Sons of his for sale from A. R. Golden-Secret and Glenwood dams. E. J. FRUIT, Platteville, Wisconsin. 9-4

Young bulls for sale. Sons, grandsons and double-grandsons by Bell Buoy of Linda Vista 19430 with 20 A. R. daughters, who has six daughters that average 524.55 lbs. fat at two years. O. R. SCHWALEN, Roberts, Wisconsin. 11*

For Sale—Grade Guernsey heifers, bred and unbred. MITWEDE BROS., Waukesha, Wis. 11-3

May Rose bull 3 years old. Wonderful bargain. SUMMIT FARM, Waynesboro, Pennsylvania. 11-2

For Sale—Guernsey herd sire. A. R. backing. Priced for quick sale. HOOPMAN & JAGERINK CO., Oostburg, Wisconsin. 11-4

$60.00 buys this richly bred great grandson of Ne Plus Ultra. Registered Guernsey. WM. HUCKLE, Waverly, New York. 12-2

May Rose Guernsey bulls for sale. Sire, Langwater Frenchman, Danish A. R records 500 to 660 lbs. fat. Federal Accredited herd. HOMER RUNDELL, Livingston, Wisconsin. 12*

Guernseys—A daughter of Golden Noble 2nd and her 4-year-old daughter both A. R. Also an A. R. daughter of Governor of the Chene. All in calf to Brooklandwood Warrior; due in April. A three-year-old bull, Golden Secret breeding, $250.00. Federal Accredited herd. W. O. MOSS, Chagrin Falls, Ohio. 12-2

Brown Swiss bulls of serviceable age. A. C. BOODY, Hudson, Wisconsin. 4*

Brown Swiss Bulls. A. W. WILLMANN, Hawkeye, Iowa. 11-4

Registered Jersey bull, 5 months old. Sire—Sophie's Torono 4th. A son of a World's Champion, Lass 74th of Hood Farm. Test 13,713 lbs. milk, 879 lbs. butter. Price $65. WM. HAMMACK AND SONS, Pinckneyville, Illinois. 11-3

For Sale—Yearling Jersey bull. Sire, Trial's Noble of Oaklands. Dam, Fox's Maitland, in Register of Merit. OTTO HOEFS, Honey Creek, Wis. 12-2

For Sale—Jersey bull, 1 year old; solid color; splendid individual, large and in best condition. Sire, a prize winning Raleigh bull with daughters on Register of Merit test. Calf's dam and grandam are Register of Merit cows and State Class Champions. Price $250.00. If interested write Miss Lydia Hellings, Route 1, Trenton, New Jersey.

Three registered Jersey bull calves, dams on test. Sophie Tormentor and Oakland breeding. Price and description on request. LOCUST GROVE FARM, J. N McWilliams, Bucklin, Missouri.

STOCK WANTED

Wanted—To buy for fall delivery, 25 heifer calves, 20 bred heifers and a few cows, all to be of the best registered Holstein strain that can be had. FRANK KOTE, care National Steam Laundry, Sherman, Tex. 8-6

Wanted—Carload or more registered Holstein heifers in exchange for first mortgage farm loans. EDWIN THORN, Binford, North Dakota. 9*

Wanted—Registered Guernsey heifer calves or cows. Name price and description. JAMES ABRAHAM, Route 2, Ogdensburg, Wisconsin. 10-3

Wanted—Lists of registered and grade Guernsey cows and heifers for sale. Report to any bank in Wisconsin or write to BANKER-FARMER EXCHANGE, 1822 Chadbourne Ave., Madison, Wis. 8-spl

Sealed proposals will be received at the office of the Treasurer, Mountain Branch, N. H. D. V. S., Johnson City, Tenn., and there opened at the time fixed, for furnishing and delivering 40 cows, grade Jerseys or grade Holsteins, in accordance with instructions and specifications, copies of which, with blank proposals, can be had upon application to the treasurer, as follows: For farm supplies until 2 o'clock p. m. April 15, 1921. J. C. DONNELLY, Treasurer.

STOCK BUYER

Registered dairy cattle bought and sold. EDWARD A. WALTER, 111 Monroe St., Chicago. 18*

Will buy for you, dairy cattle of any breed, grades or pure-bred. DAVID W. WILLIAMS, Lake Forest, Illinois. 6*

Commission basis—One hundred and fifty head in our own herd for sale, Holstein and Guernsey, registered and grade. Large barns for centralizing and testing shipments of any size. Private yards for shipment. Every herd near here known by us. Write your demands. EDGEWATER STOCK FARM, Fort Atkinson, Wisconsin. Breeders and commission buyers. 10*

Save 30 per cent by buying your cattle through J. D. POWERS, Fort Atkinson, Wis. 12*

DOGS

German Shepherd, airedales, collies, and old English Shepherd dogs. Brood matrons, puppies, farm helpers. 10 cents for instructive list. W. R. WATSON, Box 520, Oakland, Iowa. 20*

HORSES

Beautiful black Percheron mare four years old, absolutely sound and gentle, priced right. CITY LIMITS FARM, Watertown, Wisconsin. 10-3

POULTRY

Highest prices paid for live and dressed poultry, pigeons, veal, hides, etc. Quick returns, fair treatment. C. E. McNEILL & CO., 325 W. So. Water Street, Chicago. 24*

Eggs $1 setting. Parcel post paid. Thoroughbreds. Barred Rocks, White Rocks, Buff Rocks, Anconas, White Wyandottes, Brown Leghorns, White Leghorns, Rhode Island Reds, Buff Orpingtons. PHILIP CONDON, West Chester, Ohio. 5-15

Baby chicks $12.00 per 100 up. Postpaid. Catalogue free. FARROW-HIRSH CO., Peoria, Illinois. 9-16

Baby chicks, 15 cents. White and Barred Rocks, Rose and Single Comb Reds, White and Brown Leghorns. Catalog free. G. A. MITCHELL, Freeport, Illinois. 10-4

Baby Chicks—Barred Rocks, Wyandottes, Reds, White, Brown, and Buff Leghorns. From unusual, utility stock. Write for Circular—A. CHICKDALE HATCHERY, Fort Atkinson, Wisconsin.

Baby chicks, quality first. Pure-bred, bred-to-lay from free range flocks. White Leghorns, Buff Leghorns, Barred Rocks, White Wyandottes. Send for catalog. WANDSCHNEIDER'S HATCHERIES, Box 1, Fort Atkinson, Wisconsin. 12-4

Bronze turkeys. MAC CRADIE BROTHERS, Hendrum, Minnesota. 12-2

Buff Rocks from heavy laying state show winners. 15 eggs, $1.50; 100, $7.50. D. K. DAVIS, Fairfield, Illinois. 12-2

SWINE

Duroc-bred gilts and boar. Prize winners. Spring pigs. PHILLIP LEHNER, Princeton, Wisconsin. 5*

SEEDS

Farmers, ranchmen and dairymen. Order your Grimm and Cossack alfalfa seed direct from the grower. All seed recleaned and guaranteed. Ask for samples. WM. H. K. WILLIAMS, Triangle Ranch, Cottonwood, South Dakota. 26*

Jacques' Seed Corn—Early maturity, high yield, perfect germination. Grown in Clark County, North Wisconsin twelve years. My Golden Glow ripens in 100 days, yields 60 bushels shelled corn per acre. My North Wisconsin Yellow Dent ripens in 90 days, yields 50 bushels shelled corn per acre. Picked before frost, thoroughly fire dried. Careful tests show 98% to 100% germination. Money refunded if corn is unsatisfactory. Write for folder and prices to WM. H. JACQUES, Neillsville, Wisconsin. 1-13

Send for attractive price list of our select home-grown seed corn. Finest quality, several varieties. Fully guaranteed. Largest trade in Northwest. JOHNSON & ARNESON, Dassel, Meeker County, Minnesota. 3*

New cold-resistant Early Golden Glow seed corn for the north and higher altitudes. Finest quality Wisconsin No. 7 and No. 1 oats. New Advance Pedigree barley. Bright, clean timothy seed. Medium Red and Mammoth clover. Genuine Grimm alfalfa. It will pay you to secure my samples and prices before buying. NOYES RAESSLER, Beloit, Wisconsin. 9*

For Sale—Virginia raised Eureka ensilage seed corn. If you want heavy production of ensilage use the corn that has been a standard ensilage corn for many years. C. E. JONES, Carysbrook, Virginia. 10-3

Seed Corn—Eureka ensilage, ninety-day Silvermine, Riley's 52-day, Johnson, Reids, Catalog. HAMMOND & SONS, Rockport, Indiana. 11*

Golden Glow seed corn—bred for southern Wisconsin. A. M. TEN EYCK, Brodhead, Wisconsin. 8-spl

Sweet Clover—White, recleaned, scarified, $7.50 bushel, delivered by parcel post. Seamless 40. JOHNSON BROS., Nebraska City, Nebraska.

Soy Beans—Home grown Wisconsin pedigree Early Blacks. Good germination. $6.00 per bushel. W. W. CLARK, Stevens Point, Wisconsin.

Pedigree seed oats, Wisconsin No. 7 and Wisconsin No. 1. Improved and inspected. Wisconsin grown. Write for prices. MILTON ENDERSON, Davis, Ill.

HAY

Alfalfa and prairie hay for sale. Prompt shipments. Personally inspected loading. Wire or write GUNN HAY CO., Lexington, Nebr. Reference Lexington State Bank. 11*

Number one and choice alfalfa hay and seed ready for shipment. Address A. L. DAMON & COMPANY, Inc., Rapid City, South Dakota. 8*

Alfalfa Hay for Sale—Write or wire for delivered prices. ALBERT MILLER & COMPANY, 192 North Clark St., Chicago. 17*

PRINTING

Hoard's Dairyman Art Department designs your letter head free. Just tell us your breeds of stock. Book of 5,000 Farm, Ranch and Cottage names 25 cents. Ask for samples of letter heads, envelopes, shipping tags, cards, milk tickets, etc. Poor stationery is more of a damage than a help. Be sure and give correct post office address, including state. Address HOARD'S DAIRYMAN, Art Dept., Fort Atkinson, Wisconsin. 8-tf

FEED BAGS

We buy second-hand bags, pay one-half freight on 200 or more. LINCOLN BAG CO., Springfield, Illinois. 10-spl

FEEDS

Dried Beet Pulp—the wonderful dairy feed. New reduced prices. Ask your dealer or write THE LARROWE MILLING COMPANY, Detroit, Michigan or Los Angeles, California. 12*

EXCHANGE

Wanted—To exchange 50 acres river bottom alfalfa land in ideal fruit and dairy section of California at $10,600—3,000.00 down—for small farm in central states as second payment. R. W. SHARP, 601 N. Fourth St., Fresno, California. 2*

Wanted—Holstein cattle in exchange for equity in 160-acre improved farm. Good buildings. 18 miles from Minneapolis. Price $85.00 per acre. Mortgage $6,000. BENNO MENZEL, Anoka, Minnesota.

PARTNER WANTED

Dairyman wanted for a partner. We will start in business June 1st with 50 cows or more. We want a man who understands business thoroughly and who will have enough money to invest in half of the milk cows and manage the business. We have an irrigated farm of 1,500 acres five miles from the city of Albuquerque, 300 acres in cultivation. Two silos, 1,000-ton capacity, water works, sheds and corrals. On Ocean to Ocean Highway. Paved road to city of Albuquerque. Milk selling here now at 50c gallon wholesale; 80c retail. Seven residences for manager and working men on place. Horses, tractors, wagons, and all farming machinery necesssary for cultivation of the land. Ideal place for 300 milk cows with big demand for milk. Write for further details and if interested it will pay you to come and investigate. References First National and State National Bank of Albuquerque, New Mexico. FRANK A. HUBBELL COMPANY. 9-4

WANT TO RENT

Want to rent farm May 1st, 80 to 160 acres in Wisconsin, Minnesota or Northern Illinois, with good improvements, stocked with pure-bred Holsteins, fully equipped with machinery, etc., on 50-50 basis. Experienced agricutural college man, fully understand live stock, A. R. O. testing, breeding, registration, feeding and general farming. Have $1,000 available. Submit your best proposition. References exchanged. Address F. M. S., 507 W. 43rd St., Minneapolis, Minnesota.

FARMS FOR SALE

Rose Valley Farm—137 acres; 17 miles macadam roads to City Hall, Philadelphia; owner's residence, electric lights, hot water heat, open fireplaces; beautiful lawn and shade; extended view; large stable and carriage house; modern cow barn, 48 head; tenant houses; purest water in abundance; all necessary buildings; macadam roads each side and through farm; $50,000 less than cost of buildings. FARM 2024 N. 10TH ST., Philadelphia, Pa. 28*

Free Wisconsin Bulletins, soil, climate, crops. IMMIGRATION BUREAU, Wisconsin Dept. of Agriculture, Capitol Drawer 125, Madison, Wisconsin. 26-13

Hardwood cut-over land, silt loam, clay sub-soil. Neither sandy nor gravelly; close to town; good roads; good schools; in the heart of the dairy country. You deal directly with the owners. No agents and no commissions. Easy terms. Also improved farms. Write for map and Booklet No. 4. NORTH WESTERN LUMBER CO., Land Department, Stanley, Wisconsin. 1*

New York State dairy farms for sale. Fully stocked, Fully equipped. Catalogue free. HILLIS FARM AGENCY, Hobart, Delaware County, N. Y. 7-6

Good dairy farms in the fertile Mohawk Valley. TURTELOT, Frankfort, New York. 9-5

When you buy land buy the best. We have choice hardwood land in one of the very best sections of Central Wisconsin for sale on easy terms. Best of clay loam soil. Good roads, climate, water and markets. No rough, stony or sandy land. Write for information. JOHN S. OWEN LUMBER CO., 112 Mill St., Owen, Wisconsin. 9-8

Dairy Farms—Clark and Taylor Counties, Wisconsin. Good soil. Send for list of farm bargains. OWEN REALTY CO., Owen, Wis. 9-5

Improved and unimproved farms in southern Atkin County, 20,000 acres of beautiful lands, well located and cheap. List free on request, also details of famous "Land Service," which puts homeseeker on his feet. A great chance. Write ERNEST O. BUHLER, McGrath, Minn. 9-4

Price very low if sold immediately. Modern dairy farm on good road in Waukesha County. 200 acres, comfortable brick dwelling, furnace heat, running water, horse barn, two large connected, modern dairy barns, two silos, tile milk house. Complete breeding establishment. Convenient to Waukesha and Milwaukee. R. E. BENSON, Dousman, Wisconsin. 10*

Dairy Farm—217 acres, equipment. Worth the price. Good markets. Terms. No agents. EARL S. ABBEY, Windsor, New York. 11-2

Farm Booklet Free—Describing Wisconsin farms: number 212, 173 acres; number 287, 80 acres are special bargains. Booklet will be of great interest to anyone wanting a farm. J. T. BATES & SON, Baraboo, Wisconsin. 11-2

Western New York farms stocked and fully equipped, $50 to $100 an acre. Taxes low. Free list. THE HAZARD-RHODES CO., Salamanca, N. Y. 11-4

Landology special number just out, containing 1921 facts of clover land in Marinette County, Wisconsin. If for a home or as an investment you are thinking of buying good farm lands where farmers grow rich, send at once for this special number of Landology. It is free on request. Address SKIDMORE-RIEHLE LAND CO., 47 Skidmore-Riehle Bldg., Marinette, Wisconsin. 11-5

Death and taxes come slow and easy in wealthy Western New York. Good farms cheap. NEW YORK FARM AGENCY, Westfield. 1-spl

Farms near New York City. Dairy, grain, potato, fruit, poultry. 752 pictures sent free. SLOCUM FARM AGENCY, 141-T Broadway, New York City. 12-4

118 acres "prosperity producer." Horse, 9 cows and heifers, swine, poultry, machinery, vehicles, wood, crops included; convenient R. R. town; machine-worked fields; spring-watered pasture; abundance wood and timber; 50 apples, other fruit; 8-room house, overlooking village, 50-ft. barn, water in buildings Owner forced to sell, 3,300 takes all, easy terms. Details page 11 Spring Catalog 1,100 Bargains. Free. STROUT AGENCY, 150 D L Nassau St., New York City.

Virginia offers wonderful opportunities to farmers. Best of markets, crops and climate. Write for particulars, act at once. J. J. WATESEK, Lake Forest, Illinois. 12-2

For Sale—Southern New York Farms. Equipped, money-making farms of every description. Unrivaled advantages. List and New York map free. F. B. WELLS, Sidney, New York.

For Sale—Summer fallowed section farm land. Wheat yield, ten-year average, twenty bushels. JESTRAB BROS., Havre, Montana. 12-2

For Sale—A gentleman's farm. 232 acres, 200 acres under plow, balance wood and pasture. One of the finest and most modern dairy farms in southern Wisconsin. Conveniently and beautifully located near city, in the best registered Holstein district in the country. Modern barns and equipment, lighting and watering systems, large brick dwelling. Best quality clay loam soil. $250.00 per acre. Address BOX 708, care Hoard's Dairyman. 12-2

Farm for Sale—Four hundred fifty acre dairy farm, eleven miles from Watertown, twenty miles from St. Lawrence River, one mile from railroad station Evans Mills; will maintain seventy cows; one hundred acres pasture including fifty acres timber land, about three hundred acres meadow; good house, barns, wells; on improved roads. Apply J. H. MADDEN, Erie County Bank Building, Buffalo, New York. 12-2

A bargain in a 190-acre blue grass dairy farm 8 miles from Nashville, Tennessee; oiled highways, interurban and railroad service. Two-story brick residence, barns, silos, etc. $160.00 per acre. C. M. ARMISTEAD, Madison, Tennessee. 12*

$10,000.00 secures 160 acres with horses, 34 cows, machinery, etc. Machinery worked fields, 8-room house other good buildings. On paved road 10 miles from Vancouver, Wash., 20 miles from Portland, Ore., Sacrifice for $32,000.00, easy terms. Write for full description. WILBUR F. JOUNO, Henry Bldg., Portland, Oregon.

70-acre farm with 13 cows and heifers, pair horses, pigs, 350 fowls, all farming implements and machinery. 70 acres fine rolling land. Duchess silt loam. Spring watered, pond, brook. 150 apple trees, Splendid two-story, 10-room house. Large basement barn, carriage house, poultry houses. Town of Pleasant Valley, seven miles Poughkeepsie, 2 miles village. $10,500 takes everything. $4,000 mortgage, 5%. Possession any time. F-1613. EDWARD C. DAYTON, Realty Specialist, Poughkeepsie, New York.

Dairy farms on Colorado Springs famous Farmers' Highway pay for themselves and double in value in few years. Easy terms. Literature sent free. NOAH HOLT, 39 Opera House, Pueblo, Colorado

Cut This Out—Learn today how settlers with farming experience can get new made-to-order dairy farms with buildings, stock, tools, etc. First payment $300, balance 30 years. Location famous Chippewa Valley, heart of Wisconsin. Close neighbors, markets, railroads, schools, creameries, best soil, pure water. Greater opportunity than Homestead. Several farms ready to move on now. Send today for free information. CHIPPEWA VALLEY COLONIZATION CO., BP-201 Plymouth Bldg., Minneapolis, Minnesota. 12-4

Look—On account of sickness, I offer my beautiful dairy farm for sale, located near Grand Rapids, Mich., 108 acres, new barn with cork brick stalls, running water, holds 40 head, also horse and young stock barn with granary, milk house, 3 large tile silos, grist mill, electric light plant, chicken and hog house, large tool shed, corn crib, and large 8-room house, clay loam soil. Price $20,000. Easy terms. GEO. E. WALKER, Grand Rapids, Michigan. 12-2

Farm 140 acres, 2 horses, 10 cows, 5 heifers, equipment, 400 sugar maples, valuable timber, good buildings. $4,000, warranty deed. For terms and free illustrated catalogue of many farms write W. D. STREETER, Richland, New York. 12-2

TOBACCO

Kentucky Tobacco, natural leaf. Smoking, 10 lbs. $2.50; 20 lbs., $4; chewing, 10 lbs. $3; 20 lbs. $5. R. F. VEAL, Agent, Sedalia, Kentucky. 10-4

MACHINERY

Want the cheapest, handiest belt power? Then ask me about my Little Twister Power Transmitter for Ford and Dodge cars. FRANK R. WEISGERBER, Salina, Kansas. 16*

For Sale Cheap—A small lot of standard make Swedish Cream Separators, 400 pounds capacity, $29.-00, 500 pounds capacity, $34.00, 700 pounds capacity, $39.00. These are all new machines, wonderful bargains. THOMAS TAFFEE, Box 355, Lansing, Mich. 18*

One Waterloo Boy 12-20 tractor good as new. One Grand Detour Jr. 3-bottom plow, new. Two 16-inch pulverizers new. H. C. KARSTEN, Huntley, Illinois. 10*

For Sale—1920 Ford ton truck in good shape. Will trade for pure-bred Guernsey cows or heifers. W. J. OSBORN, R-6, Grinnell, Iowa. 11-2

Capital Tractors—First in America, spring mounted. 8-16, $600; 12-24, $850; 15-30, $1,200. Self oil saw frame $15. 4 H. P. engine, $100. 6 H. P. engine, $150. DISSINGER COMPANY, Wrightsville, Pa. 11-4

For Sale—One 15-30 four-cylinder International tractor good as new, 32-52 new Racine thresher complete, first-class condition, Type A International silo filler good as new, 8-roll McCormick shredder, one P. & O. 3-bottom, 14-inch tractor plow, new. WM. H. KREKLOW, Route 2, Fort Atkinson, Wis. 12-2

Two double-unit Empire, perfect condition, or trade for Hinman. CHAS. BUCKLEY, Lowell, Indiana

Perfection Milkers, extra units. New and used. Reduced prices. FELIX JULIUS, Stockton, Illinois.

We offer Sharples suction feed separator and milkers at reduced prices. LOUBAT GLASSWARE COMPANY, New Orleans, La. 12-4

Moline Universal tractor with plows. Condition guaranteed. $375.00. Registered Duroc pigs, $15.00 each. BELROSE FARMS, Richford N. Y. 12-2

Creamery equipment wanted—Dump tank, coil vat, cream ripener coil vat, cheese vat, churn with motor, each 100 gals. Separator, butter cutter, Babcock tester, etc. BOX 3, Belle Meade, Virginia.

Hinman Milker, 2 units, for 14 cows. $75 takes the outfit. FRANK EILERT, Rock City, Illinois.

LIGHTNING RODS

Lightning Rods—Exclusive agency and quick sales to live dealers selling "Diddie-Blitzen Rods." Our copper tests 99.96 per cent pure. Write for agency. Prices are right. L. A. DIDDIE CO., Marshfield, Wis. 9*

AGENTS WANTED

Yes Sir, we have a special opportunity for you during spare time, an opportunity to do some good work in your neighborhood, for the betterment of dairy farming, that will pay you in cash for the effort you put forth. Write for our "Special Opportunity Getting Together" folder. Address HOARD'S DAIRYMAN, Fort Atkinson, Wis. 2-tf

Representatives wanted to write hail and cyclone insurance every township in the Northwestern states. Little experience necessary, good commissions. Write quick. ST. PAUL MUTUAL HAIL AND CYCLONE INSURANCE COMPANY, 805 Pioneer Bldg., St. Paul, Minnesota. 12-12

$200 monthly and commission. Year's contract to men with autos. We start you, equipping cars with Rideezee, the better than air inner tire. A substance cheaper than tubes. RIDEEZEE CO., St. Paul, Minnesota. 12-4

SALESMEN

Salesmen Wanted to sell well-known line of oils, paints and roofings direct to farmers. Men average from $100 to $200 a week. Commissions paid weekly. Bonuses monthly. Wengard made $430 in one week. Callahan made $3,000 first six months. Meyers took 102 orders first month. Fine opportunity for live-wire salesmen. Shipping points—Cleveland, Chicago, Kansas City, Minneapolis. Write for proposition. CENTRAL PETROLEUM CO., Cleveland, Ohio. 10-3

MISCELLANEOUS

Landscape gardening. Arrangement and beautification of farm buildings. Graduate landscape architects at your service. FRANK M. EDWARDS, Landscape Architect, Fort Atkinson, Wis. 9-11

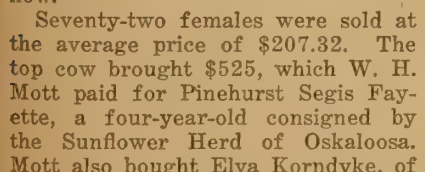
Firemen, brakemen, beginners $150—$200 later $300 monthly; railroads everywhere. RAILWAY ASSOCIATION, Desk W-5, Brooklyn, New York. 10-4

Western Red Cedar Poles and split posts at reduced prices delivered your station. A. R. DERR, Clark Fork, Idaho. 10-6

Lumber and shingles at reduced prices. Farmers' trade our specialty. Best quality. ROBERT EMERSON CO., Box 1156, W. Tacoma, Washington. 12-5

TANNING

Let us tan your hide, Cow and horse hides for fur coats and robes. Cow and steer hides into harness or sole leather. Catalog on request. THE CROSBY FRISIAN FUR CO., Rochester, New York. 10-17



Advertising in this department is 7c per word. Remit in advance.

HELP WANTED

Wanted—Single man for general farm work. Pure-bred Guernsey cattle and Hampshire swine. Board, room, washing, $25 per month. Must be willing to work and interested in work, otherwise don't apply. H. A. KUHTZ, Waukesha, Wisconsin. 10*

Wanted—Man with own help to run dairy of 25 to 30 Guernsey cows. H. C. HURLEY, Rockville, Maryland. 10-3

Wanted—Experienced man with some capital as manager of a wholesale and retail milk business in city of 45,000 in central Illinois. Must be energetic and a hustler. Address BOX 703, care Hoard's Dairyman. 11-3

Wanted—Assistant, competent, reliable, temperate, married man with small family, to commence running on or before May 1st, 1921, a dairy and grain farm, about 300 acres, fine soil, fronting on two of the largest and finest inland lakes, located about 2½ miles west of Reserve (Post Office) and about 7 miles east of Stone Lake, Sawyer County, Wisconsin. Apply to WHITE LUMBER CO., 2213 Dominick St., Chicago, Ill., naming references, salary desired, number in family and ages. 11-2

Wanted—A middle aged, single man for dairy work under herdsman. Must be dry hand milker, competent of producing Class A milk. State experience, wages and references. JOHN BAZLEY STOCK FARM, Route 5, Ypsilanti, Michigan. 11-3

Wanted—Holstein herdsman, single, experienced, reliable. Give age, experience, weight, wages expected first letter. J. B. CAIN, Glenbeulah, Wisconsin. 11-2

Single man for nine months to work on general farm. Must be good milker State wages. OLIN HOVRUD, Mt. Horeb, Wisconsin. 11-2

Wanted—Man and wife. Comfortable home and good wages for middle-aged, intelligent, congenial, Protestant couple, in household of three. Woman to cook and assist with housework, man to care for small flock of chickens, also to work in orchard and make himself generally handy. Give reference and wages expected in first letter. Address BLUE HEN FARM, care Dr. S. T. Young, Newark, Delaware.

Wanted—Strong boy for general farm work, at once. State wages and experience in first letter. E. A. SETTE, Juneau, Wisconsin.

Wanted at once—Herdsman, single, to take charge small Guernsey herd. Modern barn and equipment. Start A. R. work again in October. Must be good calf raiser. State full particulars with wages wanted, first letter R. P. GUPTILL, Elcho, Wisconsin.

Men—Boys Wanted—Railway Mail clerks $135 month. Write immediately. FRANKLIN INSTITUTE, Dept. K 115, Rochester, New York. 12-4

Wanted—Experienced dairyman, married. Good chance for right man ROSEMERE FARM, Shepherd, Tennessee.

HELP WANTED

Wanted—Superintendent for large farm near the Twin Cities. Expected to handle grade dairy and other live stock, to have knowledge of machinery and be able to keep accounts. Salary $165.00 per month with modern house. Address BOX 710, care Hoard's Dairyman.

Wanted—Married couple on dairy farm, man to work about farm and dairy, wife to board help usually 3 to 4 men. Must furnish good clean plain board. Must have necessary furniture for 5-room cottage. House, garden, potato patch with agreed amount of milk and butter furnished. Give habits, past experience, ages, nationality, size of family, salary, etc., first letter. Farm 100 miles from Chicago. Address BOX 712, care Hoard's Dairyman.

Help Wanted—Wanted bookkeeper and treasurer, man or woman, thoroughly trained in keeping farm accounts, records on crops, conducting correspondence with markets resuting in sales. Plantation situated in the outskirts of the city of Mobile. Give full information first letter, experience, salary expected, etc. Address AMES PLANTATION, Crichton P. O., Mobile, Alabama.

Wanted—Experienced general farm hand, a good milker and one not afraid to work. $35.00 per month, board, room and wash. Yearly job for right man. R. R., BOX 135, Round Lake, Illinois.

Wanted—Married and single men at once, apply in person. SCHUSTER FARMS, Mukwonago, Wis.

POSITIONS WANTED

Position Wanted—As manager, herdsman or will rent dairy farm on shares where cows are kept for profit and good care is essential. Address BOX 697, care Hoard's Dairyman. 10-3

Wanted—By experienced Scotchman, position as herdsman on dairy farm. Experience in feeding, milking and caretaking of dairy cows. Good references. Write 433 DOUGLAS AVE., Kalamazoo, Michigan.

Position wanted by single Hollander, age 22, on dairy or general farm. Good milker. Prefer good Christian home. Lifetime experience with cows and calves. Address BOX 709, care Hoard's Dairyman.

Farm manager, working agricultural education, experienced in every operation connected with modern methods general farming, dairying, swine, poultry, orcharding, desires situation. Address BOX 711, care Hoard's Dairyman.

Experienced milker. Single, age 25, Hollander, wishes position, either in cow barn or on milk route. Good habits. State wages in first letter. Address BOX 713, care Hoard's Dairyman. 12-2

Position wanted by two young men, brothers. Preferably together. West or midwest. Farm experienced. Address BOX 491, Delhi, New York. 12-2

Young married man, age 27, one child, wishes position on farm, northern Wisconsin preferred. Please write full particulars. GEORGE CARNITZ, 3024 North Avenue, Milwaukee, Wisconsin.

Wanted—Position on small Holstein dairy farm in Wisconsin. Have done some A. R. O. work with good results. Single, age 27, Norwegian by birth, good references. State wages in first letter. Address BOX 714, care Hoard's Dairyman. 12-2

Young man (Danish) 23 years old, single, first class butter and cheese maker, wants position in an up-to-date creamery. May first. State wages. CHR. LEHRMANN, care Walker-Gordon Lab. Co., Plainsboro, New Jersey.

Holstein Activity in Kansas

(Continued from page 498)

would be needless sacrifice in selling now.

Seventy-two females were sold at the average price of $207.32. The top cow brought $525, which W. H. Mott paid for Pinehurst Segis Fayette, a four-year-old consigned by the Sunflower Herd of Oskaloosa. Mott also bought Elva Korndyke, of the Sunflower consignment, paying $500. The $500-mark was reached in only two other cases, $510 being the price in both. Stevens A. Coldren, Missouri, bought Colantha Betheline 2d for this amount. This cow was consigned by John R. Stephenson. The other $510-cow was Wayne Korndyke, which was transferred from the H. B. Cowles herd to that of David Coleman and Sons.

The nine bulls sold for an even $1,400, or an average of $155.55. Cloverlawn Johanna Piebe 54th, a two-year-old from the herd of J. C. Long & Son, topped the male consignment at $400. G. C. Dawson was the buyer. J. W. Edgecomb paid $250 for King Ormsby Colantha Pontiac, a two-month-old calf. Axtell & Hershey consigned this bull. Shungavalley Konigen Copia, a yearling from the herd of Ira Romig & Sons, brought $245, this bull going to J. E. Long.

Coldren was the only buyer from outside the state. He was among the larger purchasers, however, paying an average of $259 for seven cows. These are to be placed on a ranch in Texas. The heaviest buyer was W. H. Shrover, an extensive Hereford breeder who has begun to establish a Holstein herd in addition. His 11 purchasers, all cows, averaged $224 apiece. R. C. Jackman also took advantage of the "bargain sale" to increase his herd by 11 females, for which he paid an average price of less than $150.

More than 300 persons attended the sale. The proceeds of the sale amounted to $16,327.50, practically all of which was paid in cash.

Kansas. FRANK M. CHASE.

Pasteurization of Milk

The report of the Committee on Milk Supply of the American Public Health Association has recently been published in pamphlet form. It contains up-to-date information on the phases of milk pasteurization, the effect of pasteurization on the composition of milk, the process of milk pasteurization, and analytical control of pasteurization plants, and state and municipal supervision of the pasteurization of milk.

The first section of the report is devoted to the status of milk pasteurization in the United States and Canada, with some statistics and an outline of the control exercised over the production of market milk. The official definitions of pasteurization are given.

The effect of pasteurization on the composition of milk is covered by a review of the results of experiments on the effect of heat on milk and experiments on infant feeding.

The last section of the report deals with state and municipal supervision of the pasteurization of milk, containing a discussion of the time and temperature requirements, the department of a state or municipality to control pasteurization, requirements regarding apparatus, qualifications of plant operators, bacterial results, and penalties for violation of regulations.

Copies of this pamphlet will be supplied by the American Public Health Association, Boston, Mass., on receipt of 35 cents.

BOWEN'S SEEDS High Class Seeds for High Class Farms

Alsike $14.50 per bu.; alfalfa $12.50 per bu. Clover (Medium) $12.75 per bu.; clover (Mammoth) $13.25 per bu.; sweet clover White Blossom (Hulled and Scarified) $7.50 per bu.; Yellow Blossom $8.00 per bu.; timothy and alsike mixture $5.25 per bu.; Sudan grass 7c per lb. All strictly high grade, carefully selected stock.

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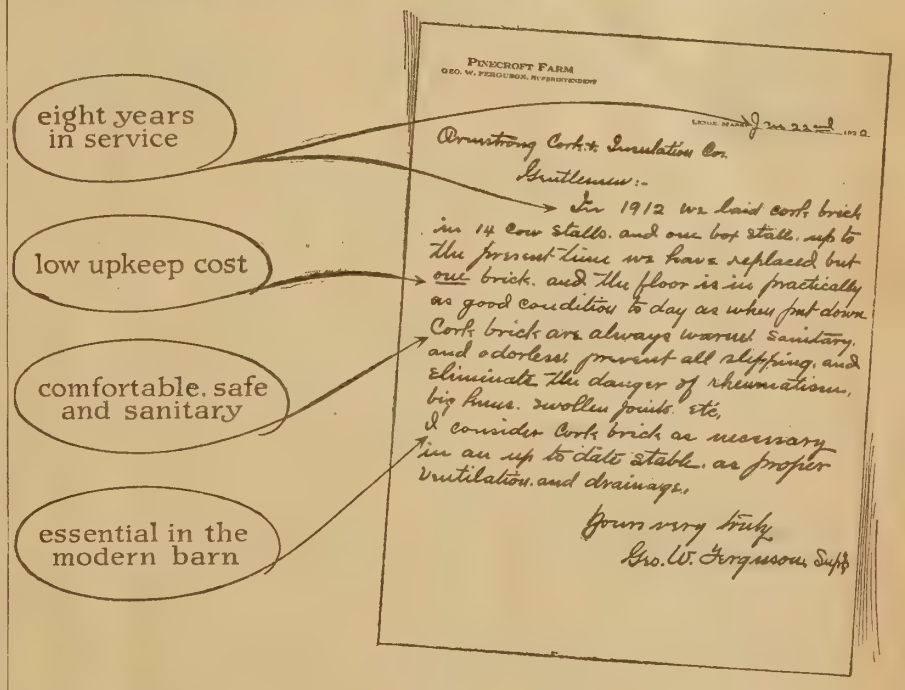
These prices are delivered to your nearest R. R. Station.

We Pay The Transportation Charges

Order today so your seeds will be on time. Remit by check, postal or express order.

BOWEN'S SEEDS, Dept. HD, Milwaukee, Wisconsin

"As Necessary as Drainage and Ventilation"

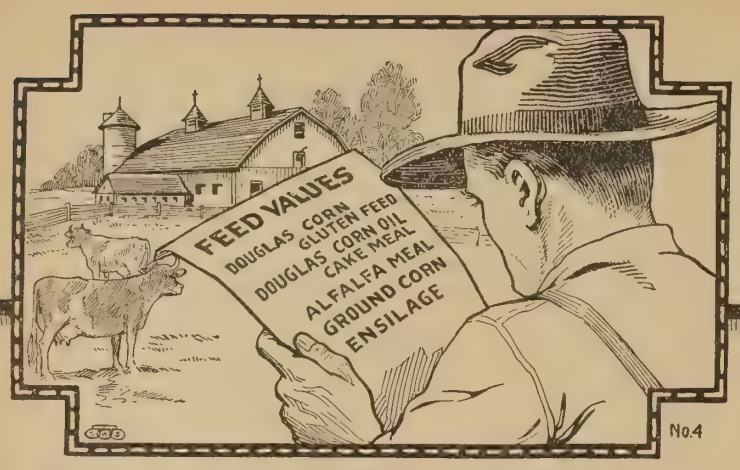


Mr. Ferguson's letter was written after Circle A Cork Brick had been used in his barn for eight years. Such evidence is too conclusive to be disregarded by the dairyman or breeder who appreciates the value of modern barn construction and equipment.

Ask for "Better Stall Floors"—a 28-page illustrated book that will certainly interest you. Not only does it give full information regarding the merits of Circle A Cork Brick, but it discusses the whole subject of stall floors from a practical, common-sense standpoint. A copy of the book and a sample of Circle A Cork Brick will be sent free of charge on request.

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FOR STALL FLOORS



Studying Feed Values

Every feed you grow and all feed-products of grain in the manufacture of food are useful livestock feeds when combined in right variety and proportions.

As Professor Hart of Wisconsin Experiment Station so strikingly illustrates—"Feeds vary in effectiveness according to the mixtures in which they are used."

"For example, in growth experiments with swine the efficiency of cereal proteins has been raised 25 to 65 per cent, through the use of skim milk proteins, which contributed only 15 per cent of the total nitrogen supply. *It is the combination that makes the profit.*"

Douglas Corn Gluten Feed and Douglas Corn Oil Cake Meal are two of the best feeds known for balancing the ration. They have proved their worth a thousand times. You should know them and feed them.

Our booklet, "Good Rations" gives results by practical feeders, Experiment Stations and the experiments of our own feed department.



Correct combinations and proportions of different feeds were worked out at great expense. We know what our feeds will do. We can conscientiously recommend them to you.

Write today for this booklet. Tell us what kind of stock you are feeding, and how many, also what feeds and roughage you have. We believe we can help you.



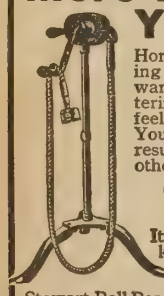
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Manufacturers of Sugar, Cane and Corn Products

More Work From Your Horses



Horses, like people, work according to the way they feel. On warm spring days, horses sweltering under winter coats don't feel right and don't work right. You can't dry them off properly, resulting in colds, stiffness and other horse ailments.

Clip Your Horses This Spring

It will put life into them and keep them fit and ready. Progressive farmers clip their horses in the spring with a Stewart Ball Bearing Clipping Machine. Price $14 at your dealer's, or shipped by us on receipt of $2, balance on arrival. Guaranteed to please or money back.

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This Stewart No. 9 Machine gets 15% more wool than the best hand blade shearing. Shears quickly, does not cut the sheep, and anyone can use it.

Price, complete, $22 f.o.b. Chicago. Your dealer has it, or you can buy from us by sending $2 with order and paying balance on arrival.

Catalog No. 69 shows complete line of hand and power operated machines. Write for it.

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We have issued a most valuable hand-book containing one thousand uses of *Formaldehyde* and the reports of the U. S. Dept. of Agriculture on scientific seed cleansing to avoid smuts and fungus of seed grains.

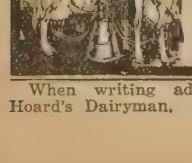
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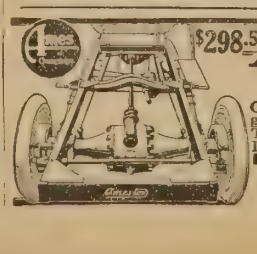
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What can a milking machine do for you? How can you tell what kind of machine is best? These and many other important questions are answered for you in our *free book*. Send only your name, address and number of cows you milk. Book and other helpful information will then be sent you promptly. No obligation.

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$298.50 **Amesbilt**
Worm Drive Truck Unit

Convert your old passenger car into a sturdy 1½ Ton Guaranteed Worm Drive Speed Truck.

F. A. Ames Company
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When writing advertisers please mention Hoard's Dairyman.

Valuing Cows According to Production

HOARD'S DAIRYMAN:—A great deal has been said, and is being advocated about keeping and maintaining records of dairy cows.

The writer was impressed, in driving through the state, to find so many not keeping records, thus being at sea as to which were "boarders" and "mortgage lifters".

When purchasing cows and questioning the seller as to the quantity given, the reply is usually made, "A fourteen-quart pail". This is very misleading. When asked to be weighed the quantity seemed to fall ten or more pounds under. The only exact measure is the scales.

The writer had an order for a carload of good grade Guernseys with instructions to buy 7,000-lb. cows or better. The customer figured on his retailed milk, estimating a 7,000-lb. cow worth $125.00 and for each additional thousand pounds the increased value of twenty-five dollars per cow.

Once equipped with a scales and bulletin board with milk sheets, little time is required to weigh and record the daily accurate production of each cow. With the exact daily production as a sure guide the feeder can follow a standard, one that is followed by most prominent feeders for economical production—as a pound of grain to each three pounds of milk produced.

Another important thing to emphasize is what the actual benefit of weighing the milk is beside exact records for yourself. It is a guide to a prospective purchaser, and to a seller who has ready data at hand, thus beneficial to seller and buyer. Then he will weed out poor cows and keep nothing but profitable ones. Why work for nothing? Pride yourself with large economical production.

One more point in record keeping is that of keeping exact breeding dates. The writer, when asking when a cow is bred, gets these replies. "She is dry." "Has been dry for some time." "She was dried some time ago," and like answers. It is more profitable for the purchaser and breeder to know exactly when each cow will freshen, so she can be dried off and prepared for her next lactation.

It is believed by most breeders that a cow should have a rest of six weeks to two months and that when fed up to a certain degree, while idle, one bag of feed when she is dry is equal to two when she freshens, if a cow is thin at freshening time.

It may be difficult to belong to a cow testing association if herds are scattered, but you will find big returns if you will only use the scales in your own herd.

Wisconsin. J. L. FRUIT.

SALE ANNOUNCEMENTS

April 15—Guernseys. Anna Dean Farm, Barberton, Ohio. Charles L. Hill, Mgr.
April 15—Holsteins. Virginia Holstein-Friesian Breeders' Club Sale, Richmond. W. L. Kirby, Manager.
April 19—Holsteins at Hudson, Ohio. W. C. Keenan.
April 21—Holsteins. Eaton Co. Holstein Breeders' Second Consignment Sale at Charlotte, Mich.
April 21—Brown Swiss. Illinois Brown Swiss Breeders' Association Annual Spring Sale, Morton, Illinois. Chester G. Starr, Pekin.
April 23—Selected Guernseys from the Sunnybrook and Willowbrook Herds at Sunnybrook Farm, Eatontown, N. J. Leander F. Herrick, Sale Mgr.
April 25-26—Holsteins. Waukesha County Holstein-Friesian Association Sale at Waukesha, Wis. W. L. Baird, Sec'y.
May 2—Holsteins. Walworth County Holstein Breeders' Association Eighth Semi-annual Sale at Elkhorn, Wis. Ben Bachhuber, Mgr.
May 3—Holsteins. Clark County Quality Sale at Owen, Wis. J. Wuethrich, Sale Mgr.
May 4—Holsteins. Minnesota Holstein Breeders' Association Third Annual Sale at Faribault, Minn. B. D. Scott, Sec.
May 4—Guernseys. T. C. Norman Dispersal Sale of Registered Guernseys at Lake Crystal, Minn. F. E. Fox, Waukesha, Wis., Sales Mgr.
May 12—Holsteins. Green Co. Holstein Breeders' Ass'n. Semi-annual Consignment Sale at Monroe, Wis.
May 4-5—Holsteins. Ohio Holstein Breeders' Association Second Annual Sale at Columbus, Ohio. H. C. Barker, Sec.
May 5—Guernseys. Waupaca Co. Guernsey Breeders' Assn. Annual Consignment Sale at Waupaca, Wis.
May 5—Holsteins. Lake Mills Holstein Breeders' Consignment Sale. F. H. Everson, Mgr., Lake Mills, Wis.
May 6—Holsteins. Illinois Holstein-Friesian Ass'n. State Sale. R. N. Thompson, Sec.
May 6—Guernseys. Fox River Valley Guernsey Breeders' Association Consignment Sale at Appleton, Wis.
May 9—Holsteins. Brown County Holstein Breeders' Sale at De Pere, Wisconsin.
May 9—Holsteins. West Salem, Wis. F. H. Everson, Sale Mgr., Lake Mills, Wis.
May 10—Guernseys. Dispersal Sale of Emmadine Farm Herd at Hopewell Jct., Dutchess Co., N. Y. Leander F. Herrick, Sale Mgr.
May 10—Guernseys. Berrien County Breeders' First Annual Consignment Sale of Registered and Grade Guernseys at Eau Claire, Mich. F. E. Fox, Waukesha, Wis., Sale Manager.
May 12—Guernseys. J. L. Hope's Annual Sale at Florham Farms, Madison, N. J. Leander F. Herrick, Sale Mgr.
May 12—Holsteins. Marathon Co. Holstein Breeders' Association Sale at Wausau, Wis. Francis Darcey, Watertown, Wis., Mgr.
May 12—Jerseys. Wisconsin Jersey Breeders' Ass'n. Sale at Madison, Wis.
May 13—Holsteins. Chippewa Falls, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 13—Eastern Guernsey Breeders' Association Combination Sale at Devon, Pa. Leander F. Herrick, Sale Mgr.
May 17—Holsteins. State Fair Grounds, Milwaukee, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 18—Jerseys. Monroe County Jersey Breeders' Consignment Sale at Tomah, Wis.
May 18-19—Holsteins. Manitowoc County Holstein-Friesian Breeders' Association, Manitowoc, Wis. Chas. Hampke, Manager.
May 20-21—Holsteins. Wheatfield Farms Consignment Sale at La Salle, N. Y.
May 23-24—Holsteins. Missouri State Holstein Association Show and Sale at Sedalia, Mo.
May 24—Guernseys. Marathon Co. Guernsey Breeders' Ass'n. Second Annual Consignment Sale at Wausau, Wis. F. E. Fox, Waukesha, Wis., Sales Mgr.
May 25—Guernseys. Portage Co. Guernsey Breeders' Association Annual Consignment Sale of Registered Guernseys at Amherst, Wis. R. K. McDonald, Sec'y. F. E. Fox, Waukesha, Wis., Sale Manager.
May 26—Brown Swiss. First National Consignment Sale, Peoria, Ill. Wm. S. Dunn, Mgr., Middleburgh, N. Y.
May 26—Holsteins. Michigan Holstein-Friesian Breeders' Assn. Sale at Grand Rapids, Mich. H. W. Norton, Jr., Secretary, Lansing.
May 26—Guernseys. Portage Co. Guernsey Breeders' Association Annual Consignment Sale of Registered Guernsey males and grade females at Amherst, Wis. R. K. McDonald, Sec'y. F. E. Fox, Waukesha, Wis., Sales Manager.
May 26—Holsteins. Marshfield, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 27—Holsteins. Outagamie County Holstein Breeders' Ass'n. Sale at Appleton, Wis. Edw. O. Mueller, Sec.
June 1—Holsteins. Dispersion of Fairview Stock Farm's Herd at Anderson, Ind. O. L. Janney, Owner.
June 1, 1921—Holsteins. Central Wisconsin Holstein Breeders' Ass'n. 13th Semi-annual Consignment Sale at Marshfield Sales Pavilion. Marshfield, Wis. R. A. Peterson, Wisconsin Rapids, Wis., Sale Mgr.
June 2—Guernseys. Clark County Guernsey Breeders' Annual Consignment Sale at Owen, Wis., C. E. Beck, Manager.
June 8—Guernseys. Fond du Lac Co. Combination Sale. Charles L. Hill, Mgr.
June 9—Holsteins. First Annual Bred Heifer Sale, Thorp, Wisconsin. W. H. Krause.
June 9—Holsteins. First Annual Sale, Holstein-Friesian Co-operative Association of New Jersey, Trenton, New Jersey. J. W. Bartlett, Secretary, New Brunswick.
June 9—Guernseys. Waukesha Guernsey Breeders' Ass'n. Eighteenth Semi-annual Sale of Registered Guernseys at Waukesha, Wis. F. E. Fox, Sec.
June 9—Guernseys. Massachusetts Guernsey Breeders' Sale. Leander F. Herrick, Sale Mgr.
June 15—Guernseys. First Michigan State Sale at Lansing, Mich. F. E. Fox, Waukesha, Wis., Sales Manager.
Oct. 12—Guernseys. Wm. S. Ormston & Son, St. Johns, Mich., Dispersal Sale. F. E. Fox, Waukesha, Wis., Sales Mgr.

Marketing by Federations

(Continued from page 493)

to the very small item of 1.2 cents to 1.6 cents out of every dollar received for cheese marketed. The actual expenses were highest during 1914, the first year of operation. This was before the world war began and therefore before prices of labor, materials, and supplies had increased. Each of the years 1915, 1916, and 1917, shows a successive decline in the relative expenses of operating. For the years 1918 and 1919, considering the great increases in prices of supplies of all kinds, it is remarkable that the relative expenses of the federation per dollar of sales were kept down to the 1916 level. The relative expense of maintaining the federation's general office and sales-management has grown less and less each year. During six years, largely on account of increasing business, the cost of salaries per dollar's worth of sales fell from one-half cent to little more than one-fourth cent.

The rising prices of materials and supplies on the other hand caused the increased expense of one-fifth cent per dollar of sales, which brought the 1919 total of expense back to the 1916 figure of 1.4 cents per dollar of sales. Few, if any, marketing concerns can duplicate this record of low operating costs during the world war. It is a tribute of the highest order to this co-operative management.

Cost of Co-operative Management

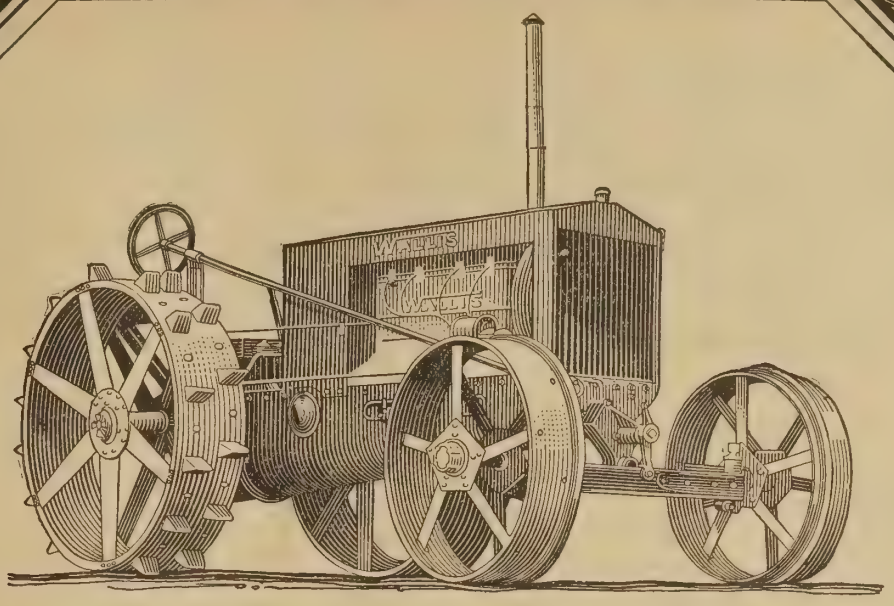
Besides keeping costs down the federation management marketed cheese at prices averaging somewhat above the Plymouth Board prices. This was possible because the federation has built up its own cheese customers in 37 states and provided them regularly with cheese of high quality. Many satisfied customers have stated that they will always be willing to pay considerably above Board prices for high quality cheese such as the federation sends. In these two fundamentals, keeping operating costs low and maintaining standards of high quality, this and other federations have the basis for indefinite expansion and for giving substantial benefits to their members.

Cheese Producers Profit by Federation

That the federation has been profitable to cheese producers during its six years of operation is shown by its substantial growth both in members and in quantity of cheese handled. Moreover, substantial savings or profits were earned. Dividends amounting to $42,000 have been paid. The treasury holds $38,000 of undivided savings which are being used to help finance the business. Besides this the general office and warehouse at Plymouth, worth not less than $75,000, is the property of the federation and has been earned by the organization. To have accumulated and paid out aggregate savings or profits amounting to more than $150,000 during its difficult, beginning stages is sufficient success to inspire confidence. This saving amounts to more than one quarter of a cent on every pound of cheese handled by the federation since it began business; and it had handled, by the end of 1919, 52,776,134 pounds of cheese.—From Bulletin 322, Wisconsin Agricultural Experiment Station.

It is time for this country to do as much for agricultural research as it has for agricultural education and extension.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.



World's Championship Won by Wallis



Exact reproduction of front of gold medal, showing head of King George V



Exact reproduction of reverse side of gold medal, showing seal of the Royal Agricultural Society of England

The Lincoln Trials conducted by the Royal Agricultural Society of England are recognized throughout the world as the most thorough and exacting tests in power farming. They were severe and complete, lasting seven days and including every field and belt operation. The jury of experts was composed of engineers, whose judgment is accepted as final throughout the globe. These men by their verdict awarded the gold medal and the World's Championship in the three-bottom class to the Wallis. The sturdy power and strength of the Wallis were decisively proven.

NOTICE: We want the public to know that the WALLIS TRACTOR is made by the J. I. CASE PLOW WORKS COMPANY of Racine, Wisconsin, and is NOT the product of any other company with "J. I. CASE" as part of its corporate name.

NOTICE: The Supreme Court of Wisconsin has decided that our plows are the "ORIGINAL CASE PLOWS" and that we are entitled to the exclusive use of the word CASE on all plows and tillage implements, and in all catalogs and advertisements of same. Notice by any other concern regarding CASE plows is given because of this Supreme Court order, that our rights, the rights of the dealer and the rights of the public may be protected.

Wallis—America's Foremost Tractor—won the gold medal of the Royal Agricultural Society of England and first prize in the three-bottom class in the competitive trials held recently in England.

This world's championship is added proof of the recognition given the in-built quality and strength of the Wallis by engineering judges of world-wide standing.

What Wallis Means to Owners

To owners, Wallis means more acres per hour and more production at less cost. With prices for his products considerably reduced, the farmer must look to his costs more carefully now than ever before. Power farming is the certain road to increased production and profit—the Wallis is the dependable means to that end.

The patented U-frame of one-piece boiler steel makes possible light construction, enabling the Wallis to deliver the maximum of power to the drawbar. Light weight, combined with brute strength, is originally and typically Wallis construction.

The Wallis is the first tractor to develop a drawbar pull greater than its own weight.

The Wallis motor has the greatest horse-power for its piston displacement of any successful tractor motor on the market. Its economical performance is unequalled by any other tractor of any size, weight or power.

Greatly Reduced Prices

You can now buy the Wallis—World's Champion Tractor—and all genuine J. I. Case Implements at greatly reduced prices. The farmer has taken his loss. We are taking ours in order to help agriculture and industry return to a normal business basis. It's to your advantage to see our nearest dealer for complete information on the reduced prices affecting our entire line.

Investigate Wallis Features

The Wallis Tractor has all working parts enclosed in dust- and water-proof casings and running in a constant bath of oil; crankshaft of chrome vanadium steel; Hyatt and Timken roller bearings; and nickel steel shafting throughout transmission system. Accessibility to all parts is a special feature of the Wallis. Hand holes in U-frame and sides permit you to reach all wearing parts easily and provide light inside so you can see what you are doing. The Wallis Tractor is built by a company which has successfully served the American farmer for three generations.

J. I. CASE PLOW WORKS COMPANY, Dept. A-6542, Racine, Wis.

WALLIS
—more acres per hour

Announcing

Second Annual

Illinois Guaranty Holstein Sale

May 6-7, 1921

Wheaton, Illinois

Opportunity

Everyone is agreed that now is the opportune time to buy registered Holsteins. Prices are low. Attend our sale and purchase foundation animals at your own price.

Our Guarantee

All cattle in this sale have been carefully inspected. They are hand picked and represent Illinois' very best cattle. Animals are *tuberculin tested* and sold with the usual 60 to 90-day retest guarantee.

Sale under management of

Illinois Holstein-Friesian Association

Sales Committee

130 N. Wells St. - - - CHICAGO

Send for Catalog

Waukesha County Holstein Breeders'

Spring Foundation Sale

140—Selected Pure-breds—140

All From State or Federal Tested Herds and Sold Subject to Retest

There will be—

30 OF THE BEST BULLS OF THE BREED FROM RECORD DAMS UP TO 34 LBS. IN 7 DAYS AND OVER 1000 LBS. IN A YEAR.

40 CHOICE COWS WITH RECORDS UP TO 31 LBS. IN 7 DAYS OR 1000 LBS. IN A YEAR.

HEIFERS OF ALL AGES—THE CHOICEST OF THE BREED.

Now is the Time to Buy

Every animal has been inspected for fitness. The best opportunity Waukesha can offer in foundation stock.

Watch For Next Issue

Waukesha County Holstein-Friesian Breeders' Association

254 Broadway, - WAUKESHA, WISCONSIN

Ohio Holstein Breeders'

Annual State Sale

At

Columbus, Ohio, - May 4-5

120——HEAD——120

From 65 of Ohio's Best Herds and all high class stuff

Several 30-lb. Cows

Several Daughters of 1000-lb. Cows

A Fine Lot of High Record Bulls

Every animal tuberculin tested and sold on a 60- to 90-day retest guarantee. Papers furnished day of sale.

Ohio Holstein Breeders' Association

H. C. BARKER, Field Secretary, - TIFFIN, OHIO

The Best Individual Son

OF

Ormsby Korndyke Lad

As well as one of his very highest record sons, heads our herd

He has been pronounced by experienced and expert breeders the finest individual for his age that they have ever seen.

We recently refused an offer of $20,000 for him at ten months of age.

He has eighteen 30-lb. sisters, and outside of his own brothers has more 1,000-lb. sisters and more 22,000-lb. sisters than any bull living or dead, and more coming.

The owner of the highest 7-day record daughter of S. P. O. M. 37th and the best yearly record daughter to date for the time on test is negotiating with us to breed her to our sire.

As our herd is small we will accept a few approved cows for service at a reasonable price

You are invited to call and see one of the best individual bulls in the country,—one whose blood lines are of enduring popularity and whose sisters yet to be developed will make him famous.

ELM LEAF STOCK FARM

Bear Creek - - - Wisconsin

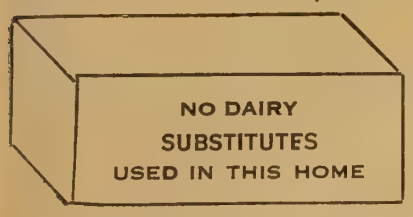
James McKone, Owner, Green Bay, Wis. William Lucia, Manager

No Substitutes Used on This Farm

HOARD'S DAIRYMAN:—I have been reading about oleo so much lately that I can't help but say something about it, too, especially after reading "The 20th Amendment".

I used to be an official tester and I found it a good deal as the article describes. At some of the places where they made world records and at places where the milk check amounted to over a thousand dollars a month, I had to eat oleo. Some would furnish skim-milk and others no milk at all. Still they holler the loudest, and we can read and talk all we want but it doesn't seem to do any good.

While traveling around, I saw a good many signs on the gate posts advertising the make of milking machine used on that place, the separator or lighting system used, if pure-bred bulls were used, or the breed of cattle kept, etc. Now, why could not every farmer boast of a sign to the effect that there is no butter substitute used on his farm?



I know there are very few true dairymen who would not be proud of such a sign and it would not be long before the oleo farmer would be ashamed to use substitutes instead of butter. We have dairy councils, farm bureaus, and different farmers' and breeders' associations who could do a lot of good in that line. If such a sign could be had for about 25 to 50 cents, and then be had from creameries, cheese factories, condenseries, etc., it would not be long before every gate post leading to the farm would be decorated with such a sign, especially if there were some little booklet explaining why butter is far better than substitutes which would be given with each sign so that a farmer could more easily explain to his oleo friends (?), and also to his town and city friends, the facts about butter and dairy products in general.

Ormo, Wis. A. R.

What shall we charge each cow per month for pasture?

This price must be determined from the general care given to the pasture and from the quantity and quality of the grass. A fair estimate may be suggested ranging from $2 to $4 per month. The proper number of cows to turn on a pasture varies with the quantity and quality of the pasture and the system of managing the cattle. If the pasture is to be practically the sole source of feed, not more than one cow should be turned in for every three acres of pasture. Where some grain and roughage is fed, less pasture acreage may be supplemented.—A. J. Cramer, Wisconsin Cow Testing Association.

Time used to profit today will accumulate power for your tomorrow.—ADAMS.

Minnesota Holstein Breeders'

Third State Sale

Faribault, Minn., May 4, 1921

The State Sale Classic of the Year

The entries come from 55 of Our Best Herds



They are of Better Quality than those at any previous state sale

If you are interested in good Holsteins plan now to be at Faribault on May 4th

Minnesota Holstein Breeders' Ass'n, 406 Market Bank Bldg. MINNEAPOLIS, - MINN.

The Rice County Breeders will hold a consignment sale at Faribault, May 5

Eggs, Baby Chicks

8-week-old pullets. Won over 2,500 prizes 1917-18. Furnished U. S. Government and state schools, stock, eggs, chicks. Safe delivery guaranteed. Eggs, $8 per 100, 50 for $4.50, 15 for $1.75. Chicks, Barred, Buff, White Rocks, S. & R. C. Reds, R. C. Blk. Minorcas, Buff Orpingtons, White Buff, Silver Laced Wyandottes, S. C. Anconas, $18 per 100, $9.50 per 100, $5 per 100. 8-week-old pullets $1 each. S. C. White and Brown Leghorn chicks $15 per 100; 50 for $8; 25 for $4.50. 8-week-old pullets, 85c each. White Orpingtons, Black Langshangs, Partridge Wyds., Columbian Wyandottes, Light Brahmas, S. C. Blk. Minorcas, R. C. Anconas, chicks $21 per 100; 50 for $11; 25 for $6; 8-week-old pullets $1.25 each.

STERLING POULTRY FARMS
Box H, Sterling, Ill.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

Ormsby Bulls For Sale

Good Ormsby bulls from dams with A. R. O. records from 18 to 31 lbs. Two sons of Lady Inka Ormsby 31.17 lbs. butter from 633.8 lbs. milk. Sired by grandson of Sir Pietertje Ormsby Mercedes.

C. G. KEYS. Richland Center, Wis.

GRANDSONS OF
SIR VEEMAN HENGERVELD

One ready for service. 7/8 white and a show bull. He'll suit you. Six bull calves 2 to 3 months old 1/2 to 3/4 white, most of them from heavy producing daughters of a 34-lb. son of K. K. S. V. All are from very good producing dams. Prices $50 to $65.

AUG. SEEFELDT, Theresa, Wis.

High Grade Dairy Cows

We have on hand around 100 HEAD CHOICE HOLSTEIN, JERSEY AND GUERNSEY SPRINGERS.

These cows are selected from the best dairy sections of Ohio and can be offered at a price in accordance with the times. All animals are sold subject to the tuberculin test and ready for inter-state shipments. Sixty-day retest if desired. Every animal guaranteed as represented. Correspondence solicited. Inspection invited.

THE RIECK FARM SALES CO. - Rootstown, Ohio

Illinois Brown Swiss Sale

The members of the Illinois Brown Swiss Breeders' Association are consigning to their annual spring sale a most excellent class of cattle. Emphasis has been placed on the females and the visitor will be pleased with the quality and breeding of the cows and heifers. Only bulls that are of real merit have been included to give an opportunity to secure herd heading material. The state association regards this annual sale as a means of publicly advertising the merit of Illinois cattle. No dumping of inferior stock is practised.

The consigning herds number 16. Among them are such as the Jubilee Farms, whose show herd made a wonderful record in 1920; Roy Gilbert, whose herd led the Palmyra Testing Association last year; the Gerbers, who had the champion cow at the Peoria Fair in 1920; D. A. Wagner, whose small herd has produced many high class cows.

The cattle will be sold with the usual 60-day retest guarantee. The majority of the cattle come from herds either accredited or under Federal supervision.

Morton, Illinois

Thursday, April 21

Morton is ten miles east of Peoria on the Illinois Traction System.

Auctioneers—L. E. PENNEWELL and L. F. CARIUS

For a catalog address

Illinois Brown Swiss Breeders' Ass'n
Chester G. Starr, Sec'y, Pekin, Ill.

An Illinois Brown Swiss is A Good Animal

When Writing to Advertisers, Mention Hoard's Dairyman

VETERINARY

Advice is given free in this department. Inquires must be signed by the writer, and should pertain to veterinary Matters only. Where an immediate reply and prescription are desired by mail, the inquiry must be accompanied by a fee of one dollar. In every instance it will be necessary to give a full description of the symptoms present.

Testing for Abortion Infection

The trained pathologist has several laboratory methods of determining the presence of the infectious abortion disease in cattle, which help materially in avoiding the malady or eliminating it from a herd.

Of these the first is microscopical examination of fluids from the afterbirth (placental exudate) or contents of the digestive tract of the fetus. By this means the examiner detects the presence of the Bacillus Abortus, of Bang, which causes the disease. This method is considered fairly satisfactory, but not absolutely conclusive. A somewhat more satisfactory method is the laboratory culture of the abortion organisms. In this method tubes containing a suitable growing substance (serum agar) are inoculated with material from the digestive organs of the aborted calf. If abortion bacilli are present, colonies containing the organisms form in the agar after incubation for 7 to 10 days.

The agglutination test is now more generally applied separately or in conjunction with the complement fixation method. The first of these methods is based upon the fact that the blood serum of an animal affected with the abortion disease has the power of agglutinating or joining together cultures of the causative organism. This agglutinating effect is produced by anti-bodies formed in the blood of the affected animal by the germs of the disease. The special anti-body having this power is known as an "agglutinin". In the laboratory the scientist applies the test by adding serum of the suspected animal to the culture containing germs and noting results under the microscope, or by adding the serum in varying amounts to test tubes containing a slightly turbid suspension of the bacilli. If the infection is present the added serum causes the bacilli to agglutinate or clump together at the bottom of the tube leaving a clear liquid above. The liquid in the tubes remains turbid if uninfected serum has been added.

The complement fixation test is based upon the fact that the blood serum of normal animals contains a substance known as complement which in conjunction with a second substance known as the amboceptor causes haemolysis or breaking up or dissolving of red corpuscles of the blood. Roughly speaking the test consists in adding complement (fresh guinea pig serum) tested for haemolytic power by mixing with a known amount of sheep's corpuscles and the necessary amount of rabbit's haemolysin, to a tube containing a little of the serum of the suspected cow and a suspension of the abortion bacillus. "If the cow's serum has abortion amboceptors in it," says Professor Surface, biologist of the Kentucky Station, "these will unite with the bacteria and the complement. In this union all of the complement will be used. After this mixture has stood long enough for the reaction to take place, a little of the inactivated rabbit's serum (haemolysin) is added, and also some of the sheep's corpuscles. Now if the cow had the disease, all of the complement will have been used up in the first part of this reaction and none left in the tubes. Consequently the sheep's corpuscles will not dissolve because the complement had been fixed. On standing, these corpuscles will settle to the bottom and leave the liquid water-clear. If the cow did not have the disease there will be no abortion amboceptors present and the complement will be free in the tubes. On addition of the haemolysin and corpuscles, these will unite with the free complement and haemolysis will take place. Thus, in case the animal has the disease the complement will be fixed and there will be no haemolysis. If she does not have the disease, the complement is not fixed and haemolysis will take place.

These tests can, in many instances, be arranged for by the attending graduate veterinarian at comparatively small cost per cow. They will not, however, determine which cows have an active infection and those that have become immune, nor will all reacting cows abort. Reacting cows are or have been infected; non-reacting cows are not infected and are not immune. The latter cows are most liable to infection. The tests enable the owner to isolate cows before they abort and also to isolate cows which may not abort but which are capable of spreading the disease to clean cows and heifers.

Professor Surface says: "If every purchased cow were tested before admitting her to a healthy herd, the introduction of the disease (abortion) could be prevented. Since some cows may be infected and still carry their calves to full term, the presence of a living calf is not sufficient evidence that the cow is not infected."

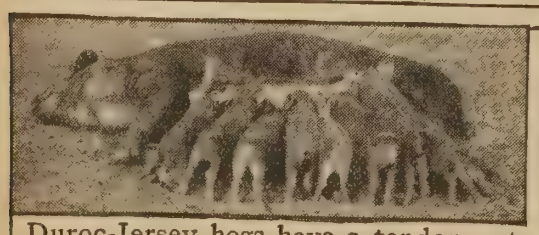
In conclusion it is advised that all questions pertaining to the testing of cows for abortion disease should be addressed to the Veterinary Department of the Agricultural Experiment Station of the state in which the owner resides.

Barrenness

Please tell me what I can do with my Brown Swiss cow that I bought last year. She was

SWINE

Cedar Crest Farms
have never possessed a finer lot of
BERKSHIRES
than at present. Let us name you prices on fall and spring boars and young gilts.
J. K. Dering, Owner, Lake Villa, Ill.



MORE PORK IN LESS TIME

Duroc-Jersey hogs have a tendency to put on great amounts of pork at an early age. They are easy-feeding animals, and raise large families. These hogs were introduced less than 50 years ago, and yet in 1918, 51% of all the hogs marketed in the country were "Duroc-Jerseys." They are uniformly red in color. Increase your profits by raising Duroc-Jersey hogs.

Write for "DUROC-JERSEY HOGS ARE PROLIFIC AND PROFITABLE"—sent free to hog-raisers by the largest swine record association in the world. Over 12,000 members.

The National Duroc-Jersey Record Association. Dept. 300 Peoria, Ill.

For Barrenness in Cows, Mares and Sows, Use Hood Farm Breeding Powder

Astonishing Success in Making Barren Animals Breed — Indispensable After Abortion — Invaluable Where Cows do not Clean — Profitable to use on Every Cow After Calving.

Read what they say:
Hood Farm Breeding Powder is great and has been a God-send to me. I cannot be without it.
SULZER BROTHERS,
R. F. D. No. 2, Box 42, Hillsdale, Ore.

I have been using your Breeding Powder for eight years, when needed, and am well pleased with it.
HENRY C. STRIEKER,
R. F. D. No. 1, Germantown, Ill.

Prices of Hood Farm Breeding Powder prepaid, $1.15, $2.75 and $5.00. Price of Hood Farm Flexible Injection Tube by mail, 90c., or with a $5.00 order 75c. Please mention this paper.

C. I. HOOD CO., Lowell, Mass.



America's Pioneer Dog Medicines

BOOK ON
DOG DISEASES And How to Feed
Mailed free to any address by the Author
H. CLAY GLOVER CO., Inc., 118 West 31st Street, New York

DON'T LET YOUR COWS ABORT

Take no chances of losing calves, cows and milk profits from Contagious Abortion. If it has attacked your herd, get rid of it at once. If you have escaped so far—KEEP IT OUT.

ABORNO
THE GUARANTEED REMEDY FOR CONTAGIOUS ABORTION

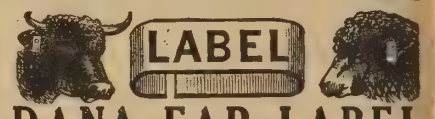
Treats this disease scientifically through injections into the blood which kill the abortion germs and immunize healthy animals against them. Can't harm the cow. Has wonderful record of success. Prompt and positive in action—reasonable in cost.



Write for free booklet with guarantee and letters from farmers and dairymen

ABORNO LABORATORY
28 Jeff St. Lancaster, Wis.

Lump Jaw Fleming's Actinoform, for 30 years the standard Lump Jaw remedy. $2.60 a bottle postpaid. Money back if it fails. Send for FREE Vest Pocket Veterinary Adviser. Describes Lump Jaw and 200 other Cattle and Horse diseases.
FLEMING BROTHERS, 255 Union Stock Yards, Chicago



DANA EAR LABEL
Stamped with owner's name or address and serial numbers. Send for free samples.
C. H. Dana Co., 55 Main St., W. Lebanon, N. H.

ABORTION IN CATTLE
CAN BE TREATED SUCCESSFULLY AND YOUR COWS MADE PROMPT. REGULAR BREEDERS BY



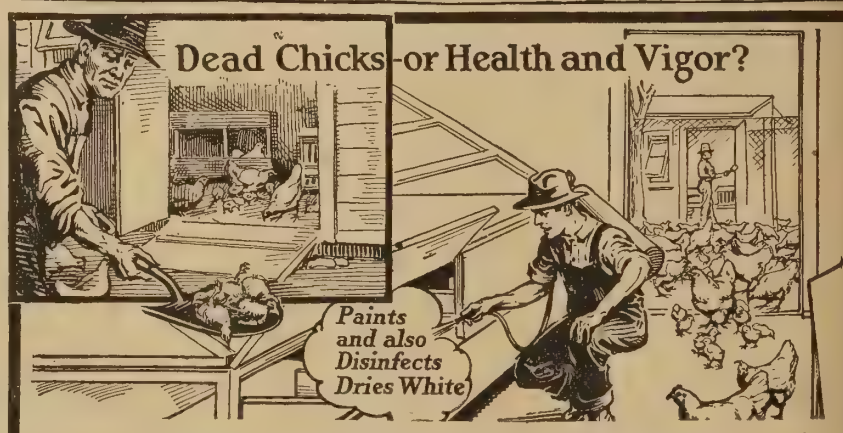
STERILOID

STOP LOSING CALVES

TREATMENT: If STERILOID is used at the first sign of abortion the cow will go her full time and have a healthy calf. If your cows or heifers do not come in season, or fail to get with calf, use STERILOID. Cows get with calf after only one treatment. Write today for **FREE BOOK.** It explains the causes and symptoms of Abortion and tells how to treat Abortion, and make your cows regular, healthy breeders with STERILOID. Also contains letters from breeders who have used STERILOID successfully.

GUARANTEE: We will refund money in every case when STERILOID FAILS to make good. PRICE $1.00 plus 4c tax. Mailed Postpaid, in plain wrapper.

MARTIN REMEDY COMPANY, Dept. A, 398-408 Columbus Ave., New York City. Reference—Colonial Bank.



There's No Profit in Dead Chicks

and each one of yours that dies represents a waste of time and labor—and is practically the same as taking money right out of your pocket.

To RAISE chicks it is just as important to keep their living quarters light, clean and sanitary as it is to give them proper food. The presence of lice and mites, even if not in sufficient numbers to actually kill your chicks, which often is the case, means retarded growth and a weakened physical condition, that makes them easy prey for the many diseases that attack all poultry and especially young chicks.

CARBOLA
The Disinfecting-White Paint

Instead of Whitewash and Disinfectants

is used with most satisfactory results by thousands of poultry raisers in all parts of the country, and by many Agricultural Colleges and Experiment Stations to disinfect the incubators before the eggs are put in, for the brooders before turning in the young chicks, and to keep all poultry buildings light, clean, sweet-smelling, and free from the germs of contagious disease.

CARBOLA is a white paint and disinfectant combined, in powder form. It is ready to use just as soon as mixed with water and can be applied with a sprayer—it positively will not clog—or with a brush, to wood, brick, cement, stone, tar-paper, etc., and over whitewash. One gallon covers 200 square feet. CARBOLA will not blister, flake or peel. It is neither caustic nor poisonous—harmless to the smallest chick. The dry powder is unexcelled as a louse powder, and is much cheaper than other brands. Sprinkle it freely on the chicks, in the litter on the floor, in the nests and in the dust bath.

CARBOLA paints and disinfects at one operation—saves time, labor and money—makes it easier to do work that must be done. Your money back if you are not satisfied. Order it today and keep it on hand for a rainy day job.

Your hardware, paint, drug or seed dealer has Carbola or can get it. If not, order direct — prompt shipment by parcel post or express.

10 lbs. (10 gals.) $1.25 and postage. 20 lbs. (20 gals.) $2.50 delivered. 50 lbs. (50 gals.) $5.00 delivered.

Trial package and interesting booklet 30c. postpaid
Add 25% for Texas and Rocky Mountain States

CARBOLA CHEMICAL CO., Inc., 299 Ely Ave., Dept H, Long Island City, New York

bred in July last year and in November was bred again and ever since she has been bred to three different sires but has failed to conceive. What can I do to get her with calf again?

Newark, Ill. E. O. B. H.

You should isolate the cow and cleanse and disinfect the stall she has occupied as she is probably affected with the contagious abortion disease. There is no use in breeding her while her periods of heat are irregular. Flush out her vagina daily with blood warm boiled water containing two tablespoonfuls of table salt to the gallon and as soon as possible have her womb and ovaries treated by a veterinary specialist. When that has been done, normal periods of heat may ensue in which event she should be bred.

Minerals for Hogs

Please advise me what to use as a mineral mixture for hogs. They root a great deal and gnaw on bones and work at stone wall. They seem to want lime.

Howe, Ind. A. M. B.

Allow the hogs free access to a mixture of equal quantities of slaked lime, salt, wood ashes, and wood or corn cob charcoal. In addition, allow clover or alfalfa hay and let the hogs help themselves to middlings, bran, shelled corn, and tankage from a self-feeder. If that does not suffice, bone meal or precipitated phosphate of lime may be added to the feed in teaspoonful doses twice daily and increased as found necessary.

Loss of Cud; Loose Teeth

Kindly advise what to do in case a cow has lost her cud. What is the procedure when a cow, through the ravages of a cold, has had her teeth loosened?

Chicago. N. H. M.

It is a mistake to believe that a cow "loses her cud". Cud chewing (rumination) is the natural function of health and ceases temporarily or permanently when the animal becomes sick. Usually it is promptly resumed when the sickness subsides. Giving an "artificial cud", such as a red herring or piece of salt pork, is the popular treatment. Such things simply stimulate a flow of saliva which may relieve indigestion and incidentally induce rumination. In many instances a full dose of Epsom salts or other physic proves remedial. In others nux vomica and other drugs are employed by a veterinarian.

The incisor teeth normally are somewhat loose. If an abnormal condition is present, please give us full particulars and we may be able to give helpful advice.

Goiter

I have a grade Holstein calf two weeks old that had a fleshy bunch on her throat at birth and seems to remain about the same size. It is located close to head right on the larynx mostly on the right side and under throat and with the larynx makes a bunch a little smaller than a man's fist. Calf seems thrifty and vigorous. I would like to raise the calf as it is out of a good cow. Is there any treatment that would remove this bunch or wouldn't it be advisable to raise the calf? If not advisable to raise the calf would it be all right for veal?

Castle Rock, Wash. H. T.

Enlargement of thyroid gland, constituting goiter, is present and as tendency to the disease is considered hereditary, it scarcely would be wise to retain the calf for breeding. The enlargement may subside if you paint the lump with tincture of iodin every other day and give 10 grains of iodide of potash internally in water once daily for five consecutive days a week for two or three weeks or until the lump subsides or greatly lessens in size.

Blood in Milk

My pure-bred heifer gives bloody milk but there is no swelling and no bunch in the teat. When I get her about milked out then she gives bloody milk and it doesn't seem to hurt her.

Curtiss, Wis. E. J. R.

In a case such as you describe, unless just after calving, the blood comes from small growths in the teat which are irritated by the act of milking. Such growths sometimes are removable by operation. If not, the secretion has to be dried off in the affected quarters or a calf allowed to nurse. When milk is bloody just after calving, the cause is rupture of capillary blood vessels in the gland and the milk clears up in a week or two if the cow be lightly fed.

Bulletins of the Week

Unit Requirements for Producing Market Milk in Vermont, by J. B. Bain, R. J. Posson, and R. P. Hotis. Bulletin 923, U. S. Dept. of Agr., Washington, D. C.

What the Retailer Does with the Consumer's Dollar, by T. Macklin and P. E. McNall. Bulletin 324, Wisconsin Experiment Station, Madison, Wis.

Fertilizers for Potatoes, by Wm. L. Slate, Jr., and B. A. Brown. Bulletin 106, Storrs Experiment Station, Storrs, Conn.

Dairy Barns, by O. R. Zeasman, G. C. Humphrey, and L. M. Schindler. Bulletin 325, Wisconsin Experiment Station, Madison, Wis.

Corn-belt Farmers' Experience with Motor Trucks, by H. R. Tolley and L. M. Church. Bulletin 931, U. S. Dept. of Agr., Washington, D. C.



How does she make that extra 10 lbs.?

MOST grass is deficient in protein, and calcium. The stomachs of an average cow can't hold enough grass to supply the elements needed for more than about 20 pounds of milk. Yet she may produce 30 pounds for a time because she is stimulated by the new grass and probably a new calf. She does this by drawing upon the tissues of her body for the protein and minerals needed for the extra 10 pounds.

Don't let cows "run down"

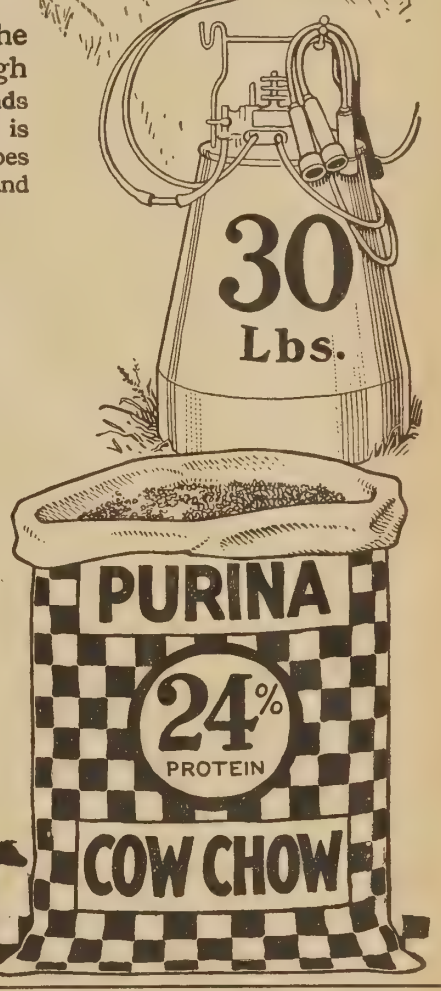
Get that extra milk right along. By feeding the elements that grass lacks, you will get it. You will also stop the drain on your cows' systems.

Feed Purina Cow Chow *Now!*

Purina Cow Chow supplies *all* that grass lacks. It makes your cows go through the season with better milk records—on an average, 3 lbs. of extra milk per day for every pound of Cow Chow fed. It will leave your cows in fine shape in the fall, ready to start right off with a good winter milk production. See the nearest Purina Dealer. Write for "ABC's of Milk Making," free.

RALSTON PURINA COMPANY, St. Louis, Mo.
Ft. Worth, Tex. Nashville, Tenn. Buffalo, N. Y.

Feed from the Checkerboard Bag





"There's More Real Satisfaction"
says the Good Judge



In a little of the Real Tobacco Chew, than you ever got out of the ordinary kind.

The good rich taste lasts so long you don't need a fresh chew nearly as often—that's why it costs you less to chew this class of tobacco.

Any man who uses the Real Tobacco Chew will tell you that.

Put up in two styles

W-B CUT is a long fine-cut tobacco
RIGHT CUT is a short-cut tobacco

Weyman-Bruton Company, 1107 Broadway, New York City

New State Records for Jerseys

Tennessee has just produced a new state champion in the junior three-year-old class with Gold Mark's Wistaria. She has just completed her test and produced 8,515 lbs. milk containing 519 lbs. fat. Her sire is Gold Mark's Golden Fern and her dam is Wistaria Rose. She was tested by her owner, W. J. Ezell.

By producing 11,930 lbs. milk containing 653 lbs. fat, Ayredale's Over-the-Top becomes the junior two-year-old champion Jersey cow of Maine. She is a daughter of Pogis 99th of Hood Farm and is out of Successful Queen, who has two R. of M. daughters and has completed five consecutive yearly records. This heifer is owned by Ayredale Stock Farm.

Out of the first 11 Jerseys to finish a year's test at South Park Farms, owned by Sam F. Crabbe of North Dakota, six have become state champions for their ages. Noble's Golden Marguerite finished as the highest producing Jersey cow in the state, with a record of 13,315 lbs. milk containing 703 lbs. fat. She started her test at five years and two months. She is a granddaughter of Noble of Oaklands and was sired by Noble Duke of Oaklands. Two half sisters of this cow have also established state records, the average of the three sisters being 566 lbs. fat.

The new champion producer for Rhode Island is Flying Fox's Marion owned by J. H. Hess. She has just finished with a record of 12,104 lbs. milk containing 596 lbs. fat. She is by Friar's Foxling's Flying Fox and out of Golden Marion D.

Indiana comes forward with a new champion, Fox's Signa, owned by Harold McCulloch. Starting her test at three years and nine months, she has produced 10,605 lbs. milk containing 592 lbs. fat. She is by Eminent Fox Purdue and out of Duke's Signa.

Hillcrest Jerseys

Bull calf born March, 1920. Sired by Imp. grandson of Golden Fern's Noble. Priced right for quick sale. Write

ROLLIE VANDERVORT, TOMAH, WIS.

JERSEYS—DUROCS

Just one bull old enough for service and a few young calves. Hood Farm breeding.

F. R. Constance & Sons, Waupaca, Wis.

HERE'S YOUR OPPORTUNITY

Bull calf born March 4, 1920, sired by a grandson of Majesty's Western King and out of a R. of M. daughter of Ibsen's Chief. For full pedigree and price write

E. E. HILL & SONS, Tomah, Wis.

Valley Farm is Offering

Several bulls, 6 to 12 months old, from R. M. cows. Sired by Golden Maid's Viscount and Kilda's Royal Majesty, two of the best Island bred bulls living. At prices to sell. Write

FRED STUBLEY, Black Earth, Wis.

JERSEY BULL

Ready For Service

Dropped July 25, 1919. Solid dark fawn, black tongue and switch. SIRE—Sigma's Raleigh Majesty 156131, by a R. of M. grandson of Royal Majesty, out of Raleigh's Sigma 241848, Champion Jersey butter cow of Iowa, in R. of M. 1,011 lbs. butter in 1 year—1,951 lbs. in 2 consecutive years, out of a daughter of Raleigh's Fairy Boy, by a son of Mabel's Raleigh. DAM—In R. of M. 448.35 lbs. butter at 3 years old. A prize-winning granddaughter of Oxford You'll Do, out of a cow of Champion Flying Fox and Golden Fern's Lad breeding.

Price $175.00 F. O. B. Forest Lake, Minn.

M. D. MUNN, ELMS JERSEY FARM
Forest Lake, Minnesota

The Elms Jersey Farm

A few young cows, bred heifers and unbred heifers, for sale at from $150 to $250. Write for pedigrees and descriptions.

Thos. T. Bacheller, Jr., Mgr.
Forest Lake, Minn.

Montpelier Jerseys

Three young bulls ready for service. Trace three times to Oxford Lad. Fine typy individuals. Right in every way.

Montpelier Manor Farms, Laurel, Md.

POLLED JERSEYS

Breeders' names and Spillman's "Inheritance of the Poll Character in Cattle" mailed free.

CHAS. S. HATFIELD, Secy, R4, Box 5, Springfield, Ohio.

Sophie 19th of Hood Farms

World's Champion Long Distance Dairy Cow

9 years R. O. M. records total 110,918.1 lbs. milk, 6,356 lbs. fat, 7,945 lbs. butter 80% fat. Now on tenth yearly test in sixteen-year-old form. Has made in four months 5,137 lbs. milk, 295 lbs. fat. We offer grandsons of this World's Champion cow. They will sire size, production, constitution, longevity. Write for description and pedigree of bulls and bull calves. Prices from $200.00 and up.

HOOD FARMS, Inc.
Lowell - - Mass.

N. B. Over a quarter century breeding Jerseys for large size, heavy production, strong constitution, longevity and profit, enables us to offer you a bull that will sire profitable producers. Our correspondence is very large, to save time and correspondence, we would appreciate your writing us priced bull you wish to purchase, and we will send full information on more than one for your consideration.

JIMMY DODGE, Mgr.

JERSEYS

JERSEY BULL

14 Months Old
From Register of Merit Dam

With record of 416 lbs. fat, age 3 years, 2 months, carried calf 247 days. 7 nearest dams of this bull are in Register of Merit with good records. Solid dark color and a very good individual. Price $140.00.

P. G. WARMINGTON, Honey Creek, Wis.

Register Merit Jersey Herd

At Head, Mona's Jacoba Premier grandson: Pogis 99th of Hood Farm. Dam, Mona's Jacoba, record 806 lbs. butter: Granddaughter Jacoba Irene, young stock; St. Lambert breeding for sale. R. C. Green & Son, Albion, Wis.

Ten Splendid Jersey Bulls

Good type, 6 to 18 months old. Heifers bred and open. Hood Farm Torono, King Sappho King, Loretta D. Bright Prince, etc. blood lines. Free from abortion. Dams are in the R. of M. or on test. Accredited herd. Address: J. Q. Emery & son, Edgerton, Wis.

Meridale Jerseys

Head Your Herd With a Meridale Bull



The most practical way to increase the profit of a dairy herd is to head it with a pure-bred bull. Such herds average receipts of about $26.00 per cow per year higher than herds headed by a grade or scrub.

A good bull is worth more than his cost to the dairyman. We have a few such young bulls available. They are bred from Register of Merit ancestry, and give promise of being better than their sires. Figure what the *need* of a pure-bred bull is costing you. Write for booklet and pedigrees.

AYER & McKINNEY

Meridale Farms Meredith, New York

Increase Size and Production

Buy For $500
Jersey Bull — Tattoo 335

Dropped January 25, 1919

SIRE—Carry On of Ayredale 164012. His dam and two grandams average 17,151.1 lbs. milk, 928.3 lbs. fat. He combines the blood of the Champion Sophie 19th of Hood Farm, Pogis 99th of Hood Farm, Sophie's Bertha and Lass 66th of Hood Farm.
DAM—Merry Maiden Frances 5th 349568. R. O. M. record as a 3-year-old 9,713.9 lbs. milk, 544.2 lbs. fat. A big cow of grand type, with the kind of udder and teats we like.
The bull is solid dark fawn, black points, and bred in the lines that breed better each generation. He will sire profitable cows.

AYREDALE STOCK FARM,
F. W. Ayer, Box 713, Bangor, Me.

Financial Bred Jerseys

Six young bulls out of dams with R. of M. records of 500 lbs. butter and better. Good typy individuals.

Also yearling heifers. Let us send you our illustrated catalog.

A. F. BLOCK, Norwood Park, Ill.

GUERNSEYS

Guernsey Females

At Farmers' Prices

We offer 12 desirable Guernsey females. The lot includes

3 A. R. matrons
3 heifers now on test
6 heifers carrying first calf

All these animals are bred to one or another of our herd bulls. Positive guarantee as to descriptions and representations. The chance of a life time. We must make room for coming youngsters.

Prices $250.00 to $600.00.

HYNICKA BROS., LEBANON, PA.

A PROVEN SIRE

Of May Rose Breeding
For Sale or Trade

A good individual with high producing daughters. His half sister was first prize at Wisconsin State Fair 1918 and 1919. His sire is Langwater Hayes Rosie's King of the May No. 16723 with 15 A. R. daughters with records up to 797 lbs. fat. His dam is Mac's Blossom 2nd No. 47330 A. R. Her sire is May King's Vrangue of Ingleside No. 15430 with 15 A. R. daughters with records up to 900 lbs. fat. One of the oldest daughters of bull for sale sold for $1,500 at auction. Will trade bull for heifers or take Liberty Bonds in payment. We would also consider leasing bull in a pure-bred herd.

FRUIT BROTHERS, Waukesha, Wis.

Sequel's Glenwood of Linwood 41767

Sire—Imp. Clara's Sequel with 35 A. R. daughters, 20 of them average 518 lbs. fat as heifers.
Dam—Ideal of Alfalfa Farms. 739.72 lbs. fat.

FOR SALE

6 high class pure-bred Guernsey heifers from 12 to 14 months old. 3 are sired by Sequel's Glenwood of Linwood and out of good A. R. cows. 3 are sired by Dairymaid's Glenwood of Pinehurst 3rd 26948 A. R. One from a daughter of Langwater Frenchman with record of 532 lbs. fat. They are a very nice lot of heifers. They are not bred. Come and see them. Attractive price to any one taking the 6 head. Also a few bulls of serviceable age.

ORE HILL FARM,
Dale E. Rundell. Livingston. Wis.

Koshkonong Place Guernseys

Herd Bull: ANTON'S KING CECIL
(6 May Rose crosses).

BULL CALVES 6 mos. to 1 yr. old from A. R. daughters of

Jury and Gilt-Edge of K. P.

Herd on Federal Accredited list.

A. R. HOARD, - Fort Atkinson, Wis.

Langwater Traveler

Carries 50 per cent blood of Imp. King of the May, greatest bull of the breed.

His dam is Langwater Lustre, A. R. 806.10 lbs. fat, fifth cow in Class C. She is the second highest testing daughter of King of the May. His sire is Langwater Hollistom, sire of Langwater Levity, sold for $6,000.00 and leading cow in Class EE. Traveler's daughters are averaging over 500 lbs. of fat with their first calves. His first daughter to freshen will be a class leader in FF. We offer some excellent bull calves by Traveler out of May Rose cows with fine records. Federal Accredited Herd.

CHICONA FARM GUERNSEYS
A. L. Glie, Prop., Chinook, Washington.

Tilden Farms Guernseys

FOR SALE: Several typy, May Rose bulls out of A. R. cows and sired by Hope's May Rose of Maple Hill (35903), whose dam is a class leader with 776 pounds of butterfat at 3 years. Also several choice pure-bred females and a few excellent grade cows. Herd on Federal Accredited list.

TILDEN FARMS
James H. Murphy, Mgr. Delavan, Wisconsin

Mound City Farm Guernseys For Sale

May King's Reputation of Mound City (63800) born Dec. 3, 1919.

Sire—May King's Vrangue of Ingleside (15430). Dam—Alma Ethel, three records namely 495 class G, 621 lbs. class AA and 704 lbs. class A. Alma's King of Mound City (63801) born Dec. 23, 1919. Sire—Cinderella's King of Mound City (40476). Dam—Alma Lehigh (43704). 340 lbs. fat class G, 648 lbs. fat class A. Rose's May King of Mound City (63802). Born March 19, 1920. Sire—May King's Vrangue of Ingleside (15430). Dam—Rose of Little Platt (55717) record of 667 lbs. fat in class AA now fourth in her class. Some younger bulls of equal breeding.

Chas. A. Wilkins, Platteville, Wisconsin

2 Guernsey Bulls

No. 1—A son of Bob Rilma's Monogram, whose dam and sire's dam have records averaging 887.5 lbs. fat. His dam, a daughter of Langwater Hambro, made over 400 lbs. fat in Class G., 10 months old and well grown.
No. 2 is from a 519-lb. cow and sired by a son of Lord Waukesha from a 717-lb. 13-year-old dam. They're priced right and they must be as represented. Write me for further information.

RALPH TRATT, Whitewater, Wis.

SARNIA FARM GUERNSEYS

We are offering several very high class bull calves, 1 to 10 months old, nearly all out of A. R. cows. Send for sale list and circular giving pedigrees and pictures of the herd sires. Place your order now for bred heifers from 1920 importations.

Charles L. Hill & Son, - Rosendale, Wis.

Pleasant Acres Guernsey Farm

Is Offering For Sale

Bull calves of May Rose breeding from 3 to 14 months old. The dams of these calves either have A. R. records or are now on A. R. test.

Clyde E. Fruit, R. 1, Waukesha, Wis

GORDONDALE

Guernsey bulls of serviceable age offered for sale, also younger ones. They carry May Rose breeding, are from A. R. dams and have splendid A. R. backing Ask us about them.

Herd under Federal Supervision.

L. E. GORDON, JR.,
Nelsonville, Portage Co., Wisconsin.

Norwind Farm

Offers

Norwind Chieftain 65697, a grandson of Langwater Steadfast. Chieftain's dam made 526 lbs. fat in D. His sire's 19 nearest tested dams average 714 lbs. fat. He is a fine individual and ready for service. Write for price and description.

Norwind Farm, Sheboygan, Wis.

Guernsey Bulls

Special Low Prices

Guernsey bulls by Beauty Eagle's Bonny Boy 42893, he by Bonny Boy of Riverdale 20070 (noted show bull), and out of Beauty Eagle 18117, 846 lbs. fat, or a son of Glenwood's Champion 15639 (24 A. R. daughters) out of daughter of Langwater Demonstrator 16451. Splendid high producing dams. Send for sale list.

LA BELLE KNOLL FARM, Oconomowoc, Wis.

Young Bulls for Sale

From A. R. Dams

Sons of Golden Noble of Craigamoor from A. R. dams with records up to 648 lbs. fat. They are from 3 months to a year old. Write for complete information.

MAPLE HEIGHTS GUERNSEY FARM
Frank E. Swan, Wauwatosa, Wis.
Federal Accredited Herd.

Wern Farm Guernseys

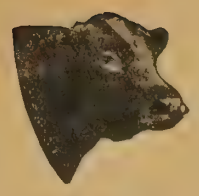
I am offering for sale 20 head of choice Grade Guernsey springers coming with first and second calf. Also have two bulls highly bred along May Rose lines just ready for service, that I will sell. For full particulars, write, wire, or come and see the stock.

Wern Farm, Waukesha, Wis.

Homestead Farm

Offers for sale bulls from 11 to 13 months of age from A. R. dams. Also a few young bull calves of excellent breeding, and three A. R. cows. Write for sale list or come and see them.

JAMISON BROS., Appleton, Wis.



Economy in Production ← GUERNSEYS → Quality of Products



A Washington herd of 20 Guernseys, which includes the state champion for the breed and four other cows that are among the highest producers in the Northwest, are the daughters, granddaughters and great-granddaughters of one cow purchased ten years ago. One Guernsey cow rapidly grows into a herd, but what is even more important, she transmits production. Send for free literature.

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THE SUNNYBROOK--WILLOWBROOK

AUCTION SALE OF

Selected "May Rose" Guernseys

Will be held at

Eatontown, New Jersey, Saturday, April 23rd, 1921

This offering is of exceptional merit, being deeply bred in the blood of Ne Plus Ultra 15265 (A. R.). Eleven of the cows have A. R. tests, and most of them will be bred or are in calf to Saugerties Royal Prince 59532, a grandson of Ne Plus Ultra; Sunnybrook Benefactor 52242, another grandson of Ne Plus Ultra; or Sunderland's Golden Lad of Willow Brook 54990 a son of Langwater Sunderland 19337 (A. R.).

All animals are government tested and fully guaranteed

MRS. J. W. MATTICE, Middletown, N. J.

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For Catalog Address

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HONESTY PRIDE OF BIRCHFIELD 44580



Sire — Langwater Warrior 26509
Dam — Langwater Honesty 49479
10,536.9 lbs. milk, 517 lbs. fat, at 2 yrs. and 5 months

We are now offering a few splendid sons of Honesty Pride of Birchfield. From cows with A. R. records or now on test. Every-one is a straight backed, growthy, vigorous youngster. These young bulls will put type and production in your herd. Prices range from $150 to $300.

Quality Guernseys **HIGHLANDS** *Tuberculin Tested*

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Have several well bred young Guernsey bulls for sale at reasonable prices. All my own breeding. May Rose and Glenwoods, out of A. R. cows with records from 500 to 750 lbs. of fat. Write for sales list to

AUGUST ZIESING, Deerfield, Ill.

Harbor Hill Guernseys

Masher's Galore 8572 A. R.

Increased the Average Production Credit of 12 A. R. daughters out of A. R. dams by 181 lbs. We offer his double grandson out of another daughter also making a better record than her dam.

C. H. Hechler, Superintendent
Box 30, Roslyn New York

Do You Want A Guernsey Bull

Closely related to Pergue's Crescent A. R. with a record of 13,316.9 lbs. milk and over 582 lbs. fat in Class EE and dropping two calves within the year, entitling her to second place in her class? Some excellent young bulls closely related to Pergue's Crescent ready to head your herd. Write for descriptive circular, or come and see them.

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Forestdale Farm

3 Bully Baby Bulls 8 Handsome Healthy Heifers — 2 to 18 months

from Superior Standard Sires, also a few A. R. matrons. May Rose Breeding. Tuberculin tested. $250 lowest price.

R. D. DeForest, Amsterdam, N. Y.

Anna Dean Farm Guernseys

When the Anna Dean Farm Guernseys were sold at Auction, in June, 1920

22 Cows, 23 Heifers and a Bull

were reserved for a future herd for Western Reserve University that expected to start at once an Agricultural School on the Farm. Conditions have arisen that make it necessary to postpone this project and the Trustees have instructed me to sell these cattle

At the Farm, April 15, 1921

The heifers are all open and the cows nearly all heavy in calf to Nelly's Sequel of Anna Dean Farm whose dam and sire's dam average 867 lbs. fat.

The heifers are all sired by bulls whose dams have records from 658 to 1,098 lbs. fat. They are a very choice lot. Many of the cows have fine A. R. records.

For Catalogue Address

CHARLES L. HILL, Sale Manager, Rosendale, Wis.

Iowanola Guernseys

We are offering

A Very Fine Son

born July 25, 1920, out of Imp. Kitchener's Express 43925, his dam has 592 lbs. of fat, and out of Franseca of Homa Della who has 12,855.2 lbs. of milk and 640.09 lbs. of fat in Class D. This is a very typy calf and should appeal to any one in need of a bull. Correspondence solicited.

MOUNTAIN BROS.,
Carrier 403, Des Moines, Iowa.

Munroholm Guernseys

We are offering bulls of May Rose breeding from two months old up to serviceable age. Nearly all out of A. R. cows with creditable records. For $75 up. Can spare a few females, also some grade heifers.

Herd under Federal Supervision.

Address
Thos. H. Munro, Owner, Camillus, N. Y., or
Fred M. Smith, Herdsman.

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More Federal Accredited Herds than any other County in Wisconsin

Grades and Pure-breds available by the carload

Write for information and prices to

SECRETARY E. A. HOTZ, Scandinavia, Wisconsin

Waupaca County Guernsey Breeders' Ass'n

642 Pounds Fat

is the average on the A. R. daughters of Bellfounder, the sire of Countess Prue, the World's Champion Guernsey and My Fancy, eighth in Class A.

We offer bull calves carrying 15%—50% of this consistently high producing blood.

Prices $225.00 to $600.00.

The demand is keen; write today.

FALCON'S FLIGHT FARMS,
Litchfield, Connecticut.

Guernsey Bulls

Our last 9 official records average over 510 lbs. fat, including all ages. Our herd sire has 8 A. R. daughters, including one with 572 lbs. fat in Class GG. His three nearest dams average 822 lbs. fat. Send for pedigrees and prices on young bulls with this backing.

Folly Farm, Box 587, Libertyville, Ill.

MR. GUERNSEY BREEDER

we are offering bulls of May Rose, Glenwood and Yeksa breeding out of A. R. cows. Our records range from 450 lbs. to 864 lbs. of fat; ages from 2 months up to serviceable age for $100 and up.

Can spare a few fine females.

CORIUM FARM, F. J. Rueping, Owner, Fond du Lac, Wisconsin

GRASSLAND FARMS GUERNSEYS

Choicely bred males and females for sale. (The natural increase of the herd.)

Herd federal tested for tuberculosis. Send for sales list. Satisfaction guaranteed.

Taconic, Conn., Litchfield Co., (C. N. E. R. R.)

Guernseys

Best May Rose breeding. Both sexes and all ages from an Accredited Herd. Write your wants and send for lists.

E. S. Person, Minot, N. D.

Guernsey Bulls For Sale

Polly's Anchor No. 42845, born August 24, 1916, and Imp. Bluebird of Lakeside No. 45329, born June 15, 1917. Good, straight bulls, very gentle and sure breeders.

For Sale by
RADISSON FARM, ANOKA, MINN.

GUERNSEYS FOR SALE

BANKER FARMER EXCHANGE — Reliability Quality — Wisconsin Bankers' Association

Pure-breds { 70 Cows; 61 Heifers and Heifer Calves; 162 Young Bulls and Bull Calves
Grades — { 116 Cows; 115 Heifers and Heifer Calves

Other Live Stock: Breeders are listing with us other dairy cattle, beef cattle, horses, sheep, and swine. Write us if you want stock. We will answer promptly.

BANKER FARMER EXCHANGE,
D. H. Otis, Director. 1822 Chadbourne Ave., Madison, Wis.

The Mixter Farms

For Sale at farmers' prices,—bull calves sired by May Rose bulls and out of May Rose dams with records of 500 to 700 lbs. fat. Also a number of producing females—animals that will be a credit to any herd and prove profitable in dollars and cents.

Write us before purchasing elsewhere. Mixter Farms have bred over 3,000 pure-bred Guernseys. J. S. Clark, Supt., Hardwick, Mass.

300 Guernsey Females.

Major Oliver S. Johnson



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Tipton, Ia.

"Maj. Johnson has conducted twenty-five Sales for me"—Dr. M. B. Wood, Mankato, Minn.

Guernsey Bulls

GET A BULL, with Langwater, Pencoyd, May Rose or Haye's Cherub breeding. Prices reasonable, quality considered. Grades in limited numbers.

Fox River Valley Guernsey Breeders' Association.
Harry Leppla, Secy. Appleton, Wis.

Guernsey Females

bred to an outstanding son of Ne Plus Ultra, one of the greatest sires of the breed. Fifty head from which to select.

MEADOWLAND FARM, Litchfield, Conn.

Hillswold Farm

Shrewbury, Mass.

Registered Guernsey bull calves for sale. Dams in Advanced Registry and tuberculin tested. Prices right, and animals guaranteed to suit. W. A. Cloues, Mgr.

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All Breeds

Let us know what you want. We can fill your order to your entire satisfaction. Our dairy cattle specialist will make selections for you. No charge. Write today.

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BETTY OF LAKE VIEW

Breed Brown Swiss Cattle

They prove their superiority over other breeds when subjected to trying conditions on the farm, by keeping in good flesh and filling the pail while other cows grow thin and reduce their yield. You can prove this to your satisfaction.

BROWN SWISS CATTLE BREEDERS' ASS'N
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Box 747, Peoria, Illinois.

All Females Withdrawn from Sale Until After the
ILLINOIS BROWN SWISS BREEDERS' ASSOCIATION SALE
MORTON, ILL., APRIL 21
and
FIRST NATIONAL CONSIGNMENT SALE
PEORIA, ILL., MAY 26

A number of line-bred bulls for sale.

AYRSHIRES

MONTDALE AYRSHIRES

"Type—Production"

All cows on Advanced Registry test. Herd tuberculin tested.
For Sale—Bull calves from best cows. Calves from 1 to 14 months old. Also herd sire. We need the space.

Will Sell at Sacrifice
Write for Prices

MONTDALE STOCK FARM
L. W. Hart, Mgr., Valparaiso, Ind.

Metropolitan Farm

For Sale—Bull calves from our best A. R. cows. These calves are from one month to one year old. Priced for quick sale.

Write for pedigrees and prices.

METROPOLITAN LIFE INS. CO.,
Neil J. Parker, Farm Supt.,
Wilton, New York.

Ayrshire Bull

11-month-old grandson of Imp. Sandhill Reformer. Out of a 65-lb. a day cow whose dam and grandam have large A. R. records. Fine individual. Price $100.00.

POWER & SON, Auburn, N. Y.



We Have For Sale

the well bred Ayrshire bull, Bargenoch "Drexel" (18474) Imported. Bred by John Logan, Bargenoch, Scotland. Born Feb. 2nd, 1919. Color white and red. Sire, Bargenoch Magnificent (9579). Sire of Bargenoch "Royal Champion" sold at Bargenoch sale, 1919, for $7,267.00.

Dam, Bargenoch Victoria (37003). Scotch record: 9,221 lbs. milk, 4.23% fat in 43 weeks; 11,070 lbs. milk, 4.50% fat in 47 weeks.

BARCLAY FARMS, John Cochrane, Manager, ROSEMONT, PENNSYLVANIA

Monstone Farm Ayrshires

"Production — Size — Individuality"

Bull calves out of dams with A. R. records of 10,000 lbs. (and better) of 4% milk—Winners in show ring—Sired by Lessnessock Gem's Good Gift Imp.—Winner in show ring and proven prepotent sire—Weight 2,250 lbs. in breeding condition—Whose dam made 8,930 lbs. milk, 4.05% fat, in *36 weeks* (Scotch record)—Sire's dam 10,342 lbs. milk 365 days (Scotch record)—Prices $100 to $1,000. If you want class and a square deal, correspond with us. We can supply your wants at your prices. Nothing but the best. Herd Federally tested.

MONSTONE FARM, John Chalmers, Manager, IPSWICH, MASSACHUSETTS

Middlesex Meadows Ayrshires

We owned *CAVALIER'S NETHERHALL CHANCELLOR* who sired the winning bull calf at this year's National Dairy Show. We have two young bulls ready for service by this sire and out of cows with official A. R. records of better than 12,000 lbs. of milk and 450 lbs. butterfat. Both these youngsters have excellent conformation but we must have room and the first check for $400 takes either one. We have also some younger calves by this bull out of A. R. cows at $250 and up

A. Henry Higginson

South Lincoln, Mass.

Weymouth Farms

"Ayrshires of Quality"

All cows on Advanced Registry Test. Herd Tuberculin Tested.

We can supply you a herd sire of choicest breeding.

MARTIN A. TOWLE, Mgr.
NORTH WEYMOUTH, MASS.

Linndale Farm Ayrshires

"Are bred for Production"

Bull calves out of A. R. cows and sired by sons of World Record cows, for sale.

Our { Breeding / Conformation / and Prices } are right.

See what we offer before you buy.

JOHN LINN & SONS,
Manhattan, Kansas.

Ayrshire Stock

of all ages for sale. Satisfaction guaranteed

L. W. McCONNELL, Wellington, Ohio

AYRSHIRES—

Gold Medal and Silver Cup Winners in Advanced Registry Roll of Honor Division. Young Bulls ready for service. Bull and Heifer Calves at prices you can afford to pay.

Pure-bred Berkshire Boars and Gilts.

Superintendent, Masonic Homes
Elizabethtown, Pennsylvania

BLACKBURN FARM

Home of Addington's Champion

Grandfathers—Nox'emall and Finlayston.
Father—Rena's Champion—17 A. R. daughters
Mother—Addington Queen 3d—Two mature records each over 19,000 lbs.

Fully Accredited Tuberculosis Free Herd.

SEWICKLEY, PENNSYLVANIA

Orchard Lodge AYRSHIRES

Stock for sale, all ages.
Both sexes, prices reasonable.

G. W. STOLLER, Johnstown, New York

Delchester Farms Ayrshires

Tell us your wants and we can supply them at prices you can afford to pay.
Aged cows, bred to Glenury, an A. R. son of Finlayston.
Aged cows, bred to Rena's Baron of Highland, an outstanding son of Baron's Best of Bargenoch.
Heifers, bred to these two great sires.
Young heifers.
Bull calves.
All the above stock carries some of the best producing blood of the breed with A. R. ancestry on both sides.

Herd free from tuberculosis

DELCHESTER FARMS
Edgemont, Del. Co., Penn. - Thomas W. Clark, Supt.

World's Champion Ayrshires

Fully Accredited Tuberculosis Free
— 200 Head in Herd



AUCHENBRAIN WHITE BEAUTY 2D

A. R. 14,721 lbs. milk, 4.33%
In 13 years, 112,486 lbs. milk and 13 calves
110 animals in herd are descended from this cow

The 1st, 2nd, 6th and 7th highest records were made here. Four cows average 22,823 lbs. milk, 1,046 lbs. butter. 100 A. R. records made here average 13,246 lbs. milk. Choice stock of all ages for sale at prewar prices. Special — Young bulls line bred to Auchenbrain White Beauty 2d.

PENSHURST FARM, Narberth, Pa.
(7 miles from Philadelphia)

BIG AYRSHIRES AT RAVINIA

Size, heavy production, and good teats are found in all Ravinia Ayrshires.
World's record blood. Show quality. Regular breeders.
If you can't pay cash, write us for our new credit plan. Do it now.

Write to Box 100 E, Martinsville, Ind.
Martinsville, Ind. Preston, Kans. Axial, Colo.

GOSSARD BREEDING ESTATES

Pure-bred Ayrshire Cattle For Sale

Best of breeding. Calves sired by a Grandson of Brown Kate, record 1,080 lbs. butter in year.

Wm. Nisbet & Sons, Richland Center, Wis.

HOLSTEINS

Edinboro Lake Farm

Show Type HOLSTEINS Production

Six state yearly record champions 1918-19.

We offer bull calves by Sir Paul Veeman Hengerveld and Sir Ormsby Skylark Fredericka, out of yearly record dams with type.

Edinboro, Pa.

Proven Sire For Sale

A 29-lb. Bull—Priced Right

His sire is a yearly record grandson of King of the Pontiacs. His dam a 29-lb. cow, 663 lbs. milk in 7 days—has a creditable yearly record.
He is 5 years old, well grown, a good individual and already has some excellent producing daughters. Guaranteed to be right.

BROWN BROS., Waverly, S. D.

We Want to Buy Out

some small Holstein breeder, direct, to increase our own herd. About 15 to 20 females, calves included, of good registered stock. We don't care about breeding nor about records, but cows must be *big* milkers. Bought only subject to Federal T. B. test and retest.

FITCHOME FARMS
Aurora - - Illinois

We Offer a Yearling Son

Of King Pietertje Homestead Ormsby No. 221488, out of the State record Junior 2-year-old with a record of 17,860.2 lbs. of milk and 716.16 lbs. of butter. His name is Prince Korndyke Ormsby Fayne No. 323802 and he took 5th premium at the last Dairy Show as a Junior calf. Write for pedigree and price. Herd under Federal Supervision.

BUFFALO CREEK FARM,
H. L. BINGHAM, Supt., Arlington Heights, Ill.

For Immediate Acceptance—

Three young bulls ready for service—Holsteins.
No. 1—Sire a 30-lb. bull. Dam a 27.5-lb. cow. Price $300.00.
No. 2—Sire 30-lb. bull. Dam 23-lb. 3-year-old. Price $250.00.
No. 3—Sire 30-lb. bull. Dam 16-lb. cow. Price $100.00.
King of the Pontiacs breeding, well grown and good individuals. Send for extended pedigree.

R. F. JOHNSON, Assumption, Ill.

Whitehurst Farms

BULLS FOR SALE FROM SEMI-OFFICIAL DAMS. Priced Right.

A. F. Randolph, Prop., Canton, Ill.



PABST KING COLANTHUS (206276)

We Offer A Son Of
PABST KING COLANTHUS 206276
and our fine Show Cow
LISLE SEGIS LADY LAHMAN 464038
Born December 7th, 1920
His Dam made at 2 years, 1 month—S. O. Record
14,383 pounds Milk and 612.27 pounds butter

Price $250.00

THE HOME OF 2 WORLD AND 4 STATE RECORD COWS
Holstein Bull Calves For Sale
A few exceptional individuals ready for Service.
Write for our Bull Sale List.

LISLE FARMS CO., Lisle, Illinois

A Richly Bred Yearly Record Bull
Offered For Sale



King Piebe Johanna Ormsby
Born September 25, 1920

He is the kind of individual we make no apologies for—Straight as a line, square-butted, great quality and loads of style.

HIS DAM

PIEBE JOHANNA HOMESTEAD—A beautiful cow now on yearly test as a four-year-old. She began her test with a seven-day record of 22.51 lbs. butter. Her dam is De Kol Piebe Burke, 1,086 lbs. butter and 27,611 lbs. milk in a year as a ten-year-old. Her sire is from a 29-lb. daughter of Homestead Junior De Kol and Johanna Fayne Rue, a 31-lb. daughter of Sir Johanna Fayne.

HIS SIRE

SIR BESS ORMSBY ALICE—A line-bred Sir Pietertje Ormsby Mercedes sire. His dam is Alice Tritomia Ormsby, a 34-lb. 1,033-lb. daughter of Sir Pietertje Ormsby Mercedes 21st. His sire is Sir Korndyke Bess, son of Bess Pietertje Ormsby Mercedes, 1,235-lb. daughter of Sir Pietertje Ormsby Mercedes and Spring Brook Bess Burke.

The two grandams of this young sire are both 1,000-lb. cows. His own dam shows every indication of some day reaching the same mark. He is priced within easy reach of the small breeder.

E. C. Schroeder Farms, Moorhead, Minn.
(Herd under Federal Supervision)

MINNESOTA HOLSTEINS
"The Home of the Ormsbys."



MISS KORNDYKE AKKRUMMER ORMSBY
30-lb. 4-year-old, 30.67 lbs. butter at full age.
(Owned and developed by J. B. Irwin.)

BARGAINS IN BULLS

A few richly bred choice young bulls ready for service,

on the bargain counter for a clearance sale.

Let us give you a good individual well bred at a very low price while they last. Tuberculin tested. Guaranteed in every respect and ready to ship. Come and see them.

Woodlake & Clover Farms,
JOHN B. IRWIN, Sta. F, Minneapolis, Minn.

ECHOLAND FARMS
Have For Sale
A Few Good Registered Cows and Heifers

We are somewhat overstocked at present so are offering a few good Minnesota bred females for sale. They are bred to King Pietertje Ormsby Pledge one of the good sons of King Pietertje Ormsby Piebe.

Our prices are reasonable. The females are guaranteed to be as represented. Write or come and see them.

EGIL BOECKMANN, White Bear Lake, Minn.



Lola Segis Pontiac Homestead

the highest record bull in southern Minnesota, heads our herd. His sire, Piebe Laura Ollie Homestead King, has more daughters that as 2-yr.-olds have produced 20,000 lbs. milk in a year than any other. His dam, a 34-lb. 4-year-old daughter of King Segis Pontiac Count, has 3 records averaging 33 lbs. and has made over 1,000 lbs. in 1 year. We have a few serviceable bulls and younger from A. R. O. dams for sale.

Clover Lea Farm, W. W. Walker, Owner. Austin, Minnesota



Sir Walker Segis Homestead

The best show bull and son of the great bull, PIEBE LAURA OLLIE HOMESTEAD, out of a "COUNT" daughter, BEAUTY BEETS WALKER SEGIS, world's greatest heifer, with two yearly records over 25,000 lbs. milk and 1,000 lbs. butter in heifer form, and a seven-day record of 35.03 lbs. butter from 730 lbs. milk.

We offer several choice bulls, one month to a year old, out of high yearly record and A. R. O. cows, at very reasonable present day prices. Pedigrees and photos will be sent.

A. J. LASHBROOK, - - Northfield, Minnesota

HOLSTEIN FEMALES

Females of all ages for sale, priced very reasonable Mostly all bred to our 34-lb. sire, he a grandson of Count, from a sister of Piebe. One or a carload. Under State and Federal supervision.

BLACK & WHITE STOCK FARM, R. 3, Melrose, Minnesota

COME TO BISCAY

for your next purchase of pure-bred or grade Holstein cattle, mature or young stock. Large selection, also a few select male calves to offer. Located near station

BISCAY SALES CO., BISCAY, MINN.



KING SEGIS PONTIAC COUNT
"The Marvel of All Sires"
Whose daughters have broken more World's Records than the daughters of any other sire.

The Count-Piebe Combination



PIEBE LAURA OLLIE HOMESTEAD KING
"The Present Day Sensation"
The only bull in the world with five 20 000-lb. two-year-old daughters.

Will Triple Your Milk Check Because It Will Put Production Into Your Herd

And more than triple the price you are getting for your calves. Because it combines individuality with production, it has given us thirty cows at Arden Farms that have **each produced $1,000 worth of milk per year. Do you want that kind?**

We Offer
Sons of "Count" from Daughters of "Piebe"
Sons of "Piebe" from Daughters of "Count"

We have the finest line of young bulls we have ever raised at ARDEN FARMS, priced in accordance with present financial conditions. LIBERAL TERMS GIVEN IF DESIRED.

J. M. Hackney, 602 Merchants Bank Building, St. Paul, Minnesota

Registered Cows and Heifers

We have on hand more females than we usually carry so are able to offer some good ones for sale. A number have A. R. O. records and most of them are from tested dams. Bred to a yearly record sire and themselves backed by yearly producers.

Address correspondence to Axel Hansen, formerly with John B. Irwin.

MINERAL SPRINGS STOCK FARM, - - SAVAGE, MINNESOTA
Stuart—McIntyre—Hansen, Owners.
Address correspondence to Axel Hansen, formerly with John B. Irwin.

Grandsons of Sir Pietertje Ormsby Mercedes

The sire is Sir Pietertje Ormsby Mercedes 22d a son of Minnesota's first 1000-lb. cow. These bulls are all nicely marked, straight top lines. Very good individuals from good A. R. O. dams.

For pedigrees and prices, write
O. J. GROVER, - GLYNDON, MINN.

Grandsons of
Duchess Skylark Ormsby and of S. P. O. M. 38th.

for sale. These youngsters are from A. R. O. dams that are now making good yearly records. Write today for further information.

POPLAR HOLLOW STOCK FARM.
Bertram D. Scott, Prop., Richfield Station
Minneapolis, Minn.

Bull Calf

advertised last week is sold. Here is another good one ready for light service. Sired by a 30-lb. bull. Dam a 14-lb. 2-year-old who will be tested again next spring. Priced so reasonable that you can't afford to be without him. $150.00 for immediate sale.

V. R. Holmes, Anoka, Minn.

Get A Calf

We have a grand bunch of youngsters on hand. Come and pick out a calf while you have a big choice. Grow him to suit you. Saves you money and we are selling them as cheaply as we can. Show calves that are backed by generations of official testing and careful breeding. Sons of DUTCHLAND CREAMELLE COLANTHA LAD No. 165049. His yearly daughters all average over 834 lbs. of butter at 26 months of age.

GRAHAMHOLM FARMS,
H. R. Searles, Mgr., Rochester, Minn.

Sir Korndyke Ormsby De Kol 15th—21 Months Old

His sire is a son of Sir Korndyke Hengerveld De Kol; 51 A. R. O. daughters. one of whom has a 7-day record of 39.56 lbs. and several above 1000 lbs.

His dam has a record of 23.778 lbs. and now on yearly test.

Geo. H. Elwell, - Minneapolis, Minn.

Price $500

Ready for service and nearly all white. Good individual. Sire is a 34-lb. son of Ormsby Korndyke Lad. Dam is a 22-lb. junior two-year-old daughter of a 31-lb. cow. Dam is by a ¾ brother to King Segis Pontiac Count.

Flecks Farm Faribault, Minn.

A BULL BARGAIN

Bull calf born July 19, 1920.
Sire's nine dams average over 1,000 lbs. butter in year.
Dam has over 500 lbs. butter in 263 days.
This calf is an excellent individual.
Straight top line. Price $500.

MANKATO HOLSTEIN FARMS
Marlow & Randall, Mankato, Minnesota.

ORIGIN FARM

HORNLESS HOLSTEINS, Registered and A. R. O. Animals, all ages, for sale. Federally Tested.

GEO. E. STEVENSON, Scranton, Penna.

Holstein Bulls
At Farmers' Prices

We are not in the game to get rich but to help promote the breed by offering pure-bred bulls at the lowest prices, enough to cover raising. Write for prices and descriptive list. The Ormsby kind.

RAMSEY COUNTY HOME,
J. E. McMahon, Supt., North St. Paul, Minn.

RICHLY BRED
HOLSTEIN BULL CALVES

out of A. R. dams and sired by our two richly bred herd sires — **King Piebe Ormsby Mercedes**, a 35-lb. son of Sir Korndyke Bess and every dam in pedigree over 22 lbs., and **King Pietertje Mercedes Ormsby**, a son of Sir Pietertje Ormsby Mercedes and out of a 19-lb. senior two-year-old dam.

Herd tuberculin tested. Write for information or visit herd.

P. FROST SPAULDING FARM CO.
C. L. Spaulding, Mgr., Warren, Minn.

"DUKE"

The only place you can buy sons of serviceable age sired by DUKE PIETERTJE KORNDYKE ORMSBY

The bull selling at the last Minnesota state sale for $33,000.00 is from the herd where he stood for three years prior to the sale. "Duke's" dam now has three records above 1,000 pounds, the last one was 1,190 pounds.

Now is the opportune time to buy one of these bulls as their sisters will be given every opportunity. Get a son now and be in line. Clean bulls from a clean herd. Prices reasonable. Write

EDW. H. ULRICH. Biscay, Minn.

6 Good Cows For Sale

THE MINNESOTA KIND

They are all by a 36-lb. sire, are bred to a son of King Korndyke Colantha Ormsby, and are due to freshen this fall and winter. They are from 3 to 5 years old and absolutely straight and right. Lack of barn room forces us to sell.

Write or come and see them.

E. J. Brosious, - Stillwater, Minn.

SONS
of Sir Echo Sylvia Johanna —
⅞ Brother to the $106,000 Bull

From high bred fine individual A. R. O. cows up to 30 lbs. Several on test now. All good, straight individuals, backed by lots of milk and butter. Some are ready for service. Priced very low. Write for catalog.

(Herd Under Federal Supervision)

CHESTNUT HILL FARMS,
G. A. Burdick, Mgr., Gibsonia, Pa.

Holstein Bull Bargain

Royal Breeding—Splendid Individual

Carries 43¾% blood of Pontiac Korndyke, the greatest of all sires, 25% of blood of King Segis Pontiac and 12½% blood of King Segis. None better. 4 others ready for service. First $250.00 check gets him.

Wm. N. Osborn, **Wanatah, Ind.**

HERE IS YOUR CHANCE

Bull calf born Aug. 17, 1920. Mostly white and a good individual. His sire is a 32.7-lb. grandson of King of the Pontiacs. Calf's dam has a 20-lb. record and his 3 nearest dams average 28.47 lbs. A bargain at $200. Send for pedigree and photo.
Have 2 other bulls for sale that are ready for heavy use from a 25.63-lb. sire. They are priced exceedingly low. Females for sale, all ages. Herd under Federal supervision. Write your wants.

UTOPIA DAIRY FARMS
C. I. Reamer, Prop. North Liberty, Ind.

BULL CALF

Sire's dam, butter, 1 yr., 848 lbs.; her daughter, 1,055 lbs. Grandsire's dam, 987 lbs. at 11 yrs.; her full sister, 1,344 lbs.; another, same dam, 1,322 lbs. Dam, Miss Pietertje Alexina 3d, sister to Miss Pietertje Alexina 2d, 1,290.91 lbs. A dandy calf, priced right. Write quick to

McKAY BROS., - - CADDOA, COL.

Yearling Bulls

From 21-lb dams. One has 662 lbs. butter, over 17,000 lbs. milk at three years. By proven bulls with daughters up to 30 lbs. Best of Ormsby and yearly record backing. Good size and type. Guaranteed to please and stand a 60-day retest. Priced to sell. Write

RIVAL STOCK FARM, **Laurens, Iowa**

Bull of Ormsby Breeding

We offer Chief Segis Lyons Ormsby No. 280751 Born March 8, 1919, a grandson of Sir Pietertje Ormsby Mercedes 41st. His sire a 33-lb. bull; his dam a granddaughter of Sir Pietertje Ormsby Mercedes, who had more 1,000-lb. daughters than any other sire in the world. Also some splendid bull calves ready for service, from A. R. O. dams. Herd tuberculin tested. Write for prices.

Schermerhorn Farms, **Mason City, Iowa.**

YEARLING BULL

READY FOR SERVICE

Here is a show bull whose dam has a three-year-old record of 23 lbs. butter and 511 lbs. milk. His sire's dam is a 31-lb. daughter of LORD NETHERLAND DE KOL, while his sire's sire is by a son of KING OF THE PONTIACS.

Write for pedigree.

G. BURLINGAME, **Cazenovia, N. Y.**

No Smoke Screens in Our Business Methods

We supply grade and pure-bred Holstein cattle guaranteed to be as represented, high producing, healthy, and the best New York State can produce. Our reputation for thirty years has been for the most fair, above-board policy, and uprightness. Orders for grade or pure-bred Holstein cattle, cows, heifers or bulls, receive prompt attention. Prices will never be more favorable. Don't delay. Write today

RIVER MEADOW FARMS, **Portlandville, N. Y.**

We wish a few high-grade dealers in the South. Very favorable proposition to men of the right calibre.

Holstein Bull $150

Ready for service. Sired by a good son of Tidy Abbekerk Prince. Seven 30-lb. daughters. Dam a good A. R. O. daughter of King of the Changelings, he by King of the Pontiacs who has three 40-lb. daughters. He is ¾ white, well-grown, and a show bull. Satisfaction guaranteed.

HARRY W. PETZOLD, R. 3, Owego, Tioga Co., N. Y.



ONYX PLEDGE RELIANCE
As a 2-year-old has 10,000 lbs. milk in the first six months. Her dam has 1,100 lbs. strictly official.

Oneida Community Dispersal Sale



LILITH ONYX
Her dam has 1,100 lbs. butter and 26,900 lbs. milk, strictly official. An Ormsby daughter.

Syracuse, N. Y., April 12-13

FEDERALLY TESTED **160 HEAD** **GUARANTEED**

THIS IS JUST A FINAL INVITATION FOR YOU TO COME
Remember This,—

Fifty daughters of Ormsby Lilith Clothilde, that sired the winning get of sire at the 1920 State Fair. He is from the same dam as King Segis Pontiac Count and by the same sire as Ormsby Korndyke Lad.

The Onyx family, one of our greatest, headed by a 32-lb. cow with a strictly official yearly record of over 1100 lbs. of butter and almost 27,000 of milk, and five of her daughters, two of them twins by the Ormsby bull. One of her two-year-old daughters, made in the first six months of her year over 10,000 lbs. milk. This is a heifer-getting family and one breeders will appreciate when they see.

Another is the Jennie Grant family, headed by the 1000-lb. dam and followed by her two daughters, one of them junior champion at the New York State Fair.

The Oneida Community herd is a working herd. It was established to produce milk for the Oneida Community employees. We have insisted upon animals that could produce for a full year and give us a calf with it.

The herd is believed to be free from tuberculosis and every animal is guaranteed under a 60-day retest wherever it might go.

The catalog, which is pretty generally distributed, will disclose to breeders something of the great number of animals we are going to sell.

We ask breeders everywhere who are interested in purchasing one or many—a foundation cow or a new herd sire—to attend. We are confident that among the numbers is something measuring up to your wishes.



JENNIE GRANT AAGGIE
A maternal sister to the junior champion at the 1920 New York State Fair.

Management of

Liverpool Sale and Pedigree Co.

Liverpool, New York



ONYX LILITH
Her dam has 1,100 lbs. butter and 26,900 lbs. milk, strictly official. An Ormsby daughter.



Lakeside Farm Herd

The records of his dam, dam of sire, and dam of grandsire, average 31.33 butter 7 days, milk 548.84. This bull was 2nd prize winner in New York State Fair in class of thirty. His dam was also prize winner in same show. Send for pedigree. Herd under State and Federal supervision.

E. A. POWELL, **Syracuse, N. Y.**

Here He Is—Just the Bull You're Looking For



KING PIETERTJE ORMSBY PIEBE 27TH

His sire is King Pietertje Ormsby Piebe. You know what that means, the best of type and production. His dam, Sunny Lady, is quite some cow. She produced 32 lbs. butter in 7 days and nearly 900 lbs. in a year from over 19,000 lbs. milk. Her dam, Lady Mutual Friend, 41-lb. ten-year-old, made 1,281 lbs. butter from 23,388 9 lbs. milk in a year. 27th himself is better than his picture, he's a real one. Four of his nearest dams average 34 lbs. in 7 days and 1,197 lbs. in a year from 25,424 lbs. milk.

We offer him on easy payment terms.

Hargrove & Arnold, **Norwalk, Iowa**

Herd under Federal Supervision

SIR JOHANNA FAYNE



42147

now has 9 daughters 20,000 pounds or over. All of his yearly tested daughters, 3½ years old or over average 21,465.1 pounds milk and 831.45 pounds butter. 17 daughters average 20,000 pounds. A few young sons left at reasonable prices. Herd under Federal Supervision.

IOWANA FARMS
DAVENPORT, IOWA



SADIE CORNUCOPIA EIBERTJE

Her Son For Sale—

This cow was 2nd prize A. R. cow and 3rd prize 4-year-old at Dairy Congress, 1920. She is by the best son of the 1st 30-lb. cow and has a 20-lb. 2-year-old record with 510 lbs. butter in 345 days. Now on test as a 4-year-old with 400 lbs. butter in 1st 6 months. Her dam 530 lbs. butter in 10 months; next dam 516 lbs. butter 365 days at 2 years. Calf is by Woodcrest Sir Clyde, who is from a 33-lb. and 970-lb. dam; born May, 1920. More black than white. Given a Federal Certificate of Health.

Write for photo and pedigree today.

W. B. BARNEY & SONS, **- - - Chapin, Iowa**

A Son of LIEUTENANT RAG APPLE

from a 7/8ths sister to a 948-lb. junior two-year-old daughter of a 1,281-lb. cow. $100.00. Let us tell you about him. Serviceable.

BLUEBELL FARM, **Riceville, Iowa**

2 Bulls From a 26.26-lb. Cow

One 4 months old, nearly white, one 14 months old, ¾ white. Good individuals. Price reasonable. Also a few females.

ROLLO NEFF, **New Paris, Ind.**



HOLSTEIN CATTLE

Messrs. Robinson & Schultz, Independence, Kansas, write:

"Three years ago in September we bought a Holstein cow for $240. This cow has produced $2,520 worth of milk in three years, and it cost us $800 to feed her. Her four heifers are worth $2,200. This cow has brought a net profit into our herd of $3,400."

Send for Free Booklets

The Holstein-Friesian Association of America

101 American Building, Brattleboro, Vermont

Son of a World-Record 3-Year-Old

Ready For Service

He's very well grown, well marked, and a first class individual

His dam, Circe Fyke Canary De Kol, holds the world's record in her class for 305-day milk production with 18,791.4 lbs. In 7 days at the same age she made 28.85 lbs. butter from 613 lbs. milk.

His sire is King Pontiac Artis Sadie Vale, the 34-lb. son of K. K. S. V. whose daughters are doing so well in our herd.

Write today for complete information.

He'll suit you and the price is reasonable.

Gustave Pabst's Hollyhock Farms

Fred J. Southcott, Manager — Dousman, Wisconsin

One-half Interest Serviceable Son

of the 1235-lb. Sire

Sir Korndyke Bess

DAM—World's Record 3-year-old for Butter in 305 days
Also 2 young yearly tested male calves.

R. E. BENSON, — **Dousman, Wisconsin**



Yearly Records

Choice Young Bulls

from one to fourteen months old for sale. Sired by Cloverlawn Johanna Piebe whose five nearest dams average 1,070 lbs. of butter, 23,809 lbs. of milk a year. Herd numbers 140 head, forty cows with yearly records. State exactly what you want.

JOHN PULS, - HARTFORD, WISCONSIN

HOLSTEIN COWS

We offer for sale a number of cows, heifers, bulls and calves of all ages. Some sired by King Korndyke Veeman whose two nearest dams average over

WISCONSIN STAR STOCK FARM,

HEIFERS and BULLS

37 lbs. butter in 7 days and bred to King Sadie Vale Walker who is a son of the youngest 29-lb. cow in the world. Come and see them or write to

ED. M. SCHULTZ, — Hartford, Wis.

ZEHRINGHURST HOLSTEIN FRIESIANS

A Few Splendid Young Bulls

for sale that have show ring type, that are backed by 7-day and yearly records and by the best productive breeding in Ohio. They are from an accredited herd, are guaranteed right and are priced to sell.

Zehringhurst Farm, Germantown, O. — Oscar O. Zehring, Prop.

Holstein Bulls, from $100 to $500

We have a few exceptionally good bulls from tested and untested cows that are sure to develop into excellent herd sires. They are priced very reasonably at $100 to $500, depending on breeding, age and individuality.

We also have a few exceptionally good young cows for sale at bargain prices.

Our herd is under Federal and State supervision. For full information write

BERTLEY FARMS, Glenwood, Ill.

Send For Our Bull Sales List

Three bulls of serviceable age—four others will be old enough for service in a month or two—others three months old and older. Almost all of them sired by SIR ORMSBY BEAUTY PONTIAC SEGIS, the son of a 37-lb., 1112-lb. three-year-old daughter of KING SEGIS PONTIAC COUNT.

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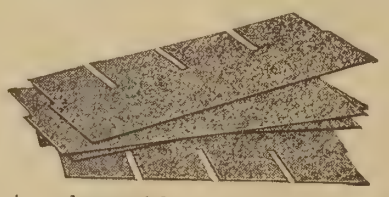


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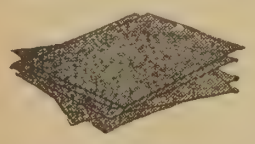
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A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING



Fort Atkinson, Wisconsin Volume LXI, No. 13 April 15, 1921

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HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING

Volume LXI — FORT ATKINSON, WIS., APRIL 15, 1921 — Number 13

Vetches in the West and South

ALTON D. HURLEY, WASHINGTON

VETCH is an important forage crop. It is used for hay, soiling and ensilage purposes in several districts in the United States. This important legume ranks as one of the most valuable of the leguminous crops for soil improvement. There are approximately 120 species of vetch. The most valuable for forage purposes are the common vetch, sometimes called spring or Oregon vetch, and the hairy or Russian vetch. Bitter, purple, scarlet, and narrow-leaved types are also included among the better known vetches. The common and hairy vetches are the most important forage types, the others being bitter and unpalatable. Bitter vetch is said to be meeting with some favor in California as a cover crop.

In the rapidly developing dairy districts west of the Cascade Mountains in Oregon and Washington, which includes the famous Puget Sound country, Southwestern Washington, the Willamette Valley, and the Oregon counties bordering directly on the Pacific ocean, common vetch has been for a considerable period an important forage crop, and, because of its established merit, is increasing in acreage each year.

Its value in those districts lies in a triple utility—hay, ensilage, and soiling. As a heavy yielding leguminous hay crop it takes high rank among the crops of the Pacific Northwest. The hay carries approximately fifteen per cent protein when cured, according to experiments carried on by the Oregon Agricultural College. This is slightly higher than the protein content of alfalfa and clover hay which carries from ten to twelve per cent of this valuable food constituent. As a protein feed it equals wheat and bran, containing but slightly less carbohydrates and fats.

Hay yields under the average farm conditions are approximately two and one-half tons per acre, but under good farming systems, including of course regular rotation systems and when sown with wheat or oats, yields of five tons per acre are common in both Oregon and Washington. The cereal crop sown with vetch prevents lodging of the heavy trailing vines. In the Puget Sound country particularly, oats is the cereal preferred. Some of the largest yields of vetch hay are obtained in Whatcom County, one of the three leading dairy counties in Western Washington.

Harvesting Methods

The main disadvantage in raising vetch hay is the difficulty in harvesting the crop because of the trailing nature of the plant. This is obviated to a considerable degree by sowing with a cereal crop as above indicated. When the vetch is heavy or once lodged, it is very difficult to cut. To facilitate harvesting several methods are followed:

(1) By cutting two swaths, rolling each onto the uncut vetch and then, when the third swath is cut, all three are rolled back out of the way. This method requires considerable hand labor as it is necessary for two men with pitchforks to follow the mower.

(2) By cutting a swath and then driving back over it, crushing it down, so that the shoe of the sickle bar will pass over it without clogging.

(3) By cutting one way and then driving back empty, having the cut swath thrown out of the way.

Vetch is sometimes cut with a binder, but when standing upright and producing average yields, the usual hay harvesting methods are followed.

Vetch sown with oats is extensively used as an ensilage crop, especially in Western Washington. In Whatcom County, where dairy farming predominates, the silos are largely filled with this combination, as climatic and soil conditions there are not particularly adapted to corn production. The yields run from twelve to fifteen tons per acre, exceeding corn, even when conditions are comparatively favorable to the latter crop.

Professor E. B. Stookey, agronomist at the Western Washington Experiment Station at Puyallup, reports yields of oats and vetch on lowlands up to twenty tons green weight per acre when fall seeded. Upland yields vary from seven to ten tons. When used for ensilage it is harvested after the pods have become well filled.

As a Soiling Crop

Vetch is also an excellent soiling crop. In the Willamette Valley especially, a green feed is found very desirable in summer to supplement pastures, and vetch and oats are found suitable when sown late in the fall. In order to provide green feed early in the spring, many Pacific Coast dairymen sow large acreages of vetch with oats or rye. The earliest feed harvested in Western Oregon and Washington is vetch and rye. This combination crop will, if sown between August 20 and September 15, provide a yield of upwards of ten tons per acre of good green feed.

In the vicinity of cities where land values are high and farm areas limited, dairy cows are frequently fed throughout the greater part of the year on soiling crops. It is found possible under such a system to feed much more economically, since four cows can usually be maintained under this arrangement on an acre of land which would, under the most satisfactory conditions, maintain but one on a pasture basis. This increased return is secured by increased forage production and elimination of waste be trampling.

In addition to the value of vetch as a producer of three classes of forage it has also an extremely valuable effect as a soil improver. In this regard it is not exceeded by any other crop according to experience of farmers in Washington and Oregon and also in the South where it is likewise an important forage crop. Almost invariably yields of cultivated crops, which should follow vetch in well planned rotations, are appreciably increased.

James Wallace, a dairy farmer of Tolt near Seattle, says, "I am going to keep on planting vetch until I have had the whole farm under a crop. It simply can't be beat for improving a worn-out soil. I always get a fine yield from any crop I sow following vetch."

Vetch in the South

Common vetch fits exceptionally well into the newer trend of agricultural development in the South, particularly in the Southeast. Its value there lies both in its effectiveness in improving worn-out soils and its worth as a forage for live stock. In that district it is grown during the winter months, being sown between the middle of August and October fifteenth. If sown during this period it becomes firmly rooted before cool weather sets in, while, on the other hand, later planted vetch suffers from dry weather in the spring more than the deeper rooted crop planted earlier. It grows through the winter and spring and may be harvested in time to permit planting of corn or cotton on the same land thus serving to provide maximum utilization of the land and at the same time to rebuild the soil.

On southern dairy farms, where plenty of forage is needed, oats and vetch are used for silage, hay, and pasture in a three-year rotation: 1st year, early corn with cowpeas between rows; 2nd and 3rd years, oats and vetch in winter and corn for silage in summer. A four-year rotation with cotton is also followed: 1st year, cotton; 2nd year, oats and vetch and cowpeas; 3rd year, cotton with vetch for winter cover crop; 4th year, corn with cowpeas between the rows.

The vetch preceding the cowpeas in the last rotation can be handled so that it may reseed itself for a winter cover crop. The land should be

(Continued on page 542)



A STAND OF VETCH AND RYE IN THE WILLAMETTE VALLEY



VETCH AND OATS HAY



VETCH 6 FEET HIGH

MARKETING BY FEDERATIONS

MATH MICHELS, WISCONSIN

The viewpoint of a well known and successful cheese factory operator and dairy farmer. In a previous issue there was presented the viewpoint of Theodore Macklin, Agricultural Economist of the Wisconsin College of Agriculture. In these two articles we have the reaction of the agricultural investigator and the practical man of farm affairs.

THE Wisconsin Cheese Producers' Federation was born in the spring of 1912 when the farmers of Sheboygan County protested against prevailing methods in the marketing of their cheese. The many bad practices then thought to exist have since been proven and accordingly the Federation has been growing by leaps and bounds. Many difficulties and obstacles had to be overcome before the farmers finally marketed their own cheese.

It was in March of 1914 when their $25,000 warehouse was completed and the output of 44 cheese factories was assembled and handled by an experienced manager. This warehouse has since been enlarged and equipped with refrigerating machinery so that it now represents a value of about $70,000. While the Federation has been steadily growing from year to year, its largest increase came in 1919 when they marketed over 14,000,000 lbs. of cheese as compared with less than 9,000,000 in 1918. Summing up the first six years' work, we find that besides paying for their warehouse valued at $70,000, they have paid out in deferred payments $42,000 and $38,000 still remains in the treasury. These results are but trivial as compared with the benefits derived by more stable prices obtained through the year and the certain protection against cheese price manipulation. This advantage was not limited to members of the Federation, but all milk producers in the state of Wisconsin were benefited thereby.

The circumstances leading to the organization of the Wisconsin Cheese Producers' Federation have been pictured by many a writer, all agreeing that it was made possible only by the splendid leadership and untiring efforts of Mr. Henry Krumrey. The Cheese Federation, through its board of directors lead by Mr. Krumrey, is continually working on better methods and ways and means by which to further improve marketing conditions for the benefit of both producer and consumer. In November the board of directors adopted a revised constitution and by-laws, thereby further strengthening and safeguarding their organization. The past year they have taken up cheese factory supplies and now plans are under way to handle whey cream and to brand all cheese handled by the Federation.

In order that the Federation as it grows may be in a position to properly handle and market its cheese, it has decided to organize the Wisconsin Dairymen's Storage Company, with a capital stock to begin with of $250,000 divided up into shares of $50 each guaranteeing 6% interest. This storage company will take over the Plymouth and Spring Green warehouses at book value, which is much below the actual present value. Dairymen must directly or indirectly pay for cheese storage houses and their upkeep and may as well own and operate them. The storage company will remain independent from the Federation on account of the necessity of issuing warehouse receipts on cheese held in storage. This is necessary to supply a certain demand for well cured cheese. Up to this time the Federation has practically cleared its floors every week.

To eliminate unnecessary middlemen in the marketing of cheese, as well as the many other products of the farm, it is necessary to co-operate to the fullest extent. The present system of marketing cheese and other farm products has been done along the lines of least resistance, much to the disadvantage of both the producer and the consumer. Cheese is a finished product and the present wide difference in the price between the producer and consumer of from 60% to 100% is altogether too much for the services rendered. By organization, we will be able to put quality into our cheese and give the consumer much needed assurance, thereby increasing consumption. The consumption of cheese in America is only 3.8 pounds per person per year; while in England it is 11 pounds, in Denmark 12 pounds, and in Switzerland 26 pounds. By giving the consumer more assurance the consumption of cheese can easily be doubled by the American people with great advantage to them in both health and economy.

Organization of Factories

No farmer should hesitate to join the Federation as it is no longer an experiment. It is recognized as being one of the most successful examples of farmers' co-operation in the United States. Starting with 44 cheese factories in 1914, the Cheese Federation has steadily grown until at the present time 125 or more cheese factories are shipping their cheese to the Plymouth and Spring Green warehouses. Several hundred more factories are now being organized and expect to market their cheese through the Federation as soon as suitable warehouse facilities can be provided.

It is the duty of every cheese factory patron as well as every cheese maker to bring up this matter at his annual or special meetings and urge the marketing of his cheese through the Federation.

One of the greatest obstacles in the organization of cheese factories seems to be in getting the cheesemakers to co-operate. For reasons best known to themselves, and in many instances for no reason, many cheesemakers are opposing joining the Federation. The cheesemakers all over the state are much in need of education along the lines of co-operation. The co-operation of the cheese factories ultimately will raise the cheesemaker to a higher level as well as better working conditions, although the contrary is being preached to them by undercurrents from many different sources.

With many a cheesemaker it takes considerable argument and convincing proof to eradicate many wholly erroneous notions from his mind, many such notions having been planted in the minds by one, watered and fertilized by another, magnified by still another, and then harvested by someone who has neither investment nor interest in the cheese industry save the dollars to be harvested therefrom for the next twelve months. The cheesemaker must be educated to know that only that is best for him which stabilizes the cheese business and gives assurances to both producer and consumer. This applies to the makers of foreign cheese as well as American cheese.

A new organization known as the Wisconsin Foreign Cheese Producers' Federation was formed in December, 1920. This organization started out under practically the same constitution and by-laws as adopted by the Wisconsin Cheese Producers' Federation. This new organization proposes to handle Swiss, Brick, and Limburger cheese made in Wisconsin. The organizers are to be highly commended for the good work started. Organization work is now being pushed in at least four different counties, and it is to be hoped that some time this coming spring they will be sufficiently organized to launch the marketing of their own cheese.

Standardization of Cheese

One of the functions of the Wisconsin Division of Markets is to aid the producer in the proper marketing of his product. By proper marketing we mean to get the produce of the farm to the consumer in the best possible condition and at the least possible expense. By marketing all Wisconsin cheese (which means 70 per cent of all the cheese produced in the United States) under a system of grading or standards, we are establishing prices on a quality basis and penalizing poor quality, thereby giving assurance to the consumer of cheese and retaining as cheesemakers the men capable of putting quality into their product. The present system of marketing cheese on a flat basis is nothing more or less than offering a premium to the maker of poor cheese and penalizing those capable of putting quality in their product.

Many bad practices have crept into the marketing of Wisconsin cheese—i. e., our best grades after being aged are often sold as "New York cheese"; finding fault with the cheese at the factory when there is nothing wrong, as well as taking off grades at full market price; off grade cheese being sold to the consumer at good cheese prices. These and other practices naturally result in a loss of confidence in Wisconsin cheese and have a demoralizing effect on the cheese markets. By the proposed plan of selling all Wisconsin cheese on a grading basis, we will be offering a premium to the producer of high quality cheese and giving an assurance to the consumer which he never has had before.

The proposed grades on cheese as outlined are about as follows:

No. 1-A. A very high grade under which not more than 15% of the present cheese could be offered.

No. 1 would include all good merchantable cheese that are free of any pronounced defects. This grade would take about 75% of the cheese made.

No. 2 would include all cheese having pronounced defects, all "off grades".

This grading plan is receiving some criticism which is easily offset by the many advantages in its favor. For twenty years we have been trying by every conceivable method of education to eliminate poor quality of cheese and butter from the market. Today we have more "off quality" cheese and butter in the markets than ever before. This fact is denied by no one acquainted with the true situation.

In the standardizing of cheese we have the co-operation of the United States Bureau of Markets. With this co-operation, we have what amounts to a national system for Wisconsin cheese. All federal inspectors in the various markets in the United States would be deputized to follow up the Wisconsin grading. By this I mean that a car of cheese shipped out of Wisconsin, say to Chicago or New York, could get a re-inspection from a federal man wherever shipped. This aid by our Federal Bureau of Markets will be of great value to the standardized Wisconsin cheese industry. The United States Bureau of Markets is to be highly commended for its efforts and assistance given the Wisconsin Division of Markets in the

(Continued on page 558)



THE MACK MILK CASE, MANUFACTURED BY DR. D. W. MACK, CHIEF MILK INSPECTOR, PORTLAND, OREGON, USED FOR SHOWING THE COMPOSITION OF MILK

To show the chemicals contained in one gallon of milk, bottles are filled and labeled as follows: Phosphorus—36 grains—For repair of bones and teeth. Soda—29 grains—To neutralize acids in the blood. Magnesia—7 grains—For the body fluids. Fat soluble A—About 5 ounces—Necessary for growth and repair of the body. Milk sugar—6.8 ounces—Makes galactose or food for the brain. Casein—4.9 ounces—The best of all the proteins for blood and muscle. Butterfat—About 5.2 ounces—For body and energy. Chlorides—56 grains—To make acid for the stomach and the salt of the body. Sulphur—2 grains—To purify the blood. Iron—½ grain—To make red blood. Lime—70 grains—For the bones and teeth. Milk contains more lime than any other food. Potash—75 grains—To prevent the body fluids from turning acid. Water soluble B—About 3—quarts—Necessary for growth and repair.

Can Illinois Dairymen Afford to Buy Alfalfa Hay

H. A. ROSS, ILLINOIS

IN the general price decline of the past year, dairymen, with the possible exception of those producing for a condensing market, have fared somewhat better than other classes of farmers. Prices of dairy products have declined also, but not as rapidly nor as far as prices of the feeds which dairymen are forced to buy, and farm grown grains find a more profitable market through the dairy cow than through the elevator. The notable exception in the general low level of feed prices is hay and, unfortunately, many Illinois dairy farmers purchase considerable quantities of this roughage. It is evident from Table I that prices of the more common mill feeds show declines of from 51 to 67 per cent and that the principal farm grown dairy feed, corn, shows a decrease in price of 74 per cent. Contrasted with the average decline of 57 per cent for mill feeds and 62 per cent for farm grains is the decline of but 31 per cent for hay. What, then, are the forces tending to keep up hay prices?

The thought first suggested is that of maladjustment in the proportion of the various crops due to war time conditions. We know that Illinois farmers met the appeal to grow more wheat with an enormously increased acreage and the high prices of barley and rye likewise affected the growing of these crops. From statistics presented by the Bureau of Crop Estimates, a comparison of the average wheat acreage in Illinois during the pre-war period, 1913—1914—1915, with a similar three-year period, 1918—1919—1920, shows an increase of 695,000 acres or 28 per cent. Barley and rye show increases of 117 and 137 per cent respectively or an aggregate increase of 351,000 acres. It would seem reasonable to conclude that this increase in acreage of the food grains took place at the expense of the hay crops, and that the shortage resulting has caused relatively high prices. Such reasoning is shown to be fallacious by Table II.

The acreage of hay was not decreased but was actually increased 862,000 acres or 36 per cent and the production averaged 1,719,000 tons per year greater for the years 1918, 1919, and 1920 than for the three-year pre-war period. The decreased acreage of corn amounting to almost a million and a half acres accounts to a large extent for the increase in these other crops. Labor shortage was probably a greater factor than the demand for food grains in reducing the amount of corn grown. Since both the acreage and production of hay increased during the last three years, the relatively high prices of hay cannot have been caused by a shortage in production within the state. A similar comparison for the entire United States shows an increase of 14 per cent in acreage and of 18 per cent in production, thus eliminating the theory of a general shortage.



These oats made 89 bushels per acre but at the present farm values they would return only $34.71 per acre. The same land in alfalfa should yield 4 tons of hay, worth $96.80. Is alfalfa growing in Illinois unprofitable?

Table I—Decline in Feed Prices

Feeds	Unit	Date of peak price	Peak price	Feb. 1921 price	Decrease in price	% decrease
*Bran	Ton	May—1920	$55.46	$24.29	$31.17	56
Oil meal	"	Aug.—1919	91.66	41.00	50.66	55
Cottonseed meal	"	Aug.—1919	89.50	38.00	51.50	58
Gluten feed	"	June—1920	72.40	35.38	37.02	51
Hominy	"	Aug.—1919	77.71	25.60	52.11	67
†Corn	Bu.	Aug.—1917	2.06	.54	1.52	74
Oats	"	July—1920	1.03	.39	.64	62
Barley	"	April—1918	1.80	.65	1.15	64
Rye	"	April—1918	2.44	1.27	1.17	48
†Timothy hay	Ton	May—1920	32.00	21.10	10.90	34
Clover hay	"	May—1920	29.60	20.10	9.50	32
Alfalfa hay	"	May—1920	33.10	24.20	8.90	27

*Mill feed prices for the month are averages of the daily wholesale prices as quoted by the Western Feed Market Bureau.
†Grain and hay prices are estimates of Illinois farm values as reported by the Monthly Crop Reporter, U. S. D. A., Bureau of Crop Estimates.

Alfalfa is the principal hay bought by Illinois dairymen and this is largely produced in Kansas, Nebraska, Colorado, and even as far distant as Wyoming, Idaho, and Montana. Considering the distance it is shipped and the high freight rates, the present value of alfalfa hay does not seem surprising. When the last increase in freight rates went into effect, August 26, 1920, the cost of shipping absorbed so great a part of the value that shipments were greatly curtailed. As a result special rates were made between western points and central western terminal markets by most railroads. The new rates which went into effect about the first of January, and which will expire April 30, 1921, show reductions of approximately 25 or 30 per cent. The reductions, however, apply only to terminal markets and as the freight rates from these points to consumers are still very high, the price of alfalfa at these markets was forced down, the consumer getting only a part of the benefit. With alfalfa hay selling in Chicago at $24, the Idaho shipper nets less than $10 per ton. Considering the cost of baling and handling, it becomes evident that the western growers will find it profitable to feed a greater part of the crop than heretofore. Illinois dairymen, therefore, are going to find it necessary to pay relatively higher prices for alfalfa because of the decreased supply on the market. This statement does not mean that the price of alfalfa hay will go up or even remain stationary, but it does mean that because of its bulk and the high freight rates, the price of alfalfa will be relatively higher than that of grain as long as we depend upon western producers for any important part of our supply.

Perhaps Illinois dairy farmers could well afford to buy alfalfa hay when corn was selling around two dollars and oats at a dollar, but at present values a premium is placed on growing it at home. Work of various experiment stations indicates that the labor cost of growing an acre of alfalfa is somewhat greater than that of oats but less than that of corn. If, however, we neglect the differences in cost of growing and examine the gross returns per acre for the various crops, the comparison is striking. Using the farm values given in the February Monthly Crop Reporter, the gross return per acre for alfalfa yielding 2½ tons (certainly a low enough yield) would be $60.50. To obtain the same gross return ($60.50) from other crops, the yields per acre would have to be: wheat, 35 bushels; rye, 48 bushels; barley, 93 bushels; corn, 112 bushels; and oats, 155 bushels. Such a comparison is significant only in indicating the relative differences in present values and cannot, of course, be used to estimate the profitableness of producing alfalfa next year. If, however, the theory that high freight rates will tend to keep up alfalfa hay prices is sound, it seems certain that Illinois dairymen must depend upon home grown legumes to obtain the greatest profit.

Table II—Comparative Acreage of Illinois Crops

Crop	Ave. annual acreage pre-war period, 1913–'14–'15	Ave. annual acreage 3-year period, 1918–'19–'20	Increase Acres	Increase %	Decrease Acres	Decrease %
Wheat	2,513,000	3,208,000	695,000	28		
Rye	49,000	237,000	188,000	384		
Barley	54,000	217,000	163,000	302		
Hay	2,417,000	3,279,000	862,000	36		
Corn	10,399,000	8,917,000			1,482,000	14
Oats	4,339,000	4,263,000			76,000	2

*Monthly Crop Reporter, U. S. D. A., Bureau of Crop Estimates.



Alfalfa such as this makes 4 tons per acre. To obtain the same gross return, using present farm values as reported by the Bureau of Crop Estimates, this land would have to yield 179 bushels of corn or 248 bushels of oats per acre. Would it do it?

Don't Wait for the Cow

HELEN S. K. WILLCOX, NEW YORK

ONCE upon a time there was a certain very lazy man who owned a cow. As the cow had never been fed with much care or foresight, nor catered to in any particular way as to her likes and dislikes, and had never known the lure of a pound of gustatory grain or some succulent ensilage awaiting her in her manger when she came up from pasture, it had ever been her custom to wander afield as far as possible and there stay. This obviously necessitated that some one go after her at milking time, and as was previously hinted, her owner being a lazy man, he found this daily duty very irksome. So he would sit down by the pasture bars and call loud and long: "Come, Boss! Come, Boss!! Come, Boss!!!" But Bossy never came, being a sagacious animal, as cows sometimes are if we only own it, and finding the old pasture much more to her taste than the dark, dusty stable.

But her owner thought life was just one thing after another, anyhow, and if it wasn't one thing it was the next which took the joy out of it. He would complain bitterly at the ingratitude of cows in general and his in particular, which had nothing to do but eat the grass which Nature provides and then proceed to take things easy. So he would sit at the pasture bars, vainly calling for the boss who never came and bemoaning the luck which had made him a poor, abused dairyman in the beginning.

One day a neighbor came along and heard the curses and complaints the lazy man was uttering. He listened awhile in silence while the man

(Continued on page 546)

First Cheese Factory in Wisconsin

J. J. HARLIN, WISCONSIN

WITH so much discussion over the cheese marketing situation in Wisconsin, it may be interesting to readers of Hoard's Dairyman to know that it is just 57 years ago that the first cheese factory was erected in that state. The details of that pioneer chapter of the cheese industry lie wrapped up in the memory of Chester Hazen, whose body now reposes in a small village cemetery at Springvale, Fond du Lac County, and was the man who built the first cheese factory and who had a great vision. He is one of five men who have blazed the trail of Wisconsin agriculture. Molded and bended by the trials of clearing and breaking a wilderness to plow, he was one of the first to appreciate the great possibilities of Wisconsin as a dairy state.



CHESTER HAZEN

Mr. Hazen was born Jan. 31, 1824, in Denmark, Lewis County, N. Y., and passed his early boyhood days upon his father's farm. At the age of 15 years he began learning the molders' trade and for five years followed that business in York State. March, 1845, found him in Milwaukee seeking employment. A year later he preempted 80 acres of land near the village of Oakfield, Fond du Lac County, and a year afterward preempted 160 acres in the town of Springvale. He remained upon the Springvale farm for about a year during which time he cleared about thirty acres of land and fenced about 12. For the next three years Mr. Hazen divided his time at his trade between New York and Milwaukee, saving his earnings in order to renew his start as a farmer. In 1850 he built a house upon the land, and in 1854 married Jane A. Atwood of Vermont.

In 1864 Mr. Hazen erected the first cheese factory in Wisconsin which is shown by the accompanying wood etching. At one time it received the milk of 1,000 cows which in that day made it the largest factory in Wisconsin. Soon thereafter smaller factories sprang up to divide the patronage. The factory no longer held to the distinction of being the largest, but it did cling to the claim of being the first in the state.



THE FIRST CHEESE FACTORY IN WISCONSIN

This illustration is reproduced from a wood-cut appearing in an old atlas. It shows the residence, farm buildings, and cheese factory of Chester Hazen of Fond du Lac County, Wisconsin, as they appeared in an early day.

Mr. Hazen's interest in dairying provided the foundation for whatever progress Fond du Lac County has had as a dairy center. He bred Ayrshire cattle, because he believed them superior to any other breed for dairy purposes. He raised fine horses, importing one of the first Clydesdale stallions ever owned in the county.

Aside from his business and farm interests Mr. Hazen found time to devote to public affairs and for a decade or more was regarded as one of the great leaders in Wisconsin agriculture. He was instrumental in organizing the first dairy board in Fond du Lac County which was on March 10, 1869. He served as the first president of the board, and in 1872 when the state dairy association was formed Mr. Hazen was chosen president in which office he served for three years. He was for many years president of the Fond du Lac agricultural Society. In 1885 he was elected to the assembly from the first Fond du Lac County district. He served on several important committees having to do with agricultural thought, the most important of which was the committee having charge of the bill establishing farmers' institutes. Mr. Hazen introduced the bill creating a law to provide protection for animals from contagious disease and established the state veterinarian's department. He is dead some twenty years, but his memory will live as one of the men who glimpsed the future of the dairying industry of Wisconsin.

Increasing the Test with Cottonseed Meal

A. C. McCANDLISH, IOWA

EVERYONE connected with the dairy business has heard of the great results obtained in increasing the butterfat in milk by feeding cows heavily on cottonseed meal. The question has assumed considerable proportions in connection with official and semi-official testing. It is well known that many feeders give large amounts of cottonseed to their cows when the tester is around, but the legitimacy or ultimate value of this practice will not be discussed here.

This report simply covers preliminary work conducted by the Dairy Husbandry Section of Iowa State College in which no attempt was made to feed cottonseed meal in large quantities. The main object was to determine the reasons for any changes in the composition of the milk which might occur on the sudden addition of cottonseed meal to rations as a substitute for different types of feeds.

Earlier Work

In reviewing the work already done with cottonseed meal it was found that no experiments of exactly the same type as those mentioned here have been reported. No two of the pieces of work which have been previously completed can be easily compared directly as the conditions under which they were conducted varied greatly.

From the 113 feeding trials we have reviewed, a few general deductions can possibly be made. A summary of these trials shows the chances are two for an increase, one for no change, and one for a decrease in the fat content of the milk when high protein feeds were added to the regular ration. When the usual ration contained a general grain mixture the chances for an increase in fat percentage in the milk when a high protein feed was added was about equal to the chance that there would be no change and when a high protein feed was added to a high protein mixture the chances for an increase or a decrease were about even.

All of the individual high protein feeds which were used in these trials need not be considered in detail. It may be said, however, that the general trend of the results with cottonseed meal and linseed meal is about the same as for the whole group of feeds, though in the few cases where the cottonseed and linseed meals were compared directly there was a tendency for the former to give the higher butterfat content.

In the feeding trial at the Iowa State College the periods of feeding were of short duration—from two to seven days, so that quick c...es in the fat content of the milk, if any occurred, could be detected.

Cottonseed in Place of Oil Meal and Bran

Six cows were used in a test in which cottonseed meal replaced oil meal and bran. The total duration of the experiment was 33 days. The cows were being handled with the regular milking herd and were on a winter ration of corn silage and alfalfa hay which were fed according to the live weights of the animals. The basal grain ration which was fed during the check periods consisted of 2 parts of cracked corn, 2 parts of ground oats, 2 parts of wheat bran, and 1 part of linseed oil meal by weight. The amount of the grain mixture fed was proportioned to the production of the cows.

During the first experimental period the oil meal was replaced by an equal weight of cottonseed meal; in the second experimental period the bran was taken out and the cottonseed added; and in the third, the cottonseed meal replaced both the oil meal and bran. As a consequence the cows received from 3 to 6 lbs. of cottonseed meal daily. Each experimental period was preceded and followed by a check period and the first part of the check following the feeding of the cottonseed meal was used as a transition to note the rapidity with which the cows returned to normal.

The average daily production of milk and butterfat and the fat percentage during each experimental period and its accompanying transition period was compared with the average for the check periods preceding and following it.

When oil meal was replaced by an equal weight of cottonseed meal little change was produced during the period of cottonseed feeding. In the next few days, when the cows were back on their usual ration, the fat content of the milk increased 5 per cent but, because the milk yield was reduced 3 per cent, the total amount of fat was only slightly influenced.

A 6 per cent increase in milk but little change in the fat content resulted when bran was taken out of the ration and cottonseed meal put in in equal amount.

There were only very small changes in milk and fat yields when cottonseed meal replaced both the oil meal and bran.

These results indicate that the substitution of cottonseed meal for oil meal and bran does not bring about marked changes in the fat content of the milk and that the changes which do occur do not take place immediate-



TO MEMORY DEAR

Lightly esteemed in his lifetime; so lightly, in fact, that when he developed traits of viciousness he was condemned and executed, Aaggie Cornucopia Johanna Lad Jr. 5th, for several years sire of the Minnesota University Farm Holstein herd, may be said to live again in the deeds and records of his daughters. Five daughters at the University Farm have produced in semi-official yearly test an average of 19,468 lbs. milk containing 657.2 lbs. fat.

The ability of the former University Holstein herd sire is shown by the performance (781 lbs. fat) of his highest record daughter, Facile Aaggie. She is out of a dam who three times was unable to qualify for admittance to the blue book. Only one daughter's dam had an A. R. O. record.

ly, being most evident in the period following. Wide variations in the results with the individual cows were noticeable.

Substitution of Cottonseed for Corn

In the experiment in which cottonseed meal replaced corn four cows were used for 33 days. They were on pasture and receiving soiling and in addition a basal grain ration of equal parts of cracked corn, ground oats, linseed oil meal, and wheat bran. The daily ration for each cow was 12 lbs. of this mixture. During the experimental periods the corn was replaced by an equal weight of cottonseed meal.

In the discussion of the second experiment, one cow will be left out for separate consideration as her reaction towards the cottonseed meal was absolutely different from that of the others. Considering the other three animals, it is found that when cottonseed meal took the place of corn in their ration an increase of 4 per cent in both fat content and fat yield occurred while the cottonseed meal was fed, while increases of 2 per cent in milk yield, 12 per cent in fat content, and 14 per cent in fat yield occurred in the period following. This indicates that the cottonseed meal did increase the percentage of fat in the milk yield without influencing the milk yield to a marked degree and danger of spoiling her completely as a dairy cow.

Summary of Results

From the limited work reported here we are probably justified in saying that the substitution of cottonseed meal for corn in the ration of the dairy cow will result in an increased fat percentage in the milk and that the same wide change cannot be produced by substituting cottonseed for feeds of relatively high protein content such as oil meal. Also, some cows can be thrown off feed by even limited amounts of cottonseed meal and, where cottonseed has been fed for a few days and then taken out, its readministration, after only a limited period, will tend to decrease rather than increase the fat content of the milk.

Cause of the Cottonseed Action

Finding the results produced by the sudden introduction of cottonseed meal into a ration is one thing, explaining them is another. There are a large number of probable causes for this action of cottonseed but only a few of them need be considered.

The palatability of a ration is an important factor in determining not only the amount of the ration consumed but perhaps also the efficiency with which it is utilized. So greater palatability of the feed, as a result of changes in the ration, might lead to



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She has an R. of M. record of 8,708.8 lbs. milk, 454.4 lbs. fat.
OWNED BY BELSWOOD FARM ILLINOIS

that the full effect of the cottonseed was not apparent immediately after administration.

Cottonseed meal was again used in the place of corn in the ration of these cows and there were noted decreases in milk yield, fat content, and fat yield while the cottonseed meal was fed—the depression being most marked in the early part of the period. By the time the following period was reached and the cottonseed taken out of the ration, production tended to come back to normal. This shows that the readministration of cottonseed within a few days of the first period of feeding has a tendency to decrease rather than increase the fat content of the milk.

In the case of the fourth cow an entirely different set of results were obtained. She was fed only 3 lbs. of cottonseed meal and at first responded with a large increase in milk yield but a lowered fat percentage. She then went off feed, even though she was receiving feeds which should counteract the constipating effect of the cottonseed, and her milk yield was reduced by about one-half, while her fat percentage increased by a third, resulting in a total decrease of over one-fourth in her fat yield. It was, therefore, impossible to keep this cow longer on experiment without improved production. This can hardly hold true in the experiments considered, however, as cottonseed meal is relatively unpalatable when compared with the feeds for which it was substituted and in addition the amounts of the rations were under control.

Certain feeds cause digestive disturbances and sudden or radical changes in the ration at times produce similar effects. Cottonseed meal is one of the feeds which, on account of its relatively unpalatable nature and its constipating action, may produce digestive troubles if suddenly introduced into the ration or if fed in too large amounts for too long periods of time. This effect might be presumed to have induced the increase in the fat content of the milk as digestive disturbances frequently result in a decreased milk flow and an increased percentage of fat. However, the greatest and most regular changes were produced when the cottonseed was substituted for corn, and feeds that counteract the constipating effect of cottonseed meal, namely linseed oil meal and wheat bran, were allowed to remain in the ration; and the least regular and smallest changes resulted in the substitution of cottonseed for linseed meal and bran. As a consequence, therefore, the changes

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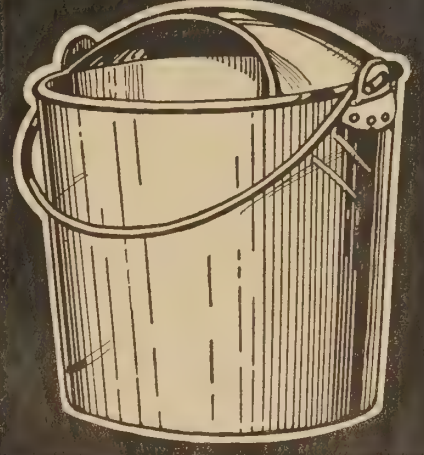
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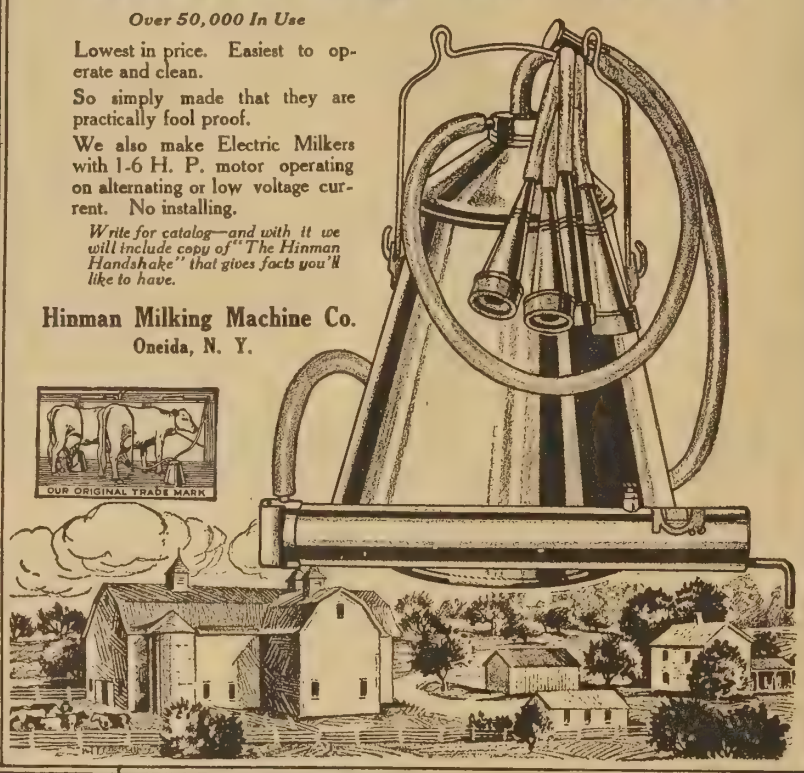
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occurring cannot be attributed directly to digestive disturbances produced by the cottonseed meal. Neither can the sudden introduction of the cottonseed meal into the ration be looked on as the cause, as it was introduced suddenly in both experiments but with different results. In the case of one cow only did digestive disturbances occur on using the cottonseed meal.

It is known that increasing the protein content of a ration increases the digestibility of both the proteins and carbohydrates present, though of course the effect is most pronounced in the case of rations originally low in protein. The extra amount of nutrients thus digested might therefore be used for the production of milk and butterfat, though excess nutrients would be used for the production of body fat and energy. This action of the protein may in part explain the results of the two experiments reported. The substitution of cottonseed for corn in the second trial increased the protein content of the ration markedly and so may have induced the increased fat content of the milk, while the replacement of oil meal and bran by cottonseed meal in the first trial was not accompanied by such a large change in the protein content of the ration and was accompanied by no marked change in the percentage of fat in the milk.

The addition of protein to the ration also increases the activity of the body cells and this might result directly or indirectly in increased milk or butterfat production. This might also account for the increased butterfat content of the milk in the second trial. The protein consumed may also have a direct stimulating action on the secretory cells of the udder and so the higher amount of protein provided in the ration might in this way account for the increased fat percentage in the milk.

There are other properties of the cottonseed meal, in addition to its protein content, which have to be taken into consideration. It is sometimes stated that the amount of fat in a ration will influence the percentage of fat in milk but, as there is no absolutely definite evidence to this effect and as the fat content of cottonseed differs so little from that of the feeds for which it was substituted in the work reported, this factor need be given little consideration.

It is recognized that some feeds possess an ability to stimulate milk secretion that is independent of their content of nutrients. Little is known of such properties, however, and, as the cottonseed was administered in two trials with quite dissimilar results, it is doubtful if the increase in fat in the milk in the second trial can be attributed to any specific, though undetermined stimulant, in cottonseed meal.

One other condition remains to be considered: when the cottonseed was given for the second or third time in each trial, there was a greater or less tendency for the fat percentage to decrease rather than increase, this being especially true in the second trial where the largest and most uniform increase was obtained on the first administration. This would point to the cottonseed acting as a stimulant rather than its direct utilization for production being responsible for the increase in butterfat in the milk, and to the fact that the cow, once she has reacted to its stimulating action, has to be rested for some time before she is again able to respond in a similar manner. Quite similar results with the use of stimulants for various purposes are common.

We are perhaps justified in concluding, therefore, that sudden increases in the protein content of a ration through the substitution of cottonseed for feeds of low protein content in the ration causes an increase in the fat content of the milk. We may conclude that this increase in fat percentage is due to a stimulation received from the cottonseed protein and that the cow must be rested for some time before she can again respond.

Dairying Thirty Years Ago

Taken from the Issue of Hoard's Dairyman of April 10, 1891

It is estimated by the food statisticians that it would require the meat of 24,000,000 steers, weighing 1,500 lbs. each, to furnish the same amount of nutriment there is in the milk of the 15,000,000 cows of the United States.

It takes 3 years' feeding to grow the steers, and when they are slaughtered they are gone; while the cows give the milk in one year, and live right on to do the same thing the next year; and finally make some beef, such as it is, when they finally "pass in their checks".

⚜

Mrs. Mary Criswell is working out the Boies-Sovereign problem. If Iowa land won't raise corn it will raise grass. She has 130 acres near Davenport and 20 Jersey cows of the "Dick" Richardson variety. From these cows in 1890 she sold 6,300 lbs. of butter for $1,512, delivering it herself to customers in Davenport, who are ready to take all she can make at 24 cents a pound the year round. It is a clear case of supply and demand.

⚜

In an agricultural school in Europe, in the Department of the Haut Saone, two cows, when treated and fed and watered the same, gave essentially the same milk. When one was confined to drinking cold water, and the other to water warmed to blood heat, it was found the cow drinking the warm water gave one-third the most milk on the same food. It is not likely she gave any less fat, but we would like to know whether she gave any more—but to determine this point does not appear to have been part of the plan.

⚜

Between hay and grass, when the winds are raw and the weather is very changeable, many a good cow is greatly injured for profitable summer use by lack of attention to her care and comfort from a careless owner who cannot see where his future money lies. A large proportion of the cows calve at this time of year, and thousands of cases of milk fever, garget, and other diseases and injuries may be prevented by good care if the owner only will. He who handles a herd of good cows at this time of year needs knowledge and energy. Poor cows tax themselves so little that they are in no danger.



Holstein cow, Maid Ormsby, and her triplet calves. This lusty family is owned R. G. Coyner, Ohio.

Cow Testing Associations

RECORDS, PRICES OF FEEDS, FAT, AND MILK

Following is the summary of reports received during the week and up to the time of going to press of this issue:

State	Association	Tester	Month	No. of cows tested	No. of cows producing over 40 lbs. fat	Fat production of high cow	Owner
Iowa	Dallas County	Don L. Chase	Mar.	207	53	88.6	Leaverton & Son
Ohio	Geauga County	C. M. McEwen	Feb.	286	33	60.12	Newcomb Bros.
Wis.	Empire—Osceola	Palmer Simonson	Mar.	351	108	78.4	John Braun
Wis.	Rosendale—Eldorado	R. G. Thurman	Feb.	520	97	94.4	Marchant & Son
Wis.	Rock Prairie	W. J. McKee	Mar.	583	119	87.7	Wehenger & Son
Wis.	Byron	A. Miller	Mar.	556	130	86.2	Ed. Marquart
Wis.	Allenton—Kohlsville	L. M. Henderson	Mar.	233	102	79.9	C. F. Rosenthal
Kans.	Clay County	Raymond Walton	Feb.	207	11	78.4	Ed. Miller
Idaho	Ada County	A. C. Reck	"	165	25	78.4	J. W. Brewer
Pa.	West Branch	Hiram Savidge	"	195	25	101.4	H. R. Kemley
Ill.	1st Kane County	Ralph J. Young	Mar.	838	81	86.58	A. E. Howard
Mich.	Emmet County	Angus S. Hodges	"	118	12	65.1	Paul Schnelle
Iowa	Monona—Farmersburg	Ernest Lihn	"	349	47	89.1	W. J. Allert
Ill.	Jo Daviess County	Jas. E. Wiley	"	176	6	58.5	Wm. Welp
Ind.	Orleans Co-op.	Alb. C. Walker	"	415	41	78.1	M. C. Johnson

Association Notes

Dallas County, Iowa:—During the month of March, one cow was sold for beef and one pure-bred bull was purchased. Twenty-one cows produced over 50 lbs. of fat. Two cows, which were poorly fed last year, have changed owners and are now making a good showing with proper feed. Market milk sold for $2.90 per hundred pounds. The average test required was 3.5 per cent and 5c were paid for each point above. Feed prices: Bran, $35 per ton; oil meal $50; cottonseed meal, $48; silage, $8; alfalfa, $25; clover, $20; corn, 44c per bushel, and oats, 33c.

Empire—Osceola, Wisconsin:—During the past month three unprofitable cows were sold for beef. Most of the feed in this territory is purchased co-operatively through the Equity Society. The condensery paid 60c per pound for fat and the cheese factory 62c. Milk retailed for 12c per quart; butter for 45c per pound and cheese for 35c. Feeds sold as follows: silage, $8 per ton; alfalfa and clover hay, $20; barley, $34; oats, $28; bran, $30; oil meal, $50; cottonseed meal, $50; gluten feed, $45; hominy, $40.

Rosendale—Eldorado, Wisconsin: Market milk testing 3.34 per cent sold for $1.70 per cwt. Feed sold as follows: Gluten, $42.50 to $49 per ton; bran, $26 to $32; oil meal, $44.75 to $50; cottonseed meal, $50.

Rock Prairie, Wisconsin:—During the month of March, 12 cows were sold for beef and 7 for dairy purposes. March market milk testing 3.5 per cent sold for $2.35 per cwt. and 4c were paid for each point above. The condensery paid $1.80 per cwt. for milk. Milk retailed for 11c per quart; butter for 60c a pound; and cheese for 25—30c per pound. Bran sold for $30 per ton; corn, $18; oats, $30; cottonseed meal, $42; oil meal, $50.

Alleton—Kohlsville, Wisconsin:—This association recently finished its yearly work with an average of 9,085 lbs. milk containing 316 lbs. butterfat. During March we had 11 herds which averaged over 40 lbs. butterfat. We finished our yearly work with 66 lbs. butterfat above the average of Wisconsin associations. The increase over last year was 30 lbs. butterfat and 903 lbs. milk.

Orleans Co-operative, Indiana:—F. H. Turner & Sons have purchased a milking machine. Seven unprofitable cows were sold last month and one pure-bred Jersey bull was purchased. This association has reorganized for another year. March market milk, testing 4 per cent, was sold for $4 per cwt. The creamery paid 62½c per pound for fat. Milk retails for 10c a quart, butter for 50c a pound, and cheese for 20c a pound. Feeds sold as follows: Ground corn, $22 per ton; corn cob meal, $20; bran, $30; ground oats, $30; alfalfa hay, $30; clover hay, $18; corn silage, $8; molasses, $36.

Joe Daviess County No. 2, Illinois:—This association held its reorganization meeting March 14th. One pure-bred Holstein bull was purchased; 24 cows freshened; 9 unprofitable cows were sold. During March, market milk testing 3.6 per cent sold for $2.50 per cwt. and 4c per point above. The cheese factory paid 60½c for fat. Oil meal sold for $2.50 per cwt.; cottonseed meal, $2.40; bran, $1.50; oats, $1.85; corn, $1.40; barley, $1.60; molasses feed, $1.60; hay, $1; silage, 40c.

Emmet County, Michigan:—During March, the creamery paid 45—52c per pound for fat. Milk retails for 14c a pound and butter for 40c a pound. Prices of feeds are: Bran, $32 per ton; cottonseed meal, $42; silage, $6; hay, $20; straw, $10.

First Kane County, Illinois:—Eight pure-bred cows and 2 pure-bred sires have been purchased during the month. There seems to be the general tendency toward producing a larger supply of milk during the summer. Two new members have recently joined this association. During March market milk testing 3.5 per cent sold for $2.35 per cwt.

Worth Double Its Cost

Mr. Chandler, our tester, asked me to write what I thought the Langlade Cow Testing Association had done for me. Do I think it paid me to join it? Well, I would not take double what I paid for what I have learned through it. In the first place it taught me to feed right, and that is a big item if you expect to make any headway in the dairy business. I have learned to breed for better production, and that is the best of all. The good I have received can't be measured in dollars and cents.—STANLEY PIZAK, Wisconsin.



Milan's Light Beauty, Jersey cow owned by Jersey Crest Farms, Wisconsin. Her record of 10,182 lbs. milk, 658.2 lbs. fat makes her state champion in her class.



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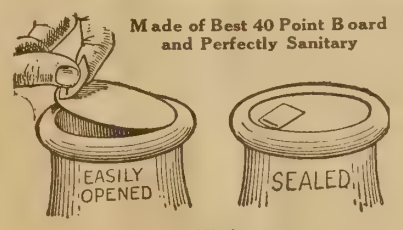
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1912—second highest scoring United States and Canada certified cream.

1914, 1916 and 1919—highest scoring certified milk for Illinois.

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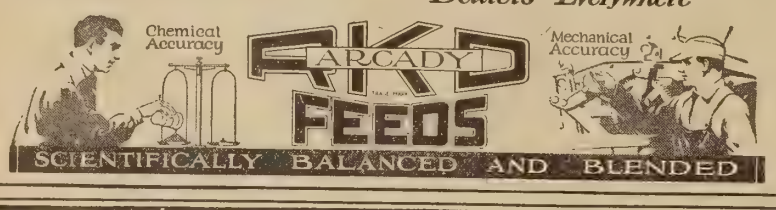
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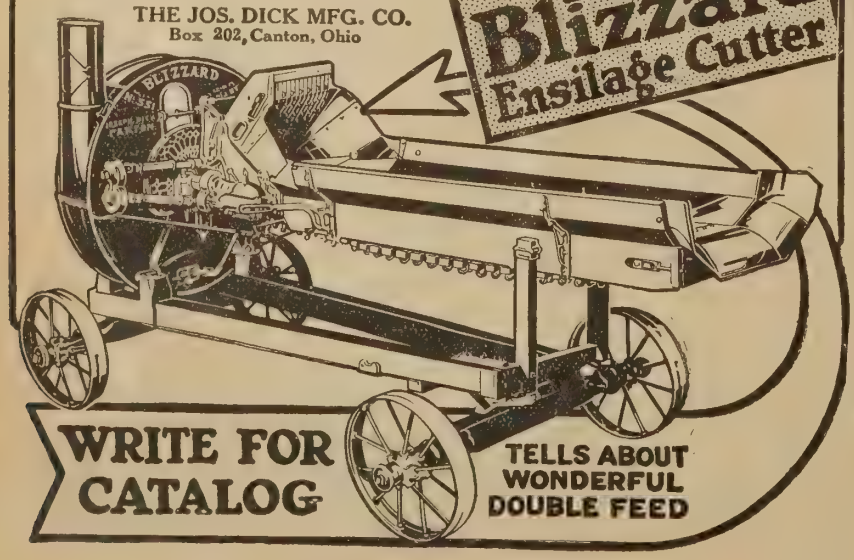
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Dairy Legislation at Washington

G. N. ANGELL, WASHINGTON

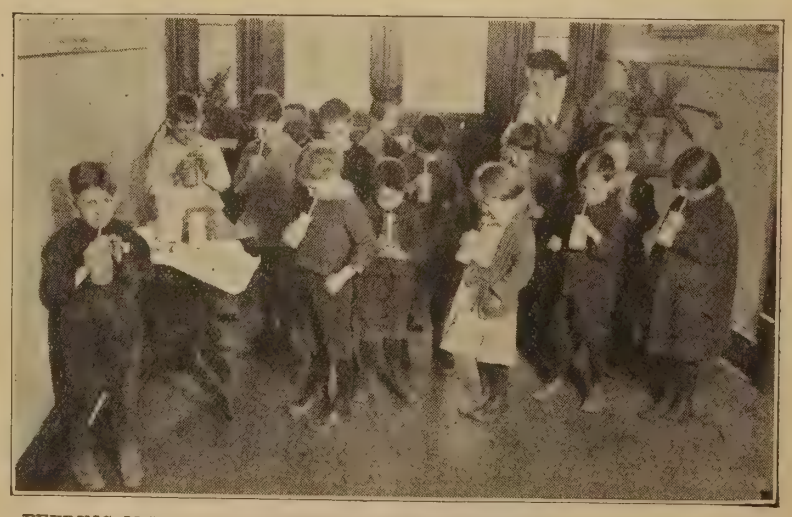
THE history of the legislative session of 1921 in Washington is largely one of disappointment to dairymen of the state, for while two or three measures of interest to them got by both houses and received the governor's approval, several failed of passage, and others which were calculated to be of benefit to the industry were passed by the legislature but were vetoed by the chief executive. Chief among the measures lost was the Milk Substitute Bill which, if enacted, would have prevented the manufacture or sale in the state of any milk or butter substitute which contained any fat other than the original butterfat contained in the milk or butter. This failed by ten votes, and a consolation measure subsequently introduced, which provided for the licensing of dealers and manufacturers of milk and butter substitutes, was lost in the congestion at the end of the session. With stronger support from the state farm bureau, which was in sympathy with the milk substitute measure but which was not well enough organized to work effectively for its passage, there might have been a different story, and the dairymen will work for such support two years hence.

The recently organized Washington Holstein-Friesian Association, at its first annual meeting in March, condemned the action of the legislature on this bill and pledged itself to work for the defeat in coming elections of members who voted against it. It particularly condemned the action of Mrs. Anna K. Colwell of Snohomish County, the only woman member of the house, who surprised the bill's backers by announcing in the debate on final passage that although she was a dairyman's wife, and although she had come to Olympia with the full intention of supporting the bill, she had decided to vote against it on general principles and because she did not believe it would accomplish the end sought.

An act requiring that cattle exhibited in any state, district, or county fair or live stock show within the state be required to undergo a tuberculin test within six months prior to exhibition, and forbidding any agent of a fair or show to accept cattle without a clean bill of health, passed both houses and was approved by the governor; as did one making it optional with school districts of the first class to furnish one-half pint of milk daily to pupils under the age of 12 years; but a bill establishing tuberculin test requirements for cattle offered for sale at public auction was introduced late in the session and never came to a vote. The work of tuberculin testing by state authorities was given a boost by the appropriation of $75,000, an increase from $50,000 last year, for this purpose during the next biennium, and provision for the work up to April 1 was made in a deficiency appropriation of $10,000. A deficiency appropriation of similar size was made for the state fair, and in spite of the governor's recommendation in his annual message that this institution be abandoned, the legislature appropriated $40,000 for its support during the biennium and the governor approved. This amount is far from sufficient to make a satisfactory fair, however. Included among the items of the general appropriations bill were several which were vetoed by the governor, to the surprise and disappointment of live stock men generally throughout the state, after the legislature had adjourned. One was a $20,000 appropriation for prizes at the Western Royal Live Stock Show at Spokane, one of three big stock shows of the fall circuit. Another was a $10,000 appropriation, of the same size as that made by the 1919 legislature, for distribution among Washington exhibitors at the Pacific Northwest Live Stock Show at Portland. These were vetoed on general grounds of economy, and on the further ground that since the state fair was allowed only $40,000, it would be unfair to Washington stock men to give $10,000 to an Oregon institution.

Washington stock men have since denounced the governor's "narrow-mindedness and ignorance in the exercise of his veto powers", have charged him with breach of faith toward the agricultural interests, and have stated by resolution that his action "convicts him of such ignorance of the live stock industry as to be the source of mortification to a great agricultural state." This excoriation was based partly on the veto of a $250,000 item for the completion and equipment of the dairy building at Washington State College, which is seriously needed for the accommodation of students in dairy courses. In vetoing this item the governor commented upon the extravagance of asking for such an amount, coupled with $175,000 appropriated in 1919, for the construction of a "dairy barn". Of indirect interest to dairymen was the governor's veto of the act making federal farm loan bonds legal investments for savings banks, insurance companies, and other financial institutions within the state.

What is hoped will prove to be one of the constructive measures of the



FEEDING MILK AND BUTTERED WAFERS DURING RECESS TO THE UNDERNOURISHED CHILDREN IN THE PUBLIC SCHOOL OF WEST LAFAYETTE, IND.

Many schools are adopting this practice and the children have been found to gain in weight, vitality, and mental efficiency.



A "MILKING SHED" IN AUSTRALIA

THIS illustration is from a photograph taken on the farm of Mr. Joseph Walker of Victoria, Australia, who writes: "Our milking plant is connected up by pipes to carry the milk as it is milked by machine to the separator room. The pipes that carry milk are made of nickel and are easily taken down. After every milking we draw cold water through these pipes, then warm water together with a brush. Every three or four days the pipes are taken down and brushed out. We have used this plant for four years and for the three years previous used buckets. We prefer the pipe system. It is easier to operate and there is a saving of time. Last year we had first quality cream, which shows there was no injury to the cream."

session is the new civil administrative code rushed through both houses at the insistence of the governor, under whose guidance it was prepared. This takes the reins of government out of the hands of various boards and commissions and centralizes authority in directors of departments. The new director of agriculture, E. L. French of Clarke County, is highly satisfactory to farmers generally, and his conduct of the state fair will be watched with interest.

⚜

One might paraphrase by saying that in the spring the dairyman's fancy lightly turns to thoughts of pasture. Certain it is that as the time for "turning out" approaches, with prices of feed somewhat lower, with condensery prices of milk higher than dairymen can see any excuse for their remaining, and with several new plants of the United Dairy Association of Washington approaching completion and operation, the feeling among dairymen of Western Washington, at least, is more optimistic than it has been for months. Condensery prices have made a sensational advance of 75 cents per 100 within a few weeks, and are now $2.45, and though leaders in the opposition to dairy substitutes say that the advance was made largely to influence legislation, there are few dairymen but are willing to take advantage of the situation by selling all the milk they can make.

The two big plants of the Skagit County Dairymen's Association and of the Lewis County Dairymen's Association, subsidiaries of the United Dairymen, are expecting to receive milk about April 1. Both are expensive plants, having been constructed during a period of high prices of materials, but a large amount of milk has been signed for each and leaders in the movement are optimistic about their chances for successful operation. Both are modern to the last degree, and both are paid for.

The Whatcom County Dairymen's Association which, during the past year has paid $20,000 for a butter factory at Lynden and has given its cream shippers dividends of three cents per pound of butterfat in addition, started operation of a new milk products plant about April 1. This association recently held an annual meeting at which 800 dairymen were present—probably the biggest meeting of the kind ever held in the state—and at which nothing but satisfaction and optimism were expressed. In Snohomish County a new agreement has been made between members of the dairymen's association and the milk distributors, under which milk prices in Everett will be based on the price set by the Seattle milk commission, with a 10-cent differential. The producers will pay the hauling costs of 25 cents per 100.

Organization work in Yakima County is continuing with the active co-operation of the farm bureau, and in Spokane County, which is also in Eastern Washington and which has no subsidiary of the United Dairymen but instead a "pure" co-operative organization known as the Inland Empire Dairymen's Association, the executives' conduct of affairs during the past few months was recently endorsed, and it was voted to continue setting aside a portion of the income in the sinking fund which is to be used in the construction of a central distributing plant and milk products factory in Spokane. There is about $4,000 already in the fund, and if it is not large enough when the time comes to build, more money will be provided by the sale of stock, several members having already promised to take $500 to $1,000 worth each. The dairymen will control their product from start to finish when the plant is completed.

National Dairy Union Financse

Balance on hand Feb. 1, 1921	$4,981.52
Total receipts	585.43
	$5,566.95
Total disbursements	$249.43
Balance on hand March 1, 1921	$5,317.52

This is to certify I have today audited the books for George Caven, treasurer of the National Dairy Union and find the receipts from Feb. 1, 1921 to Feb. 28th, 1921, to be $585.43, and the amount paid out for which he holds vouchers, the sum of $249.43, leaving a balance on hand March 1, 1921 of $5,317.52.

F. P. COLLYER, Auditor.

Once we realize that we are all one, working together for the good of all; that each of us finds his prosperity and salvation in the advancement of all, then the whole business, as well as each individual, takes a distinct step forward.—JOSEPH H. APPEL.



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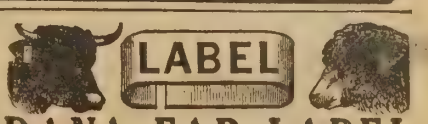
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Fort Atkinson, Wisconsin

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Coming Events

May 23—Missouri State Holstein Association first Annual Show of Sale Cattle at Sedalia, Mo.

June 9—Ayrshire Breeders' Association meets in Springfield, Mass. Secretary, J. G. Watson, Brandon, Vt.

Senator Strauss' Proposed Bill of Milk Control

HOARD'S DAIRYMAN:—A bill has just been introduced at Albany by Senator Nathan Strauss, Jr., of New York which will provide complete supervision over the milk industry in New York State by a Milk Arbitration Board of five members.

Speaking from the floor of the Senate, Senator Strauss says he has consulted all the parties interested, and in the main the bill has the approval of representatives of the Dairymen's League, the Borden Farm Products Company, and Health Commissioner Copeland of New York City, among others.

According to the New York Times, Senator Strauss said: "The board will have the right to fix milk prices for the producer, the distributor, and the consumer, but these prices must be the result of a unanimous agreement to be enforcible. The object of the arbitration board, as constituted in this bill, is to enable all factions in the milk industry to act together under government sanction on these problems which they share in common, conspicuously the problem of increasing milk consumption. When a problem is encountered on which the interests of the different factions are conflicting, for instance, the problem of price, the board will adjust these differences under government auspices in an atmosphere that will insure public good will."

"The bill, in a word, calls into being an official board on which the milk industry itself will be largely represented, and over which the people, through their Government, will have only the guiding control necessary to prevent strikes, to secure an even flow of milk at a fair price and to safeguard the public health."

The bill provides for a board of five members, one of these the State Health Commissioner, ex-officio, the others would be appointed by the Governor for four years but would be removable at his pleasure. The Governor would be obliged to select the four members from a list of three persons each submitted by the Dairymen's League, the New York Milk Conference Board, the New York State Grange, and the New York Chamber of Commerce. It is provided that the persons designated by the last named organizations must not in any way be connected with the milk industry. The members would receive no salary but receive traveling expenses. E. M. L. BLANCHER.

Estabrook Associate Bureau Chief

In the combination of the Bureau of Markets and the Bureau of Crop Estimates, in the Department of Agriculture, effective July 1, George Livingston will remain Chief and Leon M. Estabrook will become Associate Chief. The new Bureau will be known as the Bureau of Markets and Crop Estimates. Mr. Estabrook was Chief of the Bureau of Crop Estimates from 1913 until April 1st of this year when he was transferred to the Bureau of Markets as Associate Chief. N. C. Murray will hold the position of Chief of the present Bureau of Crop Estimates until July 1st.

60 Guernseys Average $230

At the Guernsey sale at West Salem, Wisconsin, March 30, sixty head of pure-breds sold for $13,780, netting the owners an average of $230. Seventy-three grades, sold that day, averaged $101.

It was estimated that about 1,000 people were in attendance at the sale and the results secured mark it as the largest and most successful sale yet held at West Salem. The highest priced individual was a two-year-old heifer consigned by W. H. Hanchett. Wm. Brandau purchased her for $465. Clifford Capener consigned a pure-bred heifer which was the second highest priced animal, going to J. H. Meyer for $405. Two grades, a heifer and a six-year-old, the former consigned by Howard Aldrich and the latter by Harry Jewett, brought $180 each.

Wheat Valuable Pasture

HOARD'S DAIRYMAN:—Necessity is the mother of invention. This is well illustrated in the use of wheat pasture in the plains states. In the early days of farming there, dry prairie grass was bountiful in fall, winter, and spring, but fences were not. Wheat fields were generally green during all this time and green feed made more milk than dry. The family milk cows as well as other stock naturally drifted to the wheat fields. Now the pasture return from fall sown wheat is counted on as a regular part of the farm income on many wheat farms.

Wheat pasture produced more cash from milk and beef and saved more herds from dissolution in 1918 possibly than ever before. There are many beginners in the pure-bred dairy and beef cattle business who would have been forced to sell recently acquired stock had not wheat pasture been abundant.

"In the fall of 1918 we planted 100 acres of wheat and 15 acres of rye," says a dairy farmer near Topeka. "We planted about two bushels of wheat to the acre. We did this with the idea that wheat would make a heavy stand so we could pasture it heavy. Most wheat planted in this locality grew very rank and you never saw such a stand. It was as heavy as blue grass pasture. We turned 80 head of pure-bred Holstein cows and heifers on it. They had pasture for three months and we produced more milk on this wheat than on any before or since; and, besides, cattle never looked better. We took them off about the first of April and the wheat we harvested averaged 22 bushels to the acre. There is no question but that wheat pasture has rye pasture skinned a mile for milk production, if you get as good a stand of wheat as you do of rye. One must be very careful in pasturing wheat and not have the cows on too long at first or it will bloat them. This is for the first day or so, then they can go on full time."

Dairymen the state over have had similar experiences. Where the pasturing is done in the fall there is not a great deal of reduction in yield of grain at harvest time. In fact, most men in central and western Kansas consider that a man is foolish not to pasture in the fall if he has anything to use that way. He is then sure of a part of the return on the planted crop. Dairymen, however, do not all find their cattle in as good shape when taken off as indicated by the one quoted above. It may be taken as a general fact that cattle giving a heavy milk flow on wheat pasture are drawing on body tissues and stored energy for the fat and will be in a weaker condition at the end of a prolonged pasture period. This in itself may not be objectionable if nourishing feed is then cheaper and easily obtained while the pasture period was one of the highest price for butterfat or milk.

Pasture experiments were conducted at the Agricultural Experiment Station at Manhattan from 1888 to 1896 to determine the effect on yield of grain and straw. At that time a theory was commonly held by growers and others that pasturing in some unexplained manner was a benefit to the wheat. The results were as follows:

	Grain bus. per A.	Straw lbs. per bu.
Fall pastured	26.15	122.8
Spring pastured	27.78	118.1
Not pastured	29.60	115.5

In these experiments the cattle were not allowed on the plots when the ground was wet nor was the wheat eaten down for a long period.

The Oklahoma Experiment Station at Stillwater also carried on five years' work with wheat pasture and likewise attempted to determine the effect of pasturing early and late on the yields of grain. There were three sets of plots used in this experiment. The plot not pastured at all averaged for five years 12.71 bushels. The plot that was classed as light pastured, cattle being removed on March 1, averaged for five years 11.63 bushels per acre, and the plot that was classed as heavy pastured averaged for five years 8.38 bushels per acre. These experiments were conducted 1903 to 1907 inclusive.

Both cattle and wheat men in the great wheat belt of central Kansas say that all the pasture obtained in the fall is clear gain and that wheat pastured before Christmas will usually make as great a yield at harvest as that not so used.

Kentucky. RALPH KENNEY.

To Increase Consumption

HOARD'S DAIRYMAN:—I would like to suggest the following marketing plan to increase consumption of dairy products in dairy communities. I would have every creamery sell cheese, have every cheese factory handle butter, and the condenseries handle both. The cheese should be made in five-pound bricks, or the American variety could come in round cakes of that size and weight. The purchasing price can be taken out of the patron's checks and this will do away with the bother of handling charge accounts and eliminate the dead beat.

Some may say that this field is covered by the retail stores. I do not find it so. The stores handle cheese that is in a good many instances dry and of poor quality. It is often exposed to flies and dust, and the prices asked run all the way up to 60c. The same must be true of the butter sold in cheese factory and condensery territory.

One creamery could contract to furnish a whole string of cheese factories with good A-1 quality butter and a cheese factory could furnish a like string of creameries.

Minnesota. GROVER E. ARBEITER.

New President of Oregon Dairymen's League

Alma D. Katz, who for nearly four years has served as president of the Oregon Dairymen's League, has resigned and Jacob Luscher, vice-president, has been selected to succeed him. The league was organized August, 1917, and since then has grown steadily, doing much to cement the dairymen of Oregon and proving a power in the community. The league has now nearly 3000 members and is operating twenty cheese factories, six butter factories, and a market milk plant. A large percentage of the growth is ascribed to Mr. Katz's leadership.

Oregon. E. K. HILL.

Many farmers are deciding to repair farm machinery because machinery prices are still very high as compared with reduced prices of farm crops.

A Little International

G. H. CLAPP, WISCONSIN

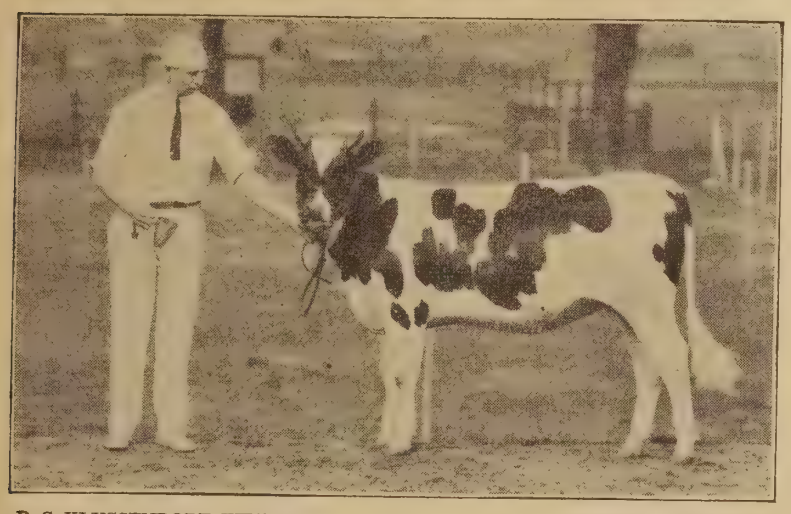
DAIRYMEN interested in the training received by students of our agricultural colleges will be pleased to know of the practical training the students of the Wisconsin College of Agriculture received through the "Little International" held in the Live Stock Pavilion at Madison in March. This is an annual affair put on by the Wisconsin Saddle and Sirloin Club composed of students interested in animal husbandry.

This affair differs from almost all other live stock shows. Animals from the college herds and flocks are fitted for show and shown by students for prizes which are awarded not on the individuality of the animal but on the improvement the student has made on the animal and the ability he displays in showing his animal in the ring.

Dairy cattle play an important part in this Little International. The animals are judged before any work is done on them and then again the day of the show. Most of the students have had no chance before to learn how to fit animals for show or sale. This event gives them the opportunity to learn how to fit animals for show or sale. This event gives them the opportunity to learn how by actual practice.

One well-known Guernsey breeder at the show this year enthusiastically declared, "A show of this kind where the students actually fit the cattle for show and handle them in the show ring is a wonderfully fine thing. It is worth more to students than a week in the class room."

Training in managing shows is another educational result. Students have charge of the entire show. There are men in charge of each class of stock and also of each breed.



R. C. KLUSSENDORF, WINNER OF THE SILVER CUP AWARDED TO STUDENT DISPLAYING MOST ABILITY IN SHOWING HIS ANIMAL IN THE RING



J. C. NISBET AND D. A. BRACE, WINNERS OF THE GRAND CHAMPION CUP WITH THE AYRSHIRE BULL, SUBSTANTIAL OF HIGHLAND

They get good experience in handling such work.

The dairy cattle department in charge of L. E. Murphy was a big feature of the show. About sixty animals from the College herd were shown. Many prizes were offered by breed and other organizations which loaned their support to the show.

Two weeks before the show the exhibitors were to be found at the dairy barn at all hours, washing and clipping their entries, blanketing them, polishing horns, and trimming feet. As the day of the show drew near, the barn became the scene of wholesale show preparation. Hides were oiled, horns and feet were given finishing touches. The results were animals in a condition to do credit to an experienced show man. In some cases mistakes were made but by these mistakes the students learned.

Saturday afternoon in the large class room at the dairy barn all entries were passed on by a committee of judges, Professor R. S. Hulce, A. J. Cramer, and J. M. Alderson. Competition was keen in all classes, especially so in the breed championship classes. The silver cup for the grand champion dairy animal was won by J. C. Nisbet and D. A. Brace showing the aged Ayrshire bull, Substantial of Highland. Their good work in fitting this bull brought them in prizes the grand champion ribbon, a bull staff, a bronze medal, and the silver loving cup.

A feature of the afternoon was the competition for the silver loving cup to be awarded to the man showing the greatest ability in showing an animal of any class. This brought together in the arena an unusual line-up—a Percheron stallion shown by the best showman in the horse department, a Hampshire lamb, a Poland-China boar, a Shorthorn cow, and a Holstein heifer, each shown by student exhibitors showing the greatest ability in the respective departments in showing their animal to the best advantage in the ring. The final decision awarded the prize to R. C. Klussendorf showing the Holstein heifer.

The dairy cattle took a prominent part in the evening horse show also. A parade of Holsteins, Guernseys, Jerseys, Ayrshires, and Brown Swiss, each animal led by its exhibitor in a white dairyman's suit, concluded the dairymen's activities.

Exhibitors and managers alike feel that they have acquired valuable experience from the Little International of 1921, experience they could not get in the class room and training which can be applied after leaving school.

First Step in Improving a Dairy Herd

JOHN BOWER, MINNESOTA

THE first step in the improvement of live stock on the farm is a dissatisfaction with what you have. So long as a farmer is content to milk any old cow, housed in any old place, fed any old way, bred to a bull of no selection, one can not expect any step forward. Are you content with what you have? Do you milk cows only because the cows are yours, because it is part of the farm work? Are your cows better than they were a year ago, than they were ten, twenty years ago? If they are not, there is something radically wrong with you, not with the cows.

You use the binder, an improvement over the reaper, as the reaper was over the cradle. You use the gas engine to pump your water, surely an improvement over working the pump handle. You use the pressed seed drill, an improvement over hand sowing. You use the threshing machine, a wonderful improvement over the flail. Some use the tractor and believe it an improvement over the horse. Most readers use the auto, without doubt an improvement over the ox-cart. So far as the cow goes, we acknowledge it is a lamentable fact that many of us are still in the ox-cart stage of cow development. And the fault is ours, not the cows. Never forget that. If, after a life time on the farm, our herd of cows does not produce milk in greater volume, and at a lower cost than that with which we started, then we stand convicted as non-progressive, out of touch with the forward movement going on all about us and upon whose activities we so much depend in the development of other things for our use and the benefit of ourself and family.

Children of Dissatisfaction

The automobile, the drill, the threshing machine, the gas engine, electric driven machinery, all are the result of constant changes brought about by divine inspired dissatisfaction, by the ever-present, constant pressure for improvement which seems to be a component part in the makeup of all. The pure-bred cow has a like origin. For years and years some few men, gradually increasing in numbers and ability, have sought successfully, and unsuccessfully, too, sometimes, to improve the economic productivity of the dairy animal. While the engineer has been measuring in meters and centimeters, the cowman has been measuring in pounds and ounces. While the engineer has used the electric crane and electric magnet the cowman has used the Babcock test and scale, whose lifting power has proven of inestimable value in improving the yield and decreasing the cost of dairy products. Can we not see that it is as much to our interest to use good dairy blood as it is to use those other time saving and labor reducing machines? So long as we are contented with what we have we will never improve. Get a little divine discontent into our system. It will be of greater value to us than the kind the political preacher of discontent seems determined we shall have. We need better cows; let us set about to get them.

One reason, perhaps, why we have not paid enough attention to improvement in our own herds is that these other things have been pressed on us by a multiplicity of agents, by the press, and the paid agent of the maker. Then, too, if you used a cradle when you could afford a self-binder, your neighbors might think you were lacking in the "upper story", that you were without brains. The inexorable pressure of public opinion and pride of family has induced you to buy an automobile when perhaps your best judgment was clamoring for a decision in favor of a pure-bred bull of one of the well known dairy breeds.

Good Breeding More Necessary Than Ever

Now, more than ever, is there a need for the introduction of good blood. Times change. As farmers we are clamoring for cost of production plus a reasonable profit. We are entitled to it. But surely no one will concede that we have a right to this, irrespective of the kind of tools we keep or the methods we use. If we milk what one speaker calls "female steers", cows, whose natural instinct to give milk at all seems almost lost, cows fed without regard to economy or efficiency, we can hardly expect to have the consuming public tamely submit to payment of prices to cover such methods. Further, we surely have not the face to ask it. Lower prices ought to stimulate economical production.

Change not Costly

Nor is it so costly to change. By the use of a pure-bred bull one can change the whole character of the herd in a few years. One must first realize the need of a change. Having done that, the next step is the selection of breed and the purchase of a sire from a high producing dam. If even that is beyond your pocketbook, there is the "bull association" where the cost is not any greater than the present system of letting things slide. But to dream about it, to talk about it, to discuss it, will not get anywhere. Dissatisfaction alone is not enough. All these things must be crystalized into action. Action alone counts. Let us do it now. There is no better time.

It's good to boost for a spring clean-up of the whole community; but its better to see that the place is kept clean the year 'round.

Those who go to bed with the chickens and get up with the lark don't need daylight saving laws.

EDITORIAL COMMENT



CLOVER—TIMOTHY MIXTURES

In the purchase of clover-timothy seed mixtures there is opportunity for cheating, for a 100-lb. mixture containing 99 lbs. of timothy seed and 1 lb. of clover would be a clover-timothy mixture, but it would not be of the right proportion for seeding purposes. Clover seed is more expensive than timothy seed and an additional price may be obtained for a mixture containing clover and timothy. When this extra price is paid, the purchaser has the right to expect the mixture of seed suitable for sowing and in order to have this assurance it is well to purchase from seed houses known to be reliable. The purchaser should be advised as to the proportions of the mixture and that he is getting a good quality of seed.

RAWL RESIGNS

B. H. Rawl, who has been Chief of the Dairy Division since 1909 and since 1918 Assistant Chief of the Bureau of Animal Industry, has tendered his resignation to take effect May 1. The dairy industry loses the services of a conscientious and capable official. Mr. Rawl has thrown himself into the work of the Dairy Division with an earnestness and an understanding of what was necessary for the proper development of the dairy industry. He has rendered a service highly commendable to himself and of large value to the dairy industry. It is unfortunate that our government has failed to recognize the service of such men and to compensate them adequately that they may continue in governmental service.

Mr. Rawl leaves to take charge of important educational and administrative work for the California Central Creameries Company, whose headquarters is at San Francisco. His education and his experiences in the Dairy Division have prepared him well to discharge his new duties. While he will devote his energy to the development of the dairy industry on the Pacific Coast, his services are lost to the dairy industry as a whole, which we consider unfortunate.

It is not possible to mention all of the investigational work for which Mr. Rawl is responsible. Since he became Chief of the Dairy Division he has established some very important experimental work which we hope will be continued. The work of the Dairy Division to improve methods of manufacturing Swiss cheese promises to become of large importance to the cheese industry. Through the use of cultures, which it has developed, the Dairy Division is able to manufacture a high percentage of fancy Swiss cheese. Before this experimental work was done, little had been accomplished to determine an exact process for the manufacture of Swiss cheese and on account of this a large percentage of Swiss cheese was classed as No. 2 which means a heavy loss to the Swiss cheese industry.

The work with Roquefort cheese has gone far enough that it may be made upon a commercial basis and the results of experimentation with sweet cream butter and milk have contributed substantially to the improvement of these products.

Mr. Rawl was instrumental in laying plans upon a sufficiently large scale to obtain definite knowledge pertaining to breeding dairy animals. Our knowledge regarding the fundamental principles of breeding is limited and, to secure information which would be of assistance to those improving dairy stock, he conceived a plan for carrying on the work so that at the end of twenty years the government will be able to furnish much valuable breeding information.

An experimental dairy farm has been established at Beltsville, Md., where field experiments, as they relate to dairy farming, are carried on together with work in animal nutrition and other practical problems pertaining to the dairy.

Several years ago Mr. Rawl established at Grove City, Pa., a dairy manufacturing plant where butter and Swiss and Roquefort cheeses are manufactured under the processes perfected by the Dairy Division. Attention has also been paid to the use of the by-products, whey and skimmilk.

In the work he has been instrumental in inaugurating in the Dairy Division and in his ability to get the men of the various departments to work together, Mr. Rawl has shown a comprehension of the requirements of the dairy industry and a keen understanding of men which is so essential for the head of a division. We need more such men in the government service and we hope our new Secretary of Agriculture will see the necessity of taking steps to provide that the service of other such men will not be lost to the government.

FILLED MILK

Filled milk is made from skimmilk and cocoanut oil. The milk fat rich in growth-producing substance is taken away and cocoanut oil, which contains no growth-producing substances, is put in its place. When milk fat is eliminated the very life of the milk is extracted. Cocoanut oil and other vegetable oils do not contain this all important substance. Children and animals go blind and ultimately die if they cannot obtain in their rations any of the substance found in milk fat.

Here is what Dr. McCollum of Johns Hopkins University says: "In our studies with diets which were lacking in the peculiar growth-producing substance found abundantly in milk fat but not in vegetable fats, we invariably observed that the animals showed, after a period of five to seven weeks, a swelling of the eyelids, and a marked inflammation of the eyes. If the faulty diet was persisted in, the animals always went blind, and death followed a period of loss of weight in case the missing dietary essential was not supplied. A small supply of butterfat works like magic in causing the recovery of the eyes in such animals provided they have not gone too far and where the eyes get well, growth in the young is resumed."

These statements by Dr. McCollum are based upon investigation. He has proved conclusively that milk fat or substances like the yolk of egg, kidney fat, liver fat, or the leaves of some vegetables are essential to growth. We cannot expect the human race to turn to liver and kidney fats, to the leaves of certain vegetables, or to carrots or rutabagas for this substance when we have it so abundantly in milk and with all the other elements which are so vital and well adapted for nourishing growing children.

The old methods of formulating diets considered protein, carbohydrates, and fats, but in late years the work of Doctors McCollum, Osborn, Mendel, Funk, and others shows there is a new substance vital to health and growth. This substance is called soluble A by some scientists and a vitamine by others.

Dr. McCollum fed a group of rats at weaning time on a diet of turnips, beets, potatoes, peas, beans, round steak, wheat flour, and corn meal. At one time this would have been considered a diet that would properly nourish an animal but the investigations of Dr. McCollum show that the rats fed this ration grew about one-fourth as large as they were capable of growing had they been fed a satisfactory diet. The trouble with this diet, he says, was that it was derived wholly from seeds, tubers, roots, and muscle meat. Such a diet will never be satisfactory for the maintenance of health.

Another group of rats was fed exactly the same ration except that whole milk powder was added to it. The rats receiving this diet grew normally and to full size. The element that produced the difference in these two groups of rats was the milk fat.

Dr. McCollum further states: "Bloch, a Danish physician has recently recorded forty cases among children in the rural districts near Copenhagen who had been fed exclusively on a diet of separator skimmilk. He describes an eye trouble and says the children recovered promptly when given whole milk. A Japanese physician, Mori, recognized that animal organs such as chicken livers would cure the disease when added to the diet of these children. He also pointed out that the fats from the kidney and liver possess the same growth-promoting substance as does butterfat. Both Bloch and Mori consider the disease of the eyes as essentially a fat starvation."

Medical men have assured Dr. McCollum that they have seen many cases of children, suffering from sore eyes and swollen eyelids, whose diets were derived principally from grains.

These experiences and investigations show conclusively that milk fat contains a substance highly essential to not only growth but health and that milk is an indispensable food for the young.

The several filled milk products offered for sale are plainly labeled, advising the consumer that they contain condensed skimmilk and cocoanut oil but they do not advise the consumer that they have taken the very life out of the milk when its fat has been extracted. The labels of these filled milk products advise the use of filled milk products in the making of tapioca pudding, custard, soups, cup custards, cake filling, cream cauliflower, cream gravies, coffee, cocoa, and all dishes requiring milk, and state that they answer the cooking requirements of bottled milk.

Manufacturers of filled milk would lead mothers to feed their children this lifeless product robbed of milk fat which carries a substance necessary for growth and health. Another group would feed children oleomargarine because it is a little cheaper, wholly ignoring the development of our children. There is no use to argue that the yolk of eggs and carrots, kidney, and liver fats contain the substance soluble A the same as milk fat, for no mother is going to feed these substances to her child when she knows milk is the source of the growth-producing substance. It is the children of mothers who are not advised about this valuable substance in milk that must be protected. That is one of the duties of our government.

Night blindness has followed in Newfoundland and Labrador where people have existed largely upon fish, salt meats, raisins, and tea. When the Eskimo mother in Alaska can not get milk she seeks fish eggs to feed to her baby for fish eggs contain the substance found in milk fat.

The Supreme Court of the United States in rendering an opinion regarding filled milk says: "The constitution of the United States does not secure to any one the privilege of manufacturing and selling an article offered in such a manner as to induce purchasers to believe they are buying something which is in fact different from that which is offered for sale."

Four states have a law prohibiting the manufacture of filled milk. They are Ohio, Maryland, South Carolina, and Florida, and a similar bill has passed the House of Representatives of Pennsylvania. There is a bill in the New Jersey Legislature which, if enacted into a law, will prohibit the manufacture and selling in the state of filled milk. The Wisconsin Assembly has before it a bill to regulate the manufacture and sale of filled milk. We believe we should do more than simply try to regulate it. We should prohibit the manufacture of a food product which aims and has, to a considerable degree, taken the place of milk, our most essential food. Filled milk strikes at the very heart of our nation, the health and development of our people.

Soy Beans for Hay

Please tell me when to plant soy beans for hay, what kind of a seeder to use or how to plant, how many pounds to plant per acre, and when to cut and how to cure the hay.

Durango, Iowa. J. A. W.

There is considerable information on the subject of soy beans in our issue for March 18, 1921, but we submit the following definite replies to these several inquiries:

In order to secure the best results, soy beans should be inoculated with a proper culture. You can secure this either from your college of agriculture or from the seed concern of which you may

purchase your beans. If not practical to secure the special culture, get some soil from a field which has grown soys successfully and where the roots of the crop have shown well developed nodules. Mix this soil with the seed, half and half, and plant the soil and seed together.

Soy beans are not hard to grow. Prepare the ground as for corn and plant about the same time, or somewhat later, in rows of cultivatable distance apart. This can be done with a grain drill by stopping up some of the spouts and allowing the beans to run out in rows the desired distance apart. Sometimes soys are sown with a drill in double rows 36 inches apart. With a six-foot drill, for example, they may be planted with the two middle and two outside spouts on both ends of the drill, closing up all the rest of the holes. With special soy bean plates, obtainable for most any corn planter, the soys can be drilled 22 inches apart by straddling every other row of a 44-inch corn planter. Avoid deep planting, it is dangerous; from one inch on heavy soils to one and one-half inches on light soils is deep enough. Cultivate shallow and frequently enough to keep down the weeds, the same with corn.

Mr. Briggs prefers planting in rows even for hay. He states that with this method of seeding a bushel of seed will plant from 2½ to 3 acres, depending upon size of beans and the distance apart of the rows. If drilled in solid as grain is grown, it will require from 6 to 8 pecks of seed per acre. The hay will be of somewhat finer quality if the beans are not over 2 to 4 inches apart in the row.

If cut too early, the stems and leaves of soy beans are too succulent to cure readily. On the other hand, late cutting means coarse, woody hay —much of which will be wasted in the manger. The best results, from the standpoint of high quality and ease in curing, are secured by cutting just as the pods are forming. It is almost necessary that soy bean hay be cured in the cock. It should be allowed to wilt about a day in the swath and then should be raked up and built into small cocks to prevent too much heating. In good curing weather, it should be ready to haul in a week or less time. Shortly before hauling, the cocks should be opened up and allowed to dry out for a few hours.

A Series of Questions

1. Is skimmilk—buttermilk commonly called Bulgarian buttermilk or is it made by a different process?

2. With whole milk wholesaling at 12½ cents per quart and cream at 35 cents per pint, price considered, what should be the butterfat content of the cream?

3. What per cent should cream test for whipping purposes?

4. At the above prices, what should buttermilk and cottage cheese sell for wholesale?

5. Can you recommend to me several text books on dairy practice, herd management, and breeding, practical for the small dairyman and breeder?

6. What is considered the difference in costs in production of certified milk over "ordinary" milk? What is usually the difference in retail prices?

McAlester, Okla. J. J. S.

1. There are several different forms of buttermilk made from skimmilk, and it is only when the bulgarian culture is used that the resulting process is properly called Bulgarian buttermilk. This is a special type of lactic acid fermentation and is different from some of the other forms of lactic acid. It may or may not predominate in natural buttermilk resulting from buttermaking. Information as to methods of making the various types of buttermilks can be secured by writing the Dairy Division, U. S. Department of Agriculture, Washington, D. C., for a copy of the bulletin entitled, "Fermented Milks".

2. If the whole milk sells at 12½c per quart and tests 3.5 per cent, then cream testing about 20.2 per cent should sell at 35c per pint. This gives consideration only to the comparative butterfat values in the two products. If the skimmilk value is considered to be worth more than the extra expense of separating the cream and handling it in small quantities, then the test of the cream should be correspondingly increased. If the test of the milk is 4 per cent, then the cream should test 23 per cent in order to make a comparison upon the butterfat value. Comparisons based upon other tests of milk may be secured in the following manner: First multiply 46.33 (the number of quarts in 100 lbs. of milk) by the price per quart of milk. Divide the sum thus secured by the number of pounds of fat in 100 lbs. of milk and this will give the price per pound fat. Multiply the price per pint of cream by two in order to get its quart sale value, dividing this by the price per pound fat previously ascertained. This will give the number of pounds fat in a quart of cream. Dividing this latter figure by 2.1 (the number of pounds of cream in a quart) will give the estimated per cent of fat in cream when the comparison is based on butterfat values alone.

3. The per cent of fat in whipping cream varies in the several markets. For the very best results, the test should be 30 per cent or above, although cream that tests 20 to 25 per cent may be whipped if it is properly aged at a cool temperature and is kept cool during the whipping process. In most cases, whipping cream will ordinarily range from 25 to 30 per cent.

4. There is no practical method of setting a price on buttermilk and cottage cheese in comparison with the prices of milk and cream. Prices on these products are largely set by the old law of supply and demand and the distributor's special aptitude of disposing of these products. Information as to the prices prevailng in the various cities will be found in our monthly report of market milk prices, the last one of which appeared in our issue for March 18th.

5. In our issue for February 25th will be found a discussion of several text books on dairy farming that will be of interest. Our Circulaton Department will be pleased to quote prices on these upon request. If a special book on market milk is desired, we would suggest Parker's "The City Milk Supply". We can supply this upon receipt of its regular price, $5.00.

6. Information concerning the comparative prices of certified milk and ordinary milk will be found in the market report previously referred to. The actual costs of producing certified milk vary considerably from town to town according to the requirements of the several medical milk commissions involved and the particular desires of the producers of this milk.

Sweet Clover for Pasture

As a result of drought last year and the fact that my farm tenant pastured my new seeding last fall, I have some apprehension as to the outcome of my clover crop this year. For the purpose of this fall pasture, in particular, am thinking of sowing sweet clover. Will you give me the best variety to plant? Could I expect either pasture or hay crop this fall? My soil is a sandy loam. Would you advise soy beans for possibly taking the place of clover hay. Expect to have plenty of corn in the silo.

Antigo, Wis. I. N. N.

The biennial white sweet clover is the variety to sow and it would be highly desirable to secure what is called scarified seed. The reason for the use of scarified seed is that sweet clover has a very resinous coat and it may be slow in germinating unless this outside coat is broken somewhat so as to permit the moisture to sprout the seed.

We would suggest seeding this sweet clover with the grain crop and either pasturing the two in early summer or harvesting the grain and then using the sweet clover for pasture during the fall months. We have seeded sweet clover in grain for several years and in a favorable season it has made a growth after the harvest of the grain so that in fall plowing it was somewhat difficult to turn it under, the sweet clover standing 10 to 15 inches high. In such a season as last year, the sweet clover did not make so large a growth owing to the dry weather after harvest. Nevertheless, the ground was nicely covered and it would have made excellent pasture.

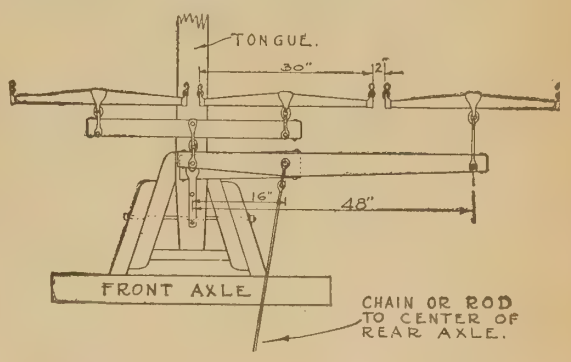
It is also possible that it will be found desirable to sow sweet clover with oats and then harvest this as hay; or, even better, would be to seed oats and Canadian field peas at the rate of one and one-half bushels each, adding to this seeding 10 lbs. of sweet clover seed. After the oats and peas are harvested as hay, under favorable conditions it would be possible to secure a hay crop from the sweet clover the same year or use it for pasturage purposes in the fall. It would be well not to pasture the sweet clover too closely in case it is desired to make use of it for hay the following year. We would call attention to the suggestion made on page 457 of our issue for April 1 concerning the seeding of vetch. One of our recent issues contained an excellent discussion of the growing of soy beans for hay, as well as for other purposes. Unless this seed can be purchased at a satisfactory price, we question whether the returns will be quite at good as they will from oats and peas, as previously suggested. It is doubtful whether the tonnage per acre will be as great, in addition to which there is some difficulty in curing the hay properly. The soy bean hay will be of a higher protein content than the oats and pea hay, but the latter will be found an excellent substitute for clover.

A Three-horse Evener

Please give me a sketch of a three-horse evener that can be used on a two-horse wagon.

Winfield, Pa. S. M. T.

The following drawing was supplied by F. W. Duffee of the Department of Engineering of the Wisconsin College of Agriculture:



This three-horse hitch for a two-horse wagon uses 30-inch singletrees, with two inches between ends of singletrees. It may be reversed so as to put two horses on the left of tongue if desired. It will ordinarily be desirable to purchase a ready-made evener from the local dealer, the manufacturer, or the catalog house.

Removing Hair From Hide

Please tell me how to make the hair on a beef hide slip and how to make leather out of it. I have a beef hide here all dried but I don't know how to make the hair come off.

Glenwood City, Wis. T. M.

The following process for removing hair from a hide is taken from the Scientific American Cyclopedia:

1. Make a dilute solution of ammonia and sulphurous acid and place the hides in it. Coat woolly hides on the flesh side with a paste made of potter's clay and the above solution. The salts of ammonia may be used.

2. Thick skins are allowed to sweat, that is, they are rubbed on the fleshy side with common salt or saturated with wood vinegar and exposed at ordinary or higher temperature to moisture; this causes a slight or more pronounced putrefaction and the hair can then be removed with scraping knives. Thinner skins are placed in pits with lime or sulphide of sodium; very delicate skins are coated wth rusma, sulphate of calcium, or gas lime. Rusma is a salve-like mixture of 1 part of orpiment (yellow sulphide of arsenic) and 2 to 3 parts of lime. The preparation last described is poisonous.

Sweet Silage from Immature Corn

The unseasonable weather this winter rather favors anticipation and as we have had only two crops of mature corn in this section during the past years, the question uppermost in the minds of the dairymen here is: Have we any chance of a mature crop of corn this season, and if not is there any way to prevent silage from immature corn becoming sour and moldy?

Wausau, Wis. D. S.

There is no efficient method of handling an immature corn crop so as to avoid the making of rather sour silage. There is no reason, however, why this corn should mold in the silo. As a matter of fact, we would expect less mold in silage made from immature corn than when the corn is too dry.

The practice is sometimes followed of letting the frost touch the immature crop, then cutting it and allowing it to lie on the ground in good curing weather for two or three days. It will then dry out somewhat, but we would hesitate to recommend this method of handling. Possibly this corn might be put up in small shocks so that it would air out somewhat and then ensiled when it is thought a sufficient amount of moisture has evaporated.

Possibly the best procedure is to plant those varieties of corn that are most likely to mature in your section. We anticipate that the Golden Glow would, perhaps, meet these conditions although the smut nose flint or other varieties may be better adapted to Marathon County.

DAIRY MARKET NEWS

March Milk Prices

(From Report by U. S. Bureau of Markets

Table I represents a combination of the net prices received during March by producers for fluid milk (test 3.5%) f. o. b. local shipping point or distributer's plant:

Table I—Producers' Prices by Geographic Sections

Sections	Range of prices per cwt.	Comparison of average prices 1921 Feb.	1921 Mar.	1920 Mar.
United States	$1.65—4.39	$2.90	$2.62	$3.56
New England	2.21—4.39	3.62	3.31	4.07
Middle Atlantic	2.10—3.57	2.81	2.42	3.56
E. North Central	1.80—3.41	2.50	2.46	3.23
W. North Central	1.65—3.08	2.92	2.62	3.30
South Atlantic	2.33—4.38	3.94	3.55	4.43
E. South Central	1.88—3.51	3.03	2.21	3.55
W. South Central	2.48—4.09	3.65	3.63	4.49
Mountain	2.10—2.98	2.77	2.47	3.07
Pacific	2.38—3.58	3.06	2.99	3.48

Table II shows for certain representative city markets the prices of standard grade milk (Grade B Test 3.5%) received by producers f. o. b. city and paid by consumers during the month of March:

Table II—Producers' Prices

	Producer received per cwt.	Consumer pays per quart
Birmingham, Ala.	$2.80	
Phoenix, Ariz.		$.18
Little Rock, Ark.	3.30	.15
San Francisco, Calif.	3.60	.15
San Diego, Calif.	3.50	.17
Denver, Colo.	2.62	.13
New Haven, Conn.	4.42	.16
Washington, D. C.	4.19	.16
Jacksonville, Fla.	4.78	.18
Atlanta, Ga.	4.06	
Chicago, Ill.	2.93	.14
Indianapolis, Ind.	2.28—2.45	.13
Des Moines, Iowa	3.30	.15
Topeka, Kans.	2.50	.13
Louisville, Ky.	2.32	.11
New Orleans, La.	3.74	.16
Baltimore, Md.	3.20—3.46	.14
Lincoln, Nebr.	1.89	.12
Boston, Mass.	3.74	.16
Detroit, Mich.	2.51	.13
St Paul, Minn.	2.90	.12
Kansas City, Mo.	2.85—3.10	.14
St Louis, Mo.	2.66—2.90	.14
Butte, Mont.	2.62	.15
Carson City, Nev.	2.90	.10
Trenton, N. J.	3.48	.13
New York, N. Y.	2.87	.15
Raleigh, N. Car.	4.87	.20
Fargo, N. Dak.	2.67	.14
Cleveland, Ohio	3.15	.14
Cincinnati, Ohio	3.30	.14
Oklahoma City, Okla	2.80	.15
Portland, Ore.	3.32	.14
Pittsburg, Pa.	3.19	.14
Philadelphia, Pa.	3.48	.12—.13
Providence, R. I.	3.75	.15½
Sioux Falls, S. Dak.	3.50	.14
Memphis, Tenn.	3.48	.17
Dallas, Tex.		.17
Salt Lake City, Utah	3.13	.12½
Burlington, Vt.	3.00	.13
Richmond, Va.	4.30—4.65	.14—.15
Seattle, Wash.	2.80	.13
Spokane, Wash.	3.25	.14—.15
Wheeling, W. Va.	3.20	.16
Milwaukee, Wis.	2.30	.10

The prices quoted for producers are for milk testing 3.5 per cent and delivered f. o. b. city, from which must be deducted the various transportation costs in order to get the actual price paid the producer at his railway station. In certain cities the prices given apply only to that portion which is considered as the producers' average production, the surplus being handled either by the producers' association or the dealers at somewhat lower prices. Detailed information as to the selling arrangements between producers and dealers in various markets may be secured by writing Division of Dairy Products, Bureau of Markets, Washington, D. C.

The prices given in Table II have been compiled on the comparative basis of milk testing 3.5% fat, different cities varying from 3% to 4% as the basic fat requirement on which prices are fixed. Certain markets pay on a straight price per pound fat, but most of them set a price per hundred pounds milk of a certain test and then add to or deduct from this price a certain number of cents for each one-tenth per cent in test above or below the basic test. The most usual allowance is from 3 to 5 cents for each one-tenth per cent or "point" as usually called.

The prices paid by consumers given in Table II are for average testing milk delivered in quart bottles. It is the grade of milk most generally sold in these cities and in nearly all cases is for pasteurized milk.

To reduce the prices per hundredweight, given in these tables, to either a gallon or a quart basis divide by 11.63 or 46.33 respectively.

Prices at County Shipping Stations

Prices paid during March per hundred pounds for standard grade milk (Grade B. 3.5%) at the dealers' country receiving stations or at producers' railway shipping points, as also prices f. o. b. city, are given in Table III. Prices here reported are those agreed upon by dealers and an active producers' marketing association:

Table III—March Producers' Prices Per Cwt. F. O. B. City and at Country Stations

	F. O. B. City	At dealers' country stations	
Bridgeport, Conn.		$ 2.21	81—90 mile zone New York City
Hartford, Conn.	4.14—4.22	2.77—2.85	61—70 mile zone New York City
New Haven, Conn.	4.42	4.07	21—30 mile zone New York City
Washington, D. C.	4.19		60 mile zone
Chicago, Ill.	2.93	2.35	All
Baltimore, Md.	3.46	2.33	50 mile zone
St. Louis, Mo.	2.91	2.23	33c zone (per 10 gal. can)
Newark, N. J.	2.83	2.30	201—210 mile zone, 53c rate, New York City
Trenton, N. J.	3.48	2.91	71—80 38.5c rate, N. Y. C., 51—60 Phila.
Buffalo, N. Y.		2.14	390—400 mile, or 69c rate zone, New York City
New York, N. Y.		2.34	200—210 mile, or 53c rate zone, New York City
Cleveland, Ohio	3.15	2.65	All
Cincinnati, Ohio	3.30	2.70	All
Pittsburg, Pa.	3.19	2.34	All
Philadelphia, Pa.	3.48	2.88	51—60 mile zone, Philadelphia
Harrisburg, Pa.	2.94	2.79	All
Wilkes-Barre, Pa.		2.10	201—210 mile zone, New York City

The average decline in price paid producers was 28 cents below the February price. Retail prices also came down an average of about one cent per quart. The sales by dealers increased slightly, but this was more than overcome by increased production and most markets reported a large surplus.

Retail Prices

Table IV gives for a few cities the retail prices of special milk, certified milk, cultured buttermilk, cottage cheese, and cream testing 18 to 20 per cent butterfat:

Table IV—March Retail Prices to Consumer

Citie	Special milk per quart	Certified milk per quart	Buttermilk per quart	Cottage cheese per lb.	Light cream per ½ pt.
	cents	cents	cents	cents	cents
Boston	18	25			15
New York	18	27		10	
Buffalo	14	26	9	14	20
Philadelphia	15—17	28	12	7—8	16
Cleveland		24		7—12	17
Chicago	20	32	15	15	18—20
Milwaukee	23	25	24	20	17
Minneapolis	13	25		12	14
St. Louis		23	15	16	14
Des Moines	20	25	20—28	15	18
Washington, D. C.		25	12	15	15
Pittsburg	16	30	12—16	20	17—20
Richmond	16		15		15—16
Baltimore			14—15		20
Louisville		24	9		11
New Orleans	20	30	14		18
Colorado Springs				12	11
Salt Lake City	16		7	20	15
Portland	12½	21	14	8	17
Spokane	19		15		15
San Francisco		25	15	20	21

Butter Prices for March

The butter market in March just about maintained the February average in the Chicago market, with the three large eastern markets showing a decline of nearly one cent each. The following table is compiled from the daily quotations of the U. S. Bureau of Markets and covers the average wholesale prices for March, 1920 and 1921, on 92-score butter (extras), as also the total receipts at these several markets:

	Ave. price Mar. 1921	Mar. 1920	Receipts Mar. 1921	Mar. 1920
	Cents	Cents	Tubs	Tubs
Chicago	46.65	66.06	162,606	151,976
New York	48.05	66.48	172,914	172,960
Boston	48.13	67.87	55,296	71,571
Philadelphia	48.67	67.45	51,471	45,311
Total receipts			442,287	441,818

Ninety-score butter averaged 43.29 cents for March on the Chicago market, with centralized butter at this market selling for 44.14 cents. Jobbers' prices on extras sold to retailers during March averaged 48.25 cents in Chicago and 46.83 cents in New York.

March Condensery Prices

(From report by U. S. Bureau of Markets)

Reports from manufacturers of condensed and evaporated milk indicated somewhat improved business conditions during March. The tone of the market was steadier, and a much better feeling existed. Domestic trade increased in activity and to this rather than to a foreign demand is attributed the more satisfactory situation. Some foreign orders are being taken care of right along but so far as figures are available this year's exports are running way short of last year's heavy shipments, especially on sweetened condensed milk. Exports of this class of goods during January and February 1921 amounted to but 19,700,000 pounds as compared with over 56,000,000 pounds in 1920. In the case of unsweetened evaporated milk exports were practically the same as last year. Germany continues to receive a large portion of the exports from the United States, getting over 8,000,000 pounds out of a total of 14,000,000 pounds of evaporated milk which were shipped out of the country in February. This was in addition to over 2,000,000 pounds of condensed. Cuba was shipped a larger quantity of condensed milk in February than any other single country, and for the two months the total exceeded over 6,500,000 pounds.

Manufacturers' Prices Lowered During February

In several respects the March report shows material changes. Manufacturers' selling prices covering sales of the previous month show heavy reductions. This applies especially to condensed case goods which dropped on the average about $1.60 per case to domestic trade and still more to foreign trade. Costs of raw milk for manufacturing purposes were also slightly lower, though not in the same proportion. In fact, prices paid in March were slightly higher than in February by condenseries in certain sections, particularly in the district embracing Ohio, Indiana, Illinois, Michigan, and Wisconsin, also in the northwestern states. In this connection it may be noted that in these same sections prices paid producers by milk distributors were but slightly different than the February prices as compared with an average reduction for the entire country of about 30c per cwt.

Condenseries Resume Operations

Fewer condenseries are idle now than were reported a month ago. The number of plants reporting as being in operation in March was 211, an increase over February of 40, and the number temporarily closed was reduced from 45 to 17. No factories reported handling milk for patrons' accounts. This would point to a more satisfactory situation from the manufacturers' standpoint. In this same connection stock figures also indicate a healthier condition. Total stocks on March 1, were 25% lighter than on February 1 and almost 50% lighter than March 1, 1920. Unsold stocks showed a similar reduction, and at the same time unfilled orders while not excessively large were almost double those of the previous month.

The prices quoted in Table I are those paid producers for 3.5% milk delivered at factories during March. They are based on reports made by approximately 61% of the total factories in the United States.

The manufacturers' wholesale selling prices given in Table II are based on reports made by manufacturers covering actual sales, during February, of condensed and evaporated milk delivered to jobbers, wholesale grocers, and similar buyers on basis of cash or short time credit. Foreign prices are given f. o. b. or f. a. s. point of export in section in which sales were made.

Table I—Prices Paid Producers at Condenseries During March

Geographic sections	Case and bulk goods No. of factories	Price per cwt.	Bulk goods No. of factories	Price per cwt.
New England	1	$2.31	4	$2.85
Middle Atlantic	41	2.24	21	2.25
South Atlantic	2	2.28	3	2.33
E. No. Central	71	2.05	26	2.34
W. No. Central	3	2.00	4	2.10
South Central				
North Western	15	2.17	4	2.63
South Western	15	2.00		
United States	149	2.11	62	2.35

Butter Markets Show Firmness After Sharp Recovery

(Report by U. S. Bureau of Markets)

Much talk had been heard of 40c extras at Chicago as an immediate possibility. The sharp decline which occurred on eastern markets, particularly New York, was a sequel to this sentiment. The equally sharp recovery which was recorded on Mar. 29 proved that such weakness was unwarranted and also that the arrival of the cargo of the "Oscar II" had been pretty thoroughly discounted. Receivers of this butter simply withheld it from the market and the shortage of domestic offerings quickly caused a recovery.

Just why fresh domestic butter should be as short at this time as it is reported to be on all markets is hard to say. Some explanation for the condition can probably be found, however, in the fact that buyers have practically been off the market for some time and have had to buy more heavily than usual when the market showed signs of advancing. Buyers have been noticeably in the habit of anticipating their wants closely on an advancing market this year.

Offerings of Danish at New York were limited all week. Prices obtained were equal to or more than prices received for best domestic. At the close of the week Danish was being held for 47—50½c on a 48½c market. Only one further cargo is expected, 6,600 casks which is now reported in at New York. New offerings are said to be on the basis of more than 50c c. i. f.

April is generally expected to be a short month. Offerings at the minute are certainly short. Unless prices are advanced so rapidly as to stop buying the market may reasonably be expected to remain good for some time.

The average wholesale prices on 92-score butter at five of the principal markets for the week ending April 2, 1921, and the corresponding week a year ago were as follows:

	Week ending April 2 1921	1920
	Cents	Cents
New York	47.1	66.6
Chicago	45.3	63.6
Philadelphia	48.1	67.2
Boston	47.6	67.7
San Francisco	38.7	56.2

The receipts of butter at these markets were 7,958,321 lbs. as compared with 6,116,850 lbs. a year ago and 8,414,686 lbs. a week ago.

Cheese Markets Continue Weak

(Report by U. S. Bureau of Markets)

Following sharp declines averaging 2½c on the Plymouth, Wisconsin, Cheese Exchange on March 28, trading during the week ending April 2 lacked the activity which a good many dealers anticipated. On the other hand, both the wholesale distributing markets and Wisconsin primary markets remained quiet and if anything the weakness became more general. After the decline at Plymouth, numerous Wisconsin distributors put out prices which represented a fairly stiff margin over cost, but the small amount of business which resulted was evidence that buyers expected prices to seek still lower levels.

Opinion differs considerably as to the outlook for the next few weeks. At Chicago the feeling is very weak. Receipts have been only moderate, but sales have been so slow that stocks have accumulated to the point where dealers are generally free sellers and look for further declines. At New York, however, where stocks are not excessive, the active demand for held cheese has helped the general

Table II—Manufacturers' Wholesale Seling Prices (February)

Geographic sections	Sweetened condensed* Domestic	Foreign	Unsweetened evaporated† Domestic	Foreign	Sweetened condensed‡ Unskimmed	Skimmed	Unsweetened evaporated‡ Unskimmed	Skimmed
New England	$7.88	$8.00	$5.63	$5.50	$11.47	$5.92	$ 9.94	$4.56
Middle Atlantic	7.50	7.34	5.53	5.40	11.08	5.98	12.40	5.36
South Atlantic	8.23	8.00	5.69	5.50	11.64	6.61	11.00	4.08
East North Central	8.21	8.00	5.32	5.60	11.51	6.56	8.28	5.34
West North Central	8.25	8.00	5.62	5.50	11.33	7.17	9.83	
South Central	8.22	8.00	5.82	5.50	12.25	6.66		4.50
North western	8.21	8.00	5.59	5.50	12.88	8.03		6.19
South Western	8.45	8.00	5.61	5.50	12.25	7.00	13.00	
United States	8.04	7.73	5.57	5.49	11.74	6.51	10.43	5.20

*Case contains 48 14-ounce cans. †Case contains 48 16-ounce cans. ‡Bulk, per cwt.

situation. Furthermore, on account of the uncertainty of developments in the immediate future, less western cheese has been shipped in. A slight increase in the make in New York State factories has been reported but this report lacks confirmation. It is known that some condenseries, which for a time were making cheese, have resumed condensing operations, and this, of course, will have some bearing on total production. Regardless of these facts, however, numerous dealers feel that if prices do not show material changes immediately an increased production later in the season will push fresh cheese lower.

The average wholesale prices on American cheese (style Twins) for the week ending April 2, 1921, and for the corresponding week a year ago were as follows:

	Week ending April 2 1921	1920
	Cents	Cents
New York	27.7	29.5
Chicago	20.8	29.3
Boston	23.8	30.5
San Francisco	21.8	28.5
Wisconsin	20.9	29.5

The total receipts of American cheese at these markets were 2,948,160 lbs. as compared with 2,984,025 lbs. a year ago, and 2,924,420 lbs. a week ago.

Cheese Prices for March

The daily quotations of the U. S. Bureau of Markets show the following average prices for American cheese (style Twins) for three large markets in March, 1921 and 1920:

	Average price March 1921	March 1920
	cents	cents
Wisconsin Boards	24.91	28.07
Chicago	24.32	27.83
New York	27.00	29.00

Longhorns averaged 25.58 cents on the Wisconsin Boards, which is about three-quarters of a cent above the price of Twins. In March a year ago, Longhorns sold for 29.88 cents.

New York Butter Market

New York City, April 5:—This is a season of abrupt changes of sentiment so far as the butter market is concerned. Less than two weeks ago, it was difficult to find an optimistic receiver in the market. There were dire predictions that butter prices would go to prewar levels in a very short time and that the market would be over laden with butter. It is now very apparent that predictions in postwar times are valueless as the bearish sentiment which prevailed at the time the quotation on extras reached the low level of 44c has now abruptly changed. Butter prices have advanced very rapidly of late and unless something unforeseen transpires values will go yet higher. Whether or not that will be to the interest of the dairy industry remains to be seen. The season of greatest production is near and with it must necessarily come marked price reductions. With sharp reactions in values, especially if price declines are very marked, producers become dissatisfied and lose interest in dairying. It would be far better if values could keep at a regular reasonable level the greater part of the year.

There are several reasons for the present trend of butter prices. In the first place, there is an abnormal consumption of butter throughout the country; secondly, domestic production is very low at present; and, thirdly, prospects of further importations of foreign butter are very remote. The reason for the increased consumption of butter is that prices are now at such levels that the average consumer feels he can afford to purchase butter for family use. Domestic production is low because of the change in sentiment regarding the future of the dairy industry which is the result of the closing down of many condensed milk factories last fall and the decline in prices of all milk products at that time. It is undoubtedly true that producers disposed of many of their cows at that time. The probability of materially curtailed butter importations is the result of heavy buying of Danish butter by England and France, and also because refrigeration facilities are inadequate on boats to properly care for large shipments of Danish butter that might be sent to this country.. There is a bare probability that butter production may be so reduced during the coming season that there will be no marked decline in butter prices.

On Monday of last week, in anticipation of the unloading of the shipment of 19,000 casks of Danish butter, extras were quoted at the low level of 44@44½c. Holders of Danish butter withdrew their stocks from sale with the result that there was a marked shortage of butter on Tuesday and the price recovered 1½c. There was no change on Wednesday in spite of the great activity on that day but on Thursday the price advanced to 48c. Since that day there have been successive advances of 1c, ½c, 2c, and ½c, respectively. There is a feeling that the upper limit has about been reached and that a reaction may materialize at any time, in spite of the existing butter shortage. Quotations at the close today were: Extras (92 score), 52c; higher scoring than extras (93 score or higher), 52½@53c; firsts (90—91 score), 50@51½c; firsts (88—89 score), 46½@49c; and seconds (83—87 score), 38@45c.

W. B. LIVERANCE.

Dairy Markets

MILWAUKEE, Wis., April 8—Butter—Creamery, tubs, 48c; prints, 49c; extra firsts, 44@46c; firsts, 40@42c.

Eggs—Miscellaneous receipts, country candled, cases included, 23c; cases returned, 22c; seconds, 19@20c; checks, 18@19c.

Cheese—Twins, 20@21c; Daisies, 21@22c; Young Americas, 22@23c; Longhorns, 22@23c; Brick, 19@20c; Limburger, 27@28c; Swiss, loaf, 48@50c; block, 30@31c.

CHICAGO, April 8—Butter—Creamery, extras, 46c; standards, 44c; dairy firsts, 43@47c; seconds, 32@40c.

Eggs—Ordinary, 20@21c; firsts, 23½@24c.

Cheese—Twins, 24c; Young Americas, 25c.

PHILADELPHIA, April 8—Eggs—Lower; nearby firsts, 28c; do current receipts, 27c; western extra firsts, 27@27½c; do firsts, 25@26½c; fancy selected packed, 36@37c.

Cheese—Easier; New York whole milk, fancy flat, hold, 27½@28½c; Longhorns, fresh and held, 25½@26½c.

Butter unchanged.

Milk is good for adults as well as for children and babies. Yes it is. It is taking some folks a long time to learn that milk is not just a baby food.

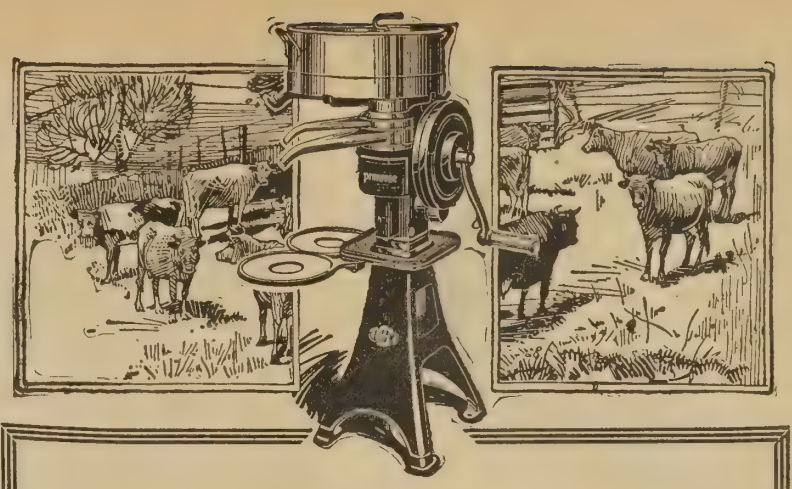
Carload Prices of Hay and Feed at Important Markets April 2

(In dollars per ton)

Commodity	Boston*	New York*	Philadelphia*	Baltimore*	Buffalo	Pittsburgh*	Atlanta	New Orleans	Shreveport	Memphis*	Cincinnati*	Chicago*	Minneapolis*	Kansas City*	San Francisco
HAY															
Timothy and clover:															
No. 1 Timothy	29.00	31.50	25.00	.....	22.00	25.50	31.00	29.50	30.00	27.50	22.50	25.00	19.00	20.00	.....
No. 1 Clover, mixed	24.50	26.00	.....	20.50	.....	20.50	30.00	.....	.....	.....	19.50	20.50	16.00	15.50	.....
No. 1 Clover	.....	23.00	.....	17.50	18.50	20.50	.....	.....	.....	.....	16.00	20.00	17.00	13.75	.....
Alfalfa:															
No. 1 Alfalfa	.....	.....	.....	.....	.....	.....	33.00	30.00	30.00	26.50	21.00	24.00	20.00	†20.25	21.00
Standard Alfalfa	.....	.....	.....	.....	.....	.....	31.00	26.50	27.00	24.50	19.00	21.00	19.00	†18.25	19.00
No 2 Alfalfa	.....	.....	.....	.....	.....	.....	26.00	.....	.....	21.00	16.00	19.00	17.00	14.75	17.00
FEED															
Wheat Bran:															
Spring	28.00	28.00	27.00	29.00	23.50	26.00	29.00	.....	.....	.....	24.00	20.50	17.00	.....	.....
Soft Winter	29.00	29.00	32.00	32.00	.....	28.00	29.00	30.00	28.00	23.00	25.00	.....	.....	.....	35.00
Hard Winter	28.00	28.00	27.00	.....	.....	27.00	29.00	30.00	.....	.....	24.00	.....	.....	19.00	.....
Wheat Middlings:															
Spring (Standard)	27.00	27.00	26.00	27.00	21.00	24.00	28.00	.....	.....	.....	23.00	19.00	16.00	.....	.....
Soft Winter	29.00	.. ..	31.00	.. ..	.....	30.00	29.00	.....	.....	.....	25.00	.....	.....	.....	36.00
Hard Winter	28.00	.....	.....	.....	.....	30.00	28.00	32.00	.....	.....	23.00	.....	.....	.....	.....
Rye Middlings	.....	.....	25.00	25.00	.....	23.00	.....	.....	.....	.....	22.00	19.00	16.50	.....	.....
High protein meals:															
Linseed	45.00	43.50	44.00	.....	39.50	†42.30	.....	.....	.....	.....	43.00	43.00	40.00	45.00	47.00
Cottonseed (41 per ct)	33.75	.....	33.50	33.50	34.00	34.00	.....	34.00	27.50	.....	.....	.....	36.00	30.50	.....
Cottonseed (36 per ct)	32.75	32.50	31.50	31.50	31.50	31.50	26.50	33.00	.....	.....	22.50	27.50	32.50	33.00	.....
No. 1 Alfalfa me'l (med)	30.50	30.50	30.00	30.00	.....	†	28.00	27.00	.....	.....	23.50	24.00	24.00	.....	†19.50	23.00
Gluten feed	45.28	.....	40.70	43.00	41.00	†41.30	.....	.....	.....	.....	.....	36.80	37.00	.....	.....	.....
Hominy feed (white)	29.00	28.50	27.75	29.00	28.00	†28.00	30.00	27.00	.....	.....	.....	25.00	21.00	23.00	.....	.....
Ground barley	38.50	.....	38.00	.....	.....	.....	.....	.....	.....	.....	.....	38.00	32.50	21.60	25.50	.....
Beet pulp	33.00	30.00	32.00	32.50	.....	30.30	.....	.....	.....	.....	.....	34.00	.....	.....	.....	.....

*Hay quotations represent average of cash sales at these markets. †Nominal.

Straw—Straw of all kinds is firm in Baltimore under moderate spot offerings and a fair jobbing demand. Rye straw ruled $2 higher in Cincinnati. Receipts generally are light and prices steady. Supplies in Chicago are scarce and wanted. Wheat straw—$8 Minneapolis, $3 Omaha, $14 Baltimore, $14 Buffalo, $15.50 Pittsburgh, $10.50 Cincinnati, $14 Richmond; oat straw—$8.50 Minneapolis, $9 Omaha, $15 Baltimore, $15.50 Pittsburgh, $10.50 Cincinnati; rye straw—$20 New York, $9 Minneapolis, $23 Baltimore, $16 Pittsburgh, $17 Cincinnati.



Primrose Prices Down!

Go over these Primrose details again—then see the International Dealer

Primrose is the only cream separator with two wide-open cream outlets that are never restricted in size. The regulating screw is in the skimmilk outlet. It is easy to adjust because it works on the large volume of skimmilk instead of on the small volume of cream.

In the Primrose the oil is forced through the bearings and not just to them.

It is the only separator in which the dirty used oil is turned out automatically when new oil is poured in.

Primrose separators run easily and steadily, skim with exceeding closeness, and serve their owners reliably for many years. Direct power drive and electric motor drive equipment available. Built in four sizes with capacities ranging from 350 to 850 pounds of milk per hour.

Primrose quality may now be had at lowered prices. This is an announcement of unusual importance to every dairyman and farmer. Take advantage of Primrose lower price at the stores of the International Dealers.

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$750 After 30 Days FREE TRIAL

Without paying one cent down or obligating you in any way, we will send to you an imported Belgian Melotte Cream Separator direct to your farm on a 30-day absolutely free trial. Use it just as if it were your own machine. Put it to every conceivable test. Compare it with any or all others. We want to prove to you that it is the best separator possible to buy anywhere in the world. When convinced it is the best separator you can buy it on our easy payment plan, paying only $7.50 after thirty days free trial and small monthly payments thereafter of $7.50.

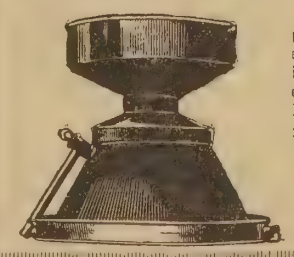


Free Book! Send today for Free Separator Book containing full description of this wonderful separator and our 15-year guarantee and 30 Day Free Trial Offer.

Self Balancing Bowl The Belgian Melotte is the only single bearing-bowl separator ever made. It is self balancing. Positively cannot ever get out of balance. Hangs from a single bearing. Spins like a top. It skims as perfectly after 15 years use as when new.

The Melotte Separator, H. B. Babson, U. S. Mgr., 2843 W. 19th St., Dept. 9854 Chicago, Ill.

The Ideal Milk Cooler

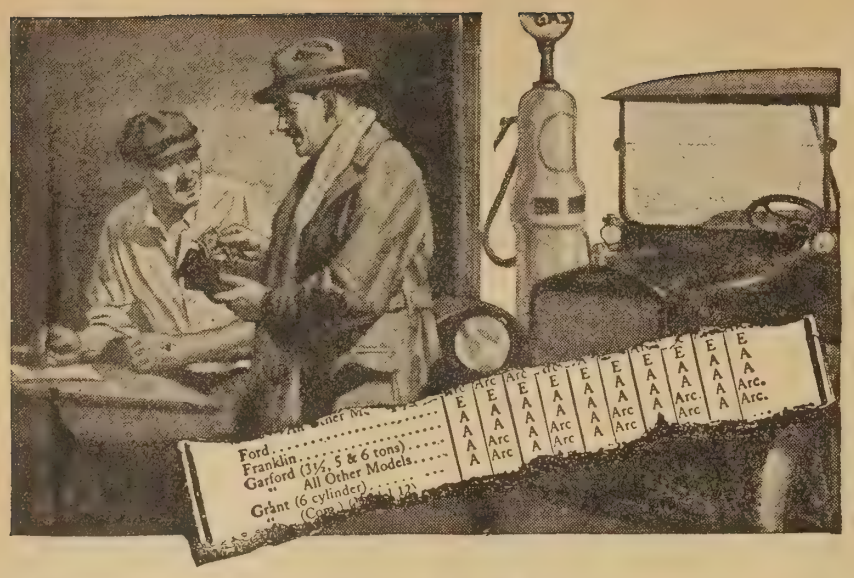


This apparatus has been, and now is, the best low priced MILK COOLER AND AERATOR on the market—extra large cooling surface, simple, strong and durable, ice chamber easy of access—easy to clean and easy to operate—adapted to use with either ice or running water. It has been in use *more than twenty years and all improvements added to date.*

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—*new freedom from carbon.* For the carbon of Gargoyle Mobiloil "E" is a light, dry ash, practically all of which is expelled through the exhaust.

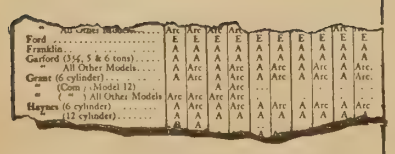
—*new freedom from overheating.* Yes, even on hot summer days, even after free use of low gear, even through a hard day on heavy roads.

—*new economy of gasoline and oil consumption.* Engineering tests show that the body of Gargoyle Mobiloil "E" forms the proper seal for the pistons maintaining compression and increasing power. First-time users are repeatedly surprised at the longer lasting qualities of Gargoyle Mobiloil "E," and its ability to conserve gasoline.

When changing to Gargoyle Mobiloil "E" do not flush the engine with kerosene. A part of the kerosene will remain in the splash troughs and tend to destroy the lubricating qualities of the new oil.

In the differential of your Ford use Gargoyle Mobiloil "CC" or Mobilubricant as specified by the Chart of Recommendations.

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The Vacuum Oil Company's Chart specifies the grade of Gargoyle Mobiloils for every make and model of car. Gargoyle Mobiloil "E" is the correct grade for Fords. If you drive another make of car send for our Booklet, "Correct Lubrication."

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A grade for each type of motor

In buying Gargoyle Mobiloils from your dealer, it is safest to purchase in original packages. Look for the red Gargoyle on the container.

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Specialists in the manufacture of high-grade lubricants for every class of machinery. Obtainable everywhere in the world.

VETCHES IN THE WEST AND SOUTH

(Continued from page 527)

plowed shallow or disced for cowpeas to avoid covering the vetch seed too deep. Many farmers find that it is necessary to go over heavy growths of vetch with a disc harrow or stalk cutter before turning under.

H. G. Hastings, Georgia, says in speaking of his experience with vetch: "I consider it the cowpea of the winter for our section. The south needs three things above all others: winter cover crops to stop the washing from winter rains; soil improving crops to add the most costly plant food element, nitrogen, to the soil for the use of succeeding crops, and hay for forage making crops for our live stock to feed upon. Vetch has very satisfactorily supplied these needs on my farm."

Common vetch requires a mild, even climate. It grows well during the summer months only where the climate is cool. It will not withstand cold winter weather and can only be grown in the fall, winter, and early spring months where the winters are mild. Serious winter-killing results in most instances whenever the temperature drops below ten degrees. It is not a drouth resistant crop. The most ideal climatic conditions are found in Western Oregon and Washington where the light spring rains and the cool, moist breezes from the Pacific ocean in the early summer maintain a cool, even climate. The winters in this district are not severe and common vetch will make some growth nearly every month.

Seeding Vetch

Light loam soils, well drained, are best suited to producing vetch. In Oregon and Washington applications of sixty to seventy-five pounds of land plaster have been found to increase the yields.

Inoculation is necessary for successful growth of vetch upon land which has not previously grown the crop. Many failures of vetch are traced directly to the fact that inoculation has been overlooked.

Common vetch for hay is usually sown at the rate of one bushel of vetch and one bushel of oats per acre. If cut early for soiling purposes it will make a second crop or, as is frequently the case, the land may be replowed and planted to corn or some other cultivated crop. When grown for hay, vetch should be pastured until early in May to retard harvest until the spring rains are past.

Lighter seedings are made in the South, the rate there being about forty-five pounds per acre together with a half bushel of oats.

An increasing number of farmers are producing seed of common vetch. Richard G. Scott, county agricultural agent of Clackamas County, Oregon, reports the production of forty tons of common vetch seed and ten tons of hairy vetch seed in his district during the past year. From five to seven cents per pound was received by the producers for the common vetch seed while the seed of the hairy variety brought seventeen cents. "The yield has been from 500 to 700 lbs. per acre," he says. Larger numbers of Oregon and Washington farmers are devoting increased acreage each year to the production of vetch seed.

When grown for seed, vetch is usually sown with oats. The oats mature at the same time as the vetch and the vetch and oats may be threshed together, the seed being easy to separate. A more uniform growth is secured when the crop is in pasture until early in May, unless the soil is too wet. The rate of seeding for seed production is usually less than for forage production. Thirty pounds of vetch and twenty pounds of oats is the popular seeding rate.

Threshing the Seed

An ordinary grain thresher is used for threshing vetch but in order to avoid cutting and cracking the seed it is necessary to remove the concaves. The speed of the cylinder should be slowed down also, and a heavy blast of air applied. The expense of threshing vetch is about twice that of wheat.

Vetch is cut for seed when the lower pods are well filled and are turning brown. The lower pods furnish the best seed. The crop may be cut with a binder or as an ordinary hay crop. If the first method is followed, the vetch is shocked in large shocks containing fifteen or eighteen bundles. When cut with a mower, it is placed in very large shocks in order that the pods may not be too extensively exposed to the drying effect of the sun and wind.

Hairy vetch is much more hardy than the common type and may be grown on poorer soils. It is also more drouth resistant. It is mainly grown for hay except in orchard districts where it makes an excellent cover crop. The yield of hay is less than that of common vetch grown in Oregon and Washington, but is practically the same as yields of common vetch in the South.

The seed of hairy vetch is largely imported from Europe and because of the excessively high prices during the past few years, the acreage has been greatly reduced for purposes other than seed production.

Soiling Crop System on Basis of Ten Cows as Used in Western Oregon and Washington

Crop	Planting dates	Harvested and fed	Days fed	Daily feed	Total per cow	Acre yield Tons	Total acreage
Vetch and rye	Aug. 20—Sept. 10	April 15—May 9	25	600	1,500	10	.75
Crimson clover	July 5—Aug. 20	May 10—May 26	17	500	850	10	.43
or							
Vetch and oats	Sept. 1—10	May 10—May 26	17	600	1,020	10	.51
Vetch and oats	Sept. 15—Oct. 15	May 27—June 14	19	600	1,140	12	.48
Clover	Feb. or June year before	June 15—July 4	20	500	1,000	15	.33
Peas and oats	Feb.—April 15	July 5—July 24	20	600	1,200	10	.60
or							
Corn silage	May 1—May 20	July 5—July 24	20	450	900	10	.45
Corn silage	May 1—May 20	July 25—Aug. 23	30	450	1,350	10	.68
Corn	May 1—May 20	Aug. 24—Sept. 27	35	500	1,750	10	.88
Kale	March—April Transplant June	Sept. 28—Mar. 15	160	400	6,400	30	1.66
Roots	April	Mar. 16—April 14	39	450	1,755	30	.29
Corn silage	May 1—May 20	Sept. 28—Arpil 14	180	450	8,100	10	4.05
Roots	April	Sept. 28—Oct. 17	19	450	8,550	30	.14

Vetch plays a prominent part in all well planned cropping systems used in the Pacific Northwest.



In order to provide green feed early in the spring, many Pacific Coast dairymen sow large acreages of vetch with oats or rye.

Pennsylvania Ayrshire Board Meets

HOARD'S DAIRYMAN;—"We must get Ayrshire cows out among the farmers" was the keynote of the meeting of the Board of Directors of the Pennsylvania Ayrshire Breeders' Association in Philadelphia, March 21.

"We must get the stock to real farmers at prices they can afford to pay" is the way the Secretary of the Board put it. Another man suggested that the breeders hold sacrifice sales, at which prices of good animals be cut low enough that farmers could afford to buy.

To the end that Ayrshires be more widely distributed, it was deemed best to establish a field man in Pennsylvania, and a committee was selected to choose a man for field work among farmers, county agents, and all interested in the dairy industry.

Another question discussed was that of establishing an AA grade of milk for sale in the Philadelphia market. This grade has already been established for Jersey and Guernsey milk. It was decided by the directors of the Pennsylvania Ayrshire Association that a bulletin will be sent out to all Ayrshire breeders in the state, stating the requirement of milk for the AA grade, and urging all Ayrshire breeders to meet the requirements and sell their milk as Ayrshire AA milk, the same as Jersey and Guernsey breeders are now doing. In this bulletin, every Ayrshire man will be urged to keep accounts of his costs of milk production, so that the comparative economy of Ayrshires with other breeds can be established. Other resolutions were made endorsing a state fair for Pennsylvania, and asking for relief from high railroad rates on milk, milk products, and dairy feeds.

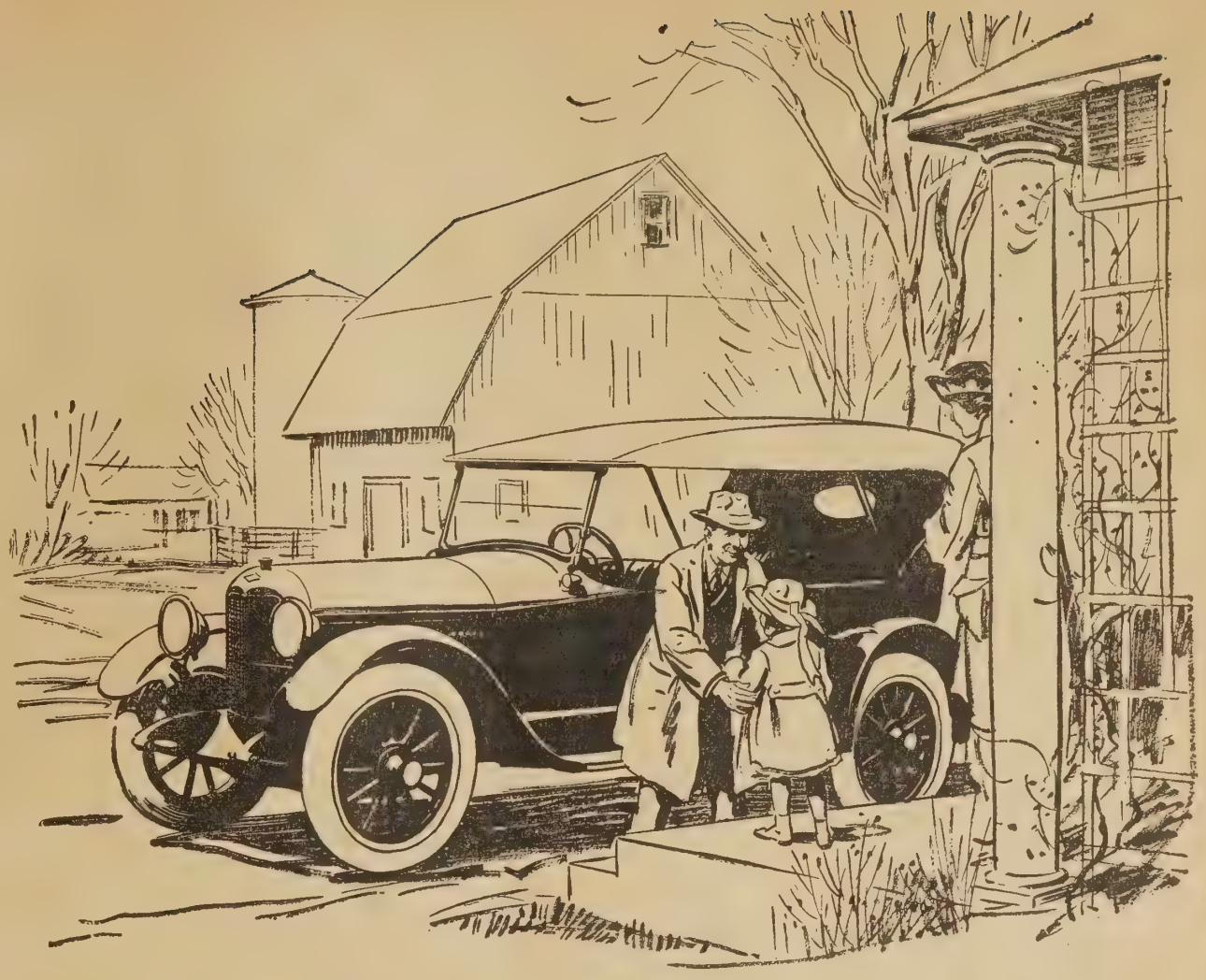
Pennsylvania. E. A. KIRKPATRICK.

Pasture Alfalfa First Season

A test at the New Jersey Experiment Station indicates that the practice of pasturing alfalfa the first season possesses merit. On August 14, 1917, a plot of 2½ acres was seeded to alfalfa. May 10, 1918, 8 sows and 56 pigs were placed in the plot. On July 10, the sows were removed and from that time until October 10 an average of 48 pigs were continued on the alfalfa. During this time they were fed about 3 pounds of grain for each 100 pounds of live weight daily. Hay was cut three different times during this time,—on May 27, 4,180 pounds of cured hay; July 1, 4,000 pounds; and Septemeber 20, 2,720 pounds. It is recommended that under usual conditions it would be better to remove hogs not later than September 15 to permit the alfalfa to develop a good growth before winter.

In 1919 the same practice was followed, 8 sows and 59 pigs being placed in the plot April 3 and left there until the pigs were weaned, May 25th. On May 29, 2,650 pounds of cured hay was removed and throughout the entire period the stand of alfalfa appeared excellent in both vigor and uniformity.

Sentiment in New Jersey in the matter of the proper time for seeding alfalfa is changing. August was formerly preferred but at this time, especially in the northern half of the state, better results are being secured from early spring seeding. It is reported that fields in good condition, well limed and fertile, give very good success with alfalfa which is sown with wheat, rye, or oats the same as red clover seed. It is necessary that the soil be inoculated and well limed.



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PAIGE-DETROIT MOTOR CAR COMPANY, *Detroit, Michigan*

Manufacturers of Paige Motor Cars and Motor Trucks

Washington, D. C., Weekly News

[SPECIAL TO HOARD'S DAIRYMAN]

Washington, April 4—In the last few days before Congress resumes work, official Washington has its interest divided between plans for tariff and revenue legislation, the maneuvers relative to foreign affairs, and presidential appointments.

Latest information is that the emergency tariff bill will be introduced in the exact form in which it went to the President late in February, and received his veto. Efforts to amend it may be made on the floor of the House, but the Ways and Means Committee is pledged to report it out in the identical form. This means a six-cent tariff on butter. There is strong probability of the bill passing and being signed.

The general tariff law is now under consideration in the Ways and Means Committee, more particularly the Republican members of that committee having been in almost constant session.

Secretary of Agriculture Wallace has made one statement on the subject of the tariff on agricultural products which has attracted as wide attention as his two general statements of general agricultural conditions. His statements, and the way they have been received, are a surprise even to his best friends. The thoroughness of his knowledge of real agricultural conditions and the soundness of his farm economics are attracting flattering comments.

His statement on the tariff calls attention to the transportation factor as another handicap under which American farm products are placed in competing with foreign products in the markets of the seaboard, and the industrial northeastern sections of the country. The increased cost of transportation on American railroads, he says, over the cheap cost of ocean rates, must be met and equalized by a tariff protection. To the difference in labor cost as between American farm wages and the peasant and women and child labor of competing countries must be added the difference in transport costs. This position is well taken, both as to the situation in which the dairy and truck farmers of the East and the grain and meat farmers of the West find themselves.

⚜

The makeup of the Republican membership on the important House committees is still not known, but the Senate committees have been about decided on, subject of course to caucus approval. The Senate Republican caucus appointed some time ago a committee on committees, and this committee has issued an advance copy of the report it will make to the caucus. The new list has some points of interest and is likely to be adopted in full. The number of Senate committees is reduced from 75 to 34. The Committee on Agriculture will have the following Republican members: Norris, chairman, succeeding Gronna; Page of Vermont, Kenyon of Iowa, Wadsworth of New York, McNary of Oregon, Capper of Kansas, (all former members) and Gooding of Idaho, Ladd of North Dakota, and Norbeck of South Dakota, new members. This gives the western states complete control of the committee, with all the members but two from west of the Mississippi river, and those two, Wadsworth and Page, chairmen of important committees and therefore more or less inactve. This is the first time that the agricultural states ever controlled this committee.

The important committee on Finance and the Interstate Commerce Committee are unchanged as to Republican members for the new session. The addition of Senators McCormick and Kellogg of Minnesota to the committee on Foreign Relations filling the vacancies caused by the election of Senator Harding to the Presidency and the elevation of Senator Fall to a place in the cabinet are of interest. Senator Warren of Wyoming and Senator Stockbridge of California and Barsum of Arizona (Senator Fall's successor) on the Education and Labor Committee are significant of a change in this committee which has been largely controlled by Progressives. The Judiciary Committee, before which the collective bargaining legislation must be fought out, and which was not very favorable to the pleas of the dairymen last session, remains almost unchanged, with Senator Knute Nelson of Minnesota as chairman, Senator Ermst, a new member, and Stockbridge of California, also a new member, are the new members succeeding Senator Fall, and Senator Kellogg who loses this assignment in order to go on Foreign Relations. The Committee on Post Offices and Post Roads, another important committee because of its control over all federal appropriations for road building and maintenance has three new members, Harreld of Oklahoma, Oddie of Nevada, and Stansfield of Oregon, replacing Pointdexter of Oregon and McCormick of Illinois, who went to other committees, and giving the Republicans one additional place on the committee. This is another committee on which westerners get practical control. Still another committee which is turned over to westerners is the committee on reclamation.

⚜

Dairy farmers may wonder why all of this is important. The answer is that each of these committees has to do with legislation which is of first importance and interest to dairy farmers. The dairy as well as general agricultural interest is affected by other legislation than direct milk, butter, and oleomargarine laws, and in a measure which needs to be studied to be clearly understood. The collective bargaining bill is a case in point. All highway legislation is another in which dairy farmers have special interest. The tariff and taxation are others. The laws which come out of Congress are shaped chiefly in these great and powerful committees. The locality from which each Senator comes, the state interests he represents, are all big outstanding factors in this game of legislation and the game is played according to these rules.

⚜

That the news of the resignation of B. H. Rawl, assistant chief of the Bureau of Animal Industry, is received with regret is evident from both the statements in farm and dairy publications, but also from letters received at the Department from many sources. There is some gossip about his successor, none to be dignified as news. In many quarters it is expected that he will be succeeded by Chief Rommel of the Beef Cattle Division, who is admittedly qualified and experienced, as well as entitled to some consideration by virtue of long service.

⚜

The situation as to a successor to Chief Alsberg of the Bureau of Chemistry, resigned, is somewhat clearer although there is no official information available. Indications point to the choice of either Dr. Johns or Dr. Brown, both former members of the staff, Dr. Johns having but recently left Washington for a position with the Standard Oil Co. laboratory service, and Dr. Brown having been with the American Sugar Refining Co. for several years since leaving the government service. Others mentioned in addition to Dr. Bigelow, mentioned last week, are Dr. Redfield of New York, and State Chemist Freary of South Dakota.

⚜

The "filled" milk situation is attracting more attention among dairymen, as reflected by the interest and activity of men in Washington who are in closer touch with nation wide dairy activities than any other one subject. Some studies are being made to determine the chief factors in the unusual decline in the volume of oleomargarine manufacture, but department officials in both Dairy Division and Bureau of Markets, and the representatives here of the National Dairy Union, the Milk Producers' and the National Dairy Products Committee, are all looking into and hearing reports from the various phases of the effort to put filled milk or synthetic milk on the markets. The effort to deliberately break down the New Jersey ice cream law and authorize the use of four per cent of vegetable fat in place of half the milk fat now required there seems to have crystalized the situation. Other states are giving attention to this in some form or other. It begins to look as if there might be a demand before long for national legislation which will do for the milk industry something along the lines of what the filled cheese law has done for the American cheese industry.

⚜

Dr. Larson and Assistant Chief Rawl are home from an inspection trip to the Grove City plant in western Pennsylvania. Considerable improvements and enlargements are reported to be in prospect at this plant and a new line of investigational work in the subject of the manufacture of evaporated milk.

⚜

Professor H. E. Van Norman of California is expected to spend some days in Washington this week, among other things to discuss with Secretary of Agriculture Wallace and Dairy Division officials, plans and prospects for the World Dairy Congress next year. He was named as chairman of the temporary committee formed at the Dairy Show for this purpose. While East he will confer with other dairy interests, and it is possible that before leaving Washington some definite decisions will be reached as to the probability of this big project materializing and as to its plans.



LIZZIE FORD, THE SYNTHETIC MILK COW

This illustration is a reproduction of a photograph which was taken during a demonstration of the possibilities of Lizzie Ford as a Synthetic Milk Cow by the engineering students of the Texas Agricultural and Mechanical College. These students have attempted to visualize the suggestion made by Mr. Henry Ford that a synthetic cow would be more efficient than the real cow.

Fake Cream and Cocoanut Oil

HOARD'S DAIRYMAN:—Fake cream dealers are getting some of their just deserts in New York City. Farmers may have thought Dr. Copeland, health officer for that city, a doubtful ally at times, but on this matter he has taken a just and firm stand. He has collected $10,000 in fines in the past few weeks from milk and cream dealers and storekeepers who have sold cocoanut oil mixtures as cream, sour cream, and milk.

Of 505 samples of "sour cream" 85 were found to contain vegetable fats. Some of these samples tested as high as 40% cocoanut oil. Of 25 samples of sweet cream four contained the substitute oil. On one day alone $5,190 in fines were collected. One dealer paid $2,000 for repeated offenses. Several others paid the maximum fine of $500. They will need close watching as with their volume of business it won't be long before they can afford to pay another fine for the same cause as the saving made by using the substitute is great.

During 1919, when the American farmer was producing honest butter in competition with natives of the Orient and African tribes and the South Sea Islanders, millions of pounds of cocoanut oil came into this country at 4½ to 11¼ cents a pound! Of course the wily manufacturers of substitutes are going to multiply in numbers like all other forms of pests when the profits are so magnificent. The prohibitive measures designed to protect the public from their activities should not be city rulings only, but a state wide, or better, a country wide protective law.

In the New York legislature there is a new section in the agricultural law, known as paragraph 37a, which would put complete effective prohibition on this form of adulteration of a valuable food product. Every farmer of that state as well as every consumer should support it, and others should see to it that their own legislatures pass similar measures.

This statement was made during one of these trials: "Originally cocoanut oil and other vegetable oils were used almost entirely in the mak-

ing of soap and candles. Now they are utilized in making soap, candles, paints, varnishes, linoleum, oil cloth, rubber substitutes, printer's ink, lubricants for machinery and food for the human stomach." This did not seem to suit the manufacturer who said that the cocoanut oil was the staff of life among the natives where it comes from. "Yes", replied Dr. Copeland, "that probably accounts for the fact that those natives never live to be over 30 years of age."

One chemist claimed that the oil had the same value as butterfat. Dr. Copeland said a child could not live on it. "Except for the vitamines the oil is the same," said the chemist. "That is a very important exception," replied the doctor.

A bill allowing ice cream containing 4% butterfat and 4% cocoanut oil has been introduced in the New Jersey senate and passed with great ease. The State Department of Health was derelict in duty enough to comment favorably on the bill. The committee of public health of the assembly strangely enough reported on it favorably also. Then the assembly got busy. Some real farmers brought out the facts of the comparative food value of the oil and of cream and a rehearing was called. If the bill gets through now it will be because the law-makers of that state do not value health as they do some other things.

From $3 to $5 a can is saved to manufacturers by the use of the oil instead of cream. As soon as the can's contents are removed, even though the can is properly labelled, the identity of the mixture is lost and the public is the victim of food adulteration. Geo. E. Hogue, State Commissioner of Agriculture, knows cream when he sees it. He was incensed to have this stuff brought to him instead of cream in a restaurant, and caused the arrest and punishment of the offender. He set a good example for all to follow.

New York. E. G. FEINT.

Canadian Ayrshire Breeders Meet

At the fifty-first annual meeting of the Canadian Ayrshire Breeders' Association in Montreal, March 23rd and 24th, very good progress during the past year was reported.

According to Secretary W. F. Stephen the membership of the association increased 209 during the past year. Within the year there were 7,633 registrations, an increase of 2,590 over the previous year. Transfers totaled 4,505, an increase of 585.

President Gilbert McMillen gave special attention in his report to the financial situation in the association. He showed that while the income has increased to over $24,000 a year, expenditures have more than kept pace so that a deficit of $450 was made during 1920. It was shown that the publication of the association's monthly paper has been very expensive, especially the French edition.

In Record of Performance work 216 cows and heifers qualified, 27 more than during 1919, bringing the present total up to 1,661. Twelve bulls qualified bringing the number of R. O. P. bulls to 78. The average production in the heifer classes has been appreciably increased.

There are now 14 local Ayrshire clubs in Canada, four having been organized since the 1920 annual meeting.

Canadian Ayrshire breeders reported with much satisfaction their progress in accredited herd work. Ayrshire breeders lead in the number of entries in Canada, there having been received 153 applications from Ayrshire breeders. President McMillen urged strongly that this system of testing be even more universally adopted by members of the association.

As a means of strengthening the finances of the association it was agreed to cut off appropriations to fairs and dairy shows which have cost $3,900 a year. It is expected that at least a part of this saving will be expended in the employment of a field man who will devote his time to promotion of the breed.

In the election of officers Mr. McMillen was re-elected president; William Hunter of Alta Crest Farms, Massachusetts, was made first vice-president; and W. F. Stephen was re-elected secretary and treasurer.

In the national sale of Ayrshires at McDonald College, March 24th, 39 head sold for an average of $291.50, 36 females averaging $289.50. The highest price paid for a bull was $500 realized by D. T. Ness for the imported two-year-old Thornhill Renewer. The highest price for a female was $925 paid by Cummings Bros. for Dalfibble White Pansy, consigned by R. R. Ness.

Calumet County, Wis., Guernsey Sale

The Guernsey breeders of Calumet County, Wis., held their first consignment sale March 31st at Chilton, selling 58 animals for an average of $217. Selling was slow and a few of the good ones sold for less than their value but, as a whole, it was quite a satisfactory first sale.

Herman Duecker topped the sale with Bernadie's Jewel, a splendid 2-year-old heifer purchased by Edmund Wieting for $500. The entire female consignment brought just short of a $250 average.

Love and Benjamin did the selling with sale manager F. E. Fox in the box.

Following is a list of those animals selling for $300 or more and buyers:

John M. Weeks, Wisconsin	
Lilly of Peony Lawn Guernsey Farm	$310
Edmund Wieting, Wisconsin	
Bernadie's Jewel	$500
Al. H. Weiting, Wisconsin	
Marcella's Queen	$300
Rola's Rosaline	385
Chas E. Patey, Wisconsin	
Count's Starlight	$300
Spring Meadow Vanity	355
M. L. Welles, Wisconsin	
Zerelda Martin	$450
O. C. Kleinhaus, Wisconsin	
Fern of Violet B.	$375
Ella Miranda of Cranmoor	370
Model May 2d	350
W. L. Breitrick, Wisconsin	
Dottie of Crystal Springs	$305
E. C. Schultz, Wisconsin	
Fair Ruth of Spring Meadow	$495
Peterson and Miller, Wisconsin	
Lady Alice of Clover Lea	$300
Dr. J. Harmeling, Wisconsin	
Fair Oaks Cherry	$360
H. H. Berger, Wisconsin	
Lucille's Virginia of River Ravine Farm	$400
Erevin Hilgendorf, Wisconsin	
Brownie of Eaton	$330
Susan of Eaton	330

What Counts in a Car?

A CAR ought to be a good investment, and to be a good investment means that you must get more out of it than you put into it.

The Overland is that kind of a car, for the service and satisfaction that it gives is out of all proportion to the little that it costs.

To the economy of light weight it adds a riding comfort hitherto found only in expensive cars.

Overland Prices Have Been Reduced
The Time Payment Plan Is Very Easy

Overland

A GOOD INVESTMENT

Willys-Overland, Inc.
Toledo, Ohio

BOWEN'S SEEDS High Class Seeds for High Class Farms

Alsike $14.50 per bu.; alfalfa, $13.50 per bu. Clover (Medium) $13.50 per bu.; clover (Mammoth) $14.00 per bu.; sweet clover White Blossom (Hulled and Scarified) $7.50 per bu.; Yellow Blossom $8.00 per bu.; timothy and alsike mixture $5.25 per bu.; Timothy, $4.05 per bu.; Sudan grass 7c per lb. All strictly high grade, carefully selected stock.

Guaranteed As Represented or Your Money Back

These prices are delivered to your nearest R. R. Station.

We Pay The Freight

Order today so your seeds will be on time. Remit by check, postal or express order.

BOWEN'S SEEDS, Dept. HD, Milwaukee, Wisconsin

Annual White Sweet Clover

Guaranteed Seed of the Hubam or Hughes Variety

Makes growth in one season that ordinary clovers do in two. Yields under cultivation two tons hay or 300 to 800 pounds of seed. Price $1 for trial package or $10.00 per pound. A pound will seed an acre. Make a big profit growing seed for yourself and neighbors. Order before small supply is exhausted from The Henry Field Seed Company, Shenandoah, Iowa, or direct from THE GROWER WHO GUARANTEES.
THE DeGRAFF FOOD COMPANY, DeGraff, Ohio

The AIRDALE



Most Wonderful Dog on Earth

Great watch, stock, rat and hunting dog—does anything any dog can do and does it better. Thoroughbred, pedigreed puppies at moderate prices. Descriptive circular free.
H. D. SPRAGUE, MAYWOOD, ILLINOIS

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.



LOOK FOR THIS TRADE MARK WHEN YOU BUY ROOFING

It's a Repeater

A MAN buys MULE-HIDE Roofing the first time because his dealer recommends it, or he likes its looks, or because his neighbor has some.

—But he buys it the second time because through his first purchase he has had a chance to test it out, and he has found that it is the best protection at the least money for each year of service.

MULE-HIDE is an unusual combination of good looks and durability, and its service record

"NOT A KICK IN A MILLION FEET"

is no exaggeration as thousands of users will testify.

Go to your lumber dealer and ask him to show you MULE-HIDE in any of the following styles:

MULE-HIDE Smooth Finished Roofing.
MULE-HIDE Slate-Kote Roofing furnished in Green and Red Slate.
MULE-HIDE Shingle-Craft Roofing furnished in Green and Red Slate.
MULE-HIDE Individual Asphalt Shingles in Standard and Double-Thick Weights furnished in Green and Red Slate.
MULE-HIDE Four-Unit Asphalt Shingles furnished in Green and Red Slate.
SEAL-SKIN and BLACK-BEAR Waterproof Building Papers.

The Lehon Company
MANUFACTURERS
44th to 45th Street on Oakley Avenue
CHICAGO

MULE-HIDE
Ready Roofings and Asphalt Shingles

DON'T WAIT FOR THE COW

(Continued from page 529)

by the pasture bars told of some of the things which all the world, and the dairying world especially, ending up with the fact that his ungrateful critter of a cow never came to be milked when he called. The neighbor listened and then he jerked the reclining one to his feet and spake thus: "Don't sit down by the bars of a forty-acre lot and wait for the cow to come and be milked; get up and go after the cow."

For some few thousand years it has been rather noticeable that the men who sat around and waited for something to turn up too often ended by being turned out instead when the grand ability census was being taken. We have all seen shining examples of such men whose ambitions, if they ever had any, have seemingly ossified, and, as a result, the world is obliged to put up with one more male knocker, calamity howler, and obstructionist who lacks the guts to go out and compete man to man with his hustling neighbors. The man who wouldn't go after his cow is legion; let me refresh your memory with a pertinent illustration.

The Wait for the Cow Lodge

The man who prides himself on belonging to a group of some odd 5,000 "willful dairymen" who refuse to join the pooling plan advocated and of very near accomplishment by the Dairymen's League is a worthy and highly important member of the W. F. C., which, interpreted, stands for the national "Wait For the Cow Lodge". The motto of this lodge is "What was good enough for father is good enough for me" and, like the man who would neither beguile his cow to the bars by some grain nor make the effort to go after her, these unbelieving brothers refuse to see any good or any possibilities in a plan which was not passed upon by their fathers and grandfathers before them, or which holds any clauses with teeth to them, inserted with canny acumen and forethought for the purpose of taking care of just such slippery members as those who are refusing until the eleventh hour to be bound by them.

And "Wait For the Cow Lodge" is right, especially the lodge part. Whether a man gets it into his head that life is too short to go after the cows, theoretically, and so takes the path of least resistance which leads him to the poor house or near-stagnation, or whether he inclines to the theory that the dairy industry owes him a living as a matter of course and that he need not discommode himself when it threatens to sink—that man has the wrong creed lodged in his brain and it is mighty hard to dislodge it and set him and his brothers on the right track, headed for Profitville and Progesstown. The remaining 35,000 are finding this out as precious time flies past, and some of them are now engaged in wondering why they helped obstruct instead of help this co-operative plan as long as they did —but that is neither here nor there.

What we are keeping before us now is that the W. F. C. folks have got to be shown that, when they agree to pool their milk, they are only applying the principal which the lazy dairyman's neighbor advocated—to go after an old, tired-out business with new, fresh, timely methods instead of sitting down at the doors of the closed shipping plants and condenseries and mourning the fact that milk is too plenty in some places and not plenty enough in others; meanwhile everybody everywhere is losing millions and millions of dollars waiting for the cow to come home and be milked.

"Come, Boss! Come, Boss!"

What the pooling plan would presume to accomplish is just what Lazy Dairyman would do if he could get up ambition enough to go after his cow; it would work for every mother's son to the last ditch and last dollar and, if given permission in time, would save the pieces and patch them together and finally amalgamate 50,000 producers into one producer, to serve and to be served, and to profit and to progress as dairymen never have done before. But one man, or five thousand men, can't accomplish such a wonderful alchemy by sitting down at the pasture bars and saying, "Come, Money! Come, Money!! Come, Money!!! Why in Hades don't my milk bring what it's worth? Why don't the League do something about it, anyway? Guess the trouble is that the milk business has gone to the demnition bow-bows!"

Go After the Cows

Along comes a neighbor and hears this illustrous member of the W. F. C. Lodge bewailing his sad lot and the much sadder lot of milk. Neighbor knows that the W. F. C. man has refused to lend his support to the pooling plan, refused to sign up with the farm bureau when the latter asked for $5 for five years, and in other ways has always fallen down on public-spirited attempts at progress. He listens in silence, and he ends by jerking the discouraged one to his feet and speaking thus:

"Don't sit down outside the bars of a 75,000 organization which is dying for your aid and support and then wonder why milk is bringing a price far below cost and, in some instances, can't be sold at all. Don't wait for the cow to come and be milked; in other words, put your John Henry to the pooling plan and then see if some of your milk troubles don't dissolve and fly away. Get up and go after the cow!"

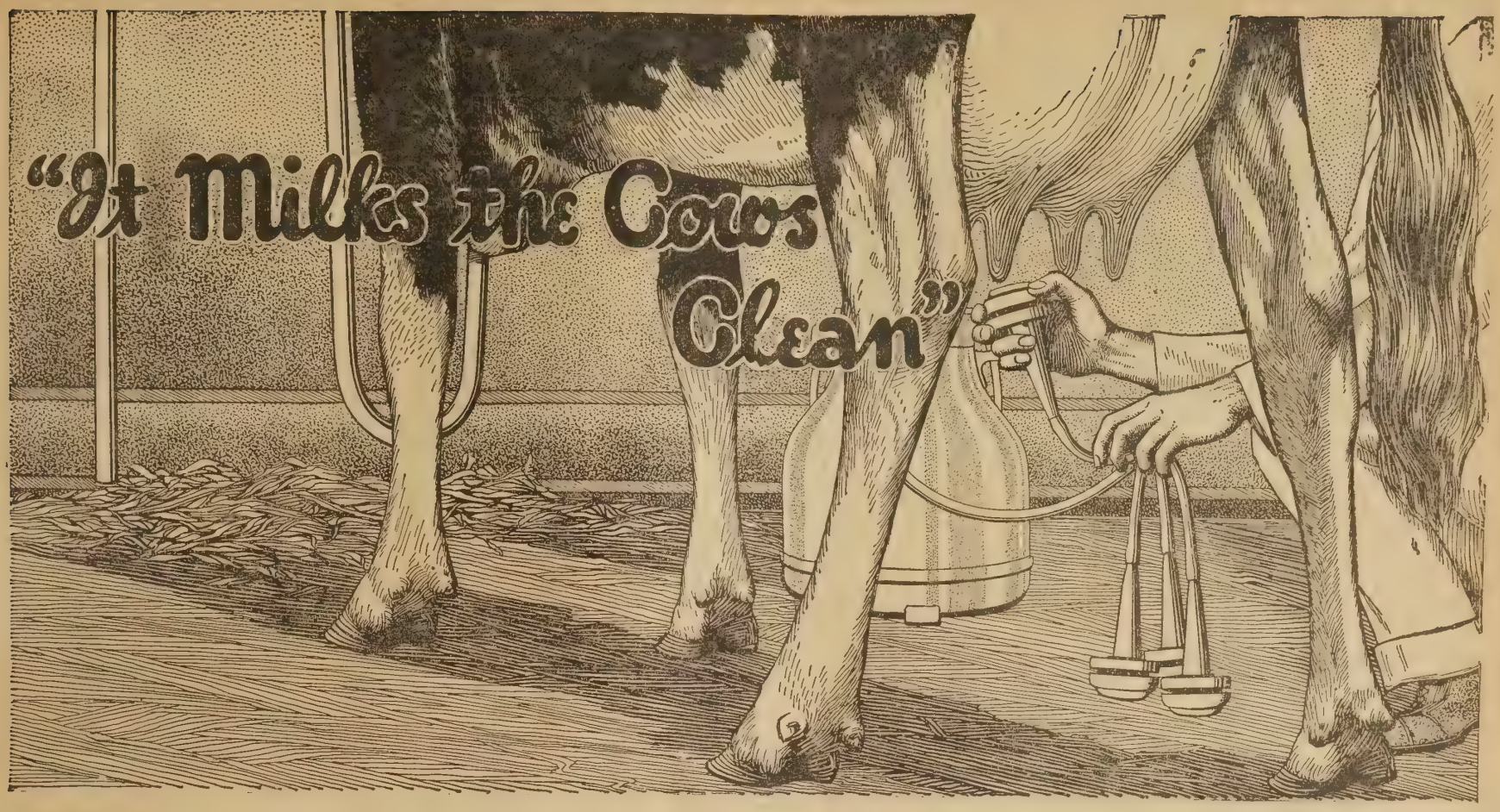
Fortunately for the world, perhaps, there aren't many men who refuse to go after their cows altogether; most of them think best to compromise in the end inasmuch as the cow would wait, particularly if she had learned her master and resembled him any, until the birds had flown and the leaves had fallen and the winter had come—before she came home.

In the years which are winging their way toward us at a nice fleet clip, there is likely to be some pretty hot competition, action, and radical results therefrom if present indications point aright. Money of late years has grown on the bushes and for the picking, jobs ditto, and everything else easy come, easy go. But a little bird has told us that the summer is on the wane and cold winter close at hand. In other words, the world has stopped jazzing and is now engaged in walking, even limping at times, meanwhile searching anxiously in its pockets for any stray coins which might have been left over from the long, glad spree.

At the Far End of Pasture

For the past few years a good many of us have only had to call the cows and home they came, with their udders heavy with richness and plenty just waiting to be "milked". But next year, even this year, the cows stubbornly remain at the far end of the pasture and the man who gets their bounty has got to go after it, has got to work for it. In every line it is the same; the milk line is no different from its contemporaries. We have got to compete as we never did before with the oleomargarines, with Europe

(Continued on page 559)



TRADE MARK

BURRELL B-L-K MILKER

"It Milks the Cows Clean"

YOU HAVE repeatedly read in our advertising the Burrell slogan, *"It Milks the Cows Clean."* It is important that you should know just what this slogan means to you.

If you have been hesitating about buying a milking machine, because you have believed that every cow would have to be stripped out by hand, your objection is removed by the Burrell Milker—*"It Milks the Cows Clean."*

With the Burrell Milker, the vacuum pull in the teat cup is greater when the milk comes with difficulty, as at the end of the milking. It is then that the teats receive the maximum suction required to secure the last of the milk. This is done without any change in the speed of pulsation, which always remains the same.

The Burrell Automatic Controller—an exclusive Burrell feature—is an efficient device by means of which a constant *balance* is maintained between the amount of milk flowing and the amount of suction in the teat cups.

When milk is flowing freely, as with an easy milker or during the main part of the milking, the suction in the teat cups is automatically decreased. When milk is flowing less freely, as with a hard milker or toward the end of the milking, the suction in the teat cup is automatically increased.

There are other exclusive Burrell features that you should know about—the Burrell Positive Relief Pulsator, the Burrell Universal Teat Cup, and the Burrell Moisture Trap.

Write today for our booklet and complete information about the Burrell Milker—*"It Milks the Cows Clean."* Tell us how many cows you milk and why you are not already milking by machine. Use the coupon below.

D. H. BURRELL & CO. INC.

Little Falls **New York**

(Clip Coupon Here)

D. H. BURRELL & CO. INC., LITTLE FALLS, N. Y.

Gentlemen: I have.....(number) milking cows. I am not now milking by machine because.....

I want you to send me your booklet and complete information about the Burrell Milker and tell me why *"It Milks the Cows Clean."* 10

Name..... P. O..... State.....



"Mother's Making Jell-O"

As Jell-O is now sold in every small town general store as well as in city groceries, the farmer's wife can get it, in all the different flavors, and serve the same fine desserts that have become so popular among her city friends.

These Jell-O dishes are all made without cooking, in a minute or two, and while they lend a special grace to the table setting and are of most delightful flavor, they cost less than anything else which a discriminating woman would care to serve.

The Jell-O Book, sent free to any woman who will write and ask us for it, contains all the information that any woman could wish about Jell-O and the making of Jell-O desserts and salads.

Jell-O is put up in six pure fruit flavors: Strawberry, Raspberry, Lemon, Orange, Cherry, Chocolate, **2** packages for **25** cents.

THE GENESEE PURE FOOD COMPANY
Le Roy, N. Y., and Bridgeburg, Ont.

Try This Mixer—30 Days FREE



RIGHT now is the time to get your KWIK-MIX Concrete Mixer—Special Easy-Payment-Offer and reduced prices for this month only.

Before you buy any concrete mixer or start mixing with a shovel, let me send you the wonderful KWIK-MIX Concrete Mixer on 30 days' free trial.

Post yourself on latest, most up-to-date mixer before you go ahead. Don't take chances spoiling a job with hand-mixed concrete. Get a KWIK-MIX and be sure of a perfect mix. Saves time, labor, contractors' profits---pays for itself on first job.

The original reverse-action mixer---loads from one side---close up to pile of material---dumps finished mixture other side into wheel-barrow or directly into forms. This new improvement saves a great amount of time and labor---yet KWIK-MIX costs less than the ordinary mixers.

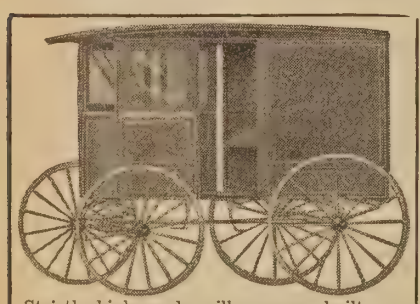
Steel frame---built for hard use---yet light and easy to move. Capacity, three cubic feet a minute---hand or belt power---fully guaranteed.

KWIK-MIX CONCRETE MIXER

$10 AFTER 30 DAYS TRIAL

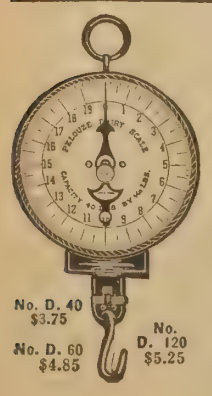
Easy Payment Send no money. Most liberal terms ever offered on a mixer. Pay only $10 after 30 days' trial, balance $10 per month for four months. Two per cent discount for cash. Write for full particulars.

BADGER WIRE & IRON WORKS
100 Cleveland Ave., Milwaukee, Wis.



Strictly high grade milk wagons, built upon honor and fully guaranteed. Ask for free catalogue showing styles for every requirement. Suitable terms and liberal cash discounts. Pioneers in milk wagon building with sanitary bottled milk equipment. Also builders of metal panel wagons at low prices.

De Kalb Wagon Company,
P. O. Box E, De Kalb, Ill.



"PELOUZE" Dairy Scales

Three Sizes: 40, 60 and 120 lbs. by Tenths of a Pound.

Guaranteed Accurate

Made to comply with Departments of Weights and Measures. Large Circular Dial, with distinct, black figures and graduations. Patented adjustable hand for obtaining the tare weight of empty pail.

Order direct or through any leading Dairy Supply house. Specify "Pelouze."

No. D. 40 $3.75
No. D. 60 $4.85
No. D. 120 $5.25

PELOUZE MANUFACTURING CO.
233-242 East Ohio Street, Chicago



The acceptable collar style of 300 years ago as painted by the Master Craftsman —Rembrandt.

Beach—

Made by Troy's Master Craftsmen for the Man of Today.

SLIDEWELL HARTLO SOFT COLLARS

are dignified, comfortable and give long wear—made for the man who demands standard-value merchandise—attractively priced. Your dealer is showing the latest styles.

HALL, HARTWELL & CO., Makers, Troy, N. Y.

BABY CHICKS—Winter Layers, S. C. W. Leghorns, S. C. Reds, Barred Rocks. This is not a huckster hatchery, but a real breeding farm. Free story of big success. Write now.

CERTIFIED EGG FARM
M. V. NELSON, Prop., Madison, Wis.

Breeding Shown by Jersey Records

Eighteen years of record-making under supervision of the state agricultural colleges and recorded by the American Jersey Cattle Club shows that the progress of cattle breeding is aided largely by the testing of dairy cows for production.

From 1915 to 1921 there was an average increase of four hundred and fifty-eight pounds of milk and twenty-four pounds of butterfat in the records of all cows on Register of Merit test. The exact figures for this period and for the years preceding are shown in the following table:

Period	Records accepted during period	Ave. lbs. milk	Ave. lbs. fat
1903 to 1915-incl.	3,708	7,774	414
1916	1,556	7,735	419
1917	2,077	7,962	428
1918	1909	7,964	429
1919	2,040	8,187	439
1920 (10 mos.)	4,301	8,232	438

15,591 records, all ages, average 5.35% butterfat.

The performance records of breed champions have practically doubled since Dollie's Valentine was champion of the Jersey breed in 1899, and a look through the next table gives some idea of the quickened pace in the championship division:

World's Champion Jerseys—Past and Present—All Ages

Name and owner	Milk Lbs.	Fat Lbs.	Class	Date
Plain Mary 268206 Ayredale Stock Farm, Maine	15,255	1,040	AA	1920
Vive La France 319616 Pickard Bros., Oregon	14,925	1,031	AA	1919
Sophie's Agnes 296759 Ayredale Stock Farm, Maine	16,212	1,000	AA	1918
Sophie 19th of Hood Farm 189748 C. I. Hood, Massachusetts	17,557	999	A	1914
Eminent's Bess 209719 W. S. Prickett, Michigan	18,782	962	A	1913
Jacoba Irene 146443 A. O. Auten, Illinois	17,253	952	A	1909
Adelaide of Beechlands 168699 Est. W. S. Ladd, Oregon	15,572	849	AA	1908
Financial Countess 155100 C. E. Parfet, Colorado	13,248	795	AA	1908
Emma's Rowena 146877 C. I. Hood, Massachusetts	10,383	638	AA	1905
Magyarland's Temisia 134765 R. A. Sibley, Massachusetts	10,419	638	A	1905
Dollie's Valentine 105049 Kentucky Agric. Exp. Sta.	10,218	578	A	1899

In the year 1920 there were 1,459 mature animals tested (cows five years old and over). These cows produced an average of 9,701 pounds of milk and 510 pounds of butterfat, so that it is safe to say that all mature Jersey cows should be capable of making 510 pounds of butterfat in a year in order to measure up to the standard set by cows in that class today.

The average for four-year-olds is 8,777 pounds of milk and 472 pounds of butterfat; three-year-olds, 8,042 pounds of milk and 441 pounds of butterfat; two-year-olds (including yearlings), 6,691 pounds of milk and 356 pounds of butterfat. The Register of Merit requirements are much lower than this, but it seems as though the average animal has a good margin to spare in its record.

Testing of dairy cows has proved itself to be a valuable help to dairymen and breeders, as it has helped to improve production and profit as well as laying a foundation for breeding the dairy herds of tomorrow.—American Jersey Cattle Club.

Profitable Cows

To qualify for the Register of Production, animals in Wisconsin cow testing associations must produce at least a pound of fat per day for the association year. Published records show that in the first year the Register was in existence, 421 cows qualified out of a total of over 50,000 cows tested. A study of the performance of these 421 cows yields some worth while suggestions for every owner of a dairy herd.

Each one of the cows which made the Register of Production was fed grain. All but five were fed silage. The records indicate that all of these cows were liberally fed. Their grain ration was made up of farm grown concentrates balanced by the addition of oil meal, cottonseed meal, or some other high protein feed.

The testers state that the most common practice in feeding is to furnish all cows in the herd the same ration regardless of production. This results in good cows receiving too little grain and in poor ones being fed too heavily which prevents high quality cows from producing at their maximum economy and results in a wastage of valuable feed with poor producers.

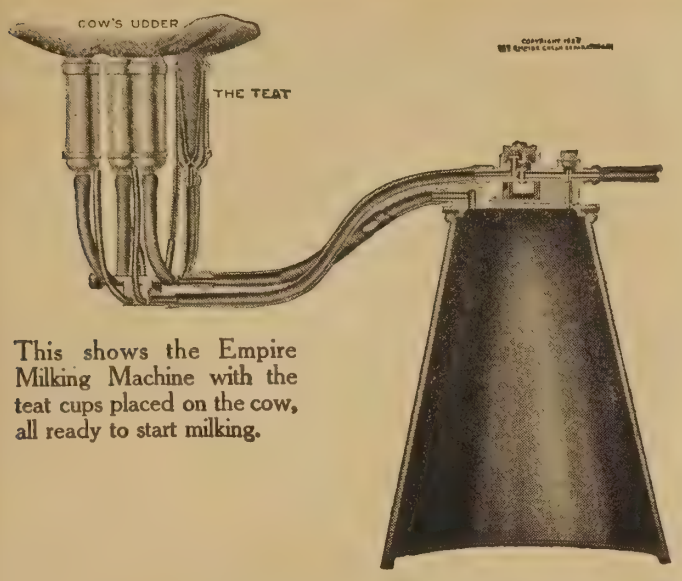
To illustrate this, the records of two grade cows kept under similar conditions and receiving very nearly the same feed are presented. Curly, aged 8, produced 8,947 pounds of milk containing 273.7 pounds of fat, in the association year. The cost of her feed was $137.50 and the return to her owner from her product, when the cost of her feed had been subtracted, was $113.76. Baldy, aged 7, produced 14,679 pounds of milk containing 594.5 pounds of fat and was given only enough more feed to make her ration cost $166.60 for the year. She returned $271.92 to her owner above her feed cost, or more than twice the net from her stable mate, Curly.

Testers state also that a very great source of loss to the dairy farmer comes from underfeeding. Especially when cows are high in price and labor and feeds are costly it is profitable to feed good cows liberally and to cull out the poor ones from the herd. This requires close attention to the production of each cow and careful study of association records.

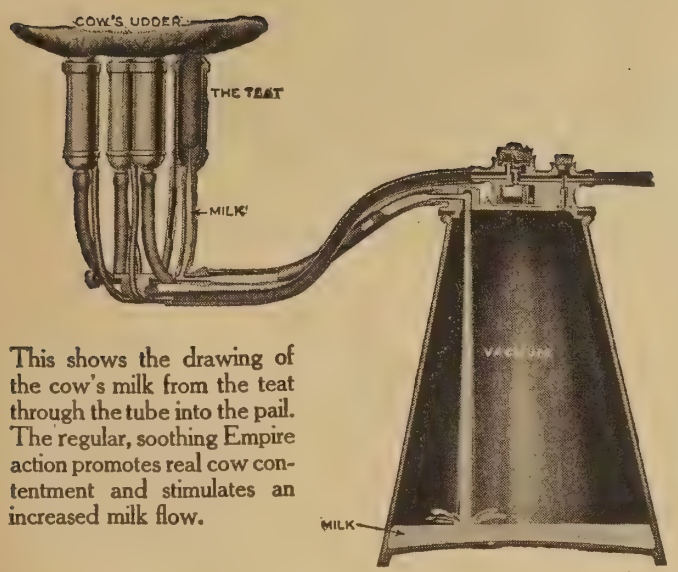
In Circular 129 of the University of Wisconsin, A. J. Cramer and R. T. Harris, authors, make this statement from a study of data from Wisconsin associations: "Feeding begins with the calf, which ought to be well grown. Before freshening is an important period often neglected. It does not pay to skimp a cow while she is dry and carrying a calf. Neglect then must be paid for later. Cheap milk is not made by allowing cows to endure discomfort unnecessarily, such as exposure to cold storms, cramping stanchions; or rough treatment by dogs or men. The cheapest aids to feeding are plenty of pure water, sunlight, fresh air, and comfortable beds. These both raise production and lengthen the period of usefulness in the herd."

Of the 421 cows which produced more than 365 pounds of fat in the association year, 86 were pure-bred Holsteins, 170 grade Holsteins, 22 pure-bred Guernseys, 82 grade Guernseys, 6 pure-bred Jerseys, 24 grade Jerseys, 2 pure-bred Ayrshires, 2 grade Shorthorns, and 27 natives. The average production of the 421 was 9,464 pounds of milk containing 407.8 pounds of fat.

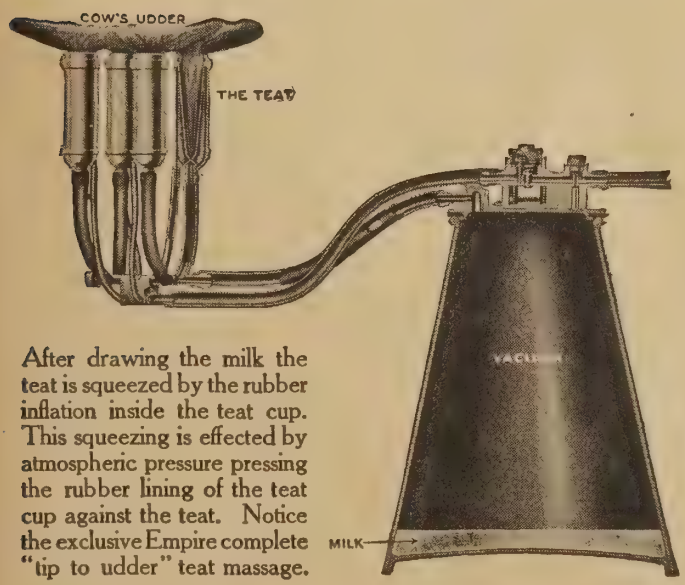
This Wisconsin Register of Production is issued and supervised by the State Dairymen's Association and the College of Argiculture, who have joint charge of cow testing association work in Wisconsin.



This shows the Empire Milking Machine with the teat cups placed on the cow, all ready to start milking.



This shows the drawing of the cow's milk from the teat through the tube into the pail. The regular, soothing Empire action promotes real cow contentment and stimulates an increased milk flow.



After drawing the milk the teat is squeezed by the rubber inflation inside the teat cup. This squeezing is effected by atmospheric pressure pressing the rubber lining of the teat cup against the teat. Notice the exclusive Empire complete "tip to udder" teat massage.

Why does the action of the Empire teat cup "go the calf one better?"

THE young calf sucks—creates a vacuum which pulls the milk from the teat. **So does the Empire Milker.**

Then the calf swallows and—**here's the important thing**—its tongue massages the teat from tip to udder. That pressure of the calf's tongue relieves the teat by sending back into the udder the blood drawn down into the teat during the sucking process. **The Empire teat cup inflation does exactly the same thing** by the gentle application of atmospheric pressure—NOT compressed air—between the teat cup shell and the soft, pliable rubber inflation.

BUT—the poor little calf may be very hungry; he may suck too hard. **That's one instance where the Empire "goes the calf one better."** BECAUSE, the action of the Empire is always uniform and gentle—since the vacuum is controlled by a relief valve. And you can't put a relief valve on a hungry calf. He wants **milk,** and he's not particular how he gets it.

Now let's talk on hand milking. Even a casual study of the diagrams on the left will prove that it is impossible for hand milking to be as uniform as that of the Empire, no matter how experienced the hand milkers may be. It would be about as impossible as making pins by hand and expecting them to be as uniform as those turned out by the pin-making machine. And note this: The Empire is not only uniform, but it is so simple to operate that **it makes everybody an expert milker.**

Now take a glance at the pulsator on the top of the Empire pail. Note its extreme simplicity. It is the only pulsator covered by a 4-year guarantee—not only in regard to materials and workmanship, **but wear also.** That's insurance of the strongest kind. It means that with the Empire you buy not simply a machine but a **guaranteed period of milker service.** We not only stand squarely back of the machine, but of the principle on which this new pulsator works. We couldn't afford to make this guarantee unless we knew that the Empire Pulsator is as perfect in action and as durable as mechanical skill can make it.

There's a hundred and one things you should know about the Empire, BUT THERE'S ONLY ONE WAY YOU CAN GET OUR COMPLETE STORY—and that is by sending for our catalog 1-M. Why not drop us a letter in the next mail?

"The Standard of the Better Dairies"

The "Family Coat of Arms" of the leading line of Dairy Machinery—EMPIRE

Empire Cream Separator Company, Bloomfield, N. J.

Also manufacturers of The Separator with The MILLION DOLLAR BOWL

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EMPIRE
MILKING MACHINES

Waukesha County Holstein B

130 Pure-breds

April 25t

The Blood of the Greatest S









YOU ARE INVITED TO COME TO WAUKESHA BEFORE THE SALE TO MEET OUR MEN AND TO VISIT WAUKESHA HERDS



SALE COMMENC AT 10 A. M EACH DAY WAUKESH SALE PAVILION IF YOU WA BARGAIN, DON'T MI THE FIRS DAY

There

A 2-month-old son of CREATOR out of a 30-lb. daughter of Wisconsin's greatest sire, KING PONTIAC CHAMPION. She is now on yearly test and barring accident will make between 900 and 1,100 lbs. butter.

A yearling son of S. P. O. M. 43RD out of a 28-lb. granddaughter of CANARY PAUL FOBES HOMESTEAD. His two nearest dams average 32 lbs. butter. "43RD'S" dam is AAGGIE WAYNE PEEP with 1,250 lbs. butter at six years. AAGGIE WAYNE PEEP is the world's record cow for five years production.

Three of the best 30-lb. cows ever consigned to a public sale.

A choice five-year-old cow heavy in calf to one of the good sons of KING SUPERBA.

A daughter of SIR ORMSBY HENGERVELD DE KOL 3D heavy in calf to KING INA ORMSBY, a 34-lb. son of KING BESS JOHANNA ORMSBY.

A 19-lb. two-year-old daughter of KING PETER LYONS and out of a 30-lb. cow.

A yearling son of the 30-lb. bull, SIR JOHANNA DECIA ORMSBY, out of the 24-lb. cow, JOHANNA NEVERAGAIN—A Show Bull.

A 2-year-old daughter of COLONEL PONTIAC KORNDYKE and bred to the great KING BESS JOHANNA ORMSBY, the sire of the *Junior Champion Heifer* at the National Dairy Show.

A 5-year-old daughter of BAIRDLAND SEGIS SIR PRIZE whose daughters are known for type and production. She has a record of 712 lbs. butter, 17,669 lbs. milk in 305 days at the age of 3½ years. She is heavy in calf to KING BESS JOHANNA ORMSBY.

A 5-year-old daughter of DOETJE NELLIE, Second Prize Aged Cow at the 1920 Wisconsin State Fair, also a member of the winning Get-of-Sire, Dairy Herd, and Produce-of-Cow. This young cow is in calf to KING BESS JOHANNA ORMSBY.

A son of KING BESS JOHANNA ORMSBY, out of BROOKVALE ORMSBY KORNDYKE with 25 lbs. butter as a two-year-old and 789 lbs. butter 365 days at 4 years.

ONE OF THE WONDERFUL OPPORTUNITIES OF THE SALE—5 daughters of JOHANNA KORNDYKE KING. His daughters are noted for their large production records. Three of these have just made records of 24 lbs. as four-year-olds. Their dams are tested cows with records up to 30 lbs. The dam of one of these heifers produced 715 lbs. milk in 7 days. They are bred to a 30-lb. son of S. P. O. M. 43RD. Some one who wishes to get started in Holsteins, should consider the whole family.

For further

Waukesha County Holstein Breeders' A

Auctioneers: Mack, Love, Benjamin

eeders' Spring Foundation Sale

and 26th

130 Pure-breds

s of the Breed is in This Sale

IN THIS SALE YOU HAVE AN OPPORTUNITY TO BUY FOUNDATION STOCK MANY OF WHICH BREEDERS HESITATE TO PUT A PRICE ON



EACH ANIMAL COMES FROM A STATE OR FEDERAL TEST AND SOLD SUBJECT TO RETEST



ill Be—

2 A. R. O. daughters of DAISY JOHANNA, both bred to 30-lb. grandsons of S. P. O. M.

A 13-month-old son of SIR JOHANNA DECIA ORMSBY out of a 24.50-lb. dam. One of the best bred and typiest bulls that ever walked.

A 5-year-old, 25-lb. daughter of SIR JOHANNA RUTH—a real cow. Her dam has a 26-lb. record.

A 4-year-old daughter of "IT" and out of a 33-lb. dam. Just bred to a 30-lb. grandson of S. P. O. M.

A 22-lb. 5-year-old daughter of MAPLECREST KING DE KOL 2D.

A granddaughter of HOMESTEAD JUNIOR DE KOL.

Two choice cows, granddaughters of PAUL ORMSBY. The dam of one of these is a daughter of KING ORMSBY—the other a daughter of JESSIE FOBES HOMESTEAD.



There is a Difference:

Every animal has been selected and passed upon for fitness.

Each animal comes from a state or federal tested herd and sold subject to a 60-day retest. This is the strongest and most reliable health guarantee that we can give.

Culls and inferior animals are barred from entry.

By-bidding by consignors or others in their interest is forbidden—and is subject to being debarred from all subsequent sales.

All animals of breeding age are guaranteed breeders.



There's a Difference:

between the Waukesha Sale and what is known as the ordinary live stock sale. There are a great many animals in this sale that breeders hesitate to put a price on privately and can ill afford to sell. We thought that that would be the kind you would want for foundation stock. TO BE CONVINCED OF THIS FACT, we invite you to COME TO WAUKESHA, "COW COUNTY, U. S. A." before the sale to meet our men and to visit their herds. Seeing is believing. Last year we had several men come to Waukesha after the sale thinking that they could buy better and cheaper privately. They found that they could have saved money by attending the sale. YOU CAN DO THE SAME.

There are more high record females and females with high record ancestry than in any other previous sale.

There will be 30 of the best bulls in the county in this sale of serviceable age and younger. Five of these will be 30-lb. bulls, some with yearly record dams up to 1,000 lbs. butter or over 20,000 lbs. milk as two-year-olds.



If You Want Foundation Stock of All Ages, Attend This Sale

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ociation, **Waukesha, Wisconsin**

Box Man: Reid Murray



For Your New Home



Ruberoid Weatherproofing Products play an important part in the construction of residences. This is made inevitable by the fundamental purposes which they serve, coupled with the great confidence reposed in them by builders and house owners.

As you look over the plans for your new home remember that from cellar to ridgepole, there are many places in which weatherproofing products bearing the name Ruberoid should be used.

Ruberoid Weatherpoofing Products have been manufactured for nearly forty years to meet a standard of quality complying with a policy which demands that the name Ruberoid appear only on products of the highest type. Ruberoid quality has accordingly become the standard by which weatherproofing products may be judged.

Because of the unswerving manner in which this ideal has been maintained, Ruberoid Weatherproofing Products are distributed by men who consider their customers' interests as well as their own.

There is a Ruberoid Distributor near you. Buy from him.

This sketch illustrates the way in which a few of the Ruberoid Weatherproofing Products are used.

1. *Ruberoid Unit Shingles insure an artistic and durable roof.*
2. *Ruberoid Roll Roofing, the pioneer of prepared roofings, is built to stand up under the severest conditions.*
3. *Ruberoid Insulating and Building Papers insure complete and permanent protection from heat, cold and dampness.*
4. *Ruberoid Cement-Waterproofing, as an integral part of stucco, permanently prevents hair cracking and leakage.*
5. *Ruberoid Plastic around roof and chimney joints renders them permanently watertight.*

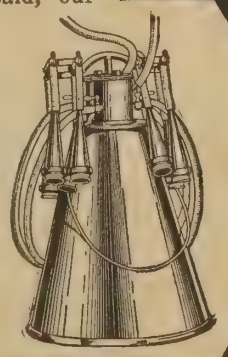
THE STANDARD PAINT COMPANY
95 Madison Avenue, New York
Chicago Boston

RU-BER-OID weatherproofing PRODUCTS

SHINGLES ROLL ROOFINGS BUILT-UP ROOFS BUILDING PAPERS
FELTS PAINTS VARNISHES PLASTICS

Free Book

Simply send your name, address and number of cows you milk and we will mail you, postpaid, our free milker book. It tells all you need to know about milking machines and what kind to buy. It tells about the most successful milker ever sold and what the experiences of its users show.



Write Today

You will find this book very interesting and helpful. Better write today for your free copy before they are all gone.

LIBERTY MILKER COMPANY
101 North Cedar Street,
Owatonna, Minn.

For You

Jersey Breeders Organize

HOARD'S DAIRYMAN:—The Jersey breeders of Susquehanna County, Pennsylvania, recently met at the Farm Bureau Office and formed a county association. The following officers were elected: President, Claude Carter; vice-president, George Dayton; secretary and treasurer, Seldon Birchard; directors—E. V. Birchard, W. L. Bailey, Clayton Ball, and Frank Smith.

A constitution and by-lays were adopted and membership dues were placed at $2.00 per year. This county is now the leader of all other counties in bull associations and is proud to add another association to the ever increasing dairy industry here.

Pennsylvania. E. M. L. BLANCHER.

Farm Bureau Notes

The Legislative Department of the American Farm Bureau Federation is moving its office to the Munsey Building, at the corner of E. Street and Pennsylvania Avenue, Washington, D. C. Concerning impending developments, at the capital, of interest to farmers, the Washington office has this to say:

"The possibility of an embargo being placed against the importation of certain agricultural products passed with the announcement that the administration had decided, at the request of President Harding, immediately to reenact the emergency tariff legislation vetoed by President Wilson. The statement by President Harding indicates that the schedules of the tariff legislation may be changed somewhat and that it may be limited to only a few agricultural products and be in the nature of an embargo. Undoubtedly a great deal of pressure will be brought to bear to include certain items and strike out others; it is impossible to forecast at this time, with any degree of accuracy, what the result will be. It seems certain, however, that some emergency tariff action for agriculture will be attempted as soon as Congress convenes on April 11.

"On March 23, Secretary of Agriculture Henry C. Wallace met with representatives of farm organizations and the farm press at their weekly luncheon. He expressed a sincere desire to co-operate with the representatives of the farmers' organizations and most emphatically stated that the door would be open for conferences at any time on questions of interest to agricultural representatives."

Attorneys Writing Grain Marketing Contracts

The board of attorneys appointed by the Farmers' Grain Marketing Committee of Seventeen went into session in Chicago on March 28. The board is comprised as follows: Clifford Thorne, Chicago, General Counsel for the American Farm Bureau Federation and the Farmers' National Grain Dealers' Association; Fred W. Lehmann, St. Louis, former Solicitor General of the United States; J. H. Broady, Lincoln, Neb., attorney for various co-operative organizations and a member of the law faculty of the University of Nebraska; Aaron Sapiro, San Francisco, attorney for the California Prune Growers' Association, and George E. Farrand, Los Angeles, general counsel for the California Fruit Growers' Association. The board of attorneys will probably be in session all week drawing up the grain marketing contracts and reviewing the proposed constitution and by-laws in the grain-marketing plan.

The Farm Bureau Emblem

An official emblem to be worn by members of the American Farm Bureau Federation has been adopted. The general design to be used by all the states will be the same. The emblem conveys in a striking manner the idea of the intense Americanism and national strength of the Federation. It consists of an outline map of the United States, surmounted by the American eagle volant. On the map of the United States is superimposed a shield of the American Farm Bureau Federation displaying the letters A. F. B. F. The panel carrying the name of the state in embossed letters surmounts this.

The emblems are very attractive and may be obtained by Farm Bureau members upon application to the secretaries of their state federations.

Minnesota 58,000 Strong

A report from the Minnesota Farm Bureau Federation states that more than 58,000 farmers have joined the organization. Community units have been established in 459 townships in 31 counties. In 24 counties, every township has an organization.

Pabst Stock Farm Sale

The Pabst Stock Farm's second semi-annual sale held at the farm, Oconomowoc, Wis., on April 2nd, was an excellent one at which to buy a herd sire. Quite a number of the good bulls went at bargain prices, while in some cases, those that apparently possessed less actual value brought considerably higher figures.

Thirty-eight animals sold to buyers from 6 different states for a $370 average, with the 11 females included in the sale averaging ten dollars more.

John Zenter of Wisconsin bought the highest priced animal for $1,500. It was Pabst Creator Achilles, a son of Creator from a 29-lb. daughter of King Pontiac Champion, that is going at an 1,100-lb. gait on yearly test.

Pabst Creator Kinnickinnic, another young son of Creator, sold to O. B. Chiltress of Indiana for $1,250. This one was from another daughter of "Champion" that has a 35-lb. 7-day record and 920.56 lbs. butter from 19,742.7 lbs. milk in 10 months.

Haeger and Mack did the selling with S. T. Wood in the box.

Following is a list of those animals selling for $300 or more and buyers of same:

Lewis Bros., Wisconsin	
Pabst Pontiac Creator	$700
John Zentner, Wisconsin	
Pabst Creator Achilles	$1,500
C. E. Cole, Wisconsin	
Pabst Creator Model	$440
A. J. King, Missouri	
Pabst Creator Daisy	$500
A. L. Russell, Wisconsin	
Pabst Creator Elder	$700
G. Tobiason, Iowa	
Pabst King Pontiac Lad 43d	$375
G. S. Bohland, Illinois	
Pabst Creator Cynthia	$700
G. R. White, Illinois	
Pabst Champion Creator	$500
H. W. Bennett, Wisconsin	
Pabst Creator Homestead	$300
W. H. Grueble and Wm. Menschke, Wisconsin	
Pabst Creator Ivy	$650
O. B. Chiltress, Indiana	
Pabst Creator Kinnickinnic	$1,250
Gay and Williams, Wisconsin	
Pabst Hillvale Inez Ormsby	$520
Pabst Abbie Van Roberts	300
Gramling Bros., Wisconsin	
Pabst Pontiac Ormsby	$320
Harry Ellsworth, Wisconsin	
Pabst Deerberry	$550
Samuel Hall, Wisconsin	
Pabst Mullvale Ormsby 2d	$310
C. H. Peterson, Wisconsin	
Pabst Pontiac Star 2d	$4.50
Marlow and Randall, Minnesota	
Pabst Gladiole 3d	$430
Pabst Iris 2d	505

It works both ways: A pure-bred sire pays for himself in improved offspring; a scrub soon loses more money for its owner than a pure-bred would cost.

The time when thrift counts most is when prices are coming down and the dollar is really beginning to be worth a dollar.

Experience With Annual Sweet Clover

HOARD'S DAIRYMAN:—Were I to express my well founded conviction as to the merits of the new annual white sweet clover, my sanity would undoubtedly be questioned. There are few grocers who have a quantity of seed, and this is limited. My experience deals with a thousand plants from a small package of seed from the Federal Department of Agriculture, and about three pounds of the Iowa Seed which was planted for one of the well known seed companies. The latter planting was a failure in a commercial way, yet it is worth the cost because of information acquired. The seed from the Department of Agriculture was planted on much poorer ground which was better drained. Heavy rains followed the planting, and evidently on the better though more poorly drained soil, the seed was washed to such depth that it failed to appear for five or six weeks.

I could detect no difference in habits or root system of the two strains of seed. One would infer that in the remote past sweet clover was an annual, and that the present selections are from plants which have reverted to this distant habit.

Sixty days from date of planting, June 1st, northeastern Ohio, one plant was in blossom and others blossomed within a week. At this time the five rows were of sufficient height to have afforded a fine cutting of hay. In view of its quick growth, when seed price warrants, the farmer who recognizes failure of hay crop in early summer can insure sufficient feed by planting annual sweet clover. Planted with oats as has been tried in an experimental way, will afford an excellent hay crop, and pasture or a seed crop later in the season. In all probability, the anuual sweet clover possesses the hardiness of the biennial, and such being the case it may reseed itself in northern latitudes. A Michigan farmer contends that a part of his farm is covered with annual sweet clover which has reseeded itself, the seed surviving winter hardship.

I find that in the north for seed purposes, annual sweet clover should not be planted much later than early April. I allowed the plants to stand this year until the first week in November, and they showed such tendency to continue blossoming and bearing seed in spite of several frosts, that in my opinion six weeks added to the growing season would have been necessary to insure maximum results.

The soil requirements are the same for annual and biennial sweet clover. The annual strain has similar root system, and its rapid growth may necessitate greater available fertility. The five rows were limed excessively at rate of 10 tons to the acre while the acre field received two tons. Soil from an alfalfa field was drilled in excess of 300 pounds to the acre and acid phosphate was drilled at a separate operation at rate of 500 pounds. The nodules exceeded the root system in quantity, and their growth indieates that this legume is probably one of our greatest nitrogen gatherers. During the month of August the plants grew fully an inch daily. At one end of the five-row plat the soil was a clay loam, while at the other end very heavy clay, yet at this end of the rows was by far the greater growth. The growth exceeded that of a few plants, carefully tended on gravelly ground, a few miles away.

The annual habit is undoubtedly firmly fixed. Of a thousand plants, I observed three which made growth which compares to the first year in the life of the biennial. The root system is such that it adapts itself to circumstances. About one plant in 25 shows a tap root tendency. Two particularly interesting, heavily seeded plants with this type of root were saved for seed, as plants of such nature would be invaluable in breaking up the heavy clay hardpan underneath our surface soils. Many of the plants grew to height of six and seven feet. These exhibited tendency to continue flowering, with little disposition to mature seed. About twenty plants, which grew waist high, represented the number of medium height plants maturing maximum amount of seed. Other plants were not as efficient seed producers as the biennial plants some distance away.

With the production of as high as 15 tons of green manure per acre, the annual sweet clover will prove to be our greatest soil builder. Its quick growth will make it particularly valuable to fruit growers. It will prove helpful as pasture for dairymen. On clay soils subject to heaving, the success of alfalfa is doubtful, and biennial sweet clover is but a limited success. Here the annual strain will insure a good hay crop the season of planting.

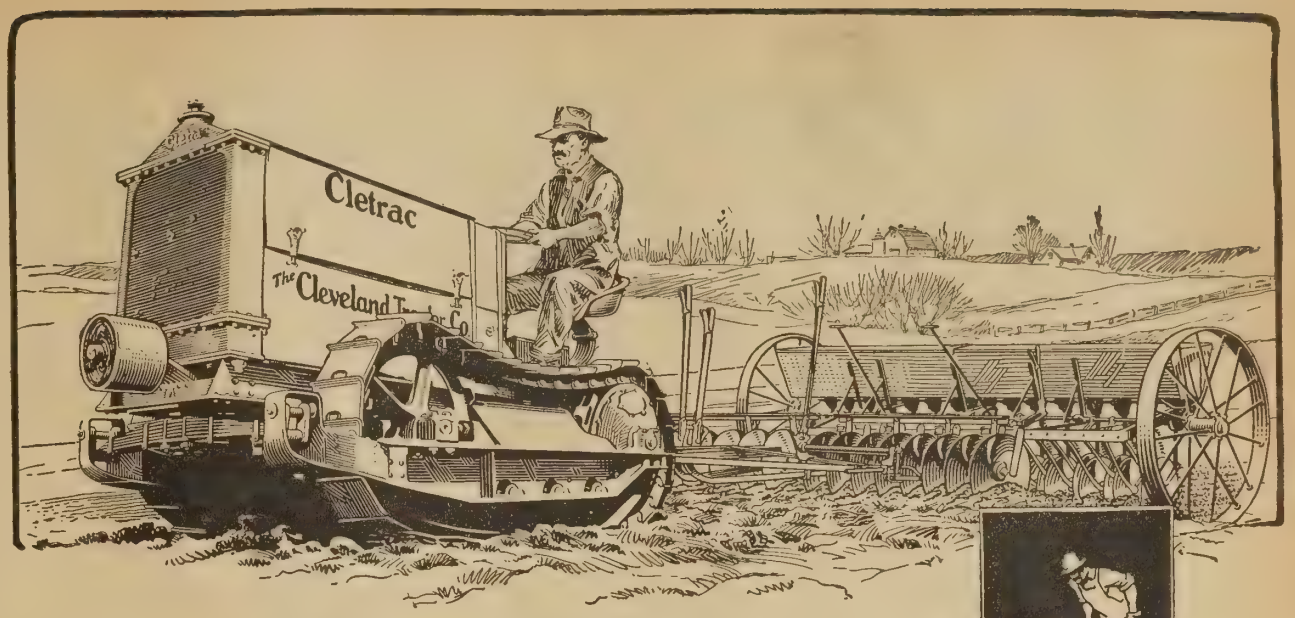
It is probable the dairyman, by the use of annual sweet clover and vetches, can lengthen his pasture season in the north one or two months, and provide valuable midsummer pasture which is a serious problem.

Beyond question in the writer's mind, for northern state it is a most valuable discovery as hay and forage crop. It cannot be excelled as a green manure in any section where land can be used for its growth during the warm seasons. The seed will necessarily be high in price for a decade or more, but demand will probably exceed seed production. Above all this plant will reclaim millions of acres of unprofitable soils. A few acres of this legume on each farm in a county will gather and store more nitrogen in the soil than could be transformed from the air by our national nitrate plants.

Ohio. WALTER JACK.

It is agriculture alone that fixes men in stationary dwellings in villages, towns and cities and enables the work of civilization in all its branches to go on.—E. EVERETT.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.



Cletrac Speed Gets in More Seed

Works Fast Over Soft Plowed Ground

THOSE first few days when ground and weather conditions come just right for planting—that's when speed counts. Cletrac has it to burn.

Cletrac is no quitter. In seeding—or any other operation—Cletrac sticks to the finish hour after hour and day after day. It holds its steady gait and gets the work cleaned up in short order.

The two wide tank-type treads get a firm grip on the soft seedbed. No power is lost through slipping and Cletrac travels swiftly along—always delivering the full-rated drawbar pull of its big motor.

Even when hauling a double disc harrow and a heavy drill, Cletrac doesn't dig in or pack the soil.

Cletrac's short-turn ability makes it mighty handy. Its heavy-duty motor is unusually flexible—develops ample power at all speeds. Its easy handling and wide utility recommend it to farmers everywhere.

"Selecting Your Tractor" tells why Cletrac cuts crop production costs on every size farm. See the Cletrac dealer near you.

Write us for a copy of the booklet.



HARD THIS WAY BUT—



EASY ON A TRACK THE CLETRAC WAY

SPECIFICATIONS

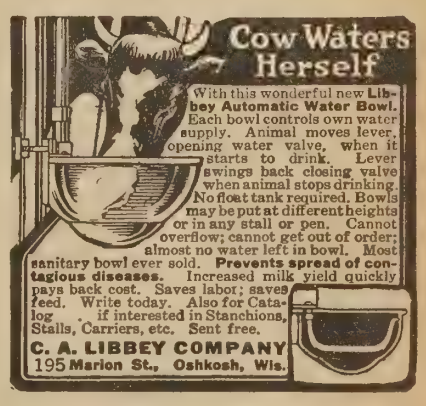
Horsepower: 12 at drawbar, 20 at belt-pulley
Length: 96 inches
Width: 50 inches
Height: 52 inches
Weight: 3420 pounds
Turning Circle: 12 feet
Traction Surface: About 800 square inches
Center to Center of Tracks: 38 inches
Belt Pulley: Diameter 8 inches, face 6 inches

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Cletrac TANK-TYPE TRACTOR



Eggs, Baby Chicks

8-week-old pullets. Won over 2,500 prizes 1917-18. Furnished U. S. Government and state schools, stock, eggs, chicks. Safe delivery guaranteed. Eggs, $8 per 100, 50 for $4.50, 15 for $1.75. Chicks, Barred, Buff, White Rocks, S. & R. C. Reds, R. C. Blk. Minorcas, Buff Orpingtons, White Buff, Silver Laced Wyandottes, S. C. Anconas, $18 per 100, $9.50 per 100, $5 per 100. 8-week-old pullets $1 each. S. C. White and Brown Leghorn chicks $15 per 100; 50 for $8; 25 for $4.50. 8-week-old pullets. 85c each. White Orpingtons, Black Langshangs, Partridge Wyds., Columbian Wyandottes, Light Brahmas, S. C. Blk. Minorcas, R. C. Anconas, chicks $21 per 100; 50 for $11; 25 for $6; 8-week-old pullets $1.25 each.

STERLING POULTRY FARMS
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HOARDS DAIRYMAN JUNIORS



A DEPARTMENT FOR THE DAIRY FARM BOY

Filling the Corn Popper

"I don't believe a good business farmer would spend money for popcorn, Bruce," said Mrs. Carter to her son, as he climbed back into the comfortable family car with a large sack of freshly popped corn he had purchased from the popcorn man on the corner.

"Good business, mother, when you are hungry for popcorn, isn't it?" he queried as he proceeded to fill his mouth. Then, turning to his father, he added, "You had better drive home, dad, I'll be busy the rest of the way."

"But it is not good business," his mother insisted. "What did that sack cost you?" she inquired.

"Twenty cents," he answered between the munches, "and cheap at that. Why, what difference does it make, ma?" he grinned sidewise at her. "Seems to me that you are getting mighty close since you allowed me to go in with Bill and Jimmy in the chicken business."

"It isn't that I care about the twenty cents, Bruce, but what I mean is, that it seems like an unnecessary expense that could be avoided. How much corn do you suppose it took to make that sack full?" she inquired, determined to drive home her point.

"Oh, I guess a small handful," he answered carelessly as he continued to lower the sack.

"That's just it, my boy," she quickly interposed. "A small handful! And do you suppose it would cost twenty cents to raise it?"

"Why, of course not, mother, but the fellow who raises it and that fellow who sells it already popped, have both got to make a profit or they couldn't do business. People must be willing to buy it or these fellows wouldn't be in the business."

"Certainly these city people will buy it. That's the only way they can have popcorn, but it does seem rather foolish for farming people to spend money for something that they could just as well produce themselves, doesn't it? And besides you can never have popcorn just when you want it unless you raise it yourself."

"Well, if that's what you are driving at, ma, for heaven's sake why don't you say so. But I always thought that it would be out of the question for me to raise popcorn. I'd be tickled to death to try it if you and dad would just say so. There are so many things that you would never let me do—well," he sighed, "I just thought that I would always have to buy my popcorn."

"But matters have changed since you have entered the chicken business, dear, and I guess you might as well raise some popcorn for the family as well as to raise chickens. Would you like to do it?"

"Of course I would, and I think I know something already about doing it," he brightened up at the thought. "We studied all about popcorn this winter in our agricultural class and it surely will be lots of fun putting some of those ideas into practice."

His father, who had been silent up to this time now spoke up. "All right, son, you and I will form a partnership for growing popcorn and we'll begin operations this spring about time to plant corn. Now of course," he continued, "we mean popcorn growing for the family, Bruce, and not to raise it to sell. I believe it is a good idea that mother has expressed. I know we always used to grow popcorn when I was a boy and we found as much fun in popping it as we got pleasure from eating it. The winter evenings did not seem half so long and dry when we had plenty of popcorn and apples to munch on," he explained as the car sped toward home. Then turning to his wife, he added, "Those were the good old days, mother, the days of horses, rail fences, rugged boys and girls who were happy and contented with the life that the old farm afforded with its homely pleasures. And when I think back to the times when I was a boy, I am always reminded of the quantities of popcorn and apples, yes, real, rosy cheeked apples that we raised ourselves. Night after night during the long, cold winters, we had apples, popcorn, and stories without ever tiring of any of them. I sometimes wonder what has become of the good old times known to every farm boy and girl of my day. I'm afraid they have passed with the progress of time," he seemed to sigh, "but, Bruce, you and I will bring them back to our home this next winter and there is one thing that we will promise mother and that is plenty of popcorn."

And the idea seemed to grow the more he thought about it, for suddenly he burst forth again, saying, "By gum, Bruce, I've got a better idea still. We'll form a popcorn club for all the boys and girls so that every one can get in on the fun. We'll see that we get seed enough for all and then we'll hold a few meetings to instruct all how to grow popcorn. What do you think of the idea?"

"Great, dad, if you mean it! They'll all come in on it and we'll have plenty to talk about at our meetings and we might even offer a prize to the best grower at the end of the season."

"Why indeed I mean it, son, every word of it and that's just what we will do, offer a prize to the best grower when the season is over. But what do we mean by the best grower?" he queried.

"I would say that the fairest thing to decide that on, is to have all grow an equal area and the one who raises the most ought to get the prize. That will be fair to every one and of course you and I want to come in on the prize stunt too. I wonder what would make a good prize," he pondered.

"Well, I know what I'd want," suggested his mother.

"What, ma?" he questioned.

"You never would guess, son, if I gave you all night to do so," she laughed.

"Suppose some of the things that all women like and that men don't give a rap for," he answered to her challenge to begin the guessing.

By this time they had reached home and the car had stopped directly beneath the leafless boughs of the old cottonwood that for fifty years had burst into green each spring. The evening was superb, a combination of April moonlight and southern zephyrs. But to Bruce this delight of Nature passed unheeded as he began to guess everything from a string of pearl beads to a Baby Grand piano. But to every guess there was the same answer. "Well, I'll give up, dad! Haven't you got a guess? You ought to understand women better than I do!"

"Yes, I've just one guess," he answered, "And it is the very thing which I would have suggested myself. I think I have it," and he slyly winked at his wife. "It's a corn popper," he exploded, "the most up-to-date one that can be had. How about it, mother?"

"How did you ever guess it?" she laughed enthusiastically.

"Because that seemed the most sensible thing, of course. Popcorn wouldn't be much good without a popper. That's what made me think about it."

"Bully for you, mother," Bruce agreed. "That will make a real prize and I'll bet there will be a scramble for it. Why couldn't I think of that," he added in disgust, as he opened the door of the car for his mother.

"Looks as though I had started something," Mrs. Carter commented as the three sat about the blazing hearth which Bruce had but a few minutes previously lighted to take away the lingering chill of winter from an early spring evening.

"You bet you have, mother," Bruce quickly answered, eager to continue the plans started by his father. "I was just thinking about the best variety to grow," he added.

"Why I didn't know there were different varieties of popcorn," his mother responded with genuine interest. "I thought that popcorn was just popcorn."

"No, indeed, mother," he quickly answered, eager to enlighten her. "That is not the case at all. You should see all the kinds of popcorn we had in our agricultural class this winter. There are reds, whites, yellows, and blues and they differ a great deal in size too. There's one very interesting variety that is called Tom Thumb; it is so tiny," and he judged its size by holding up his little finger. But maybe I had better start a little farther back so that you will understand," after seeing the interest he was attracting.

"First of all, there are two general classes of popcorn, the smooth kerneled kind known as pearl popcorns and the sharp kerneled ones known as the rice popcorns. Now it is claimed that the rice kinds are the best poppers because their seeds are harder and the harder the seeds are the better they pop. And we proved that, too, this winter at school by cutting open kernels of both kinds. Maybe you don't know, dad, that a great deal of the popcorn that is sold in the cities is raised in two counties, one in Iowa and the other in Nebraska. There you will find people who make a regular business of growing popcorn and they grow more of the rice kinds than any other. The public seems to demand them. There are two varieties that are especially good. Both are white. One is the big white rice and the other is the baby white rice. The baby rice is especially good, because it pops a big fluffy kernel and its hull it quite tender. It is a good yielder too. The ears are funny looking little things—about as big around as they are long and the kernels are very small. The kind I bought tonight was baby rice and I'll bet that we can get seed from the same place that he buys it from."

"How interesting this all is," remarked his mother as she turned to her husband. "And did you learn all this in your agricultural class this winter, Bruce?"

"Sure did, mother, and lots of other things besides," he proudly answered. "We study all kinds of things in that class," he boasted, "and believe me, we all like it lots better than some of the other things we study. Say, dad, don't you think we had better be making plans for the organization of the club?"

[To be continued]

Moreland Township, Penn., Holstein Calf Club

February fifth was the birthday of the first Holstein Girls' and Boys' Club in Lycoming County, Pa. The Central Pennsylvania Holstein-Friesian Breeders' Association, Williamsport, Pa., at their December meeting, took definite action to support such a club and placed responsibility for finding the girls and boys upon the county agent. The following week the county agent opened the subject at a community meeting in Moreland Township where a hearty response was met.

The heifer calves were furnished by members of the Breeders' Association at a uniform price and notes maturing in six months with renewal privilege were given in exchange by the club members.

Distribution was made on the farm of Clarence Reece and each club member drew a number to correspond to a number on a calf. The calves will be shown at the Hughesville Fair next fall and club members will be privileged to enter their animals in the annual sale of the Central Pennsylvania Holstein-Friesian Association to be held at the Hughesville Fair next fall.

Flock Bros. have offered a bull calf to the member of the club who takes first prize at the round-up. The association has offered a second prize of $20 in cash, and a third prize of $15 in cash.

The father of every club member



MORELAND TOWNSHIP, PENNSYLVANIA, HOLSTEIN CALF CLUB.
THE MEMBERS HAVE THE CALVES THEY DREW

has made application to have his herd tested for tuberculosis on the accredited herd plan.

Up until the formation of this club pure-bred Holsteins were not numerous in Moreland Township, and it is hoped that this movement will be the forerunner of a healthy development of the industry.

Reports have come to the farm bureau office that more heifer calves are wanted in Moreland Township. The association plans to follow up the club closely and to give every assistance to the girls and boys with calves. At a recent meeting they decided to entertain the club members at a picnic with the idea in mind of becoming better acquainted, and possibly helping the members with their calf raising problems.

Lambs for Pets

HOARD'S DAIRYMAN JUNIORS:—I suppose you think I have entirely forgotten the club, but I haven't at all. I have been busy helping with the work and didn't get time to write.

I sold my lambs to papa and he shipped two and sold the other one to a neighbor.

I have been sick with bronchitis lately, I haven't been to school for just three weeks today.

My chickens which I sold to mamma in November are as big as a year-



AGNES M. SPAULDING AND HER PET LAMBS

old hen; I can hardly tell them from the rest of the flock.

I intend to raise lambs and chickens next year. I think they are very little bother and need very little care except when they are both small, they need quite a bit of care.

I enclose a picture of myself and my lambs. You can hardly see the one as she was standing back of the other white one drinking from another bottle. The one walking toward the camera is Nigger, the white one is Fuzzy, and the one standing back of the white one is Snow. I will close wishing the juniors good luck. If some of the juniors wish to write to me my address is R. F. D. No. 1, Box No. 164, Buchanan, Mich. AGNES M. SPAULDING.

Junior Letters

Hoard's Dairyman Juniors:—How is everybody getting along? I hope fine like myself. They organized a farm club here some time ago and my father was elected secretary and treasurer. He has the main work to do so it keeps him busy sometimes.

Now I will tell you something about our animals. We have four horses, five cows, four calves, two sows, fourteen pigs, and about 125 chickens.

We sold our old bull, but have a young one; he is also a pure-bred.

I guess I'll close for this time. I wish I would get some junior letters. I will be glad to answer them. Wishing the juniors good luck. My address is Zell, Mo.

Richard R. Huck.

Hoard's Dairyman Juniors:—I am 16 years old in May and am living on a 160-acre farm. We do not sell milk as the roads are too bad and we are too far from the market.

Last year we raised 9 pigs from one litter. One pig was killed by its mother the first day. We fed the other nine pigs on skimmilk, cooked potatoes, and bran with some grass as they were about one to two months old. We butchered all but one pig at nine months old. The pigs weighed on the average 150 lbs. We did not sell any of them as we are not going to raise any pigs this year because we haven't enough feed to raise them, besides there isn't enough pasture to graze upon.

We have 34 chickens and get 16 to 20 eggs each day. One chicken lays every day. We feed them oats, corn, and potato mash with bran, and fresh water is within reach of the hens all of the time.

Minnesota. Eugene Hamack.

Hoard's Dairyman Juniors:—I am thirteen years old and in the eighth grade in school. We have taken Hoard's Dairyman for a long time and I read everything in it.

I have a pair of Checkered Giant rabbits and they weigh about 15 lbs. apiece. We have 25 cows and 4 calves; 3 of the cows are milking. We have about 60 pure-bred White Leghorn hens. We have 4 horses and our farm has about 300 acres of good land.

We built a large barn in 1913. It is 100 feet long, 50 feet wide and 60 feet high.

I keep my rabbits in a pen and feed them bran, oats, and water in the morning and at noon green food. At night I give them a good feed of carrots and grain or water.

We raise about 200 bushels of potatoes each year.

New York. Kenneth Turnbull.

Hoard's Dairyman Juniors:—I am very proud of being a Hoard's Dairyman Junior and I hope I can be of some value to you.

I am twelve years old and in the eighth grade at school. I have a black and white calf named Bossy. It is about six months old. My father has eighteen head of cattle and six horses. I have four brothers, two older than I and two younger. My oldest brother retails milk.

If any of the juniors wish to write to me I'll answer their letters. My address is R. F. D. No. 1., Pennsburg, Pa. Harry Wood.

Hoard's Dairyman Juniors:—I am eleven years old and am in the sixth grade at school. I walk two miles to the Barnesville school. I am a member of the Belmont County Calf Club. I have a registered heifer. My brother, older than I, is also a member of the calf club. I have a fine dog and two cats. I live on a 67-acre farm on which we raise all kinds of grain and hay. We have four horses and fifteen head of cattle. I would like some of the juniors to write to me. My address is R. F. D. No. 1, Box 25A, Barnesville, Ohio.

Lewis J. Skinner.

Hoard's Dairyman Juniors:—I live on a five-acre farm twelve miles from Portland, Ore., near a small sized town named Oswego where the mails are brought in on the electric car to be delivered to us by the rural route.

We have taken the Dairyman for about two years. Daddy had heard of its good, reliable reputation, so when we went to the International Stock Exposition held at Portland, January, 1919, we subscribed. It has come regularly and we are very well pleased.

Juniors, do you enjoy the other editorials as well as your corner? I haven't heard an opinion expressed but all seem enthusiastic about their part in the farm paper.

One hears a great many people remark that they think they should die of lonesomeness on a farm, it seems to them such a dull life! But I find the very opposite to be the case, and I'm sure anyone who really truly lives on a farm will agree with me. There's so much more really wonderfully interesting, almost fascinating things in the great outdoors than a crowded, murky city, even a nice one such as I live near. Whenever I find it growing monotonous the car line is right at hand; a half hour's ride brings me into the heart of Portland. A day there usually finds me more than content to come out to the open again.

The animals on our place number ten, five Angora goats, two cats, one chicken, and a cow which gives about three gallons. We sell some and have all we can use for the house.

We have been, for the past two years, engaged extensively in the poultry business but shortage of labor and other conditions made it too much work so we discontinued it. Last year we brooded two thousand baby chicks, White Leghorns, and from them got six hundred pullets which laid fifty per cent in the dead of winter. We never had any failure in starting or making them lay. They were direct from the Tancred Farms, Kent, Wash., a noted, high laying strain. His chickens are trapnested and some of the best grade chickens run as high as seventy-five cents apiece.

We tried raising pigs on a small scale but just broke even on account of buying all the feed as we hadn't suitable pasturage to reduce costs. They were good grade Poland-Chinas.

I'm one of a family of four, two girls, father and mother. I am in the eighth grade in school. I am fourteen years old. There's just eighteen months' difference in age between myself and sister. Sometimes we are taken for twins.

Well, I must close as it is nearing my bed time. I would like to hear from any of the juniors who care to write to me. Am fond of writing and receiving letters. I'll send a picture when I have one taken. My address is Route 1, Box 6, Oswego, Oregon.

Merle Lawson.



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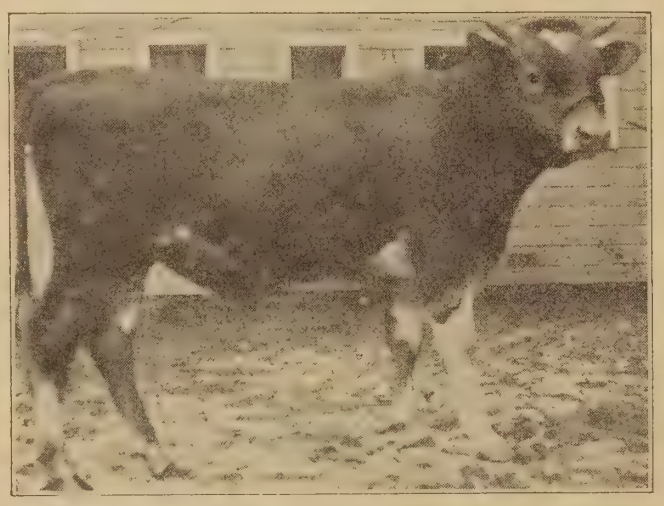
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The Farmer As An Employer

An Allegory of the Workers in the Soil

E. J. LEENHOUTS, MICHIGAN

Did it ever occur to you that each farmer has in his employ more laborers than any person of any other profession in the world? If so, do you realize that he has also the best and cheapest employees in the world? These statements are, nevertheless, true, as leading bacteriologists and agronomists have proven to the satisfaction of all students of soils and agriculture. They have concluded that every ounce of soil of average tilth and fertility is the home and workshop of millions of soil bacteria, each one of which is working for the farmer's interest.

To estimate the number of these micro-organisms that a farmer on an eighty-acre farm would be employing is almost an impossibility, and it assuredly would give us a figure whose magnitude is absolutely beyond the realm of our imagination. Without going through any mathematical processes, we can readily see that the figure would mount up into the billions. Is there any man in any other industry, trade, or profession that they are so faithful? According to army vernacular, they are the "K. P.s" of the plant kingdom. In the army this is considered the most disagreeable task to be imposed upon offenders of camp regulations. Expressed in terms of polite English, these organisms are the chefs of the farmer's crops. All day long they are industriously employed in the preparation of the food for the plants. The process of preparation requires not only the predigestion of most of the foods, but even the gathering of a large amount of it. Some of it has to go through quite a lengthy process before it is satisfactory to the plant's palate. The myriads of tiny laborers are divided into five large armies, each one being assigned to a certain kind of food, and they are specialists in the gathering and preparation of the same. Besides these five main armies, there are, of course, many smaller armies or divisions.

The first army is assigned to the task of digging up the mineral foods



The Albany Community House, Albany, Oregon, Headquarters for the Albany Chamber of Commerce, the Linn County Farm Bureau, the Linn County Chapter American Red Cross, the American Legion, Boy Scouts, etc. In the building are a gymnasium and shower baths which are used by the students of Albany College, Albany High School, and grade pupils as well as athletic classes and teams of business men, lodges, and clubs. Dances, parties, luncheons, receptions, and all sorts of gatherings are being held at the Community house almost constantly.

Here the town men and their fellow business men from the farms are learning to know each other better because of closer association through the two organizations quartered here: The Albany Chamber of Commerce and the Linn County Farm Bureau. Both these organizations are more and more realizing that there is not, after all, such a chasm between town and country organizations as the "jingoes" would have us believe and they are finding that many of their problems have much common ground and must be worked out jointly.—S. V. SMITH, Oregon.

can claim as many individuals in his employ?

But, are these "little fellows" really such excellent laborers? We usually judge our employees by the quality and quantity of the work which they produce in return for the wages which we pay them. Let us do likewise with our little friends, the soil bacteria.

From morning to evening and all through the dark hours of the night, these micro-organisms labor unceasingly. Nor do they limit their activity to the warm summer months, for they start early in the spring and keep on toiling till frost freezes up their homes in the fall, unless their employer has seen fit to starve them to death before this time. They are never caught "loafing on the job", nor do they ever organize strikes. Faithful to the tasks assigned them, they are ever toiling on, giving their very best at all times. Can you find any man in any other profession that can say the same about all of his employees? If there were such a man, he would indeed be the object of great envy by his fellow employers.

What *is* the task assigned to these prodigies of labor—the task to which for the plant and bringing them into solution in order that the plant may be able to drink them. One division looks after the sulphur, another after the potash, another after the iron, another after the phosphorus, etc., each one a specialist in its line. They dig down into the soil particles, bring out the pure mineral, dissolve it in the water which surrounds each grain of soil, and thus change it to such a condition that the plants eagerly lap it up and incorporate it into their tissues. This army might be called the mining unit of the cooks.

Another powerful army is engaged in the transforming of the proteid substances which are found in the soil. This is such a complicated process that it calls for three distinct steps, and, consequently, the army has been divided into three divisions, each one a specialist along a certain line. Their work is so much similar to that of the chemist that we might call this army the chemical unit of the chefs. The first division, called the ammonifying bacteria, changes the proteid substances to ammonia, but the plants refuse to eat it in this form. Thereupon another division, called the nitrous

bacteria, seizes the ammonia and transforms it to a nitrite. Still, the plants do not deign to touch it, and so the third division is called in to do its part. This group, called the nitric bacteria, quickly add some oxygen to the nitrites and change them to nitrates. Behold! the plants reach for the nitrates greedily and devour them.

A third army is still more ambitious. Its members are not satisfied with using the ordinary soil material, but they reach out into the air and capture some of the nitrogen which is found in the air. They might be called the hunters who go out into the woods to capture wild game, bring it home, and prepare it for the table. After they have prepared it in such a way that the plants can use it, they store it away in the soil for future use, and then they go out and capture some more. The bacteriologist calls ambitious laborer the Azotobacter.

Besides doing all these prodigious tasks, these three armies are obliged to hurry around and provide themselves with food. The fourth army of soil micro-organisms, however, has become dissatisfied with this inefficient system of having each individual hustling around to obtain all its own food supplies, thus decreasing the amount of useful work done. It has conceived a plan of "give and take" whereby the plant is called upon to furnish them with the carbohydrates and organic acids which they need as food, while they devote all their time to the gathering of nitrogen from the air and making it available for plant food. The plant can not gather the nitrogen, while the bacteria find it difficult to gather sufficient organic acids and carbohydrates to maintain life. Following up their plan, these determined little workers have invaded the leguminous plants through the root hairs in spite of the stout resistance offered by the host, and they have attached their kitchens and storehouses to the roots of the plant. The host soon realizes the benefits which it obtains from this combination and tolerates the presence of the bacteria. While the plant is helping itself to the nitrogen which the little workers have stored away, the latter are likewise helping themselves to the carbohydrates and organic acids of the plant. Here, indeed, is a case of specialization in industry. Each one of the contracting parties is mutually benefited, and much more useful work is accomplished. This process is called the symbiotic fixation of nitrogen, and the organism is called Pseudomonas radicicola.

Besides these four vast armies of soil bacteria whose activities we have briefly described, there are thousands of different species found in the soil, each having a special duty to perform. Together, they constitute the fifth army. The upper eight inches of soil is an enormous kitchen and storehouse in which billions of little creatures are laboring day and night in order that there may be enough food prepared for the plants which the farmer is trying to raise. They are all laboring for the farmer and he is their master.

Since these little "fellows" are such faithful workmen and have charge of work of such vital importance, one might naturally suppose that they would demand a big reward for their labors. On the contrary, they ask nothing of the farmer but proper food and living conditions in order that they may continue with their work. They require a certain amount of oxygen, water, and food. The oxygen and water are found in the pore spaces between the particles of soil, where the bacteria can reach them. But frequently too much water enters these vast kitchens, fills up all the spaces, and crowds out the air. Then the poor, faithful workers die of suffocation. The farmer can do a great deal to alleviate such hardships by under-ground and surface drainage, and by tilling the upper strata of soil, thus bringing about proper aeration and removing the excess soil water. He, however, is very often so ungrateful that he refuses to do this for his diligent employees. The same is true in providing the food They want only decayed organic matter, which costs the farmer very little. Humbly they beg of him these three cheap elements in return for their labors, but the average farmer frequently disregards their pleas, and consequently assassinates the very laborers that have made it possible for him to live and prosper. To save his own life as well as that of his little friends, he should immediately attend to the drainage, tilling, and the supplying of organic matter.

One other thing that these micro-organisms, especially the nitrogen-fixing species, ask of the farmer in order that they may live and he may prosper, is a neutral soil. In order that their home and workshop may be inhabitable, it must not be built of soil that has an acid reaction. Although neglected on every hand, this is a condition that can readily be remedied through the application of limestone.

That is the sum total of the wages demanded by the most faithful and tireless workers in the world—food and proper living conditions, all of them supplied at a small expense, if the employer wishes. If he refuses to pay these wages, they do not organize a strike, but they continue working until they are exhausted, and then they die. Are they worthy of their wage? Yes, a thousand times over. Without them the farmer is absolutely helpless and must surely starve.

Therefore, let us, as farmers, look after the welfare of our myriads of employees in order that they may live, that we may prosper. Let us make conditions such that our chefs of the plant kingdom may accomplish the most work for us. Then the mining unit will march out with pick and shovel to prepare the minerals for our plants; the chemical unit, with its three divisions of specialists, will take its chemicals to attack the proteid substances, digesting and preparing them for plant consumption; the hunting unit will go out through the air spaces, capturing and bringing home the nitrogen; and the highly specialized unit of thieves will proceed with their theft which ultimately brings about beneficial results for the individuals robbed.

2 Good Bulls For Sale

King Pontiac Tehee Abbekerk, a 4-year-old grandson of King of the Pontiacs from one of the good A. R. O. daughters of Tidy Abbekerk Prince. He is sound, half white, and a good individual. Price $250.

Also a young son of the above sire from a good producing dam. Straight as a line. More than half white. $100.

S. R. McCANN, Rich Hill, Mo.

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ZION'S STAR OF LIBERTY 68505. Born June 23, 1920. Masher's Sequel breeding. Sired by Hildred's King of Oaklawn 29781 by Imp. Silver King of the Isle 14363 with 8 A. R. daughters, a son of Imp. Sequel's Monogram 15649 with 26 A. R. cows.

Dam—3-year-old Imp. granddaughter of Galaxy's Sequel with 47 A. R. cows and 22 A. R. sons. A beautifully marked growthy-typy calf. Don't pay until you see him. Worth twice what we ask. Priced to sell at $125.00.

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KING LYONS BOON GERBEN is the sire of the bulls offered. He is a grand individual and promises to make a great bull. He is by a 35-lb. bull. RAG APPLE KORNDYKE BOON who is now recognized as one of the greatest bulls of the Middle West; he is from a 33-lb. dam, 29-lb. grandam who is followed by a 900-lb. cow. Consider what you are getting in this bull. The grandam on the sire's side is a 38-lb. cow.

Dam, JESSIE FOBES MAUD BURKE CANARY 2ND, 4½-year record (28.86). She is daughter of HAMILTON COLANTHA LAD who is a son of COLANTHA JOHANNA LAD, that great bull that has more high records in milk production than any other bull. The dam is from a 27-lb. daughter of HOMESTEAD JR. DE KOL. The price for this bull is $500.00.

OMAHA SEGIS LYONS, 4-year-old record (31.56). She weighs 1,850 lbs. One of her sisters has a 39-lb. record. Her sire is KING SEGIS LYONS who has nine 30-lb. daughters. He is a son of KING HENGERVELD. His sire's dam, CATRINA SEGIS (23.12). Her dam is a sister to NIVA KALMUCK, Nebraska State Champion (45.18), KING SEGIS breeding.

The Price of This Bull is $650.00

Otto F. Schauble, Pilger, Nebraska

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WE HAVE CONSIGNED sons and daughters of many of Ohio's best bulls. A few of them: PRIDE OF THE ORMSBYS, KING WALKER CLOTHILDE, FINDERNE PRIDE FAYNE, LOTHIAN MAGGIE DE KOL'S SON, KING ONA, KING ONA PONTIAC, ALEC (the bull that up-set the dope), FAIRVIEW PONTIAC BEETS KORNDYKE, MEADOW HOLM PEEP HARTOG. KING OF THE PONTIAC'S SON, PIETERTJE HENGERVELD SEGIS.

WE HAVE 30-lb. cows, sons of 30-lb. cows, daughters of 30-lb. cows, sons of 1,000—1,200-lb. cows, daughters of 1,000—1,200-lb. cows. In fact you will find in this sale heifers, cows, or bulls to suit the most particular breeder as well as the fellow who wishes to start in a small way with real quality Holsteins of show type.

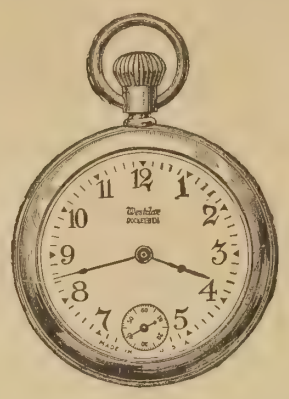
Next week we'll tell you all about them. Just mark your calendar now and get ready to come to the greatest Holstein event ever held in the Buckeye State.

OHIO HOLSTEIN-FRIESIAN ASS'N

HOWARD C. BARKER, Field Secretary TIFFIN, OHIO

Westclox

—that's Big Ben's family name



Let Pocket Ben time your day

POCKET BEN tucks into the pocket of your work-shirt and is right there when you want to know if there's time to start that other job before dinner.

Yet you don't have the uncomfortable feeling of risking damage to that high-priced watch of yours when you're out on the job. Pocket Ben's sturdy, double-back case helps him stand the racket.

Pocket Ben got his education in the same school Big Ben came from; they both bear the Westclox family-name which means good time-keeping wherever you find it.

See Pocket Ben at your dealer's. He's built for service rather than for show. But you'll be surprised at the amount of good timekeeping you get out of him for a very little money.

WESTERN CLOCK CO., LA SALLE, ILLINOIS, U.S.A.

Makers of *Westclox:* Big Ben, Baby Ben, Pocket Ben, Glo-Ben, America, Sleep-Meter, Jack o'Lantern

Factory: Peru, Illinois. *In Canada:* Western Clock Co., Ltd., Peterborough, Ont.



A Full Pail Every Milking

That brings the smile to the dairyman's face—the money to his pocket. Big production, day after day, depends on the *condition* of the cow—her health and vigor—her ability to digest her feed and convert it into milk.

Pratts Cow Tonic

is the most dependable conditioner and health-builder for cows. It acts quick—it helps increase and hold up the milk flow. Try it—*at once*—on one cow or your whole herd. Note the improvement in health—the full milk pails—the husky, healthy calves.

"Your Money Back If YOU Are Not Satisfied"

Ask your dealer for the ***genuine Pratts****—and get it!*

PRATT FOOD CO. Philadelphia Chicago Toronto

Makers of Pratts Animal Regulator, Hog Tonic, Dip and Disinfectant, Poultry Regulator, Stock and Poultry Remedies. Standard for nearly fifty years. C-42

Pratts

Keep Tab on Your Cows

Send 5c in stamps for samples and prices of our weekly and monthly Milk Record Sheets. **Hoard's Dairyman, Fort Atkinson, Wis.**

Marketing by Federations

(Continued from page 528)

promulgation of standards for Wisconsin cheese.

Future of the Cheese Federation

I am not afraid to go on record as saying a few words regarding the future outlook for the Wisconsin Cheese Producers' Federation. The present 14,000,000 pounds of cheese handled per year will be doubled in the next twelve months. In 1930 the Federation will handle 140,000,000 pounds of cheese, the product of 1,500 factories. By this time the price of cheese will be fixed solely by the law of supply and demand. The producer will get more money and the consumer will buy for less money.

The cheese dealer for years has been doing his utmost to get the cheesemaker afraid of the Federation. By 1930 things will have changed as then the Federation cheesemakers will have the best and most up-to-date factories and living quarters. By this time the Federation brand of cheese will be sold all over the world wherever Wisconsin cheese is offered.

By 1930 instead of 15% of the cheese grading No. 1-A, 75% will come under this grade. Nineteen thirty will prove that the standardizing of cheese has done more to improve its quality than has been done by all other combined forces up to this time.

By 1930, the moisture, the fractional weight, and the three-day from the press laws all will be a thing of the past.

By 1930, 75% of all American, Swiss, Brick, and Limburger will be marketed through the Federation.

I want to ask every milk producer in the state to support the cheese producers' federations. If a patron of a creamery, I urge you to join the creamery federation; if a patron of a condensery or ice cream plant, give your moral support to the federations.

Calves Suck Each Other

I have noticed several articles in your magazine regarding the ill effects that calves sucking each other have on their udders when they become fresh. Can you suggest any methods of stopping this practice?

Petaluma, Calif. E. H. S.

Stanchion young calves before feeding milk and just after milk has been taken, allowing calves to lick a mixture of meals. When their mouths and muzzles have been freed from milk and the taste of it they will not be so likely to suck one another's teats. If they should start doing so apply a little powdered aloes in oil to the udders.

SALE ANNOUNCEMENTS

April 19—Holsteins at Hudson, Ohio. W. C. Keenan.
April 21—Holsteins. Eaton Co. Holstein Breeders' Second Consignment Sale at Charlotte, Mich.
April 21—Brown Swiss. Illinois Brown Swiss Breeders' Association Annual Spring Sale, Morton, Illinois. Chester G. Starr, Pekin.
April 23—Selected Guernseys from the Sunnybrook and Willowbrook Herds at Sunnybrook Farm, Eatontown, N. J. Leander F. Herrick, Sale Mgr.
April 25-26—Holsteins. Waukesha County Holstein-Friesian Association Sale at Waukesha, Wis. W. L. Baird, Sec'y.
April 27—Holsteins. French Bros. Dispersion Sale, Shipman, Ill.
May 2—Holsteins. Walworth County Holstein Breeders' Association Eighth Semi-annual Sale at Elkhorn, Wis. Ben Bachhuber, Mgr.
May 3—Holsteins. Clark County Quality Sale at Owen, Wis. J. Wuethrich, Sale Mgr.
May 4-5—Holsteins. Ohio Holstein Breeders' Association Second Annual Sale at Columbus, Ohio. H. C. Barker, Sec.
May 5—Guernseys. Waupaca Co. Guernsey Breeders' Assn. Annual Consignment Sale at Waupaca, Wis.
May 5—Holsteins. Lake Mills Holstein Breeders' Consignment Sale. F. H. Everson, Mgr., Lake Mills, Wis.
May 6—Holsteins. Illinois Holstein-Friesian Ass'n. State Sale. R. N. Thompson, Sec.
May 6—Guernseys. Fox River Valley Guernsey Breeders' Association Consignment Sale at Appleton, Wis.
May 9—Holsteins. Brown County Holstein Breeders' Sale at De Pere, Wisconsin.
May 9—Holsteins. West Salem, Wis. F. H. Everson, Sale Mgr., Lake Mills, Wis.
May 10—Guernseys. Dispersal Sale of Emmadine Farm Herd at Hopewell Jct., Dutchess Co., N. Y. Leander F. Herrick, Sale Mgr.
May 10—Guernseys. Berrien County Breeders' First Annual Consignment Sale of Registered and Grade Guernseys at Eau Claire, Mich. F. E. Fox, Waukesha, Wis., Sale Manager.
May 12—Holsteins. Green Co. Holstein Breeders' Ass'n. Semi-annual Consignment Sale at Monroe, Wis.
May 12—Guernseys. J. L. Hope's Annual Sale at Florham Farms, Madison, N. J. Leander F. Herrick, Sale Mgr.
May 12—Holsteins. Marathon Co. Holstein Breeders' Association Sale at Wausau, Wis. Francis Darcey, Watertown, Wis., Mgr.
May 12—Jerseys. Wisconsin Jersey Breeders' Ass'n. Sale at Madison, Wis.
May 13—Holsteins. Chippewa Falls, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 13—Holsteins. Consignment Sale at Chippewa Falls, Wis. F. H. Everson, Mgr.
May 13—Eastern Guernsey Breeders' Association Combination Sale at Devon, Pa. Leander F. Herrick, Sale Mgr.
May 17—Holsteins. State Fair Grounds, Milwaukee, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 18—Jerseys. Monroe County Jersey Breeders' Consignment Sale at Tomah, Wis.
May 18-19—Holsteins. Manitowoc County Holstein-Friesian Breeders' Association, Manitowoc, Wis. Chas. Hampke, Manager.
May 18—Holsteins. Livingston Co. Holstein Association Sale at Howell, Mich. F. J. Fishbeck, Sale Manager.
May 20—Holsteins. Sheboygan Co. Holstein Breeders' Sale at Plymouth, Wis. F. H. Everson, Manager.
May 20-21—Holsteins. Wheatfield Farms Consignment Sale at La Salle, N. Y.
May 23-24—Holsteins. Missouri State Holstein Association Show and Sale at Sedalia, Mo.
May 24—Guernseys. Marathon Co. Guernsey Breeders' Ass'n. Second Annual Consignment Sale at Wausau, Wis. F. E. Fox, Waukesha, Wis., Sales Mgr.
May 25—Guernseys. Portage Co. Guernsey Breeders' Association Annual Consignment Sale of Registered Guernseys at Amherst, Wis. R. K. McDonald, Sec'y. F. E. Fox, Waukesha, Wis., Sale Manager.
May 26—Brown Swiss. First National Consignment Sale, Peoria, Ill. Wm. S. Dunn, Mgr., Middleburgh, N. Y.
May 27—Holsteins. Michigan Holstein-Friesian Breeders' Assn. Sale at Grand Rapids, Mich. H. W. Norton, Jr., Secretary, Lansing.
May 26—Guernseys. Portage Co. Guernsey Breeders' Association Annual Consignment Sale of Registered Guernsey males and grade females at Amherst, Wis. R. K. McDonald, Sec'y. F. E. Fox, Waukesha, Wis., Sales Manager.
May 26—Holsteins. Marshfield, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 27—Holsteins. Outagamie County Holstein Breeders' Ass'n. Sale at Appleton, Wis. Edw. O. Mueller, Sec.
June 1—Holsteins. Dispersion of Fairview Stock Farm's Herd at Anderson, Ind. O. L. Janney, Owner.
June 1, 1921—Holsteins. Central Wisconsin Holstein Breeders' Ass'n. 13th Semi-annual Consignment Sale at Marshfield Sales Pavilion, Marshfield, Wis. R. A. Peterson, Wisconsin Rapids, Wis., Sale Mgr.
June 2—Guernseys. Clark County Guernsey Breeders' Annual Consignment Sale at Owen, Wis., C. E. Beck, Manager.
June 3—Guernseys. Fond du Lac Co. Combination Sale. Charles L. Hill, Mgr.
June 4—Guernseys. Folly Farm Guernseys at Fond du Lac, Wis. Chas. L. Hill, Mgr.
June 8—Guernseys. The Southern Wisconsin Guernsey Breeders' Ass'n. Sale, Ft. Atkinson, Wisconsin.
June 9—Holsteins. First Annual Bred Heifer Sale, Thorp, Wisconsin. W. H. Krause.
June 9—Holsteins. First Annual Sale, Holstein-Friesian Co-operative Association of New Jersey, Trenton, New Jersey. J. W. Bartlett, Secretary, New Brunswick.
June 9—Guernseys. Waukesha Guernsey Breeders' Ass'n. Eighteenth Semi-annual Sale of Registered Guernseys at Waukesha, Wis. F. E. Fox, Sec.
June 9—Guernseys. Massachusetts Guernsey Breeders' Sale. Leander F. Herrick, Sale Mgr.
June 15—Guernseys. First Michigan State Sale at Lansing, Mich. F. E. Fox, Waukesha, Wis., Sales Manager.
Oct. 12—Guernseys. Wm. S. Ormston & Son, St. Johns, Mich., Dispersal Sale. F. E. Fox, Waukesha, Wis., Sales Mgr.

Don't Wait for the Cow

(Continued from page 546)

and her gradually replenished herds, with the housewife's budget, strangely reduced, out of which must come flour and sugar and cereal and all the rest—leaving too little for milk expenditures. Against all these and more must the milk producer work and the leading minds of his own organization tell him over and over, more and more thoughtfully, that his only hope now is to pool his product and get one price for all, a price above any individual dealings because of 50,000 strong men acting as one man.

The milk business has not gone to the demnition bow-bows—yet. Like the Phoenix of old, it will arise from the ashes of indecision and distrust, stronger and greater and surer than even the more sanguine think possible—if we will only le. it. But the safety first pooling plan can't come to us and do for us unless we go after it and work for it and put it through ourselves. The W. F. C's, of this world rarely lead their own communities or add to their progress in any way. It is now up to 45,000 men to win over the needed 5,000.

Watertown, Wis., Spring Sale

There were too many young bulls that would be classed as only "fairly good ones" to permit of a high average at the Watertown Holstein Sales Co. Spring Sale held March 29-30 at Watertown, Wis. Taken as a whole, it was, however, a satisfactory sale with the 141 head bringing an average of just over $200. Without most of the bulls above mentioned and without a very few of the females a considerably higher figure could, of course, have been obtained.

O. H Erdman topped the sale with Sir Rachel Sadie Vale Homestead, a 30-lb. yearling grandson of King of the Sadie Vales. He was purchased by Emil Nitschke of Wisconsin for $900.

Harvest Farms brought out the best female of the sale, Harvest Agatha Segis, a very showy 2-year-old daughter of their Spring Farm King Agatha Pontiac from a 21.84-lb. daughter of Judge Beets Segis. She was a remarkably good individual, heavy in calf to Harvest Matador Segis, a son of Matador Segis Walker, and well worth the $750 R. F. Clark paid for her.

Mack, Hager, and Edwards did the selling with B. D. Scott in the box.

Following is a list of those animals selling for $250 or more and buyers:

Walter R. Lange, Wisconsin	
Piebe Oak Canary Fobes	$475
Fairlawn Stock Farm, Wisconsin	
Piebe Oak Canary Fobes	$475
Fairlawn Stock Farm, Wisconsin	
Dodge Co. Abigail Ormsby	$425
John H. Paul, Wisconsin	
Aspirante De Kol Tirania	$275
Meta Dolly Oak De Kol	270
Owasso Pontiac Korndyke De Kol	255
Fletcher Bros., Wisconsin	
King Starlight Hengerveld Ormsby	$380
Molly Wayne Segis 2nd	260
W. M. Berndt, Wisconsin	
Queen De Kola Elboje 2nd	$290
J. C. Kiefer & Son, Wisconsin	
Lady Pontiac Fern De Kol	$400
Lillie McKean 2nd	455
Dora Colanthus Pietertje 2nd	250
May Wit Pontiac Hengerveld	255
Nora Lenna Johanna Duts	335
Rue Queen Bonheur Segis	280
A. Backhaus, Wisconsin	
Courtland Nancy Pontiac Snowball	$255
Eugene O'Connor, Jr., Wisconsin	
Colanthus Hengerveld De Kol 3rd	$420
Maggie Greene Canary	310
Chic Dairy Farm, Wisconsin	
Admiral Canary Fobes	$300
F G. Leehman, Wisconsin	
Jane Homestead Hengerveld Burke	$275
R F. Clark, Wisconsin	
Marchioness Angeline Segis	$260
Harvest Agatha Segis	750
Ea Gibbs, Wisconsin	
Pegotty Nance Beets	$405
A E Creydt, Wisconsin	
De Kol Beauty Mercedes Korndyke	$320
Harvest Farms, Wisconsin	
Dora Johanna Mercedes Korndyke	$400
Otto Bros., Wisconsin	
Sir Ormsby Homestead Butter Boy 4th	$250
Albert L. Morris, Wisconsin	
Pauline Hengerveld Valdessa	$490
R. F. Zimmerman, Wisconsin	
Pet Douglas Oak De Kol Watson	$350
T. F. Dolan, Wisconsin	
Magnet Ormsby Canary Homestead	$320
Mercedes Mutual Homestead De Kol	600
Gay & Williams, Wisconsin	
Harvest Agatha Pietje	$255
Beauty Pietertje Lady Aaggie	300
Wm. B. Roys, Wisconsin	
B. P. P. Mutual Korndyke	$320
Peter Frederickson, Wisconsin	
B. P. P. Fobes Homestead	$410
W. F. Wick, Wisconsin	
Perry Pontiac Aurora	$335
Adam Conrad, Wisconsin	
Hengerveld Pontiac De Kol Gerben	$250
Emil Nitschke, Wisconsin	
Sir Rachael Sadie Vale Homestead	$900
Nassig Nehls, Wisconsin	
Hilda Tormentor	$280
Fred Southcott & Sons, Wisconsin	
Emroy Beets Pabst Pontiac	$350

Uncle Ab says that if we were happy all the time, happiness would lose its flavor.



Go ahead with farm improvements; concrete barns, feeding floors or watering troughs are good investments. Build with Lehigh—the National Cement and make the job last a lifetime. The Lehigh dealer has the blue and white sign. Get acquainted with him.

The National Cement

LEHIGH PORTLAND CEMENT COMPANY

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Omaha, Neb.
Buffalo, N. Y.
Pittsburgh, Pa.
Jacksonville, Fla.
Mason City, Iowa
Kansas City, Mo.
Richmond, Va.

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SPRAYING BEATS DIPPING!

Safer Surer Quicker Cheaper

—for Cattle, Sheep and Hogs

Allows you to put disinfectant just where needed most—without waste. No bothersome tank. No danger of injuring animal. No sudden chilling. Each animal gets fresh solution in fine spray driven into the coat.

HUDSON

(28)

Ideal Sprayer shown here is the favorite farm outfit for use with stock, trees, vines, white-washing, etc. Capacity 15 gallons. All material easily moved. Has boiler iron pressure tank with welded seams. Free catalog shows this and 30 other Hudson Sprayer Outfits. Write today.

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Brazil Hollow Brick and Tile Company
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AGENTS WANTED FOR THIS SILO

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will have a silo within the next few years. Be the

Green Mountain Silo

man in your neighborhood. *Liberal terms to agents. Write for complete silo book.*

THE CREAMERY PACKAGE MFG COMPANY
207 MADISON AVE. ATKINSON, WIS.



Buyers at Brentwood Nationa

BELOW are listed the buyers of animals which sold at the Second Brentwood National for $500 or more. In last week's issue of Hoard's Dairyman a summary of this notable auction was published.

A total of 164 animals brought an average of $1,277. In the cut above Pietertje Prospect Colantha, son of Segis Pietertje Prospect, the 37,381.4-lb. cow, is shown on the auction block. On the sale board to the left is written the selling price of $27,100, which was paid by Huntington Valley Farm and Brentwood Farm. Below is shown Gertrude Titanic De Kol, winner of the $1,000 award as grand champion cow in the show held the day preceding the sale. She was consigned by Bell Farm, Pennsylvania, and purchased by Carl Schmidt of New Jersey for $4,050.

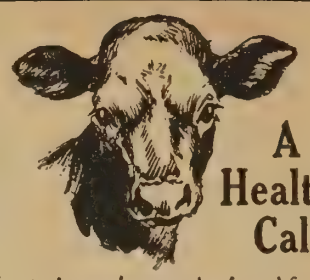
The prices follow:

C. A. Stark, New York	
Ormsby Mercedes Lad Korndyke	$1975
E. M. Bayne, Michigan	
Otego Valley Christmas Belle	$1400
Catalog No. 24	2000
King Pontiac Segis Lad De Kol	2700
C. W. Newman and J. G. Kerrick, Pa.	
King Echo Sylvia Johanna	$950
W. Lynn, Wisconsin	
Sylvia Alcartra Posch and her twin calves	$1600
V. M. Montgomery, South Carolina	
O. K. L. Ida Veeman	$3200
Katie Pietertje Paul 5th	5000
Maikenshoff, New York	
Linwood Maid Beets De Kol	$ 900
Welcome Segis Beets	1050
Nooksack Jewel Fayne	4000
Wm. Jones, Pennsylvania	
King Posch	$900
Flossie Korndyke	625
Laurel Stock Farm, New York	
Glen Alex Millspring Lass	$985
Waldorf Von Harlingen Segis	950
F. C. Brinton, Jr., Pennsylvania	
Antrim Veeman Princess	$800
Queen Colantha Pietertje	800
Winterthur Ormsby Breca	1100
Cary Farms, Massachusetts	
Allamuchy T. A. K. Alice Wanda	$2000
Catalog No. 14	500
Dutchland Konigen Hengerveld	1500
K. P. A. P. Gelsche	725
Catalog No. 171	900
Mona Lyons	780
King Ormsby Dodo	1000
K. K. S. V. Elva Veeman Florence	575
Julius Schmid, New York	
Allamuchy Corona Johanna Ormsby	$900
Princess Wera Monadnock	875
Matildie Pauline Korndyke 2d	910
Catalog No. 175	4000
C. B. Cook, New York	
Allamuchy Ormsby Houwtje	$1075
Brentwood Farm, Pennsylvania	
Kingsley Brook Dora Reta Milly	$500
Colantha Quality Sarcastic	720
Bellwood Beryl Ormsby	900
Bridgeford Holstein Co., California	
Fairmont Colantha Prilly	$1325
Huntington Valley Farm, Pennsylvania	
Catalog No. 19	$1250
Miss Pietje De Kol Segis	500
Colantha Quality Girl	1000
Lady Butter Girl Segis Pontiac	1225
Butter Girl Johanna Maxie De Kol	925
Bellwood Pontiac Jessie	500
Gretna Plum Inka	700
Carnation Sylvia Mona	3000
S. X. Pontiac Segis	600
Rosni Tweede White Rag Apple	500
Catalog No. 112	550
Johanna Cornucopia Pauline 6th	625
Correct Nancy	1500
Trina Beets De Kol	1400
S. F. K. Pontiac Grindetia	1200
Tietje Johanna Cornucopia	500
Huntington Valley Farm and Brentwood Farm, Pennsylvania	
Pietertje Prospect Colantha	$27,100
F. B. Green, Wisconsin	
Catalog No. 20	$810
Queen Lyons Echo Sylvia	1100
C. W. Bray, Pennsylvania	
Polly Douglass Fayne	$4700
Forest City High-Lawn Mildred	1050
Carl Schmidt, New Jersey	
Gertrude Titanic De Kol	$4050
Bessie Korndyke Segis	530
C. E. S. P. Waldorf Pietje Clyde	1000
Gardner Hall, Jr., Connecticut	
King Valdessa Pontiac Gem	$2000
W. A. Lathrop Est., Pennsylvania	
Bell Farm Queen Piebe Ormsby	$1000
Bloomingdale Model Fayne	880
Bloomingdale Model Beets	630
Penarco Farms, Pennsylvania	
Mary Lucile 3d	$525
King Walker Johanna Lad	800
Walton Lake Farms, New York	
Satie Colantha Pietertje	$3095
Susie May Johanna	2400
H. B. Ayers, Pennsylvania	
Colantha Johanna Bloom	$690
Cristeria Hengerveld Matador	1700
First Lady of Earl Crest	1325
Dutchland Creamelle Johanna Girl	975
Dressie Lady Pontiac	975
Cherryhurst Konigen Queen	950
Markham & Puffer, New York	
Queen Lady Inka	$500
Mrs. Jessie F. Stephens, North Carolina	
Toyon Chemacum Butter Boy	$1675
Bell Farm, Pennsylvania	
Bell Farm Lady	$1500
Prilly Adirondac Dairy Maid	4500
Maple Side Adelaide Walker	4400
Catalog No. 151	1200
Ormsby Nell Viola	900
Carnation Stock Farms, Washington	
Creamelle Aaggie Delmar	$1725
John Crozer, Pennsylvania	
Nina Cornucopia	$1200
Carnation Matador Nena	5500
Carnation Matador Alma	1500
Carnation Matador Clarodina	1650
Carnation Matador Mercedes	2000
Nooksack Lunde Segis	1750
Clothilde Tweede Pontiac Lass	1300
Mountain View Farms, Maryland	
Brahma Cornucopia	$1575
Gladiator Tehee Fayne	525
Oakland Rue Fayne	500
Reformatory Hengerveld Fayne	1100
Dutchland Edith Veeman	1750
Roycroft Keyes	1000
Substitute for Catalog No. 92	1025
Abby Amy Model	1025
K. W. J. L. Midland Korndyke	760
Winterthur Ormsby Gelsche	1500
George Hubbard, New York	
Carnation King Sylvia Alexina Pontiac	$1375
Walburn Rivers Farm, Ontario	
Carnation Sylvia Clothilde	$3500
D. N. Allen, Vermont	
Balsam Colantha Lady Change	$500
D. Hefferman, Pennsylvania	
Lovell Park Isabella	$825
Rancosas Stock Farm, New York	
Cedardale Betsy De Kol Posch	$1250
Japke Veeman Lyons	1275
H. D. Lebo, Pennsylvania	
Pietje Pontiac Echo	$700
James Davis	
Catalog No. 83	$1000
Hunter Bros., Minnesota	
Roycroft Clothilde Korndyke	$900
Frank Chambers, Virginia	
Canary Fannie Segis	$500
Maplemont Pietje Nettie	550
Catalog No. 119	500
E. Muirhead, Canada	
Sir Model Sylvia	$4500
Abner S. Deysher, Pennsylvania	
Hazelwood Ormsby Posch 2d	$2600
May Sylvia Alcartra	2500
C. A. Harrison, Washington	
Lanedale Betty Segis Veeman	$525
Mollie Wayne Korndyke	1050
H. Graff, Pennsylvania	
Lanedale Betty Segis Korndyke	$500
Jolly Topsy Pontiac Korndyke	625
J. V. Conger, Virginia	
Lady Morco Alcartra	$1000
H. E. Robinson, Maryland	
K. S. V. H. Annette Ormsby	$525
M. J. Sheridan, Jr., New Jersey	
Clintonia Johanna Maid 2nd	$1000
Java Farm, Maryland	
Rosni Alice Veeman Korndyke	$550
J. M. Dennis, Maryland	
Eliza Lyons	$1075
Sorosis Farms, Massachusetts	
Johanna Sarcastic Lyons	$680

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There's a difference. An abundance of flowers will transform any old house into an admirable old home.





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Experience has taught the wise cattle man to rely upon a good safe disinfectant. A bottle of B-K is his helpful agent. When used internally it destroys germs, acts as an anti-acid and sweetens the stomach, heals inflamed membranes, relieves irritation, restores healthy action. B-K contains no poison, acid or oil and may be given freely in the milk and drinking water.

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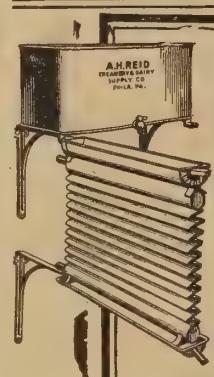
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Madison, Wisconsin

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1 Gal. and 5 Gal. Pkgs.



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Get one now. Save the usual sour milk losses. Drives out animal odors and grassy flavor. By far the most efficient and easily cleaned cooler made. Reasonably prompt shipment of orders.

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DAIRY ASSOCIATION CO.,
Lyndonville, Vermont

Southern Guernsey Progress

HOARD'S DAIRYMAN:—The Virginia Guernsey Breeders' Association has lately been reorganized with the assistance of W. W. Fitzpatrick of the American Guernsey Cattle Club. R. H. L. Chichester was re-elected president and C. T. Rice was elected secretary-treasurer. These with Messrs. Wm. H. Gould and F. E. Saunders make up the executive committee.

The Association members have their shoulders to the wheel to help the state pure-bred sire campaign. They are offering to swap pure-bred Guernsey bull calves for scrub bulls with any farmer in the state who wishes to get out of the scrub class. There are no strings to the deal, all they want is to do away with the scrubs. Nobody has any excuse for sticking to the scrubs when they are offered an even swap.

They are also starting a campaign to advertise Virginia Guernseys. A prominent dairy educator who was touring the dairy sections of the state with a view to giving advice on how to better develop herds was more than surprised at what he learned. He traveled in Loudoun, Culpeper, Fauquier, and Fairfax Counties where he saw for miles rolling country on which herds of high grade dairy cattle were grazing or quietly resting in the shade along the numerous spring branches. It was no trouble to find spots where from six to ten silos could be counted at a time. In Loudoun County he found a Guernsey Breeders' Association whose members own over a thousand head of registered Guernseys and who employ F. H. James on full time as manager of their organization. The herds of Saunders & Myers and that of Governor Westmoreland Davis at Leesburg, the county seat, made him open his eyes.

Our educator then went to the Shenandoah Valley. There he met Fred Driver who runs one of the larges creameries in the state and takes i little else but Guernsey milk. Ove at Fredericksburg he met Captain M. B. Rowe who brought the Guernsey to Virginia over thirty years ago and still maintains his herd. Over the Rappahannock he met Judge R. H. L. Chichester, owner of the famous Glencairne Herd, who showed him two-year-old heifers milking as high as fifty pounds of milk a day. He could not understand the owner of Locust Grove Farm whose first two entries in A. R. averaged a little over 670 pounds of butterfat.

Wondering over these things and at the quality of the Guernsey herds which he found all over the state our extension man decided that the thing that would do Virginia breeders most good was to get out and advertise what they had and what had been accomplished in a few years from a most modest start. In 1907 when Westmoreland Davis turned his herd over to the United States Bureau of Animal Industry to prove whether they could clean tuberculosis out of a herd and keep it out, with the announcement that he intended to develop a herd of cattle that would be a credit to the South from a practically unknown breed, we thought that there was another good man gone wrong, but Westmoreland Davis was right and today his 1907 favorite is the favorite dairy breed all over Dixie Land.

Virginia is patiently waiting on the American Guernsey Cattle Club for the word to start a Guernsey milk campaign. In a few years instead of being used to color up inferior grades of market milk, Guernsey milk will be sold in all its glorious purity. It will be sold under a jealously guarded trade-mark purely on its merits and will be known by its rich yellow color and its superior flavor.

If the demand for Guernseys in the South could be satisfied at prices that other breeds are offered at, Virginia would soon be a back number as far as leading the South is concerned. Three southern state fairs are offering $2,000 or more in the Guernsey classes for 1921. Elaborate barns are not necessary for southern fairs, but some sort of a tight roof and room to place man, cattle, and junk are absolutely indespensable. Overcrowded show quarters are very dangerous and the breeder who expects to keep his cattle in good health must keep them from contamination in cars or showbarns.

Guernsey breeders of the Mississippi Valley will miss a great opportunity if they do not follow up the great start that the breed has got in the lower part of the Valley.—Southeastern Guernsey Breeders' Association.

The 1921 Syracuse Sale

With 61 buyers for the 259 animals of all ages that were sold, of which 175 head ranged in price up to $505, there was recorded an average of a little over $200. The 1921 sale of Holsteins, held in the Syracuse sale pavilion, March 22, 23, and 24 under the management of the E. M. Hastings Co., may be put down as having had few equals in respect to number of buyers, and also as fulfilling the prediction of the promotors that its offerings would not sell at extravagant prices. Carload shipments were purchased by G. E. Markley, Kentucky, J. G. Kerrick, Pennsylvania, and Angus P. Thorne, representing the Board of Public Charities, Connecticut. Purchases were also made for Syracuse University Herd and for the City Home Farms of New York.

The responsibility of making selections for the sale was placed upon the individual consignor in every instance, and, while many outstanding individuals were in evidence, it was evident that quite a number of the three dozen consignors represented took advantage of the opportunity to "weed out" their herds, with such results as always appear when a seller undertakes to market his undesirable animals. The consignors generally seemed to be content with the prices realized, and the purchasers appeared to regard the occasion as constituting an especially favorable buyer's market.

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Instantly closed or opened *both* ways with *one* hand. Eliminates troublesome sure-stops. Locks at 6½, 7½, or 8¼ inches—fits either cow or heifer without change. Hangs squarely in center of stall—cow can't miss it. Lock guaranteed brute-proof.

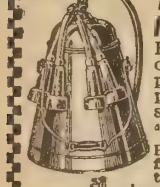
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VETERINARY

Advice is given free in this department. Inquires must be signed by the writer, and should pertain to veterinary Matters only. Where an immediate reply and prescription are desired by mail, the inquiry must be accompanied by a fee of one dollar. In every instance it will be necessary to give a full description of the symptoms present.

Some Teat Trouble

Many of the ailments that affect the teats of dairy cows might be prevented by more careful handling and management. It may be confidently asserted that perhaps a majority of the cases of sore and chapped or cracked teats which give the dairyman so much trouble are due to lack of attention to cleanliness. They would in most instances become quite rare were milkers to make it their invariable practice to cleanse the udder and teats of each cow before starting to milk. That is required in all "certified milk" dairy stables and prevents infective germs from causing troublesome sores and inducing ruinous attacks of garget. We do not advise that a clean towel should be provided for each cow or scented soap used in the cleansing process. Such ultra-refined attention is unnecessary, but a clean cloth should certainly be dampened and used to wipe off the loose scarf skin, dust, and other "foreign bodies" before each milking.

Filth in the stable and yard contains germs, the worst of which is that known as Bacillus necrophorus which causes the most serious sores. It is the one that causes canker sore mouth in all young animals and necrotic stomatitis or "calf diphtheria" which usually proves fatal. Cows should be kept from wading through filth in the yard or field or lying upon it in the stable. The high sill over which cows often have to step on entering the stable and which causes them to injure their teats should be done away with and stable stalls should be wide enough to give cows comfortable space and prevent them from stepping upon one another's teats. Any cow that has anything go wrong with her teats or udder should be isolated at once and kept separate until well. Germs are readily carried from cow to cow by the milker's hands. Disease spreads slowly but certainly in that way. The milker's hands should be carefully cleansed and disinfected before milking and his nails should be kept trimmed. Then the milking should be done with dry hands. Wet milking makes a soup of filth which runs down the teat and infects sores.

The worst sores of teats are those starting at the tip and making a scab which has to be picked off to allow milk to flow. Where this is done infection soon spreads up the milk duct and garget results. In many instances, too, a milking tube has to be used and if not perfectly sterilized or boiled for 15 or 20 minutes each time before insertion it will be certain to induce ruinous infection. Severe squeezing of the tip of the teat with the butt of the hand at the end of each pressure from above downward in milking tends to cause a callous at the end of the teat. This we call a "corn" and it is a common but unsuspected cause of hard milking. That sort of milking should be "unlearned".

When sores start the teat should be immersed night and morning, for 5 minutes, in hot water containing all the boric acid it will dissolve, or in a 1-1,000 solution of chinosol. Afterward dry the teat and apply a mixture of 1 part of tincture of benzoin and 3 parts of glycerine. Obstinate sores are well treated by applying strong iodin ointment. If that does not suffice apply twice daily an ointment

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. . . STATEMENT OF . . .
The Ownership, Management, Circulation, etc., required by the Act of Congress of Aug. 24, 1912
—OF—
Hoard's Dairyman

Published weekly at Fort Atkinson, Wis., for April 1, 1921.

State of Wisconsin, County of Jefferson, ss. Before me, a Notary Public in and for the State and county aforesaid, personally appeared Frank W. Hoard, who, having been duly sworn according to law, deposes and says that he is the business manager of the Hoard's Dairyman and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher W. D. Hoard & Sons Co. Fort Atkinson, Wis.

Editors
A. J. Glover, P. C. Burchard, C. L. Burlingham Fort Atkinson, Wis.

Managing Editor A. J. Glover Fort Atkinson, Wis.

Business Manager F. W. Hoard Fort Atkinson, Wis.

2. That the owners are: W. D. Hoard & Sons Co., Fort Atkinson, Wis.; H. L. Hoard, Fort Atkinson, Wis.; A. R. Hoard, Fort Atkinson, Wis.; F. W. Hoard, Fort Atkinson, Wis.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

Signed, Frank W. Hoard, General Manager.
Sworn to and subscribed before me this 1st day of April, 1921.
Signed S. R. Jones, Notary Public.
[SEAL](My commission expires Aug. 10, '24.)

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Congested Udder

We have a nice pure-bred Holstein heifer, born Nov. 19, 1919, that unfortunately got with calf. We do not know the exact date she will be fresh but think about the middle of April, which will make her come in much too young. Her bag is getting quite large and seems to be hard and caked even now. Is there any treatment you can suggest to soften bag and prevent udder trouble with her?

Steuben, Wis. R. E. H.

It is natural for the udder to become congested before calving but in that condition it is important to keep the heifer from chilling or bruising the udder by lying upon a bare cement floor or cold, wet, or hard ground. Have her take exercise daily and keep her bowels relaxed. Massage the udder two or three times daily and at night rub in a little sweet oil or melted lard. If the congestion becomes excessive it may even be necessary to strip away a little of the serum or milk once daily.

Amaurosis

I have had two perfectly developed calves born which were totally blind at birth and never gained their sight. The mothers of these calves did not have the best of attention while carrying their calves and was wondering if this could in any way have affected the calves.

Newberry, S. C. F. G. D.

The cause of blindness in many cases of this sort is a mystery but as excessive bleeding or shock may cause it in any animal, it seems just possible that the sudden change in the blood circulation of a new born calf may have something to do with it, or bruising of nerves at time of parturition may have that effect. There is no known remedy for the condition.

Milk Costs in Washington

Data gathered by the United States Department of Agriculture in western Washington indicate that in the production of milk 56.4% of the total cost is due to feed and bedding, 23.5% to labor, 17.6% to other costs, and 2.5% to depreciation. In the production of 100 pounds of milk in the winter, 29.4 pounds of concentrates were required, 92.9 pounds of dry roughage, 143.3 pounds of succulent roughage, 9 pounds of bedding, 1.9 hours of human labor, 0.01 of an hour of horse labor, a charge for hauling and grinding of concentrates of $0.022, and a total of other costs of $0.576. Credits under winter conditions allowed for each 100 pounds of milk were 0.017 calves and 115 pounds of manure.

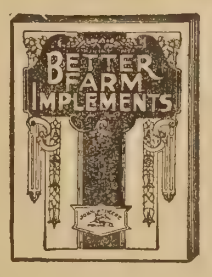
The requirements for producing 100 pounds of milk in summer were 5.2 pounds of concentrates, 7.5 pounds of dry roughage, 40.4 pounds of succulent roughage, 0.025 acre, 0.1 pound of bedding, 1.3 hours of human labor, 0.015 of an hour of horse labor, a charge of $0.003 for hauling and grinding of concentrates, and $0.406 for other charges. Credits under summer conditions with each 100 pounds of milk were 0.009 calves and 13 pounds of manure.

To keep the average cow for a year it was found that 1,187 pounds of concentrates are required, 3,336 pounds of dry roughage, 6,474 pounds of succulent roughage, 295 pounds of bedding, and 1.1 acres, a total cost of $23.04; a charge of $0.87 for hauling and grinding of concentrates, and a total of other costs of $36.31. During the year each cow was credited with a value of 2.2 tons of manure and 0.97 calves.

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AN inaccurate planter drops too many kernels in some hills, resulting in imperfect ears, nubbins or barren stalks; too few or none at all in other hills where the soil is capable of producing three or four big stalks and perfect ears. Any inaccurate planter is a poor investment—you lose money every day you use it. No matter how convenient the levers, marker, reel or other features, or how strong the frame, it is the dropping mechanism that determines this accuracy. When buying insist above all upon "accuracy."



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Serviceable grandsons of Lola Segis Pontiac Homestead for sale, he a 34-lb., 1,000 lb. son of Piebe Laura Ollie Honestead King. Their dams are daughters of Joe Oak De Kol Fobes. Well grown, good individuals. Your choice, $150. R. W. MEAD, Stillwater, Minnesota. 10*

High Grade Holstein calves 6 to 8 weeks old. $30.00 each. We pay express and ship C. O. D. SPREADING OAK FARM, Whitewater, Wis. 11-tf.

For Sale—30 high grade Holstein milkers and springers. Will sell one or all. FRED JOHNSON, Waupaca, Wisconsin. 23*

Closing out herd of grade Holsteins, $100.00 each. H. A. KUHTZ, Waukesha, Wisconsin. 24*

For Sale—My entire herd of choice high grade Holsteins, mostly bred to and sired by thirty-pound bull. There is one full load of the best large heifers in southern Wisconsin, uniformly marked, about three-fourths white. C. L. SIMMONS, Belmont, Wis. 1*

Baby Bulls—Registered Holstein-Friesian by high class sires and heavy producing dams. Price is right. C. S. MULKS & SON, Whitewater, Wisconsin. 3-*

Holsteins—37-lb. herd sire, young bulls, cows, heifer calves. PHILIP LEHNER, Princeton, Wisconsin. 6*

If you want the very best Holstein heifer calves delivered promptly, order from me. Will ship C. O. D. express prepaid at $25 each or $18 F. O. B. Oconomowoc. Also a fancy load of cows and a number of heifers priced to sell. E. F. THOMAS, Oconomowoc, Wis. 9-3

I don't want your money until you see my calves. I offer beautifully marked, high grade Holstein heifer calves at almost veal price. Registered bull calves $35.00. I ship C. O. D. and if calves don't suit don't pay for them. Safe delivery guaranteed. J. M. McFARLAND, Watertown, Wisconsin. 10-4

For Sale—Selected high grade Holstein springers, cows and heifers. Choice breeding to start a foundation herd. FRICK & HOESLY, New Glarus, Wisconsin. 11-spl

For Sale—Registered Holstein and Guernsey calves. 25 Holsteins and 20 Guernseys. BURR OAK FARM, Whitewater, Wisconsin. 11-6

Holstein bull, ready for service, 2 dams averaged 106 lbs. milk 1 day, 40.67 lbs. butter 7 days, $200. Terms. ROY HARRIMAN, Appleton, Wisconsin. 11-6

Registered Holstein bull nine months old. Beautifully marked, perfect individual. 19-pound dam. Priced right. Also younger bulls at reasonable prices. CITY LIMITS FARM, Watertown, Wisconsin. 11-3

Registered Holstein bull calf, Pontiac Korndyke Mercedes breeding, Price right. HUSTED, Westboro Wisconsin. 12-2

Write me for prices on high grade Holstein heifer calves and registered bull and heifer calves. Special low price for next 60 days. Will ship C. O. D. PAUL McFARLAND, Route 7, Watertown, Wis. 12-4

If you want to buy Holsteins that are clean and straight, write the WISCONSIN LIVE STOCK ADVERTISING CO., Madison, Wisconsin.

A three-year-old yearly record bull. Nearly white. Very good individual. Six nearest dams average over 900 lbs. Own dam has 920 lbs. A 1,000-lb. prospect. Price $800. Write BOX 724, care Hoard's Dairyman.

For Sale—Entire herd of 20 Holsteins. Nine cows with records from 19 to 30 lbs. Federally accredited. Excellent condition. Large and typy. Write BOX 723, care Hoard's Dairyman.

For Sale Carload of high grade cows. Ten head of registered cows, bred to a 32-lb. sire. TWIN PINE STOCK FARM, Oxford, Wisconsin. 13-4

Sacrifice sale of registered Holstein herd bull. From a 26-lb. dam. Write today. E. BRAUDE, Silver Lake, Indiana.

Two Holstein bulls, 1 year old, good individuals, 19-lb. dams, 23-lb. grandam, 28-lb. sire. Guaranteed in every way. $100 each. W. E. RAY, Kewanee, Ill.

My entire herd of grade Guernseys for sale. Also a few choice heifer calves at $30.00 delivered. SHADY HILL FARM, Whitewater, Wis. 23*

Guernsey heifer calves. Can ship you 10 at once about 4 weeks old. Calves out of my own herd, so know what I am shipping. $30 each crated. F. O. B. Waukesha. WERN FARMS, Waukesha, Wis. 18*

Guernseys—High grade Guernsey calves, either sex, four to six weeks old, bred for production of milk and butter. Thirty dollars apiece delivered to any station, express charges paid here. Send orders or write. LAKE VIEW GUERNSEY PLACE, Whitewater, Wisconsin. 26-tf

For bargains on May Rose bulls with type and production, write KUHTZ BROS., Waukesha, Wis. 21*

For Sale—A car of high grade Guernseys with cow testing association records. POLK COUNTY WISCONSIN GUERNSEY BREEDERS' ASSOCIATION, J. H. Stewart, Sec., Clear Lake, Wisconsn. 11-spl

For Sale—Registered Guernseys. Both sexes. Herd under Federal Supervision and free from disease. CLOVERNOOK FARM, Whitefish Bay, Milwaukee County, Wisconsin. 6-10

Guernsey calves six weeks old, $20. F. O. B. Knapp, THOMAS HAGERTY, Knapp, Wisconsin. 2*

Guernseys—Registered males and females, all ages. Breeding and type unexcelled. Grade cows, yearling heifers, heifer calves. No better quality anywhere. Tuberculin tested. Prices reasonable. Why not buy through an association and from breeders in the business to stay? Write your wants today. F. E. FOX, Secretary Waukesha County Guernsey Breeders' Association, Waukesha, Wisconsin. 6*

Will express baby heifer calves. Holsteins or Guernseys. C. O. D. BYRON GATES, Fort Atkinson, Wisconsin. 13*

STOCK FOR SALE

High grade Guernseys—Twenty young cows and heifers to freshen. Some with records. Almost pure-bred. Tuberculin tested. OAKLAND GUERNSEY FARM, Mukwonago, Wisconsin. 9*

Young bulls for sale. Sons, grandsons and double-grandsons by Bell Buoy of Linda Vista 19430 with 20 A. R. daughters, who has six daughters that average 524.55 lbs. fat at two years. O. R. SCHWALEN, Roberts, Wisconsin. 11*

For Sale—Grade Guernsey heifers, bred and unbred. MITWEDE BROS., Waukesha, Wis. 11-3

For Sale—Guernsey herd sire. A. R. backing. Priced for quick sale. HOOPMAN & JAGERINK CO., Oostburg, Wisconsin. 11-4

$60.00 buys this richly bred great grandson of Ne Plus Ultra. Registered Guernsey. WM. HUCKLE, Waverly, New York. 12-2

May Rose Guernsey bulls for sale. Sire, Langwater Frenchman, Danish A. R records 500 to 660 lbs. fat. Federal Accredited herd. HOMER RUNDELL, Livingston. Wisconsin. 12*

Guernseys—A daughter of Golden Noble 2nd and her 4-year-old daughter both A. R. Also an A. R. daughter of Governor of the Chene. All in calf to Brooklandwood Warrior; due in April. A three-year-old bull, Golden Secret breeding, $250.00. Federal Accredited herd. W. O. MOSS, Chagrin Falls, Ohio. 12-2

Brown Swiss bulls of serviceable age. A. C. BOODY, Hudson, Wisconsin. 4*

Brown Swiss Bulls. A. W. WILLMANN, Hawkeye, Iowa. 11-4

Registered Jersey bull, 5 months old. Sire—Sophie's Torono 4th. A son of a World's Champion, Lass 74th of Hood Farm. Test 13,713 lbs. milk, 879 lbs. butter. Price $65. WM. HAMMACK AND SONS, Pinckneyville, Illinois. 11-3

For Sale—Yearling Jersey bull. Sire, Trial's Noble of Oaklands. Dam, Fox's Maitland, in Register of Merit. OTTO HOEFS, Honey Creek, Wis. 12-2

Choice Jersey heifer calves. 1435 Q STREET, Washington, D. C.

Registered Ayrshires—Two yearling bulls, thirty heifers. Price reasonable. Inspection solicited. Herd tuberculosis free. Accredited. F. D. STOWELL, Black Creek, Allegany County, New York.

Ayrshire bull calves sired by a grandson of Buchan Peter Pan. Priced reasonable. CHARLES DUNLAP, Elkhorn, Wisconsin. 13-2

STOCK WANTED

Wanted—Large herd of dairy cattle, any breed, on commission or percentage, in southeastern Missouri. Great opportunity. Write for full particulars. Address R. F. D. 1, BOX 10, Sikeston, Missouri.

Wanted—To buy for fall delivery, 25 heifer calves, 20 bred heifers and a few cows, all to be of the best registered Holstein strain that can be had. FRANK KOTE, care National Steam Laundry, Sherman, Tex. 8-6

Wanted—Carload or more registered Holstein heifers in exchange for first mortgage farm loans. EDWIN THORN, Binford, North Dakota. 9*

Wanted—To buy about fifteen good high grade springers or fresh cows. Write BOX 722, care Hoard's Dairyman.

Wanted—Lists of registered and grade Holstein cows and heifers for sale. Report to any bank in Wisconsin or write to BANKER-FARMER EXCHANGE, 1822 Chadbourne Ave., Madison, Wisconsin. 7-spl

If you have good Holsteins for sale, list them with the WISCONSIN LIVE STOCK ADVERTISING CO., Madison, Wisconsin. We do a nation-wide business.

We want a dozen pure-bred Holstein yearlings. Please send full information with pictures, if possible. Write BOX 721, care Hoard's Dairyman.

STOCK BUYER

Registered dairy cattle bought and sold. EDWARD A. WALTER, 111 Monroe St., Chicago. 18*

Will buy for you, dairy cattle of any breed, grades or pure-bred. DAVID W. WILLIAMS, Lake Forest, Illinois. 6*

Commission basis—One hundred and fifty head in our own herd for sale. Holstein and Guernsey, registered and grade. Large barns for centralizing and testing shipments of any size. Private yards for shipment. Every herd near here known by us. Write your demands. EDGEWATER STOCK FARM, Fort Atkinson, Wisconsin. Breeders and commission buyers. 10*

Save 30 per cent by buying your cattle through J. D. POWERS, Fort Atkinson, Wis. 12*

DOGS

German Shepherd, airedales, collies, and old English Shepherd dogs. Brood matrons, puppies, farm helpers. 10 cents for instructive list. W. R. WATSON, Box 520, Oakland, Iowa. 20*

POULTRY

Highest prices paid for live and dressed poultry, pigeons, veal, hides, etc. Quick returns, fair treatment. C. E. McNEILL & CO., 325 W. So. Water Street, Chicago. 24*

Eggs $1 setting. Parcel post paid. Thoroughbreds. Barred Rocks, White Rocks, Buff Rocks, Anconas, White Wyandottes, Brown Leghorns, White Leghorns, Rhode Island Reds, Buff Orpingtons. PHILIP CONDON, West Chester, Ohio. 5-15

Baby chicks $11.00 per 100 up. Postpaid. Catalogue free. FARROW-HIRSH CO., Peoria, Illinois. 9-16

Baby chicks, 15 cents. White and Barred Rocks, Rose and Single Comb Reds, White and Brown Leghorns. Catalog free. G. A. MITCHELL, Freeport, Illinois. 10-4

Baby chicks, quality first. Pure-bred, bred-to-lay from free range flocks. White Leghorns, Buff Leghorns, Barred Rocks, White Wyandottes. Send for catalog. WANDSCHNEIDER'S HATCHERIES, Box 1, Fort Atkinson, Wisconsin. 12-4

Bronze turkeys. MAC CRADIE BROTHERS, Hendrum, Minnesota. 12-2

Buff Rocks from heavy laying state show winners. 15 eggs, $1.50; 100, $7.50. D. K. DAVIS, Fairfield, Illinois. 12-2

SWINE

Duroc-bred gilts and boar. Prize winners. Spring pigs. PHILLIP LEHNER, Princeton, Wisconsin. 5*

MACHINERY

Want the cheapest, handiest belt power? Then ask me about my Little Twister Power Transmitter for Ford and Dodge cars. FRANK R. WEISGERBER, Salina, Kansas. 16*

For Sale Cheap—A small lot of standard make Swedish Cream Separators, 400 pounds capacity, $29.00, 500 pounds capacity, $34.00, 700 pounds capacity, $39.00. These are all new machines, wonderful bargains. THOMAS TAFFEE, Box 355, Lansing, Mich. 18*

One Waterloo Boy 12-20 tractor good as new. One Grand Detour Jr. 3-bottom plow, new. Two 16-inch pulverizers new. H. C. KARSTEN, Huntley, Illinois. 10*

Capital Tractors—First in America, spring mounted. 8-16, $600; 12-24, $850; 15-30, $1,200. Self oil saw frame $15. 4 H. P. engine, $100. 6 H. P. engine, $150. DISSINGER COMPANY, Wrightsville, Pa. 11-4

For Sale—One 15-30 four-cylinder International tractor good as new, 32-52 new Racine thresher complete, first-class condition, Type A International silo filler good as new, 8-roll McCormick shredder, one P. & O. 3-bottom, 14-inch tractor plow, new. WM. H. KREKLOW, Route 2, Fort Atkinson, Wis. 12-2

We offer Sharples suction feed separator and milkers at reduced prices. LOUBAT GLASSWARE COMPANY, New Orleans, La. 12-4

Moline Universal tractor with plows. Condition guaranteed. $375.00. Registered Duroc pigs, $15.00 each. BELROSE FARMS, Richford N. Y. 12-2

For Sale—Milking machine, B-L-K nearly new, complete with pump, tank and pipe, three pails and two pulsators. H. M. LEE, Buena Vista Farm, Windsor, Vermont.

Hinman Milker outfit. Three units, extra pail, complete equipment for 26 cows. Used two months. Cost $350.00, $175.00 takes it. W. MORCK, 2531 Grand Ave., Minneapolis, Minnesota.

Empire and Pine Tree milker units. Also other standard makes. Reduced prices. FELIX JULIUS, Stockton, Illinois.

For Sale—One 40-quart Miller horizontal brine ice cream freezer. One Brisco 4-bottle filler. ZOVEL LEVINSKY, Shelbyville, Indiana.

For Sale or Trade—Five-unit Sharples Milker, complete, used only nine months, perfectly satisfactory. Fifty 5- and 10-gallon can jackets, good serviceable order, $1.00 each. Have sold my cows. J. G. BUSTON, Tazewell, Virginia.

For Sale—Sharples Electric Moto-Milker ready to attach to electric line. Like new $160. WM. F. BENBY, Brewster House, Freeport, Illinois.

For Sale—Cushman 4 H. P. gasoline engine, good condition. First $65.00 takes it. EBER ALLIS, Fayette, Ohio.

SEEDS

Farmers, ranchmen and dairymen. Order your Grimm and Cossack alfalfa seed direct from the grower. All seed recleaned and guaranteed. Ask for samples. WM. H. K. WILLIAMS, Triangle Ranch, Cottonwood, South Dakota. 26*

Jacques' Seed Corn—Early maturity, high yield, perfect germination. Grown in Clark County, North Wisconsin twelve years. My Golden Glow ripens in 100 days, yields 60 bushels shelled corn per acre. My North Wisconsin Yellow Dent ripens in 90 days, yields 50 bushels shelled corn per acre. Picked before frost, thoroughly fire dried. Careful tests show 98% to 100% germination. Money refunded if corn is unsatisfactory. Write for folder and prices to WM. H. JACQUES, Neillsville, Wisconsin. 1-13

Send for attractive price list of our select home-grown seed corn. Finest quality, several varieties. Fully guaranteed. Largest trade in Northwest. JOHNSON & ARNESON, Dassel, Meeker County, Minnesota. 3*

Seed Corn—Eureka ensilage, ninety-day Silvermine, Riley's 52-day, Johnson, Reids, Catalog. HAMMOND & SONS, Rockport, Indiana. 11*

For Sale—Albemarle Prolific Ensilage Seed corn. Wonderfully high producing ensilage, stalks 12 to 18 feet tall, well bladed, 2 to 7 ears of corn to the stalk; 12 to 20 tons of ensilage to the acre. High germination test. Price on request. E. L. GOSS, Somerset, Virginia. 5-spl

Pedigreed seed corn, peas, soy beans, sweet clover, flax, millet, buckwheat, Rural New Yorker potatoes. ARTHUR POPP, Jefferson, Wisconsin.

For Sale—Choice certified Green Mountain seed potatoes. Carlots at $.75 per bushel. Small lots $1.00 per bushel. Write PRICE COUNTY PURE SEED ASSOCIATION, Phillips, Wisconsin. 13-2

HAY

Alfalfa and prairie hay for sale. Prompt shipments. Personally inspected loading. Wire or write GUNN HAY CO., Lexington, Nebr. Reference Lexington State Bank. 11*

Number one and choice alfalfa hay and seed ready for shipment. Address A. L. DAMON & COMPANY, Inc., Rapid City, South Dakota. 8*

Alfalfa Hay for Sale—Write or wire for delivered prices. ALBERT MILLER & COMPANY, 192 North Clark St., Chicago. 17*

FEED BAGS

Ship your bags to LARIMER BAG CO., Washington, D. C. 11-spl

FEEDS

Dried Beet Pulp—the wonderful dairy feed. New reduced prices. Ask your dealer or write THE LARROWE MILLING COMPANY, Detroit, Michigan or Los Angeles, California. 12*

AGENTS WANTED

Yes Sir, we have a special opportunity for you during spare time, an opportunity to do some good work in your neighborhood, for the betterment of dairy farming, that will pay you in cash for the effort you put forth. Write for our "Special Opportunity Getting Together" folder. Address HOARD'S DAIRYMAN, Fort Atkinson, Wis. 2-tf

Representatives wanted to write hail and cyclone insurance every township in the Northwestern states. Little experience necessary, good commissions. Write quick. ST. PAUL MUTUAL HAIL AND CYCLONE INSURANCE COMPANY, 805 Pioneer Bldg., St. Paul, Minnesota. 12-12

$200 monthly and commission. Year's contract to men with autos. We start you, equipping cars with Rideezee, the better than air inner tire. A substance cheaper than tubes. RIDEEZEE CO., St. Paul, Minnesota. 12-4

Agents Wanted—Mason sold 18 sprayers and auto washers one Saturday. Profits $3.00 each. Square deal. Write RUSTLER COMPANY, Johnstown, Ohio. 11-spl

Agents make big money selling our silos. Write today for catalog and big commission proposition. NAPPANEE LUMBER & MANUFACTURING CO., Nappanee, Indiana. 3-spl

PRINTING

Hoard's Dairyman Art Department designs your letter head free. Just tell us your breeds of stock. Book of 5,000 Farm, Ranch and Cottage names 25 cents. Ask for samples of letter heads, envelopes, shipping tags, cards, milk tickets, etc. Poor stationery is more of a damage than a help. Be sure and give correct post office address, including state. Address HOARD'S DAIRYMAN, Art Dept., Fort Atkinson, Wisconsin. 8-tf

EXCHANGE

Wanted—To exchange 50 acres river bottom alfalfa land in ideal fruit and dairy section of California at $10,600—3,000.00 down—for small farm in central states as second payment. R. W. SHARP, 601 N. Fourth St., Fresno, California. 2*

Exchange—Jersey bull calf (none better) for turkeys. MRS. C. S. MACKENZIE, 114 College Ave., Houghton, Michigan.

FARMS FOR SALE

Rose Valley Farm—137 acres; 17 miles macadam roads to City Hall, Philadelphia; owner's residence, electric lights, hot water heat, open fireplaces; beautiful lawn and shade; extended view; large stable and carriage house; modern cow barn, 48 head; tenant houses; purest water in abundance; all necessary buildings; macadam roads each side and through farm; $50,000 less than cost of buildings. FARM 2024 N. 10TH ST., Philadelphia, Pa. 26*

Free Wisconsin Bulletins, soil, climate, crops. IMMIGRATION BUREAU, Wisconsin Dept. of Agriculture, Capitol Drawer 125, Madison, Wisconsin. 26-13

Hardwood cut-over land, silt loam, clay sub-soil. Neither sandy nor gravelly; close to town; good roads; good schools; in the heart of the dairy country. You deal directly with the owners. No agents and no commissions. Easy terms. Also improved farms. Write for map and Booklet No. 4. NORTH WESTERN LUMBER CO., Land Department, Stanley, Wisconsin. 1*

Good dairy farms in the fertile Mohawk Valley. TURTELOT, Frankfort, New York. 9-5

When you buy land buy the best. We have choice hardwood land in one of the very best sections of Central Wisconsin for sale on easy terms. Best of clay loam soil. Good roads, climate, water and markets. No rough, stony or sandy land. Write for information. JOHN S. OWEN LUMBER CO., 112 Mill St., Owen, Wisconsin. 9-8

Dairy Farms—Clark and Taylor Counties, Wisconsin. Good soil. Send for list of farm bargains. OWEN REALTY CO., Owen, Wis. 9-5

Price very low if sold immediately. Modern dairy farm on good road in Waukesha County. 200 acres, comfortable brick dwelling, furnace heat, running water, horse barn, two large connected, modern dairy barns, two silos, tile milk house. Complete breeding establishment. Convenient to Waukesha and Milwaukee. R. E. BENSON, Dousman, Wisconsin. 10*

Western New York farms stocked and fully equipped, $50 to $100 an acre. Taxes low. Free list. THE HAZARD-RHODES CO., Salamanca, N. Y. 11-4

Landology special number just out, containing 1921 facts of clover land in Marinette County, Wisconsin. If for a home or as an investment you are thinking of buying good farm lands where farmers grow rich, send at once for this special number of Landology. It is free on request. Address SKIDMORE-RIEHLE LAND CO., 47 Skidmore-Riehle Bldg., Marinette, Wisconsin. 11-5

Farms near New York City. Dairy, grain, potato, fruit, poultry. 752 pictures sent free. SLOCUM FARM AGENCY, 141-T Broadway, New York City. 12-4

Virginia offers wonderful opportunities to farmers. Best of markets, crops and climate. Write for particulars, act at once. J. J. WATESEK, Lake Forest, Illinois. 12-2

For Sale—Summer fallowed section farm land. Wheat yield, ten-year average, twenty bushels. JESTRAB BROS., Havre, Montana. 12-2

For Sale—A gentleman's farm. 232 acres, 200 acres under plow, balance wood and pasture. One of the finest and most modern dairy farms in southern Wisconsin. Conveniently and beautifully located near city, in the best registered Holstein district in the country. Modern barns and equipment, lighting and watering systems, large brick dwelling. Best quality clay loam soil. $250.00 per acre. Address BOX 708, care Hoard's Dairyman. 12-2

Farm for Sale—Four hundred fifty acre dairy farm, eleven miles from Watertown, twenty miles from St. Lawrence River, one mile from railroad station Evans Mills; will maintain seventy cows; one hundred acres pasture including fifty acres timber land, about three hundred acres meadow; good house, barns, wells; on improved roads. Apply J. H. MADDEN, Erie County Bank Building, Buffalo, New York. 12-2

A bargain in a 190-acre blue grass dairy farm 8 miles from Nashville, Tennessee; oiled highways, interurban and railroad service. Two-story brick residence, barns, silos, etc. $160.00 per acre. C. M. ARMISTEAD, Madison, Tennessee. 12*

Cut This Out—Learn today how settlers with farming experience can get new made-to-order dairy farms with buildings, stock, tools, etc. First payment $300, balance 30 years. Location famous Chippewa Valley, heart of Wisconsin. Close neighbors, markets, railroads, schools, creameries, best soil, pure water. Greater opportunity than Homestead. Several farms ready to move on now. Send today for free information. CHIPPEWA VALLEY COLONIZATION CO., BP-201 Plymouth Bldg., Minneapolis, Minnesota. 12-4

Look—On account of sickness, I offer my beautiful dairy farm for sale, located near Grand Rapids, Mich., 108 acres, new barn with cork brick stalls, running water, holds 40 head, also horse and young stock barn with granary, milk house, 3 large tile silos, grist mill, electric light plant, chicken and hog house, large tool shed, corn crib, and large 8-room house, clay loam soil. Price $20,000. Easy terms. GEO. E. WALKER, Grand Rapids, Michigan. 12-2

Farm 140 acres, 2 horses, 10 cows, 5 heifers, equipment. 400 sugar maples, valuable timber, good buildings. $4,000, warranty deed. For terms and free illustrated catalogue of many farms write W. D. STREETER, Richland, New York. 12-2

For Sale—2,000 acres fine hardwood timberland, birch, white ash, maple, white pine, spruce. Sawyer County, Wisconsin. Logging would pay handsome profit. Land delightfully situated for stock ranch. Two trout streams, six springs. Also 130-acre dairy farm, buildings new, on lake shore in Barron County. W. A. HANCE, Freeport, Illinois. 7*

Alfalfa, corn, grain and live stock farms. Best in famous prarie belt for the money. Write me what you want. H. H. HANSEN, Macon, Miss. 21-spl

One good move will make your fortune in wealthy western New York. Fine farms cheap. NEW YORK FARM AGENCY, Westfield. 2-spl

Big farm bargain in New York. 396 acres. Fine land. Big crops. Good buildings. Forty cows, four horses, machinery, hay, grain, everything goes for $17,000.00, $7,000 gets possession. U. G. DAVIDSON, Route 1, Oneonta, New York. 5-spl

110 acres fertile soil, near high school, railroad, condensery, good markets. Running water, sugar orchard, large barn, brick house. Will sell stock and tools also if desired. Price without, $7,000.00. Write owner. GEO. T. STODDARD, Burnham, New York.

Farm Bargains in every state. Let me help you find the land you are looking for. Tell which state you prefer, the number of acres, whether raw or improved land, etc. My assistance is free. I have no land to sell. HOME FINDER, Dept. 225, P. O. Box 108, Des Moines, Iowa.

For Sale—Well improved Illinois farm, immediate possession. Also $1,500.00 good second mortgage. BOX 23, Dressor, Illinois.

For Sale—139 acres; one of the best Ridge farms in Clinton County, Pa. Good buildings, spring water, $1,200 worth of timber, good market, plenty of fruit, telephone, mail route and very convenient to church and school. For full information write to owner. W. H. ORNER, Mill Hall, Pennsylvania.

$2,000 secures 200 acres with 4 horses, 15 cows, automobile, bulls, poultry, modern machinery, vehicles, gas engine, potato planter, digger, household furniture, crops included; 1 mile to R. R. town; 100 acres machine-worked; 40-cow pasture; abundance wood, timber, 50 apples, plums; 300 sugar maples, outfit; good 2-story house, big basement barn, spring water, etc. To settle affairs, $6,000 takes all, easy terms. See page 34 Spring Catalog 1,100 Bargains. Free. STROUT AGENCY, 150 D. L. Nassau St., New York City.

FARMS WANTED

Will you accept city property, country store, or hotel as part payment for your farm? If so, give description and price at once. WALTER MILLER, 320 Brumder Building, Milwaukee, Wisconsin.

RENTER WANTED

Good, steady farm renter wanted with help and capital. Don't overlook this money making opportunity. Write to owner for full information. EDITH ZINNER, Beebe, Custer County, Montana.

MAPLE SUGAR

Pure Vermont maple sugar, made this season and of fine quality. 10-lb. pails sugar, $3.50; 1-gal. cans of syrup. $3.00. Sent by express f. o. b. train here, cash with order, or C. O. D. Sample ½-lb cakes sent by mail east of Mississippi postpaid for 30c in stamps. O. C. PITKIN, Marshfield, Vermont. 13-2

Pure Vermont maple sugar. 10-lb. pails $2.50. Maple syrup gallon $2.50. Not prepaid. BRIMBLECOMBE, Marshfield, Vermont.

LIGHTNING RODS

Lightning Rods—Exclusive agency and quick sales to live dealers selling "Diddie-Blitzen Rods." Our copper tests 99.96 per cent pure. Write for agency. Prices are right. L. A. DIDDIE CO., Marshfield, Wis. 9*

SILOS

12x24 Washington Fir Kalamazoo stave and tile silo. Kalamazoo ensilage cutter. ALBERT C. WOLLIN, Johnson Creek, Wisconsin. 5-spl

TOBACCO

Kentucky Tobacco, natural leaf. Smoking, 10 lbs. $2.50; 20 lbs., $4; chewing, 10 lbs. $3; 20 lbs. $5. R. F. VEAL, Agent, Sedalia, Kentucky. 10-4

TANNING

Let us tan your hide. Cow and horse hides for fur coats and robes. Cow and steer hides into harness or sole leather. Catalog on request. THE CROSBY FRISIAN FUR CO., Rochester, New York. 10-17

MISCELLANEOUS

Firemen, brakemen, beginners $150—$200 later $300 monthly; railroads everywhere. RAILWAY ASSOCIATION, Desk W-5, Brooklyn, New York. 10-4

Western Red Cedar Poles and split posts at reduced prices delivered your station. A. R. DERR, Clark Fork, Idaho. 10-6

Lumber and shingles at reduced prices. Farmers' trade our specialty. Best quality. ROBERT EMERSON CO., Box 1156, W. Tacoma, Washington. 12-5

Choice, selected, progressive, everbearing strawberry plants. Sent prepaid for $2.50 per 100. F. C. HILL, Albert Lea, Minnesota. 13-4



Advertising in this department is 7c per word. Remit in advance.

HELP WANTED

Wanted—Single man for general farm work. Purebred Guernsey cattle and Hampshire swine. Board, room, washing, $25 per month. Must be willing to work and interested in work, otherwise don't apply. H. A. KUHTZ, Waukesha, Wisconsin. 10*

Wanted—Experienced man with some capital as manager of a wholesale and retail milk business in city of 45,000 in central Illinois. Must be energetic and a hustler. Address BOX 703, care Hoard's Dairyman. 11-3

Wanted—A middle aged, single man for dairy work under herdsman. Must be dry hand milker, competent of producing Class A milk. State experience, wages and references. JOHN BAZLEY STOCK FARM, Route 5, Ypsilanti, Michigan. 11-3

Men—Boys Wanted—Railway Mail clerks $135 month. Write immediately. FRANKLIN INSTITUTE, Dept. K 115, Rochester, New York. 12-4

Start a pressing, cleaning and dyeing establishment. Big profits, little capital. We tell you how. Write for booklet. BEN-VONDE SYSTEM, Dept. 8-D, Charlotte, North Carolina.

Wanted—Boy to work on grain and dairy farm. Age, between 15 and 17. State wages and nationality in first letter. Write JOE THOMAS, Belmont, Wisconsin. 13-2

Wanted at once—Young man for general farm work. Good dry hand milker. No cigarettes, booze or quitter wanted. State experience, age, nationality, wages wanted. H. E. PRESTON, Elgin, Minnesota.

Wanted—Single man to take charge of dairy on certified farm. Address BOX 715, care Hoard's Dairyman, Fort Atkinson, Wisconsin. 13-2

Dairyman—Good, clean, fast, dry-hand milker and willing worker. Guernseys. Modern barn. L. T. HALLOCK, Clayton, New Jersey.

HELP WANTED

Wanted—Four single men to work on one of largest farms in Upper Peninsula of Michigan. Must be thoroughly experienced energetic and willing to do any kind of farm work. If you cannot fill these requirements, do not apply. Wages $50.00 per month with board and room. Address BOX 727, care Hoard's Dairyman.

$50.00 per month for eight months, for reliable, experienced man on grain and dairy farm. Board and washing included. Milking machine used. EDWIN PETERSON, Curtiss, Wisconsin.

Wanted at Once—Reliable man or boy with good habits, on small dairy to care for fifteen high grade Guernseys. State wages in first letter. BOX 1, Froelich, Iowa.

Wanted at Once—A good reliable, respectable girl or elderly lady to assist with housework on farm. Must be good cook, neat and clean, know how to do all kinds of housework and cooking. Must be steady. Five in family. State wages wanted in first letter. Good home, steady job to right party. Address BOX 283, Marshalltown, Iowa.

POSITIONS WANTED

Experienced milker. Single, age 25, Hollander, wishes position, either in cow barn or on milk route. Good habits. State wages in first letter. Address BOX 713, care Hoard's Dairyman. 12-2

Position wanted by two young men, brothers. Preferably together. West or midwest. Farm experienced. Address BOX 491, Delhi, New York. 12-2

Wanted—Position on small Holstein dairy farm in Wisconsin. Have done some A. R. O. work with good results. Single, age 27, Norwegian by birth, good refrences. State wages in first letter. Address BOX 714, care Hoard's Dairyman. 12-2

Position Wanted—By woman with two boys, 13 and 14 years old, take entire charge of house on farm or elsewhere. Competent to manage. Can take responsibility. Experienced. Would like to be near high school. The boys can milk, drive teams, etc., and want to earn something in the summer. Best reference. Address BOX 720, care Hoard's Dairyman.

Wanted—A position as assistant farm manager. Have experience in dairying, hog raising and general farming. Can give references. Married, have small family. Address L. RAMSEY, Dyersburg, Tennessee.

Position Wanted—As manager or herdsman, by May 15th or sooner. South preferred. Excellent references. Address BOX 719, care Hoard's Dairyman. 13-2

Position wanted as cow tester, herdsman or dairyman. Address BOX 718, care Hoard's Dairyman.

Herdsman available (single). Developed world record cows and animals which sold up to $10,000. Herd in charge of one of the very leaders in prize winning money. Life long experience in every branch of care, development and management of the black and whites. West or middle West preferred. Best of references. Give full particulars in first letter. Address BOX 717, care Hoard's Dairyman. 13-2

Position Wanted—By single man, age 23. Experienced as herdsman, buttermaker and as general mechanic. The best of references. V. J. FULLER, Bark River, Michigan.

Position Wanted—Single man many years in charge of dairy herds as milker, feeder and calf raiser. State your best proposition for attention, salary, board and room. M. L. RILEY, Barrington, Illinois.

Position Wanted—On high class farm handling, testing and showing cattle. Am Wisconsin man and have good record. Address BOX 716, care Hoard's Dairyman.

Herdsman, dairyman or assistant. Experienced A. R. O. fitting and showing. Short course. Best references. American, 21. Pennsylvania preferred. Address BOX 725, care Hoard's Dairyman.

Wanted—Position as dairy farm superintendent. College trained and 15 years' experience. Have always been well liked and successful. Not a floater. Am a real dairyman and farmer looking for a real job. Not the kind looking for a raise every day, but don't want pre-war salary any more than you want pre-war prices. Southeastern states preferred. Address BOX 726, care Hoard's Dairyman.

Farm manager, energetic, capable, desires position on large farm, will manage same scientifically and economically and make it pay. Experienced in purebred stock. Advanced Registry, modern farming, orcharding, machinery, tractors, etc. Married, no family. Excellent references. Address BOX 729, care Hoard's Dairyman.

Position Wanted—As manager of a large registered Holstein farm by married man who is well equipped to handle a large proposition. Agricultural College graduate. Experience in buying, selling, advertising and record-making. Excellent references. Address BOX 728, care Hoard's Dairyman.

Farm manager, working agricultural education, experienced in every operation connected with modern methods general farming, dairying, swine, poultry, orcharding, desires situation. Address BOX 711, care Hoard's Dairyman.

Gloomy Prospects?

HOARD'S DAIRYMAN:—Like most all business men, we farmers were caught in the slump and our markets are over-supplied. Unlike the manufacturer, we could not close up our shop in July or August. We had our high priced seeds, with high priced fertilizer and labor already stored in Nature's wonderful machine. We had to go through with it to the end, regardless of profits, or lose all we had invested.

For the past few years we have been so busy producing that some of the things not immediately related to production were neglected. It seems to me that of all years this is the year to do the postponed jobs—the things that make farm life real living, the things that bring our boys and girls to think that our farm is the best place in the world. Clean up the home grounds, plant a few shrubs and flowers. Most farm boys and girls will enjoy helping in this work, but we older folks have to have the vision and help them to see it. Added to this is the planting of fruit and keeping a good vegetable garden. These will bring satisfaction and health, as well as delicious food that money can seldom buy. Perhaps our buildings are crying for paint. Let's not neglect them longer, for to do so will hurt our pride and later on our pocket books.

This year we can increase our profits by adopting more efficient methods. Take the one thing of watering stock. I believe that I saved nearly two hours a day from having installed a simple water system that cost me approximately $150.00. It not only saves time that I can give to other work but the stock is always certain of having an adequate supply of water when they need it.

Again, why not make 1921 the year to set up a sane dairy program? If our cattle are not selling well it makes it all the easier to test out and dispose of all tubercular animals, as well as to cull out the lower producers down to a point where our farms will furnish all the roughage and grains to feed them except, possibly, a little high protein concentrates. If every dairyman will adopt this program, we will all have larger incomes and better markets.

This is a big world and regardless of tariffs or any other artificial means to keep up prices, we must get the manufacturer's point of view. We cannot afford to go on producing all the dairy products possible regardless of cost or the efficiency of our cows.

While I am still a young dairy farmer at the foot of the ladder, I am going to succeed and bring up my children to love farm life. Hoard's Dairyman certainly hits the right spot with me. Your optimism is sane and contagious.

Erieville, New York. L. M. O.

Cream Grading in Kentucky

HOARD'S DAIRYMAN:—The managers and field agents of creameries operating in Kentucky met at the State University on March 29, and decided to adopt a system of cream grading. It is planned to teach the cream buyers to distinguish between good, bad, and off flavored cream, so that a report may be made to each farmer regarding the quality of cream he is producing on his farm. Any farmer who produces cream that will make 92 score butter is to be encouraged, while the farmer producing cream that will make 87 point butter is to be taught how to handle cream. A card will be attached to each can of cream at the country cream stations to show to which grade it belongs, and when the can arrives at the creamery the judgment of the buyer will be verified by the expert butter maker. The college will help in an educational way in this splendid work. J. J. HOOPER.

Kentucky College of Agriculture.

A Successful Co-operative Creamery

HOARD'S DAIRYMAN:—A farmers' co-operative creamery at Stevensville, Montana, is singularly successful, according to the observations of a representative of the Dairy Division, United States Department of Agriculture, who recently visited the plant. Other than producing 3,000 pounds of butter daily, the organization manufactures ice cream and artificial ice, and collects eggs. The top notch market price is commanded for butterfat and at the end of 1920 a dividend of from 5 to 10 cents a pound of fat was distributed to the patrons.

The Bitter Root Creamery, the name of the mutual farmers' organization, differs from most of the other creameries in the state in the methods of conducting business. Sour and off-flavored cream is discountenanced, the patrons being urged to observe practices that will insure a sweet product when delivered to the creamery. Obedience to this standard of procedure has paid handsomely in dividends. The egg-collecting venture likewise operates under a watertight contract, only strictly fresh eggs being permissible for marketing. According to specifications the eggs are gathered twice daily and delivered to the creamery. Failure to comply with the regulations, three violations by one patron, signifies expulsion from participation in the advantages of marketing eggs through the creamery. The ban is without extenuating conditions, being permanent.

The creamery retails artificial ice for 25 cents a hundred pounds, and markets in ton or wholesale quantities at a rate of 20 cents per hundred pounds. Other than the profits accruing from this sideline activity, an adequate supply of ice is available to the patrons for cooling of cream and other household uses. During the past summer a large cold storage building was erected and two refrigerating machines are in continuous operation at the creamery and storage plant. The marketing problem, an ever-present uninviting condition in many similar co-operative ventures, seems to be solved at Stevensville. It is the inferior product which suffers most on an unfavorable market.

A co-operative undertaking is frequently successful by reason of the wholesome influence of one or two men. The representative of the Dairy Division attributes the progress of the Bitter Root Creamery to the faculty of leadership demonstrated by its manager, J. H. Howe. He is vice-president of a local bank, an evidence of the confidence in which he is held in the community. Mr. Howe is the promoter of dairymen's meetings, when speakers from a distance are obtained to talk to the patrons about methods contributing to profitable dairying. "It is undoubtedly owing to his efforts that a higher quality of raw material is received at the creamery than is the case in most western creameries," concludes the representative of the Dairy Division. "And in looking over the factory it appeared to me that he was able to get more and better work done with fewer men than I have observed to be the case in most creameries for years. To secure the maximum efforts cheerfully from each fellow worker means good team work and indicates ability to handle men." S. R. WINTERS.

Use of Liquid Manure

HOARD'S DAIRYMAN:—While no one questions the advisability of using the utmost care in conserving the liquid content of manure, its use when separated from the solid portion of the waste is not apt, as a rule, to be attended with as good results as though the two were used together. There are exceptions to this, of course, for the liquid portion of manure is employed sometimes to advantage as a quick "starter" in spring on crops which must be hastened in their growth at a season when the decay of organic matter has not as yet entered into its mid-summer swing. In ordinary farm practice, however, there is no advantage to be gained in employing liquids and solids separately.

Manure, at best, is poorly balanced as a food for plants. When the solids and liquids are separated, the balance is even less desirable. The liquid contains approximately four-fifths of the total nitrogen and two-thirds of the potassium. The solids hold practically all of the phosphorus. If liquids and solids are distributed separately on the same field the soil is apt to receive in spots rather more of one and less of the other than though the application were made in the usual fashion.

Where manure is stored in a pit that is provided with a cistern for receiving the leachings of the waste the separate distribution may be avoided by pumping the liquid over the solids before the waste is taken to the field.

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Spraying Saves Alfalfa From Weevil

Alfalfa, that crop upon which thousands of stockmen and dairymen depend for a luxuriant supply of feed, has been threatened in many sections by the ravages of the alfalfa weevil. This pest is responsible for the loss of hundreds of thousands of dollars annually to alfalfa growers in Utah, Idaho, Colorado, and Wyoming. But there is a remedy—a sure one—which seven years of experimental work by the Bureau of Entomology, United States Department of Agriculture, has demonstrated will, when properly applied, as completely destroy the weevil as the weevil, when unmolested, will destroy the alfalfa crop.

The cost of applying the remedy is trifling when compared with the results. It consists in spraying with arsenical solution, the proper application of which is described in Farmers' Bulletin 1185, Spraying for the Alfalfa Weevil, just published by the United States Department of Agriculture.

Tests Prove Successful

Seldom has any newly recommended method of insect control been so thoroughly safeguarded against failure as alfalfa weevil spraying, say entomologists of the department. Every season for seven years it has been tested and proved successful. During one season field trials were conducted in co-operation with farm bureaus in the course of which over 4,000 acres were successfully sprayed by practical farmers, many of whom were without experience in any kind of spraying. The Farm Bureau News of Sevier County, Utah, reports a saving of $15,000 by this means, and estimates from other sources raise the total to $40,000.

The spray can be made with arsenate of lead or arsenate of zinc, both of which have been used with complete success. Where arsenate of lead is used the poison is weighed or measured for use at the rate of 2 pounds of powder, or 4 pounds of the commercial paste, to each 100 gallons of water. It is prepared by stirring the poison in a little water until it becomes a thin paste without lumps. It is then diluted and strained and 2 pounds of laundry soap, which assists in making the solution spread more readily and stick to the leaves, is added.

There is practically no danger of burning the foliage of alfalfa. To be most effective, the spray should be mixed just before use and kept stirred up so as to prevent the settling and wasting of the poison and clogging of the pipes in the spray pump. Care should also be taken to keep out all dirt and lint which might interfere with the free passage of the solution through the spray nozzle.

It is important that the spray be applied at the proper time, which is when the young larvæ of the weevil become so numerous that they completely destroy the growing tips and thus stop the growth of the alfalfa plants. Spraying before this time will fail to catch all of the weevil, and if the application is delayed the pest will destroy so much of the crop that it will be beyond recovery.

In the field infested with the weevil the tops of the plants are as white as if they had been frost bitten. The injury spreads downward and before the normal cutting time, if the field is allowed to stand, the whole plant is bare of leaves and the green cover has been stripped from the stems. Before this state is reached, or usually about one or two weeks before the first crop is ready for cutting, is the proper time for spraying. If the larvae have been poisoned through spraying of the first crop, the second crop sprouts and grows without delay and no further treatment is necessary.

Spraying Time Limited

As the proper time for spraying is limited, it is essential that all preparations, such as securing the spray material and overhauling or repairing the spray machinery, be done in advance. Spray nozzles designed to give a misty spray, sometimes called hollow-cone, eddy-chamber, cyclone, whirlpool, and cover-spray nozzles, are best for this work since the purpose is to make a fine, even coating of poison upon the upper foliage where the larvae usually feed. The character of the spray produced by a nozzle of this type depends principally upon the pressure. With pressures below 75 pounds, many of the spray particles collect into drops and roll off the foliage. As the pressure increases the spray becomes finer and covers the foliage more completely. As the success of the work depends largely upon covering as nearly as possible all of the sprayed foliage, the pressure should not fall below 75, and might well be kept at 100 or more pounds.

The type and size of spray pump used depends upon the area which is to be covered. Any pump, with brass lining, valves and pistons, capable of delivering four-fifths of a gallon or more per minute, and maintaining a pressure of 75 pounds, can be used for this purpose. The best results have been obtained with nozzles working two feet above the alfalfa, each nozzle, as it moves across the field, spraying a strip two feet wide. The spray pump should be regulated to deliver 100 gallons of spray mixture per acre. At this rate the actual cost of spraying is about $1 per acre, of which approximately 60 cents is charged to the poison.

The spraying of alfalfa for the weevil does not injure the crop for feeding, and will not harm farm animals. Many of the cattle which are fed upon it probably take in more arsenic with their drinking water than with their hay, and, as for the lead content, few of them would under any circumstances live long enough to show the least affect of it, according to the bulletin.—U. S. Dept. of Agriculture.

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80 acres sandy loam, 60 acres cleared. Two miles from town. Good house and barn. Two horses and five cows and farm machinery.

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40 acres clay soil. five miles from town, new house. Ten acres cleared.

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20 acres sandy loam. Good house and barn. Six acres cleared. Four miles from town.

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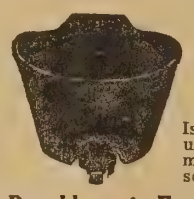
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Lacomb, Ore. R. L. P.

"Yes. Foam should always be removed for it tends to cause bloating of calves or hogs. Hogs are particularly liable to die suddenly from suffocation when bloated. We have seen such deaths caused when hungry pigs had suddenly been turned into wet clover or rape, to which they had not been accustomed. Any sudden change of feed may have a similar effect. A post mortem examination should, however, always be made to determine the cause of death, cholera being such a common cause that vaccination may be in order to save remaining hogs.

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Name	Class	Age	Milk	Fat	%
Nancy Whitehall (Highest official record in 1920).	A	5 yrs. 335 days	22,075	858.77	3.89%
Freeda of Elmwood	A	8 yrs. 183 days	18,502	753.45	4.07%
Rosella Webb	A	6 yrs. 306 days	16,291	675.53	4.06%
Maple Leaf Jean	A	6 yrs. 223 days	16,271	614.69	3.78%
Lochfergus Soncie	A	9 yrs. 214 days	14,044	598.72	4.26%
(Average for 5 cows).			17,436	700.23	4.01%
Carrie McDonald	A	9 yrs. 334 days	13,631	563.74	4.14%
Henderson's Lassie	A	6 yrs. 9 days	13,568	602.61	4.44%
Lucy Webb	G	2 yrs. 140 days	13,524	568.47	4.20%
Silver Beauty of Ing.	A	6 yrs. 305 days	13,707	598.19	4.36%
Zula of Elmhurst	A	5 yrs. 299 days	12,474	505.45	4.05%
(Average for 10 cows).			15,308	633.96	4.12%
Amy of Beverly	A	7 yrs. 261 days	12,338	457.31	3.71%
Patricia's Snowflake	F	2 yrs. 191 days	11,965	503.45	4.21%
Berlin Bess	A	7 yrs. 303 days	11,340	480.37	4.25%
Barleith Right Kind	A	8 yrs. 203 days	10,487	424.80	4.05%
Calla Lily of M. B.	A	8 yrs. 185 days	10,272	423.23	4.12%
(Average for 15 cows).			13,966	575.25	4.10%
Lillian Martin	A	8 yrs. 97 days	10,166	362.73	3.57%
Sir Hugh's Fl. Star	F	2 yrs. 362 days	9,671	371.49	3.84%
Teaser of N. F.	D	3 yrs. 283 days	9,479	383.75	4.05%
White Heather of Highland	B	4 yrs. 279 days	9,924	412.81	4.16%
(Average for 19 cows).			13,090	534.71	4.06%

Several of these records were made under Roll of Honor conditions, and some of the cows have already freshened again, all others are re-bred and safe in calf. In addition to making these records, two of these cows **White Heather of Highland** and **Maple Leaf Jean** were on the show circuit both in 1919 and 1920, both won Grand Champion honors and stood second and third at this year's National Dairy Show, **Maple Leaf Jean** winning the A. R. class as well.
We have youngsters of both sexes by proven bulls out of the above cows for sale. Pick your own dam and write for a price on her produce, to

A. Henry Higginson

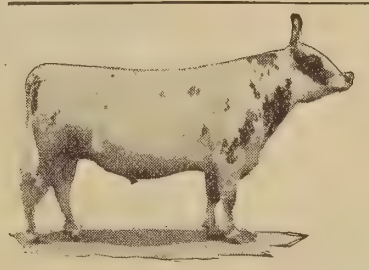
MIDDLESEX MEADOWS FARM
South Lincoln, Mass.

Monstone Farm Ayrshires

"Production — Size — Individuality"

Bull calves out of dams with A. R. records of 10,000 lbs. (and better) of 4% milk—Winners in show ring—Sired by Lessnessock Gem's Good Gift Imp.—Winner in show ring and proven prepotent sire—Weight 2,250 lbs. in breeding condition—Whose dam made 8,930 lbs. milk, 4.05% fat, in *36 weeks* (Scotch record)—Sire's dam 10,342 lbs. milk 365 days (Scotch record)—Prices $100 to $1,000. If you want class and a square deal, correspond with us. We can supply your wants at your prices. Nothing but the best. Herd Federally tested.

MONSTONE FARM, John Chalmers, Manager, IPSWICH, MASSACHUSETTS



We Have For Sale

the well bred Ayrshire bull, Bargenoch "Drexel" (18474) Imported. Bred by John Logan, Bargenoch, Scotland. Born Feb. 2nd, 1919. Color white and red. Sire, Bargenoch Magnificent (9579). Sire of Bargenoch "Royal Champion" sold at Bargenoch sale, 1919, for $7,267.00.

Dam, Bargenoch Victoria (37003). Scotch record: 9,221 lbs. milk, 4.23% fat in 43 weeks; 11,070 lbs. milk, 4.50% fat in 47 weeks.

BARCLAY FARMS, John Cochrane, Manager, ROSEMONT, PENNSYLVANIA

World's Champion Ayrshires

Fully Accredited Tuberculosis Free — 200 Head in Herd



AUCHENBRAIN WHITE BEAUTY 2D
A. R. 14,721 lbs. milk, 4.33%
In 13 years, 112,486 lbs. milk and 13 calves
110 animals in herd are descended from this cow

The 1st, 2nd, 6th and 7th highest records were made here. Four cows average 22,823 lbs. milk, 1,046 lbs. butter. 100 A. R. records made here average 13,246 lbs. milk. Choice stock of all ages for sale at pre-war prices. Special -- Young bulls line bred to Auchenbrain White Beauty 2d.

PENSHURST FARM, Narberth, Pa.
(7 miles from Philadelphia)

AYRSHIRES—

Gold Medal and Silver Cup Winners in Advanced Registry Roll of Honor Division. Young Bulls ready for service. Bull and Heifer Calves at prices you can afford to pay.

Pure-bred Berkshire Boars and Gilts.

Superintendent, Masonic Homes
Elizabethtown, Pennsylvania

HOLSTEINS

HERE IS YOUR CHANCE

Bull calf born Aug. 17, 1920. Mostly white and a good individual. His sire is a 32.7-lb. grandson of King of the Pontiacs. Calf's dam has a 20-lb. record and his 3 nearest dams average 28.47 lbs. A bargain at $200. Send for pedigree and photo.
Have 2 other bulls for sale that are ready for heavy use from a 25.63-lb. sire. They are priced exceedingly low. Females for sale, all ages. Herd under Federal supervision. Write your wants.

UTOPIA DAIRY FARMS
C. I. Reamer, Prop. North Liberty, Ind.

DON'T PUT OFF

Seeing your friends and having them join in for a club of subscribers.

U. S. Soldiers' Home DAIRY

Washington, D. C.

offers for sale, at reasonable prices, from the first accredited herd in the United States, pure-bred Holstein-Friesian bulls from yearly tested dams. Herd free from tuberculosis for more than eight years. Latest combination test completed February 18, 1921, by U. S. Department of Agriculture.

THE TRAVERSE HERD

We have what you want in

BULL CALVES

the large, fine growthy type, guaranteed right in every way. They are from high producing A. R. O. ancestors. Dams' records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.
Traverse City State Hospital, - Traverse City, Michigan

The Pontiac Herd

"Where the Champions come from"

Offer Bull Calves sired by sons of *Pontiac Korndyke, Hengerveld De Kol, Pontiac Dutchland, or Admiral Walker Pietertje.*
Do you want a Pontiac in your herd?
PONTIAC STATE HOSPITAL, Pontiac, Mich.

Holstein Bull Bargain

Royal Breeding—Splendid Individual

Carries 43¾% blood of Pontiac Korndyke, the greatest of all sires, 25% of blood of King Segis Pontiac and 12½% blood of King Segis. None better. 4 others ready for service. First $250.00 check gets him.
Wm. N. Osborn, Wanatah. Ind.

MINNESOTA-HOLSTEIN-BREEDERS
THIRD ANNUAL CONSIGNMENT SALE
The State Sale Classic of the Year

Holstein Breeders
Reserve May 3-4-5
Be at Faribault, Minn., on Those Dates

3 Big Days



3 Big Days

May 3 — The State Meeting

Minnesota Holstein breeders will hold their annual meeting on that date. You are invited to attend whether you live in Minnesota or elsewhere. We want to know you better; we want you to know us better. This will give us all that opportunity. Come. We promise to entertain you.

May 4 — The Third Annual State Sale

Our annual sale on May 4th will be better than any we have ever held, regardless of what the final average price is. Without exaggeration, we have the best lot of Holsteins ever consigned to a Minnesota sale, and we believe a better lot than were ever brought together for any state sale anywhere.

The 80 head to be sold are the best that the sale committee could find in the barns of Minesota breeders. They come from 55 different herds and they are a splendid representation of the best the breed affords.

We know they will please you. It will be worth your while to be with us on May 4th.

May 5 — Rice County Breeders' Sale

There are always breeders who attend Minnesota's Annual State Sale who are not in a position to buy animals of the remarkable quality that are sold. They want good Holsteins, but for one reason or another do not feel that they can buy the tops of the breed.

The Rice County Breeders' Consignment Sale on May 5th will meet their needs. It includes 70 very good Holsteins, young cows and bred heifers which it will profit any breeder to own.

Make your plans now to be with us May 3-4-5

Write for Catalogs and any other information you may desire

MINNESOTA HOLSTEIN BREEDERS' ASSOCIATION

406 Market Bank Building, Minneapolis, Minnesota

Watch next week's issue for more detailed information

This Week We Offer



Sir Bess Ormsby DeKol 297182

Born December 13, 1919

An Outstanding Individual—Ready for Heavy Service

He Traces Three Times to Sir Pietertje Ormsby Mercedes, the World's Greatest Long-Distance Sire

His Sire—*Sir Bess Ormsby Alice*

A coming young sire whose offspring are of real show type. His dam is Alice Tritomia Ormsby, 34.42 lbs. in 7 days and 1033.94 lbs. butter and 22,035.5 lbs. milk in a year. She is sired by Sir Pietertje Ormsby Mercedes 21st and from a 25-lb. granddaughter of Homestead Junior De Kol. The sire of Sir Bess Ormsby Alice is from Bess Pietertje Ormsby Mercedes, 33-lb. 1,235-lb. daughter of Sir Pietertje Ormsby Mercedes and Spring Brook Bess Burke.

His Dam—*Shady Netherland DeKol 4th*

She has just made 25.15 lbs. butter and 579.5 lbs. milk in 7 days at just 36 months of age. She is on yearly test and should make well over 800 lbs. She is a beautiful individual, sired by a son of Buffalo Maid 2d, junior champion at the National Dairy Show 1913. She is by Sir Pietertje Ormsby Mercedes and from Buffalo Maid, 30-lb. 900-lb. maternal sister to Pietertje Maid Ormsby. The dam of Shady 4th is a 20-lb. daughter of Sir Netherland De Kol de Freule.

PRICE $500.00

E. C. Schroeder Farms, Moorhead, Minn.

(Herd under Federal Supervision)

MINNESOTA HOLSTEINS



MISS KORNDYKE AKKRUMMER ORMSBY
30-lb. 4-year-old, 39.67 lbs. butter at full age.
(Owned and developed by J. B. Irwin.)

"The Home of the Ormsbys."

BARGAINS IN BULLS

A few richly bred choice young bulls ready for service,

on the bargain counter for a clearance sale.

Let us give you a good individual well bred at a very low price while they last. Tuberculin tested. Guaranteed in every respect and ready to ship. Come and see them.

Woodlake & Clover Farms,
JOHN B. IRWIN, Sta. F, Minneapolis, Minn.



LORD BOBS KORNDYKE PONTIAC

Echoland Farms

Offer For Sale

Lord Bobs Korndyke Pontiac

He is a show bull and a good sire.

His Sire—Roberts Abbekerk Pontiac is an excellent individual and a bull that has won first at many of the leading shows, and by a good son of King of the Pontiacs. His dam is a 29.37-lb. cow from the 33.79-lb. sire, Sir Gerben Pauline. This bull will make a real herd header for some small breeder and we know he will please as an individual. For price and description write

EGIL BOECKMANN, White Bear, Minn



Lola Segis Pontiac Homestead

the highest record bull in southern Minnesota, heads our herd. His sire, Piebe Laura Ollie Homestead King, has more daughters that as 2-yr.-olds have produced 20,000 lbs. milk in a year than any other. His dam, a 34-lb. 4-year-old daughter of King Segis Pontiac Count, has 3 records averaging 33 lbs. and has made over 1,000 lbs. in 1 year. We have a few serviceable bulls and younger from A. R. O. dams for sale.

Clover Lea Farm, W. W. Walker, Owner. Austin, Minnesota



Sir Walker Segis Homestead

The best show bull and son of the great bull, PIEBE LAURA OLLIE HOMESTEAD, out of a "COUNT" daughter, BEAUTY BEETS WALKER SEGIS, world's greatest heifer, with two yearly records over 25,000 lbs. milk and 1,000 lbs. butter in heifer form, and a seven-day record of 35.03 lbs. butter from 730 lbs. milk.

We offer several choice bulls, one month to a year old, out of high yearly record and A. R. O. cows, at very reasonable present day prices. Pedigrees and photos will be sent.

A. J. LASHBROOK, - - Northfield, Minnesota

HOLSTEIN FEMALES

Females of all ages for sale, priced very reasonable Mostly all bred to our 34-lb. sire, he a grandson of Count, from a sister of Piebe. One or a carload. Under State and Federal supervision.

BLACK & WHITE STOCK FARM, R. 3, Melrose, Minnesota

COME TO BISCAY

for your next purchase of pure-bred or grade Holstein cattle, mature or young stock. Large selection, also a few select male calves to offer. Located near station

BISCAY SALES CO., BISCAY, MINN.



KING SEGIS PONTIAC COUNT
"The Marvel of All Sires"
Whose daughters have broken more World's Records than the daughters of any other sire.

The Count-Piebe Combination



PIEBE LAURA OLLIE HOMESTEAD KING
"The Present Day Sensation"
The only bull in the world with five 20,000-lb. two-year-old daughters.

Will Triple Your Milk Check Because It Will Put Production Into Your Herd

And more than triple the price you are getting for your calves. Because it combines individuality with production, it has given us thirty cows at Arden Farms that have **each produced $1,000 worth of milk per year. Do you want that kind?**

We Offer
Sons of "Count" from Daughters of "Piebe"
Sons of "Piebe" from Daughters of "Count"

We have the finest line of young bulls we have ever raised at ARDEN FARMS, priced in accordance with present financial conditions. LIBERAL TERMS GIVEN IF DESIRED.

J. M. Hackney, 602 Merchants Bank Building, St. Paul, Minnesota

Registered Cows and Heifers

We have on hand more females than we usually carry so are able to offer some good ones for sale. A number have A. R. O. records and most of them are from tested dams. Bred to a yearly record sire and themselves backed by yearly producers.

Address correspondence to Axel Hansen, formerly with John B. Irwin.

MINERAL SPRINGS STOCK FARM, - - SAVAGE, MINNESOTA
Stuart—McIntyre—Hansen, Owners.
Address correspondence to Axel Hansen, formerly with John B. Irwin.

Grandsons of Sir Pietertje Ormsby Mercedes

The sire is Sir Pietertje Ormsby Mercedes 22d a son of Minnesota's first 1000-lb. cow. These bulls are all nicely marked, straight top lines. Very good individuals from good A. R. O. dams.

For pedigrees and prices, write

O. J. GROVER, - GLYNDON, MINN.

Grandsons of

Duchess Skylark Ormsby and of S. P. O. M. 38th.

for sale. These youngsters are from A. R. O. dams that are now making good yearly records. Write today for further information.

POPLAR HOLLOW STOCK FARM,
Bertram D. Scott, Prop., Richfield Station
Minneapolis, Minn.

Bull Calf

advertised last week is sold. Here is another good one ready for light service. Sired by a 30-lb. bull. Dam a 14-lb. 2-year-old who will be tested again next spring. Priced so reasonable that you can't afford to be without him. $150.00 for immediate sale.

V. R. Holmes, Anoka, Minn.

Get A Calf

We have a grand bunch of youngsters on hand. Come and pick out a calf while you have a big choice. Grow him to suit you. Saves you money and we are selling them as cheaply as we can. Show calves that are backed by generations of official testing and careful breeding. Sons of DUTCHLAND CREAMELLE COLANTHA LAD No. 165049. His yearly daughters all average over 834 lbs. of butter at 26 months of age.

GRAHAMHOLM FARMS,
H. R. Searles, Mgr., Rochester, Minn.

REGISTERED BULLS

FROM TESTED DAMS

Sired by a 30-lb. son of Colantha Johanna Lad and a 26½-lb. son of Laura Piebe Ollie Homestead King. Well marked, straight individuals from two months to 2 years old. Priced to suit present conditions.

GEO. H. ELWELL,
Minneapolis, Minnesota.

WE HAVE A BULL

A year old and nearly all white. He is sired by a 1,000-lb. son of Sir Korndyke Bess. His dam made 28 lbs. in 7 days at 11 years and completed the largest 305-day record ever made by a cow of her age. He is for sale.

FLECKS FARM, Faribault, Minn.

A BULL BARGAIN

Bull calf born July 19, 1920.
Sire's nine dams average over 1,000 lbs. butter in year.
Dam has over 500 lbs. butter in 263 days.
This calf is an excellent individual.
Straight top line. Price $500.

MANKATO HOLSTEIN FARMS
Marlow & Randall, Mankato, Minnesota.

ORIGIN FARM

HORNLESS HOLSTEINS, Registered and A. R. O. Animals, all ages, for sale. Federally Tested.

GEO. E. STEVENSON, Scranton, Penna.

Holstein Bulls

At Farmers' Prices

We are not in the game to get rich but to help promote the breed by offering pure-bred bulls at the lowest prices, enough to cover raising. Write for prices and descriptive list. The Ormsby kind.

RAMSEY COUNTY HOME,
J. E. McMahon, Supt., North St. Paul, Minn.

RICHLY BRED

HOLSTEIN BULL CALVES

out of A. R. dams and sired by our two richly bred herd sires — **King Piebe Ormsby Mercedes**, a 35-lb. son of Sir Korndyke Bess and every dam in pedigree over 22 lbs. and **King Pietertje Mercedes Ormsby**, a son of Sir Pietertje Ormsby Mercedes and out of a 19-lb. senior two-year-old dam.

Herd tuberculin tested. Write for information or visit herd.

P. FROST SPAULDING FARM CO.
C. L. Spaulding, Mgr., Warren, Minn.

"DUKE"

The only place you can buy sons of serviceable age sired by DUKE PIETERTJE KORNDYKE ORMSBY

The bull selling at the last Minnesota state sale for $33,000.00 is from the herd where he stood for three years prior to the sale. "Duke's" dam now has three records above 1,000 pounds, the last one was 1,190 pounds.

Now is the opportune time to buy one of these bulls as their sisters will be given every opportunity. Get a son now and be in line. Clean bulls from a clean herd. Prices reasonable. Write

EDW. H. ULRICH, Biscay, Minn.

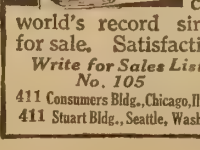
Serviceable Sons of Dutchland Aaggie Tidy Prince

I have three of these youngsters for sale, all ready for service and from A. R. O. granddaughters of S. P. O. M. Their sire is from a sister to Tidy Abbekerk Prince and already has a good list of tested daughters, including one above 36 lbs.

Write today for complete information.

E. J. BROSIOUS, - - Stillwater, Minn.

REGISTERED HOLSTEINS



FEDERALLY tested herd of 800 selected Holstein cows headed by world's record sires. Young bulls, for sale. Satisfaction guaranteed.

Write for Sales List No. 105

411 Consumers Bldg., Chicago, Ill.
411 Stuart Bldg., Seattle, Wash.

Carnation Stock Farms





Count AND Ormsby Blood

To those breeders who are using sons of Count or breeding Ormsby blood this young bull should be especially attractive.

Sire

Sir Ormsby Hengerveld Korndyke, son of Pietertje Maid Ormsby, 35.56 butter. His sire, Sir Korndyke Hengerveld De Kol, sire of 45 A. R. O. daughters, including Miss Korndyke Akkrummer Ormsby, 39.53 butter.

Dam

Eureka Melissa Segis 21 lbs. butter and is finishing up the year well over 750 pounds. Eureka was sired by a full brother—King Segis Pontiac Count, "the marvel of all sires," her dam, Eureka Melissa, 25.08 lbs. butter from Paul Beets Walker, sire of 44 A. R. O. daughters.

Send for Pedigree

Write and get this bull's pedigree and study the blood lines carefully. Better still come to the farm at Blooming Prairie and see him.

Act Now

OAK DALE FARMS

INCORPORATED

BREEDERS of HOLSTEIN FRIESIANS

Austin Minnesota

Bull of Ormsby Breeding

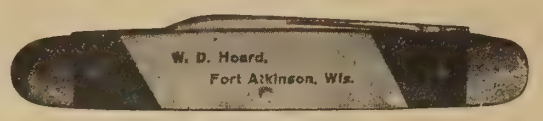
We offer Chief Segis Lyons Ormsby No. 280751 Born March 8, 1919, a grandson of Sir Pietertje Ormsby Mercedes 41st. His sire a 33-lb. bull; his dam a granddaughter of Sir Pietertje Ormsby Mercedes, who had more 1,000-lb. daughters than any other sire in the world. Also some splendid bull calves ready for service, from A. R. O. dams. Herd tuberculin tested. Write for prices.

Schermerhorn Farms, Mason City, Iowa.

A Son of LIEUTENANT RAG APPLE

from a 7/8ths sister to a 948-lb. junior two-year-old daughter of a 1,281-lb. cow. $100.00. Let us tell you about him. Serviceable.

BLUEBELL FARM, Riceville, Iowa



This is not a cheap premium knife. It is made of a special steel called "Carvan" and would sell at $1.25 to $1.75 at any store. I have carried one for three years and I know.

We'd Like to Send You This Knife

With your name and address on one side—and a picture of the Hoard's Dairyman Office and Farm on the other side of the handle.

We will send it to you—postage prepaid, made up especially for you—if you'll do a little something for us.

Right now we are making a special offer on a subscription to Hoard's Dairyman. We are offering the rest of this year and all of next year for... **$1.25**

Almost two years for just a little bit more than the regular price for one year.

We want every farmer who has cows to hear about this offer.

IF YOU'LL TELL TWO—JUST TWO—OF YOUR NEIGHBORS ABOUT IT, AND SEND IN THEIR SUBSCRIPTIONS, WE'LL SEND YOU ONE OF THESE KNIVES, MADE UP ESPECIALLY FOR YOU.

You don't need to write much of a letter. Just say: "I am enclosing two subscriptions for the rest of this year and all of next year—with remittance of $2.50. Send me that knife you advertised." That's all there is to it!

HOARD'S DAIRYMAN

FORT ATKINSON, WISCONSIN

M. & P.

Healthy Holsteins

A year ago we sold a bull calf to a Virginia breeder. The dam of that calf has just finished a year's record of 17,600 lbs. of milk, 800 lbs. of butter. Was he pleased? His letter states "The bull is growing nicely, and I am glad his dam made so good a year's record."

We supply this kind at moderate prices. Write

Markham & Puffer

Avon - New York

GET BUSY TODAY—Holstein Cattle Will Never Be More Favorably Priced

River Meadow Farms are always ready to fill orders for high quality cows. Heifer calves and bulls of all ages. The fore-sighted will not delay. Your order, large or small, will receive the same careful attention which for thirty years has made our stock popular. A letter stating your wants will bring prices and booklet with full particulars. Write to

RIVER MEADOW FARMS, Portlandville, N. Y.

Our proposition to dealers is very attractive, and a few sections in the Southeast are still without representation.

Five Heifer Calves

All show animals by a 31-lb. sire out of A. R. O. cows of good individuality. Will sell one or the bunch at bargain prices as we are overstocked.

Also bulls for sale.

G. C. BURLINGAME,

Cazenovia, N. Y.

Yearling Bulls

From 21-lb dams. One has 662 lbs. butter, over 17,000 lbs. milk at three years. By proven bulls with daughters up to 30 lbs. Best of Ormsby and yearly record backing. Good size and type. Guaranteed to please and stand a 60-day retest. Priced to sell. Write

RIVAL STOCK FARM, Laurens, Iowa

LOOK THIS ONE OVER



KING FOBES ORMSBY RAG APPLE

He's Ready For Use

His sire is one of the good sons of King Pietertje Ormsby Piebe from a cow now making over 1,000 lbs. as a 4-year-old. His dam, Jessie Fobes Homestead Pledge, is a mighty good granddaughter of Homestead Junior De Kol. She has a 27-lb. 7-day record, a good yearly record as a 2-year-old, and is now being fitted for a yearly test. "King" is just past a year old. He's a real individual as you can see, and he's bound to increase in value when his dam finishes this year. You'll like him. Our terms of payment are easy.

Hargrove & Arnold, Norwalk, Iowa

Herd under Federal Supervision

SIR JOHANNA FAYNE



42147

now has 9 daughters 20,000 pounds or over. All of his yearly tested daughters, 3½ years old or over average 21, 465.1 pounds milk and 831.45 pounds butter. 17 daughters average 20,000 pounds. A few young sons left at reasonable prices. Herd under Federal Supervision.

IOWANA FARMS

DAVENPORT, IOWA



SADIE CORNUCOPIA EIBERTJE

Her Son For Sale—

This cow was 2nd prize A. R. cow and 3rd prize 4-year-old at Dairy Congress, 1920. She is by the best son of the 1st 30-lb. cow and has a 20-lb. 2-year-old record with 510 lbs. butter in 345 days. Now on test as a 4-year-old with 400 lbs. butter in 1st 6 months. Her dam 530 lbs. butter in 10 months; next dam 516 lbs. butter 365 days at 2 years. Calf is by Woodcrest Sir Clyde, who is from a 33-lb. and 970-lb. dam; born May, 1920. More black than white. Given a Federal Certificate of Health.

Write for photo and pedigree today.

W. B. BARNEY & SONS, - - - Chapin, Iowa



Lakeside Farm Herd

The records of his dam, dam of sire, and dam of grandsire, average 31.33 butter 7 days, milk 548.84. This bull was 2nd prize winner in New York State Fair in class of thirty. His dam was also prize winner in same show. Send for pedigree. Herd under State and Federal supervision.

E. A. POWELL, Syracuse, N. Y.

Her Son Is For Sale



MARY SEGIS BEETS

She a 32-lb. 1000-lb. Cow

He is just past a year old, well grown and a splendid individual. His dam, Mary Segis Beets, has twice made over 31 lbs. and has just finished a 1000-lb. yearly record. His sire is King Pontiac Artis Sadie Vale, a 34-lb. son of the great K. K. S. V. Several of his daughters are doing very well on yearly test in our herd.

He'll suit you for a herd sire. Write us about him today or come and see him.

Gustave Pabst's Hollyhock Farms

Fred J. Southcott, Manager — **Dousman, Wisconsin**

For Sale—Grandsons of S. P. O. M. 37th

Sired by a son of "37th" and of Wisconsin Fobes 4th that is now going at better than a 1,000-lb. gait on year test.
No. 1—From a 25-lb. dam that has several A. R. O. sisters. Ready for service. Price $500.
No. 2—From a 22-lb. dam. One year old. Price $300.
No. 3—From a daughter of a 25-lb. cow. Ready for service. Price $150.
Several younger calves for sale. All are well grown and light in color.

Several Females For Sale

Well bred and priced right.
Write for further information.

W. O. Williams & Son

Wild Rose, R. 3, Wisconsin



WISCONSIN FOBES 4TH
A daughter of the great Wisconsin Fobes and a sister to Wisconsin Fobes 5th. (State Champion 2-year-old).

BUY DIRECT

Reasons for Buying Holstein Cattle in Waukesha County:

1. You can buy direct from the breeder through the breeders' association, organized by the breeders to promote the breeding of more and better Holstein cattle and to assist in a fair marketing of the same.
2. There are over 50 pure-bred Holstein sires in service in Waukesha County whose dams have records of over 30 lbs. butter in 7 days or 1,000 lbs. butter in a year.
3. There were 1,307 long-distance tests made on Holsteins in Waukesha County during the past year, which is more than the total in the next four leading counties in the state.
4. There are more tuberculin tested cattle in Waukesha than in any other county in the world.
5. The breeders' organization is in a position to put you in touch with "bred-for-production-stock" at reasonable prices.
6. When buying through the Association, you obtain the services of men who devote their entire time to the Holstein industry. It saves you time. You get more for your money.

Write or Wire for information

Waukesha County Holstein-Friesian Breeders' Association

254 Broadway, Waukesha, Wisconsin

One-half Interest Serviceable Son

of the 1235-lb. Sire

Sir Korndyke Bess

DAM—World's Record 3-year-old for Butter in 305 days
Also 2 young yearly tested male calves.

R. E. BENSON, Dousman, Wisconsin

Cows and Heifer

A Few Good Bulls

Because I am overstocked, I am offering some very good registered females for sale. They either have A. R. O. records or are from A. R. O. dams.

Can also offer some excellent young bulls by a 33-lb. sire and from A. R. O. dams with records up to 28 lbs.

Every animal sold is guaranteed to be as represented.

Write or come and see for yourself.

J. D. McDonald West Salem, Wis.

A BULLY CHANCE

to get a serviceable sire—born March 15, 1919. A fine individual—well bred—well marked—well grown. Sire, a son of King Segis Pontiac out of a 26-lb. daughter of Juliana King of Rock. Dam, A 26-lb. daughter of King Korndyke Veeman Wayne, he out of a 31-lb. daughter of Sir Veeman Hengerveld. Will trade for pure-bred Holstein females, liberty bonds or cash. If you want a herd sire—what have you got that you don't want? Write or call for price, pedigree, photo. Also have some younger bulls. Herd tuberculin tested.

RIDGEHURST STOCK FARM.

Glen C. Ramsey, Ft. Atkinson. Wis.

Grade Heifer Calves—$20

Good grade Holstein heifer calves by pure-bred sires $20 f. o. b. cars. Pure-bred bull calves $40 and up. Good, registered heifer calves at reasonable prices.

J. C. BOLGER, Waterloo, Wis.

ORMSBY BULL - Born Feb. 28, 1919

Sire, King Ormsby Pontiac De Nijlander, whose two nearest dams average over 30 lbs.
Dam, Aaltje Hengerveld Tritomia Segis. A. R. O. 17 lbs. at 7 yrs., next dam 29.68 in 7 days. Color light, fine individual. Ready for service. Price $300.

Fairview Stock Farm Whitewater, Wis., W. G. Marshall, Prop.

May 2nd—11 A.M.

Elkhorn, Walworth County Wis.

Fair Grounds Sale Pavilion

65——65

Money-Making Holsteins

Absolutely guaranteed and sold under rules adapted by the Wisconsin Sales Managers Federation. Papers delivered day of Sale.

Be sure and get our catalog and attend.

For any information and catalogue address

Ben Bachhuber, Secretary

Box H, Elkhorn, Wisconsin



Colantha Changeling Lad



Whose dam made 30 lbs. at 4 years, has daughters making up to 32 lbs. at 3 years old. On them a 30-lb. son of 37th whose daughters are now making 23 and 24 lbs. as 2-year-olds. On them we are using a 30-lb. son of 41st. We are clearing our stables at bargain prices on bulls up to serviceable age. Also a bunch of females for immediate sale. Bulls $150 up.

Badger Stock Farms, Hartford, Wis. Lawrence F. Murphy



Yearly Records

Choice Young Bulls

from one to fourteen months old for sale. Sired by Cloverlawn Johanna Piebe whose five nearest dams average 1,070 lbs. of butter, 23,809 lbs. of milk a year. Herd numbers 140 head, forty cows with yearly records. State exactly what you want.

JOHN PULS, - HARTFORD, WISCONSIN

HOLSTEIN COWS

We offer for sale a number of cows, heifers, bulls and calves of all ages. Some sired by King Korndyke Veeman whose two nearest dams average over

WISCONSIN STAR STOCK FARM,

HEIFERS and BULLS

37 lbs. butter in 7 days and bred to King Sadie Vale Walker who is a son of the youngest 29-lb. cow in the world. Come and see them or write to

ED. M. SCHULTZ, Hartford, Wis.

35 HEAD Wayne Potter's 35 HEAD

First Annual Holstein-Friesian Sale

To be held at the farm 5½ miles Northeast of Neillsville, Wis., and 4 miles Northwest of Granton, Wis.

WEDNESDAY, APRIL 27, 1921

The offering of this sale includes several cows bred to (and most of the young stock sired by) Duke Pietertje Korndyke Ormsby 8th, a 985-lb. son of Duke Pietertje Korndyke Ormsby that sold for $33,000 last spring. Several of the cows and heifers are bred to my show bull, King Pietertje Ormsby Piebe 10th, that won 4th place at Waterloo Dairy Congress and Chicago National last fall. His two nearest dams average 1,217.23 lbs., both under full age. Several of the bulls offered are ready for service. Most of them are from A. R. O. dams. Herd is under Federal Supervision.

Sale to start at 1 o'clock sharp. Outside parties will be met at Neillsville or Granton, Wis.

Auctioneers: Col. W. Krause and J.P. Heintz. Art Imig in the Box.

WAYNE POTTER, Write for Catalog. **NEILLSVILLE, WISCONSIN**

Foundation Females

Two Excellent Young Bulls

Consigned to

The Waukesha Spring Sale

April 25-26

When the sale committee came to us for a consignment, they demanded good ones and they took several we would like to have retained in our herd.

Among them are:

PAULINE DE COLANTHA 3RD—25.38 lbs. butter, 572 lbs. milk in 7 days; 103 lbs. butter, 2,357.1 lbs. milk in 30 days.

BELLE TETTJE JOHANNA KORNDYKE—23.65 lbs. butter, 656 lbs. milk in 7 days; 90.38 lbs. butter, 2,476 lbs. milk in 30 days as a 4-year-old.

Two other 4-year-olds with 23 lbs. and 24 lbs. butter in 7 days.

A 14-lb. junior 2-year-old daughter of a 33-lb. 3-year-old and by "It".

A son of a 14-lb. junior 2-year-old daughter of KING MODEL. Her dam is a 29-lb. daughter of KING OF THE PONTIACS.

A son of a 24-lb. cow and a grandson of SIR PIETERTJE ORMSBY MERCEDES.

Look these up in your catalog. If you want further information, write us.

Riverview Farms

GEO. J. SCHUSTER, Owner WARD W. HORNE, Mgr.

Mukwonago, Wis.

Lake Mills Holstein Breeders'

23d Semi-Annual

Consignment Sale

Thursday, May 5, 1921

The Lake Mills Sale Co. wishes to have Real Sales, and Real Cattle to Sell.
To help make this possible they employed Mr. Ben Berg, Lake Mills, to Select and Improve the Consignments.
Every Animal Offered Has Passed His Inspection.
Nothing will be sold unless accompanied by a Registration Paper, or Signed Application for Registry.
All animals not coming from Federally Tested herds will have been recently tested for Tuberculosis by Reliable veterinarians. Sold under the usual 60-day guarantee.
Everything in the sale Well Bred, and Many Have Fine Records. It will be as Choice an Offering as Lake Mills has ever placed in the Sale Ring.

Here Are a Few—

A 29-lb. cow, one with 28.90, a 27-lb. cow with 800 for a year, 24 lbs., 23.78 lbs., a 20-lb. show cow.
A 29-lb. yearling bull. Also a dandy from a 19-lb. 2-year-old, and sired by a Son of King Segis Pontiac Count.
Daughters and Granddaughters of 29-lb. cows.
Heifers from record dams, sired by a Son of King Pontiac Champion and bred to a Son of Carnation King Sylvia and from a Daughter of Matador Segis Walker.

Consignors—

Chas. Beveridge, Lake Mills.
Kenneth Crump, Lake Mills.
Faville Homestead, Lake Mills.
Milford Meadows, Lake Mills.
Tomah Indian Ind. School, Tomah, Wis.
S. B. Simons, Sullivan, Wis.
Benj. Berg, Lake Mills.
Glen Ramsey, Fort Atkinson, Wis.
Henry Anthes, Jefferson, Wis.
Frank Everson, Lake Mills.
C. E. Friday, Madison, Wis.
Fred Wittwer, Madison, Wis.
Ferd. Gramling, Dousman, Wis.
C. B. Rutherford, Lake Mills.
H. Hansen, Lake Mills.
C. D. McCammon, Lake Mills.
Irwin Colwell, Helenville, Wis.
Wm. Trachte, Watertown, Wis.
W. G. Marshall, Whitewater Wis.
Harley Williams, North Prairie, Wis.
George Brereton, Lodi, Wis.

Auctioneers — Mack and Krause.

SALE MANAGER — F. H. EVERSON

HOLSTEIN CATTLE

C. W. Newman, Prop. Merryall Farms, Wyalusing, Pennsylvania, writes:

"Holstein cattle have been the real foundation for my financial success. From an original investment of $75 in one purebred female I have in twelve years sold $3,840 of stock and have six valuable animals on hand."

Send for Free Booklets

The Holstein-Friesian Association of America

101 American Building, Brattleboro, Vermont

French Brothers Dispersion Sale

70 REGISTERED HOLSTEINS

Shipman, Ill., April 27, 1921, 10 A. M.

An unusual opportunity to secure the cream of over ten years of constructive breeding.

To be Sold — King Mutual Korndyke Eighth, King Chloe Hengerveld Ormsby

King Mutual Korndyke Eighth is now 2½ years of age; his dam has a yearly record of 1,313 lbs. of butter and 26,246 lbs. of milk. His sire's dam is the world's only 1,200-lb. yearly record 2-year-old.
King Chloe Hengerveld Ormsby is nearly two years old. His dam is that wonderful cow, Chloe Pietertje Ormsby, a daughter of Sir Pietertje Ormsby Mercedes. Her yearly record of 1,149 lbs. was made at 4 years and she has three yearly records all made in heifer form that average over 1,000 lbs. She is a former world's champion. His sire is the $65,000 bull, Sir Pietertje Ormsby Mercedes 41st.
COWS AND HEIFERS of real quality. These cattle will make good for the beginner or for the big man. Some complete families of our best.
12 cows with long time records. 25 beautiful daughters of the 33-lb. bull, King Korndyke Sadie Gem De Kol. Sons and daughters of the great yearly record herd sires.
Write for catalog and arrange to come. This is the best herd of Holsteins ever dispersed in the Middle West.
Health: Herd is under federal test, but one reactor in over 6 years, a 60-day retest privilege given.
Terms: Bankable notes will be acceptable for any period up to one year. 1% discount for cash.

Location: Shipman is midway between St. Louis and Springfield, Ill., on the C. & A. R. R.

FRENCH BROTHERS, Shipman, Illinois

We Offer a Yearling Son

Of King Pietertje Homestead Ormsby No. 221488, out of the State record Junior 2-year-old with a record of 17,860.2 lbs. of milk and 716.16 lbs. of butter. His name is Prince Korndyke Ormsby Fayne No. 323802 and he took 5th premium at the last Dairy Show as a Junior calf. Write for pedigree and price. Herd under Federal Supervision.

BUFFALO CREEK FARM,
H. L. BINGHAM, Supt., Arlington Heights, Ill.

For Immediate Acceptance—

Three young bulls ready for service—Holsteins.
No. 1—Sire a 30-lb. bull. Dam a 27.5-lb. cow. Price $300.00.
No. 2—Sire 30-lb. bull. Dam 23-lb. 3-year-old. Price $250.00.
No. 3—Sire 30-lb. bull. Dam 16-lb. cow. Price $100.00.
King of the Pontiacs breeding, well grown and good individuals. Send for extended pedigree.
R. F. JOHNSON, Assumption, Ill.

Whitehurst Farms

BULLS FOR SALE FROM SEMI-OFFICIAL DAMS. Priced Right.

A. F. Randolph, Prop., Canton, Ill.

BULL CALF

Sire's dam, butter, 1 yr., 848 lbs.; her daughter, 1,055 lbs. Grandsire's dam, 987 lbs. at 11 yrs.; her full sister, 1,344 lbs.; another, same dam, 1,322 lbs. Dam, Miss Pietertje Alexina 3d, sister to Miss Pietertje Alexina 2d, 1,290.91 lbs. A dandy calf, priced right. Write quick to

McKAY BROS., - - CADDOA, COL.

DON'T PUT OFF
Seeing your friends and having them join in for a club of subscribers.

Edinboro Lake Farm

Show Type HOLSTEINS Production

Six state yearly record champions 1918-19

We offer bull calves by Sir Paul Veeman Hengerveld and Sir Ormsby Skylark Fredericka, out of yearly record dams with type.

Edinboro, Pa.

SONS

of Sir Echo Sylvia Johanna —

⅞ Brother to the $106,000 Bull

From high bred fine individual A. R. O. cows up to 30 lbs. Several on test now. All good, straight individuals, backed by lots of milk and butter. Some are ready for service. Priced very low. Write for catalog.

(Herd Under Federal Supervision)

CHESTNUT HILL FARMS,

G A. Burdick, Mgr., Gibsonia, Pa.

Fairhurst Herd

On the Accredited List

We offer young bulls, fine individuals and well grown. Sired by 33-lb. bull and from dams with records up to 30 lbs. Write for pedigree and price.

KITTLE BROS., Holland, Ohio.

Send For Our Bull Sales List

Three bulls of serviceable age—four others will be old enough for service in a month or two—others three months old and older. Almost all of them sired by SIR ORMSBY BEAUTY PONTIAC SEGIS, the son of a 37-lb , 1112-lb. three-year-old daughter of KING SEGIS PONTIAC COUNT.

If it will be of an accommodation to the purchaser, we will accept a six months' note in payment, WITHOUT INTEREST, or will accept payment on installment plan basis.

Pinehurst Farms Co., Sheboygan Falls, Wis.

Bull Calves

by

SIR BESS ORMSBY FOBSE

out of

Cows with 7-day records now on semi-official; two-year-olds milking as high as 70 lbs. and mature up to 92 lbs.

LINDEN LAWN STOCK FARM

B. W. RABENHORST, Jefferson, Wis.

Wayside Lawn Farms

offer

Young Bulls Ready for Service

sired by 31-lb. bull, Hengerveld Banostine Gudultje, whose two nearest dams average 30.65 lbs. butter in 7 days and 848 lbs. butter in one year. The bulls are from tested and untested dams. They are well grown and right in every way. Price $100.00 to $200.00. Herd Federally Accredited.

WALTER SORGE, Reedsburg, Wis.

$100 to $200 Buys A Bull From A Good Record Dam

Am offering several for those prices sired by a 26-lb. bull and from A. R. O. dams with records up to 25.46 lbs.

Write at once. They'll go fast.

H. W. Crawford, R. 5, Campbellsport, Wis.

Bull Ready For Service

Nicely marked and a good individual. Dam 20 lbs. butter at just 3 years. Next dam a 23-lb. 4-year-old. Two nearest dams of his sire average over 32 lbs., and ten nearest dams over 29 lbs. in 7 days. Not a break in a three-generation pedigree. Priced to sell. Call or write

Halsey J. Sedgwick, Limeridge, Wis.

30—Quality Holsteins—30

A 32-lb. Jr. 4-year-old and Her Son — A 30-lb. Cow — An 18.84-lb. 2-year-old Daughter of a 31-lb., 1270-lb. Cow and Her Daughter — 25 Splendid Heifers

Consigned to the Waukesha Spring Sale — April 25-26, 1921



PAEONIE DUCHESS VEEMAN PONTIAC
30-lb. granddaughter of Sir Veeman Hengerveld

The Wellington Family to be Sold

A 32.07-lb. junior 4-year-old daughter of FAIRVIEW PONTIAC BEETS KORNDYKE and her yearling son by a 28.71-lb. son of K. K. S. V. She will be fresh at sale time.

An 18.84-lb. 2-year-old daughter of WELLINGTON VASHTI KORNDYKE (31 lbs. in 7 days, 1,270 lbs. in a year), she another daughter of FAIRVIEW PONTIAC BEETS KORNDYKE. Her yearling daughter also by this sire will be sold.

FAIRVIEW PONTIAC BEETS KORNDYKE is one of the best sons of PONTIAC KORNDYKE. He now has 6 daughters over 30 lbs.—one with 1,270 lbs. in a year.

A Second 30-lb. Cow

PAEONIE DUCHESS VEEMAN PONTIAC is a 30.44-lb. granddaughter of SIR VEEMAN HENGERVELD and of SIR KORNDYKE MANOR DE KOL. She is heavy in calf to a 37-lb. son of KING SEGIS PONTIAC ALCARTRA.

25 Heifers — A 3-yr.-old — 2-yr.-Olds — Yearlings

A 3-year-old daughter of PABST PONTIAC HENGERVELD from a daughter of KING OF THE PONTIACS. Her sire is a son of KING PONTIAC CHAMPION from a 33.86-lb. daughter of DE KOL 2D'S BUTTER BOY 3D. She is a heavy springer.

The 8 two-year-olds are splendid individuals and all are bred to PABST PONTIAC HENGERVELD for fall freshening.

10 of the yearlings are from the same dams and are sired by my junior herd sire, a son of PABST PONTIAC HENGERVELD. They are good ones.

The 6 long yearlings are daughters of L. H. C. ALCARTRA, he a 29.58-lb. son of KING SEGIS PONTIAC ALCARTRA. Some of them are bred to PABST PONTIAC HENGERVELD.

I am selling the best part of my herd because I plan to sell my farm shortly. They are healthy and are sold subject to a retest. Look them up in your catalog and write me for further information.

J. B. Johnston, Pewaukee, Wisconsin

GREENBUSH FARM

Registered Holsteins

Offer bull born Jan. 19, 1920, from 18.7-lb. Junior 2-year-old dam. Dam now on yearly work and sired by 1,225.67-lb. yearly record sire. About evenly marked, good individual. Price $200.00. Herd under Federal Supervision. Write to

GREENBUSH FARM

R. Turano, Herdsman, Glenbeulah, Wis.

Serviceable Bulls For Sale

Sired by Pabst Pontiac Hengerveld, a son of King Pontiac Champion from Pabst Hengerveld Colanthus (31.5 lbs. butter in 7 days, 1,057 lbs. in a year.

These are nicely marked, well grown youngsters out of good producing dams. Several are ready for service, others are younger.

Write today.

John Alexander, Baraboo, Wis.

1000---HERD---1000 Quality Holsteins

GRADES AND PURE-BREDS

Just now we have a splendid lot of grade heifers. Write for our pure-bred bull list.

Jefferson County Holstein-Friesian Breeders' Association,

A. F. Gafke, Secretary, Jefferson, Wis.

FOR SALE

Holstein bull ready for service, well built, light color, 30.72-lb. sire, 18.56-lb. dam, Korndyke and Ormsby breeding. Also a yearling from untested dam, very reasonable. Will also sell 4 yearling heifers and 4 heifer calves from same sire and A. R. O. dams, also 5 aged A. R. O. cows. Come and see them.

W. F. MIELENZ, 312 First Nat'l Bank Bldg., Milwaukee, Wis.

High Grade Dairy Cows

We have on hand around 100 HEAD CHOICE HOLSTEIN, JERSEY AND GUERNSEY SPRINGERS.

These cows are selected from the best dairy sections of Ohio and can be offered at a price in accordance with the times. All animals are sold subject to the tuberculin test and ready for inter-state shipments. Sixty-day retest if desired. Every animal guaranteed as represented. Correspondence solicited. Inspection invited.

THE RIECK FARM SALES CO. - Rootstown, Ohio

HOLSTEINS FOR SALE

SPECIAL—Prize winning yearling Holstein bull.
30-lb. sire; 19.58-lb. dam. Splendid individual.

PURE-BREDS	161 Cows 134 Heifers 19 Heifer Calves 290 Young Bulls	GRADES	93 Heifer Calves 127 Heifers 418 Cows

Some good carloads at reasonable prices. Listed for sale through Wisconsin banks. Other Live Stock: Breeders are listing with us other dairy cattle, beef cattle, horses, sheep, and swine. Write us if you want stock. We will answer promptly.

BANKER FARMER EXCHANGE

D. H. Otis, Director, 1822 Chadbourne Ave., Madison, Wis.

Ormsby Bulls For Sale

Good Ormsby bulls from dams with A. R. O. records from 18 to 31 lbs. Two sons of Lady Inka Ormsby 31.17 lbs. butter from 633.8 lbs. milk. Sired by grandson of Sir Pietertje Ormsby Mercedes.

C. G. KEYS. Richland Center, Wis.

GRANDSONS OF SIR VEEMAN HENGERVELD

One ready for service. ⅞ white and a show bull. He'll suit you. Six bull calves 2 to 3 months old ½ to ¾ white, most of them from heavy producing daughters of a 34-lb. son of K. K. S. V. All are from very good producing dams. Prices $50 to $65.

AUG. SEEFELDT, Theresa, Wis.

Every grain producer and grain dealer will be interested in the announcement that the Chicago Board of Trade has just appropriated $2,500 to further the work of the Horse Association of America. This brief announcement is of far-reaching significance. It means that the greatest grain market in the world has recognized the menace to grain sales resulting from the displacement of horses and mules by motors. It means that the methods of the Horse Association, in giving reliable information on the use of horses, are approved by the greatest Board of Trade. It proclaims the position of the grain men in no uncertain terms.

SWINE

Cedar Crest Farms

have never possessed a finer lot of BERKSHIRES than at present. Let us name you prices on fall and spring boars and young gilts.

J. K. Dering, Owner, Lake Villa, Ill.

JERSEYS

JERSEY BULL

14 Months Old

From Register of Merit Dam

With record of 416 lbs. fat, age 3 years, 2 months, carried calf 247 days. 7 nearest dams of this bull are in Register of Merit with good records. Solid dark color and a very good individual. Price $140.00.

P. G. WARMINGTON, Honey Creek, Wis.

Three Bulls For Sale

No. 1—Bright Prince's Gentleman 192454, seven months old. No. 2—Plymouth's Bright Prince 192452, six months old. No. 3—Stena's Bright Prince 192453, four months old. All of them are well grown and backed by good R. of M. breeding. Write for further information.

GEORGE KNOWLES, Route 4, Plymouth, Wis.

Register Merit Jersey Herd

At Head, Mona's Jacoba Premier grandson: Pogis 99th of Hood Farm. Dam, Mona's Jacoba, record 806 lbs. butter: Granddaughter Jacoba Irene, young stock; St. Lambert breeding for sale. **R. C. Green & Son, Albion, Wis.**

Ten Splendid Jersey Bulls

Good type, 6 to 18 months old. Heifers bred and open. Hood Farm Toronto, King Sappho King, Loretta D. Bright Prince, etc. blood lines. Free from abortion. Dams are in the R. of M. or on test. Accredited herd. Address: **J. Q. Emery & son, Edgerton, Wis.**

Hillcrest Jerseys

Bull calf born March, 1920. Sired by Imp. grandson of Golden Fern's Noble. Priced right for quick sale. Write

ROLLIE VANDERVORT, TOMAH, WIS

JERSEYS—DUROCS

Just one bull old enough for service and a few young calves. Hood Farm breeding.

F. R. Constance & Sons, Waupaca, Wis.

HERE'S YOUR OPPORTUNITY

Bull calf born March 4, 1920, sired by a grandson of Majesty's Western King and out of a R. of M. daughter of Ibsen's Chief. For full pedigree and price write

E. E. HILL & SONS, Tomah, Wis.

Valley Farm is Offering

Several bulls, 6 to 12 months old, from R. M. cows. Sired by Golden Maid's Viscount and Kilda's Royal Majesty, two of the best Island bred bulls living. At prices to sell. Write

FRED STUBLEY, Black Earth, Wis.

The Elms Jersey Farm

A few young cows, bred heifers and unbred heifers, for sale at from $150 to $250. Write for pedigrees and descriptions.

Thos. T. Bacheller, Jr., Mgr.

Forest Lake, Minn.

Montpelier Jerseys

Three young bulls ready for service. Trace three times to Oxford Lad. Fine typy individuals. Right in every way.

Montpelier Manor Farms, Laurel, Md.

POLLED JERSEYS

Breeders' names and Spillman's "Inheritance of the Poll Character in Cattle" mailed free.

CHAS. S. HATFIELD, Secy, R4, Box 5, Springfield, Ohio.

25 out of 80

OR

31¼ per cent of the highest record cows of the breed, at various ages from yearlings to mature cows

Bred or Their Sires Bred at Hood Farm

These 25 cows and heifers average 14,156.6 lbs. milk, 765.5 lbs. fat. Two out of the eighty Imported cows; seven out of the eighty sired by Imported bulls; 9 or 1⅛ per cent Imported or sired by Imported Bulls.

A Sophie Tormentor Bull

at the head of your herd means increased production and profit. Four-generation pedigree on request.

HOOD FARMS, Inc.

Lowell - - Mass.

BELSWOOD FARM

Financial Bred Jerseys

Six young bulls out of dams with R. of M. records of 500 lbs. butter and better. Good typy individuals.

Also yearling heifers. Let us send you our illustrated catalog.

A. F. BLOCK, Norwood Park, Ill.

GUERNSEYS

Langwater Traveler

Carries 50 per cent blood of Imp. King of the May, greatest bull of the breed.

His dam is Langwater Lustre, A. R. 806.10 lbs. fat, fifth cow in Class C. She is the second highest testing daughter of King of the May. His sire is Langwater Holliston, sire of Langwater Levity, sold for $6,000.00 and leading cow in Class EE. Traveler's daughters are averaging over 500 lbs. of fat with their first calves. His first daughter to freshen will be a class leader in FF. We offer some excellent bull calves by Traveler out of May Rose cows with fine records. Federal Accredited Herd.

CHICONA FARM GUERNSEYS

A. L. Gile, Prop., Chinook, Washington.

Guernsey Bulls

Special Low Prices

Guernsey bulls by Beauty Eagle's Bonny Boy 42893, he by Bonny Boy of Riverdale 29070 (noted show bull), and out of Beauty Eagle 18117, 846 lbs. fat, or a son of Glenwood's Champion 15639 (24 A. R. daughters) out of daughter of Langwater Demonstrator 16451. Splendid high producing dams. Send for sale list.

LA BELLE KNOLL FARM, Oconomowoc, Wis.

Guernsey CATALOG Prices

These prices include compiling the pedigrees from one of the most up-to-date Guernsey files in America.

Our standard size catalog is 7x10 inches and is best adapted for printing four generation pedigrees. We can also make attractive prices on catalogs of larger size containing five and six generation pedigrees.

500 7x10 Catalogs - $3.75 per page
750 7x10 Catalogs - 4.38 per page
1000 7x10 Catalogs - 5.00 per page

Prices on Single Pedigree Orders

4 gen. typed in two colors—1 copy $1.00, 2 copies $1.25

4 gen. Mimeo—one color, 25 copies $2.00

4 gen. Mimeo—two cols. 25 copies $3.00

Prompt efficient service guaranteed

Guernsey Department

of the

Wisconsin Live Stock Advertising Company

Pioneer Bldg., Madison, Wis.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

A May Rose Bull Ready For Service

He is QUARTERMASTER OF K. P., a son of Anton's King Cecil and from Quiet of K. P. (522.32 lbs. fat Class D), she a daughter of Jury of K. P. (21 A. R. daughters). Anton's King Cecil is by a double grandson of May Rose King and from Machere Cecile (545 lbs. fat in Class D).

"QUARTERMASTER" is a show bull.

Write me today.

A. R. HOARD, Fort Atkinson, Wis.

Tilden Farms Guernseys

FOR SALE: Several typy, May Rose bulls out of A. R. cows and sired by Hope's May Rose of Maple Hill (35903), whose dam is a class leader with 776 pounds of butterfat at 3 years. Also several choice pure-bred females and a few excellent grade cows. Herd on Federal Accredited list.

TILDEN FARMS

James H. Murphy, Mgr. Delavan, Wisconsin

Pleasant Acres Guernsey Farm Is Offering For Sale

Bull calves of May Rose breeding from 3 to 14 months old. The dams of these calves either have A. R. records or are now on A. R. test.

Clyde E. Fruit, R. 1, Waukesha, Wis

GORDONDALE

Guernsey bulls of serviceable age offered for sale, also younger ones. They carry May Rose breeding, are from A. R. dams and have splendid A. R. backing Ask us about them.

Herd under Federal Supervision.

L. E. GORDON, JR.,

Nelsonville, Portage Co., Wisconsin.

Norwind Farm

Offers

Norwind Chieftain 65697, a grandson of Langwater Steadfast. Chieftain's dam made 526 lbs. fat in D. His sire's 19 nearest tested dams average 714 lbs. fat. He is a fine individual and ready for service. Write for price and description.

Norwind Farm, Sheboygan, Wis.

Young Bulls for Sale From A. R. Dams

Sons of Golden Noble of Craigavon from A. R. dams with records up to 646 lbs. fat. They are from 3 months to a year old. Write for complete information.

MAPLE HEIGHTS GUERNSEY FARM

Frank E. Swan, Wauwatosa, Wis.

Federal Accredited Herd.

Wern Farm Guernseys

I am offering for sale 20 head of choice Grade Guernsey springers coming with first and second calf. Also have two bulls highly bred along May Rose lines just ready for service, that I will sell. For full particulars, write, wire, or come and see the stock.

Wern Farm, Waukesha, Wis

Homestead Farm

Offers for sale bulls from 11 to 13 months of age from A. R. dams. Also a few young bull calves of excellent breeding, and three A. R. cows. Write for sale list or come and see them.

JAMISON BROS., Appleton, Wis.

8 Registered Heifers For Sale

5 of them are from 18 to 20 months old and in calf to a good son of Langwater Cavalier. Of these, 3 are granddaughters of Langwater Hambro and of Bob Rilma's Monogram. They are well grown and good individuals.

The other 3 are from 5 to 8 months old.

Write or come and see them.

Ralph Tratt, Whitewater, Wis

Guernsey Bulls

All ages, sired by a son of Beda's May King, out of dams who are daughters of Governor of the Chene (1297) P. S., Langwater Raritan, Prince Charming and others. Write for prices.

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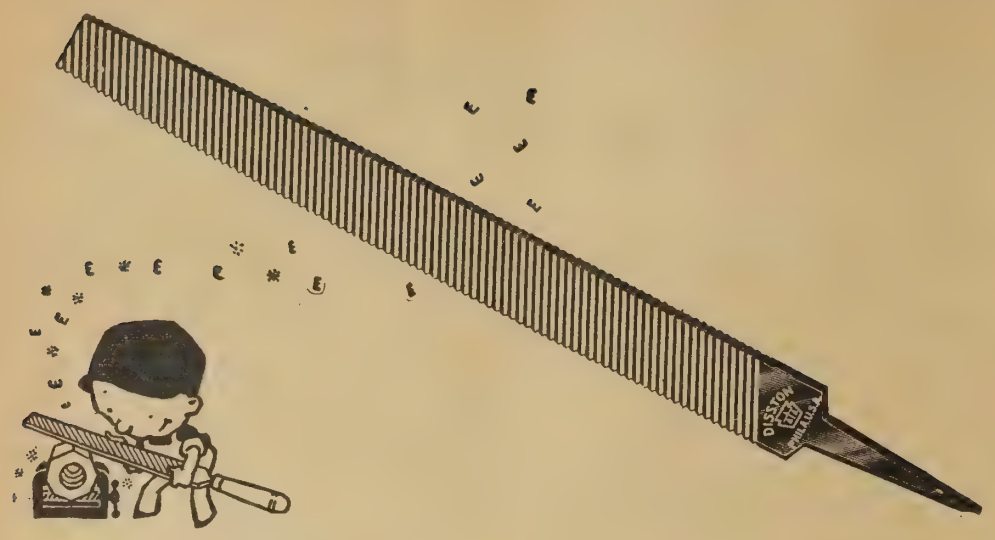
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HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING



Fort Atkinson, Wisconsin Volume LXI, No. 14 April 22, 1921

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Does the Show Ring Fulfill Its Purpose?

H. P. DAVIS, IDAHO

DOES the show ring fulfill its purpose? This question raised by Professor Woodward in a recent issue of Hoard's Dairyman is a much discussed one. Certainly the show ring is far from perfect as a means of establishing type, yet it has many advantages as anyone will admit. Judges, it is true, are far from perfect and as long as men are human there will be differences in judgment. Of the points that were raised in the article either a lack of ideals on the part of the judges or a different interpretation of the value of different parts of conformation, the former may well be dismissed as far as important shows are concerned. As to the second, there is a wide variation in the type that breeders are striving for.

Consultation of any breed history or the early pictures of the animals will demonstrate how different was the type of animals prevalent a generation ago. Now these changes of type have come about through the efforts of the constructive breeders and the show ring has played no little part in presenting the change to the country in general for approval or disapproval. A certain dairy breed now has a pretty well fixed type which has been developed rather generally throughout the country. The singleness of type prevalent in this breed has been brought about quite largely through the efforts of a particular judge who, for a number of years, has officiated at the more important shows. The breeders, also, have been unsually willing to let him set the type. In some of the other dairy breeds, the breeders have been unwilling to follow the type set by any single man or group of men with the result that the type is far from uniform.

Particular sections of country have developed certain ideals of type in one of the dairy breeds and the breeders are not anxious to have these modified as would likely happen by obtaining a judge from another section. All this makes for confusion in the minds of inexperienced breeders and prevents the breed from attaining a desired uniformity. This condition is very likely to continue to exist, however, as long as the government of breed organizations is democratic. In a way the very fact of variations is encouraging since it indicates that breeders are not completely satisfied with what they have so far attained.

Two points, and to my mind important ones, that Professor Woodward did not bring out in the discussion of animals being reversed in different shows, is the question of condition and showing. Condition is always important in the show ring and a slight variation may easily cause one animal to be placed below another. To illustrate: Showing usually presupposes a journey to the show. The animal makes the trip to the first show of the circuit in good condition. At the first show it contracts scours, or hoof rot, or anyone of a dozen things so that upon arrival at the next show it is feeling far from fit. Perhaps it fails to eat well, or perhaps the water is not to its liking, at any rate it appears in the ring a little "slab sided" with the hair a bit harsh. A judge may easily put the animal down a number of places below animals that at other times were inferior. In fact, last year that very situation happened in two shows at which I officiated, where the competition was close between two animals. In this particular case the owner of the two animals expressed himself as well satisfied.

Another point, and a very important one, with young animals is the question of growth. Dr. Eckles has demonstrated by measurements what breeders had long observed, namely, that animals grow unevenly. Perhaps one month there is a gain in height at the withers and no increased height at the hooks and the next month the reverse takes place. Anyone who has picked out and shown a herd of young animals is all too well acquainted with these facts.

Comparatively few persons who are not intimately acquainted with the show ring realize to what a large extent "showing" influences the placing of awards. If anyone has struggled, as I have at some of the smaller shows, to get those showing the animals to show them in such a way that their true merits could be gauged, they will appreciate how hard it is to do justice in judging. The expert showman also very often by his skillful display of the animal's strong points so impresses the judge as to win honors not well deserved.

Any discussion of the show ring, its standards, and the ideals of type must consider all the points affecting the placing of the awards.

Keep White Grubs Out of the Corn

Severe injury from white grubs is to be expected this season throughout southern New York, northern Pennsylvania, northern Ohio, the southern half of Michigan, northern Indiana and Illinois, eastern Iowa, and southern Wisconsin. Every three years these regions are visited with outbreaks of these pests, because of the fact that it takes three years for the insects to pass through their complete life cycle. There will be an abundance of small grubs this year of what is known to entomologists as "Brood A" of the white grub. They will occur especially in fields that were in grass last year, and for this reason throughout the regions mentioned neither corn nor potatoes should be planted on such land, because these crops will almost surely be severely injured if this be done. Ground that was in pure clover or even in corn last year is likely to be quite safe for planting to corn this year, because the bettles which are the parents of the white grubs do not usually lay their eggs in such crops. A good rotation of crops to escape white grubs is as follows: First year, oats or barley; second year, clover; third year, corn. Timothy or other grasses harbor white grubs from year to year, and, therefore, in case they are grown, the land producing them should not be planted to corn, at least for the first year after it is broken from the sod.

Farmers' Bulletin 940 contains full information on white grubs and may be obtained free on application to the United States Department of Agriculture.—U. S. Department of Agriculture.

If You Sing

What is your favorite farm bureau song? Please send a copy of it to the Department of Education and Publicity, American Farm Bureau Federation, 58 E. Washington St., Chicago.

HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING

Volume LXI — FORT ATKINSON, WIS., APRIL 22, 1921 — Number 14

THE FARMER AND HIS FRIENDS

M. H. WATSON, KANSAS

"Let me live in a house by the side of the road and be a friend to man."

THERE is an old farm many miles away that I used to visit often when I was a boy. As we went along the public road toward the place, we could see the house off to the northwest, perhaps half a mile away. But from the place where we reached the corner of the farm to the end of the lane up which we turned, we could not see any of the farm buildings. First we had to pass a row of willows, then a long thicket of wild plum bushes, and lastly a high bank with a wire fence clinging to its top. For the first few rods as we went up the lane there was no house in sight, but as we rounded a little hill we could see the house and barn off to the north a quarter of a mile away. Down we went across a deep ravine on a rickety little bridge and then through a level stretch and up a hill to the house. In wet seasons the level part of the lane was almost impassable. The old people who lived there used to say that in thirty years they had never been bothered by a tramp or a peddler. In these later years there is little danger of having any of their poultry run over by automobiles passing on the public road. There are advantages in having a home so located.

I know another farm home that is very differently situated from the one that I have just described. It is on the main road just outside a small village. The house is not grand but comfortable-looking, white with green trimming. It is surrounded by some fine old trees. There is a good well temptingly near the road. The barn is large and red. There is plenty of live stock about the place. I often notice a neighbor's team or auto standing in the well-traveled driveway south of the house.

It seems to me that these two farm homes represent two different kinds of lives that are today being lived on farms. There is the shut in life that is occupied with its own interests but is not very closely in touch with other lives. And there is the friendly life that is in intimate contact with other lives, sharing the joys and sorrows of humanity. Much is being said today about the breeding of better live stock, about maintaining and increasing the fertility of the soil, about the co-operation of farmers in marketing their crops, but there is no need more vital to the farmer than plenty of friendly intercourse with his fellowmen.

An old Roman philosopher once said: "There is no better way to realize the value of friendship than to suppose that some day God would take you away from the society of your fellowmen to some delightful place and there supply you with all the comforts and luxuries that heart could wish. You could not enjoy wealth or anything that wealth could buy if you were absolutely separated from the rest of mankind." There may have been a few lonely seasons in your life when you have realized the truth of this.

Friendship a By-product

If the making of friends seems to be a man's principal business, we suspect that he intends to run for office or we conclude that we do not fully understand the scope and nature of his operations. Most worth-while men are closely identified with one of the common business callings. They are farmers, doctors, mechanics. From his business a man expects to make a good living and to lay by something. Through his business he may hope to make his mark in the world and do some noteworthy public service. But as he follows his calling his life touches other lives here and there and at each point of contact there is the possibility of finding a friend. If he is a farmer, he must exchange work with his neighbors. He must borrow and lend. He must buy and sell. He may have to consult a doctor or sit in a dentist's chair. He may put himself in touch with his state experiment station or he may join one of the great farm organizations. If he is fair and friendly he may soon have a number of friends.

Another illustration of the way friends come to us is obtained from the country church. A church is primarily a place for religious instruction and worship. But in the church some of our most helpful friendships are made and developed.

The Subjective Side of Friendship

Do you know that your world, the real world in which you live, depends more upon what you are than upon the people and circumstances that surround you? We have a way of transposing ourselves over into our friends' shoes. If I have an unkind and uncharitable way of judging my friends, I can feel that same unkind criticism coming back to me. If I have a friendly, charitable attitude, I can feel my friend making excuses for me though he says nothing. If I am prone to take small advantages of my friends, I will be always ready to sense some return of the same. If I see a neighbor's good qualities and emphasize them in my own thought of him and treat him in a friendly way, the chances are ten to one that he will be a good neighbor to me.

The Sifting Process

But there is a sifting process in friendship. How many people have you known in your life? Take a moment and make a rough estimate. Would you think five thousand? Maybe you have known ten times that many. How many intimate friends have you had with whom you shared your inner life, your aspirations, your plans? You knew they would understand. They would discreetly keep your confidences. They could listen patiently, advise you frankly, trust you freely; you could feel their weaknesses, their strength, their needs. You have not had many such friends; three or four persons, possibly ten. Between these very best friends and your merest casual acquaintances are to be found the various stages or degrees of friendship.

Hindrances to Friendship

Circumstances prevent us from really knowing many of our acquaintances. We do not live near together or we move in different circles. We are not enough interested in each other to cross the natural barriers. But there are certain barriers that a man places around himself and that keep him from being rich in friends.

One of these is insincerity. You would hold back a little from a friend who is two-faced, though you may admire his other sturdy qualities. I feel almost certain that a friend of mine talks uncharitably about me behind my back because he talks uncharitably about all his other friends to me. To their faces he is just as affable as he is to mine. Insincerity sometimes appears in other forms that would be harder for me to endure.

Perhaps you have a friend who lacks a sense of humor and you enjoy having a little fun. Perhaps your friend holds a higher opinion of himself than the facts seem to justify. Perhaps he wants too much public recognition, wants to manage everything in sight. Or perhaps it is against you that these charges are heaped up by your friends. Petty trespassing and unbusinesslike arrangements have spoiled a lot of good friendships.

The Responsibility of Friendship

An old proverb says that a bad apple spoils all the other apples in the basket. We have a number of contagious diseases, mumps, measles, scarlet fever. We even catch colds from one another. A bad boy may contaminate all the boys at the country school. We all recognize the contagious character

(Continued on page 606)



MAKING THE SEED BED FINE

Quality in Tractor Work

J. L. JUSTICE, INDIANA

MANY good words have been spoken in behalf of the tractor in the way in which it has helped farmers out of labor difficulties, enabling them to accomplish their work in a shorter time or with fewer hands and giving them the advantage of getting the crops in in time or the harvesting done under favorable conditions. This is a side of tractor farming that seems to be emphasized most strongly as it well deserves to be, but oftentimes there are other advantages that are lost sight of especially in handling the soil.

A question most frequently asked of me by neighbors and farmers who are looking into the tractor farming business, is: "Does tractor plowing and preparation of the soil measure up to that of the horse drawn implements in quality of work done? It has been shown by certain methods that the pressure of the tractor on the soil per square inch is less or no more than that of the horses' feet, but do you find in your experience that the tractor packs the soil more than horses or causes more clods to turn up?"

These are natural questions and good ones for farmers to discuss. Personal experience with tractor farming and observation of the results of work done with our tractor and others in the neighborhood leads me to believe that many prospective buyers do not examine thoroughly enough the work the tractor does. It is impossible to judge the work from the road, as is sometimes done. Months before we purchased a tractor, I went to many fields where tractors were working under various conditions to see what could be done with them. I heard of tractors condemned because they were doing a poor job of plowing or that they were packing the soil in such a way as to be harmful, but the trouble I concluded in every single instance was not with the make or type of tractor, but with the way in which it was handled and in improper adjustments of plows.

I saw one two bottom plow which was designed to cut twenty-eight inches being pulled along at the rate of better than three miles an hour and cutting more than thirty inches. There was much criticism of the work being done and unfortunately the tractor got the blame from many. The same results would have obtained with horses if the plows could have been pulled at the same rate with the same excess cut. I was convinced long ago that tractors could do absolutely as good work pulling plows as could horses, and no horse plowing on our farm has ever excelled that done with the tractors, which includes three different kinds or types of tractor used.

Many times after plowing the soil is so broken and pulverized in turning by the plows that it is loose and mellow enough to go right in with a light harrow to put it in excellent shape for planting with one trip over. The tractor pulled plows travel a little faster than horse drawn plows; there is a slight tendency to throw the dirt over rather than to turn it slowly and this serves to break up the furrow slice and give it the pulverizing action that cannot be accomplished with any other kind of a farm implement. This feature of tractor plowing permits of quick working of the soil into a seed bed. While the same or a somewhat similar result may be obtained sometimes with horse-drawn plows, the results are not so uniform in different kinds of soil throughout a field.

We have found that the tractor plows will turn under stalks or trash better than horse drawn plows, this being due largely to the fact that the plows can be set deep enough to cover all the trashy material. This makes a clean field which is easily cultivated without breaking down the corn. Heavy growths of rye and sweet clover are easily turned under and all sod is cleanly and efficiently covered. Clean plowing is one of the features of tractor plowing which adds pleasure to the work. Whenever trash is left exposed between the furrow slices it proves a nuisance all through that season if a cultivated crop is grown on the land, so if it is gotten well under the soil it will not only be out of the way but will decay and form plant food more rapidly.



"With the tractor pulled plows," says Mr. Justice, "there is a slight tendency to throw the dirt over rather than turn it slowly as with horse drawn plows. This serves to break up the furrow slice and to give a pulverizing action that cannot be accomplished with any other kind of farm implement."

As to packing of the soil, a great deal of harm may be done with a tractor the same as when horses are used under similar conditions. It is a bad policy to run over the ground when it is too damp or wet to do so. It will most surely pack the soil. When this soil is plowed it will more than likely turn up cloddy where the tractor passed over if the soil is such as to become cloddy.

One redeeming feature is that the tractor farmer has such a large plowing capacity that he need not go onto his soil until it is in just the proper condition to plow without danger of packing. He can choose his time to do the best work, thus avoiding running over or plowing soil not in fit condition. Where there are wet spots in a field the tractor of course may have to plow through these, but I have never yet seen such soil packed any worse with a tractor than with horses.

I have heard the complaint also that in plowing a field in headlands the continual running across the unplowed ground on the ends tends to pack the soil considerably. This is true, but by proper laying out of the headlands and care in turning on the ends the soil need not be injured by the practice. Narrow headlands will be advantageous in preventing running over the same ground so much, then a careful driver need not follow the same tracks all the time. There are other methods of laying off lands that can be followed just as easily as that of laying off in headlands. It would be necessary to go into detail to explain them and it would be well for the prospective or new tractor owner to study the advantages of all methods of laying off lands before attempting any one method. A little study of others plans and experiences is very helpful both in choosing and operating a tractor.

What Drainage Has Done for Middle West

G. E. WARREN, ILLINOIS

WHEN the sturdy pioneers streamed across the Mississippi Valley three-quarters of a century and more ago they selected the higher grounds for their homes and farms to avoid the swamps and bogs. Millions and millions of acres were under water a part of the year and millions more were partly under water at times, and with no ditch cutlets or tile drainage, the lowlands were worse than useless. In Lincoln's boyhood in Illinois, the farms around the quaint little village of New Salem where he lived were situated in higher areas such as could be farmed without drainage. Hilly and rolling ground was more in demand because of natural drainage than the more fertile deep soils of the stream bottoms and endless flat prairies.

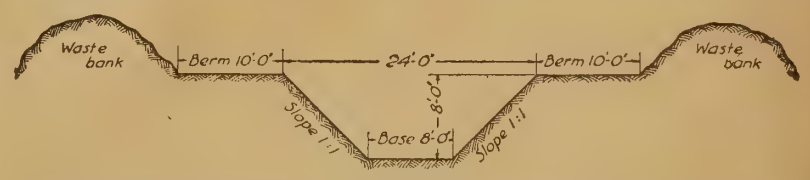


Fig. 1. This waste of land might be utilized for farming by the use of closed tile drains. The drains would also make the fields easier to handle and avoid the expense and trouble of bridging the open ditch.



REPLACES A WASTEFUL AND INCONVENIENT DITCH
These are 38-inch concrete drain tile placed in trench and ready for back-filling. The entire area can now be farmed and there is no necessity for bridges.

Romantic as the pioneer period was, and thrilling as the fireside stories of early settlers still living are, the modern development of farming now in progress in the Mississippi Valley through reclamation of wet lands by drainage, surpasses in national value and importance the agricultural growth of any other period. Nearly enough fertile land in the United States remains unused because of lack of drainage to feed our entire people. Unlike the reclamation of the arid vastnesses of the western plains, the middle west swamp lands have been and are being reclaimed without federal or state aid financing. There are today south of the Mason-Dixon Line, according to a well-known authority on land drainage, seven million acres now in organized drainage districts. Another authority states there are one hundred to one hundred five million acres of swamp lands in the middle west and south, and that there are more than two hundred million acres of fertile lands that need tile drainage to make them tillable and productive.

The state laws of the middle western states have provided amply for co-operative methods of handling drainage work. The methods under the law differ to some extent in the various states. Taking Illinois, for example, as typical, there are three separate forms of co-operative drainage which may be used. One farm cannot be drained independent of the neighboring farms unless it so happens that a stream crosses the farm, furnishing natural outlet drainage. In this vast prairie country this is seldom the case

(Continued on page 594)

Branding and Dehorning Chutes

IVAN D. WOOD, NEBRASKA

THERE are many types of branding and dehorning chutes in use today, each with its desirable and undesirable features. Some cattle men favor the stationary chute since it can be built more substantially than the portable kind; others favor the portable chute since it can be moved from one ranch to another or used in several locations on the same ranch. Mr. W. H. Campbell, a county agricultural agent in Nebraska, made a study of the different kinds of branding and dehorning chutes in use in that state and combined their desirable features in the designs shown in Figs. 1 and 2.

The essential features of the frame are shown in Fig. 1. The sills are two 4x6 inches, 9 feet long while the corner posts are 6x6 inches bolted to or morticed to the sills. The entire frame must be well braced with 4x4 inch material as shown in the figures. The floor board is a 2x12 inch plank, while the sides are covered with 2x8 inch as shown at "M" Fig. 2. The "squeezer" is built upon an "A" frame made from 4x4 inch pieces 9 feet long. The "squeezer" hinges on a piece of 1½ inch gas pipe at the bottom.

Many chutes have sides solidly boarded up from top to bottom. When an animal is caught with the squeezer in this type, there is more or less danger of injury. It will be noted that the sides of the chute here described are boarded part way and are then fitted with 1-inch gas pipes, spaced about 9 inches apart and firmly set into horizontal 6x6 inch pieces. The bars being vertical fit in around the hips, shoulders, and ribs holding the animal firmly with very little danger of injury. When an animal enters the chute the front door is shut and the "squeezer" is in a down position; this allows plenty of room for freedom of movement. At the desired time the lever at "T", Fig. 2, is pushed down and hooked to the ratchet pins on "S". The pushing down of this lever pulls the ½-inch rope which passes over the pulleys at "X" and "Y", Fig. 1, and raises the "squeezer" to a vertical position. The animal is held firmly in a "V" trough formed by the side of the chute and the "squeezer". While the floor board is a 2x12 inch, it is essential that the distance between the bottom of the squeezer and the side of the chute be not more than 8 inches. By referring to Fig. 1, it can be seen that the sides of the chute slope outward at the top to give the "V" or trough-like effect.

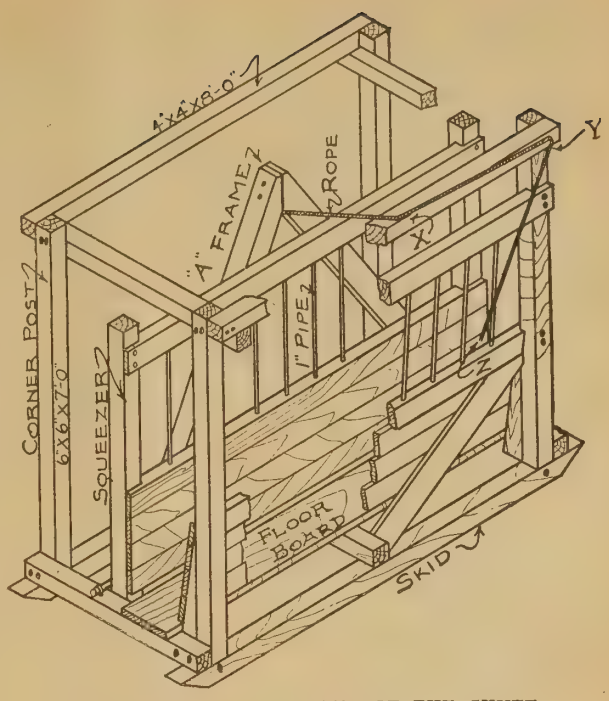


FIG. 1. SHOWING THE FRAME OF THE CHUTE

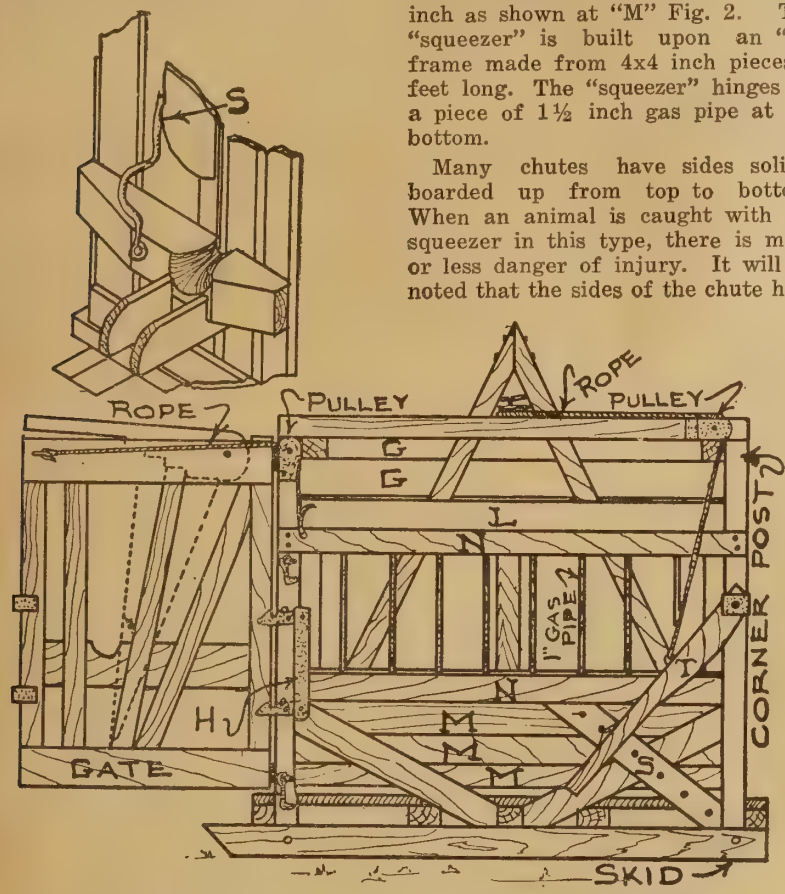


FIG. 2. FRONT VIEW OF THE CHUTE WITH THE GATE OPEN. TOP—PARTIAL FRONT VIEW OF THE GATE

The gate construction is shown in Fig. 2. It should be hung with heavy strap hinges. If the top hinge is set so that the top of the gate is held out slightly, it will swing open without the use of springs or weights. When swung shut with the rope it is automatically caught by the double hooks shown at "H", Fig. 2. Two stronger safety hooks are also provided.

The animal's head is held firmly in the stanchion. This stanchion is adjustable to different sized cattle. The dehorning device presents somewhat of a problem. Some breeders use a heavy canvas nose bag type, the animal's head being snubbed into position with a rope passed just back of the horns. The dehorning attachment shown in Fig. 2 has been successfully tried and does not injure the animal. It consists of two pieces of 2x8 inch rounded off at the end as shown and spaced to receive the nose; the jaws and neck rest across the heavy timber and the head is held in position by the piece of heavy gas pipe marked "S". In the drawing this gas pipe is shown cut away. In reality it must be long enough to give the operator considerable leverage. The entire structure must be made taller if used for branding horses.

SUCCESSFUL SOLDERING

It Pays to Patch This Day and Time. Anybody Can Do a Good Job of Soldering if He Will Follow a Few Simple Rules Outlined Here

R. U. BLASINGAME, PENNSYLVANIA

WHEN the barn roof leaks and spoils a ton or two of hay, it is time to stop that leak. If the ten-gallon milk can leaks, it can be soldered and made as good as new. A soldering outfit doesn't cost much. To solder up a hole takes less time than to tell about it if the man knows a few things about how it is done and will be clean about it. Being clean with a soldering job means to have a clean "soldering iron" (generally known as a "soldering copper") and have it properly tinned and remove all the rust and scale from the object which is to be soldered. Apply the flux and do the job. Soldering is simplicity itself if these general rules are followed.

It doesn't cost much to have a simple job of soldering done by a mechanic but when the barn roof leaks, the tinner from town has to charge for his time in going and coming and for transportation, thereby making a little job cost big money. The actual job may be quite a small one and might as well be done by some one about the place.

Soldering is a process of combining two similar or dissimilar metals together by a third metal with the use of heat.

Use of Flux

A flux is used to prevent oxidation of the heated surfaces, both the metals which are to be united and the soldering metal. Flux also renders solder more fluid, runs fast, and enters small crevices and cracks.

Resin is one of the most used fluxes, especially for soldering brass and tin. It melts and flows over the heated surface and excludes the air.

Borax is used for hard soldering and brazing on account of the fact that it will stand high heat while the resin will not.

Borax is also used for welding steel. Pure sand may be used in welding also. Lime may be used as a flux for welding steel.

Chemicals, like charcoal, salt, soda, etc., when incorporated with the flux, will reduce metals back to original form. They are called reducing agents.

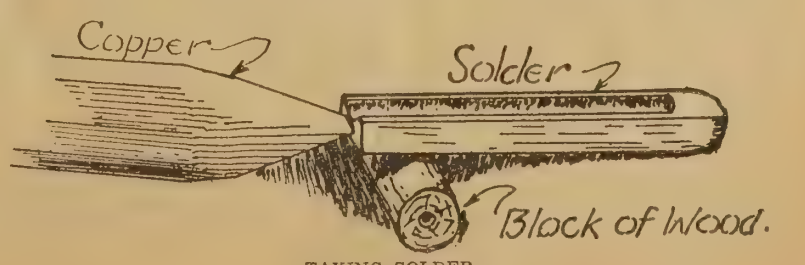
Tinning the Copper

The "soldering iron" is generally called a "copper" because of the metal from which it is made. One of the first and most necessary steps to a good job of soldering is to first tin the soldering iron. There are several methods of tinning the copper. The first step in the tinning process is to clean off the oxide which always accumulates on the copper. This may be done with a file, scrape, or sand paper. The tinning process may be done in three ways: (1) Dissolve all the zinc that a half cup or any quantity of hydrochloric acid will take up. The acid may be obtained at any drug store; the zinc from a worn-out dry cell. The cup of the dry cell is made of zinc. When the copper is hot, file it bright and dip it into the acid and zinc solution. The acid attacks the copper and places a film of zinc over the copper. (2) The resin method consists in filing the hot copper to a bright surface and then rub it with a piece of resin. Then it is tinned by rubbing it with a stick of solder. The filed surface must be rubbed with the resin immediately because a second's time will allow the air to form an oxide over the surface. (3) The copper may be tinned with a brick. Scratch a slight groove in a soft brick with a cold chisel and leave the dust in the groove. Now melt some resin in the groove and also a few drops of solder. Next rub the hot copper in the groove in the brick. The soft brick will shine up the copper and the resin will exclude the air while the solder will coat the iron.

Solder

The solder for certain jobs is important. For soldering tin a solder of equal amounts of lead and tin is probably best. This is sometimes called "half and half solder". For roofing the solder should be mostly lead. For joints on brass or lead, the solder should be high in tin. The solder which contains most tin melts

Continued on page 585)



TAKING SOLDER

SELLING MILK THROUGH A COMMISSION

Producers, Distributors, and Consumers Equally Represented in Setting Detroit Milk Prices

MILK producers in the Detroit district trust the selling of their milk to a Commission. Farmers are represented on the commission, as are the distributors and consumers, and the price is set by compromise agreement. Neither the man who milks cows nor the one who delivers the product to the kitchen doors of Detroit has more to say about prices than does the man who foots the bills at the month's end.

The Detroit Milk Commission has been in operation since 1916, with the exception of a few weeks this winter when it refused to take the responsibility of making the heavy reductions in the returns to the producer. At present its members are: a representative appointed by the Detroit Board of Commerce, one by the Detroit Federation of Women's Clubs, one by the Detroit Federation of Labor, Professor A. C. Anderson, Ex-Governor Fred M. Warner, J. N. McBride, Ira R. Waterbury, and Fred L. Woodworth. According to an agreement made by the producers and distributors January 26th, 1921, and later approved by this commission, the price for 3.5 per cent milk f. o. b. Detroit in March and April is $2.51 per 100 lbs.; in May and June, $2.31; and during the following four months, $2.71. A four cent differential is made for milk testing above or below 3.5 per cent. These prices are on the basis of a 13 cent milk at retail. If milk retails for 14 cts., the July price to producers will be $3.03, and in August, September, and October, $3.10. Seventy-five per cent of any increase above 14 cents goes to the producers.

Surplus Sets the Price

As in other markets, surplus sets the price in Detroit. Even a commission cannot regulate supply, or maintain a uniform demand throughout the year. In January R. C. Reed, secretary for the Michigan Milk Producers' Association, wrote, "With increased production resulting from the increased number of cows and also from the increased production per cow, we have found ourselves unable to steady the price to any extent that would give the farmers an adequate return for the money and time invested". Up-state farmers whose surplus is not handled by a local market have offered to deliver milk into Detroit during the past three months for as little as $1.50 per 100 lbs.

Coincident with over-production has come a period of marked underconsumption. Detroit has probably suffered more than any other city through deflation, nearly a quarter of a million men losing their regular employment. This cut down the consumption of milk at least 20 per cent. At this time about 75,000 gallons are distributed daily. The amount, according to the city's largest milk company, should be near 100,000 gallons.

The combination of these two circumstances, marked increase in production and a drastic cut in consumption, made necessary so great a reduction to the producer from the price of $3.80 in November and $3.00 in December that the Commission declined to set the price, leaving it to the producers and distributors to agree upon a basis. That the price schedule for the following months, as given above, was not reached without difficulty is indicated by the statement of the Secretary in January that "a crisis is on, the like of which we have not known since the Milk Commission has been serving the people" and his complaint that by the proposals of the distributors, "the distributor would get more than the farmer, and some months very much more. The farmer would then be doing as he has always done, getting what was left after others had been taken care of".

Work of the Commission

The Detroit Milk Commission meets once a month and passes judgment on the milk prices of the city. Among its members are men well informed on the production and the distribution of milk. Also it has members who know what the public is willing and able to pay for its milk. When all facts have been carefully weighed, a price is set. From its first meeting the Commission has given much attention to costs. Its dependence has been largely placed in the myth, "cost of production plus a profit". This worked well for a time but when that stern old arbitrator, supply and demand, made "cost plus" ridiculous the Commission was forced to throw up its hands and pass the buck to the producers and distributors themselves. Then the men who had something to sell met the men who wanted to buy and accepted the best price they could secure. To this the Commission gave its approval.

In general the work of the Commission has had an excellent effect. Besides establishing prices which have been acceptable to those who produce and retail milk, it has the confidence of the public. The justice of this milk tribunal has not been questioned. The producers say: "We want the Commission. We do not want to go back to the old way of having a continual fight in selling our product." Mr. Reed says: "We feel hat no greater service has been rendered by any body of men or women during the past four years than that of the Detroit Milk Commission."

Surplus Not Handled

Under the present agreement with distributors, the producer takes care of the surplus, the distributor contracting for the quantity needed. No adequate system of disposing of surplus has been inaugurated. Though the increase in cow population has been less in Michigan than in the country as a whole, the advice to cut down the number of cows by weeding out those which are least profitable has not been followed enough to prevent a steady increase in total production. Now farmers have a large surplus and no market for it.

The surplus plan being followed is far from satisfying to the owner of cows. Part of the supply is simply cut off from the Detroit market. This is done by stations, "shutting off certain ones for one month, then others for the next month, and so on until the supply shall come to normal". While this divides the loss, it makes it necessary to find a new market in various sections for a short period, or waste production until the station or stations in the restricted territory are opened for Detroit shipping.

So important is the surplus problem that the association plans to handle at least a part of the "peak load" itself, in one or more association-owned manufacturing plants. At a meeting March 11 a resolution was passed favoring the appointment of committees to report plans for the organization and operation of such a plant or plants and authorizing the directors and officers to act. A study has been made of the creamery started by the Dairy Division at Grove City, Pennsylvania, where equipment is installed for turning milk into the market channel offering the best returns. That kind of plant is favored. It is expected that the first will cost about $100,000 and will be located in a surplus area. If it is successful other plants will be established.

The Producers' Organization

The Michigan Milk Producers' Association was organized in 1916 and has grown to a present membership of 17,500. The purposes to which it works are: "to establish the producer in the confidence of the people, to secure as large returns for milk as is consistent with a stabilized industry, and to get returns to the producer as quickly as possible without entering into complicated transactions". While the Association's principal work is within the Detroit milk shed, considerable help has been given to outside districts in an advisory way.

The contract into which the members enter with the association is reproduced on this page.

The association is financed through deductions made from the shippers' checks by the distributors. The producers authorized a charge of one per cent for 1921. The officers have cut this to two cents per hundred pounds. Since the association now owns no property for handling milk, this charge is used entirely in operating expenses. At the annual meeting October 19, 1920, resources totalling $40,702.27 were in the association's treasury, accumulated, according to Mr. Reed, because the officers "have felt that sometime, somehow, a crisis would come which would test the organization most severely". Such a "crisis" came April 6, 1920, when the Federal Fair Price Commission decreed that Detroit milk should sell so that the producer would receive $1.30 less per 100 lbs. This was in effect six days and made a loss to producers of over $10,000 per day. By securing a permanent injunction against this action the association saved much more money than its cost since its organization. The injunction was made possible through the use of data collected by the Milk Commission.

The operation of the Detroit Milk Commission has not pleased everyone. No one expected such a dairy millennium. Some distributors have been forced out of business by the margin allowed for distribution; some producers have been dissatisfied—one local threatening to strike last August, even though the price secured was $4.10 per hundred pounds. But the producer, the distributor, and the consumer in the Detroit area all testify to the fairness of the Commission and all favor its continuance.

Application and Agreement

This agreement, made this ——— day of ——— A. D. 192—— by and between the Michigan Milk Producers' Association, a Michigan corporation of East Lansing, Michigan, and ——— of ——.

For and in consideration of the benefits and advantages to my business, and in consideration of all the mutual undertakings and agreements and advantages to both parties hereto, it is agreed that I hereby apply for membership in the Michigan Milk Producers' Association, and contingent upon the acceptance of my application, I hereby constitute and appoint the Michigan Milk Producers' Association my agent with full authority to sell all milk produced by me, reserving only such amounts as are required for my family use.

And I hereby agree to the following:

First—To produce and handle my milk in a cleanly, sanitary manner, and to remove the animal heat by cooling immediately after it is drawn from the cow, and in such production and handling to observe, put in practice, and follow the rules and regulations pertaining thereto as laid down by the Detroit Board of Health.

Second—To allow the Secretary or properly appointed agent of the Michigan Milk Producers' Association to enter upon my premises and inspect my cows, cow stable, cooling rooms, and dairy equipment, and, if the same are found to be unsanitary, to correct the faulty condition.

Third—To submit all serious controversies as to weight and test of milk to the Michigan Milk Producers' Association for adjudication and settlement.

Fourth—To allow the Michigan Milk Producers' Association, as compensation for its services as my agent, one per cent on all milk sold for me, which amount is to be deducted when payment is made for the milk, and request that fifty cents shall be paid from this amount to the publishers of the Michigan Milk Messenger as my subscription to that paper for one year from date hereof.

Fifth—To deliver my milk at ——— to ———

Sixth—This is a continuous application, authorization, and agreement, but may be revoked by me during the last ten days of December in any calendar year by serving written notice on the Secretary of the Michigan Milk Producers' Association that I desire to discontinue the same.

Seventh—The violation of this agreement shall be considered full and sufficient cause for cancellation of my membership in the Michigan Milk Producers' Association, and in case of any violation of this agreement, I agree to forfeit to the Association, as stipulated damages, all amounts due me for milk at the time of violation of said contract.

Signed and accepted by the Michigan Milk Producers' Association.
By ——— Selling Agent.
N. P. HULL, President.

Signed ———
P. O. ———
Local ———

Tom King Makes a Start

One of the 241 Club Members of Pennsylvania Who in 1920 Owned and Cared for 379 Pure-bred Animals Valued at $67,259

C. G. McBRIDE, PENNSYLVANIA

TOM King of Mercer County, Pennsylvania, is a fair example of an all-round successful dairy club member. He is now well established with pure-breds but he has not done anything that is beyond the reach of any live young fellow who joins a dairy club and sticks to business as Tom has done.

Mercer County is a good dairy county in western Pennsylvania. That part of the county within a radius of fifteen miles of Grove City, which includes the King farm, has undergone a remarkable development in dairying in the last five years. The impetus came with the establishment in 1915 of a creamery under the supervision of the Dairy Division of the U. S. Department of Agriculture. It soon became apparent to the people of the community that they needed more and better cows. The creamery fieldman, the Grove City National Bank, and the County Farm Bureau together worked out a plan for the introduction of some pure-bred cattle. The farmers were quick to avail themselves of the opportunity to get the right kind of foundation stock, carefully selected, and in the fall of 1916 several car loads of pure-bred cows were imported.

In this development the farmers were thinking in terms of a long time development for the community's dairy industry and it was only logical that they should decide early to take in the young folks. Here's where Tom and forty-nine other boys and girls found opportunity beckoning to them to come along. They did not hesitate.

The Grove City National Pure-Bred Dairy Cattle Club was organized in the spring of 1917. A car load of fifty-three calves was brought in from Ohio and fifty of them were distributed by lot to as many ambitious young folks who had caught the vision of a wonderful dairy community in the future and wanted to be in on the ground floor. In the car load there were twenty-three Holsteins, fifteen Jerseys, and twelve Guernseys. The Grove City National Bank accepted notes in payment from all club members who desired to finance the deal in this manner. Membership in the club was open to boys and girls between the ages of 8 and 21 years. The rules provided that each member must actually own a pure-bred dairy calf, heifer, or cow and agree to give it good care and keep a record of the feed. Reports might be called for at any time and each club member would be expected to show his or her heifer at the annual creamery patrons' picnic where prizes were provided by the bank. Tom King took an active part in the affairs of the club. The second year he was elected to its executive committee and is still a member.

On the day of the distribution Tom was not the most pleased boy in the group of fifty. In fact, when he went home he was just a little blue and that is one reason we are giving his story. He wanted one of the biggest and best Guernseys in the lot and in the drawing he got one of the smallest ones priced at $85. There were only two below her.

This is what he had to say about her in a story he wrote sometime later: "I was somewhat disappointed the day our names were put in the hat to be drawn out to tell us which calf was ours. I had hoped to get a larger and better looking calf than I did but had to be satisfied with the one I got. She was quite poor and rough in the hair but I decided to make the best of it and do what I could for her. I began feeding her skimmilk and a pint of oats twice a day. I also gave her clover hay and I watched every day to see if she was improving. I did not notice much change in her so decided to look for lice. We found an abundance of the pests. We immediately applied plenty of sheep dip and in a few days gave her another application, and soon the lice were all gone. She soon began to improve and get slick in the hair and by fall she was quite a different looking calf. At the Grove City Creamery Show in the fall she took first prize and also at the Mercer fair the same fall. She won first prize at the Mercer fair in 1918 and also first in 1919. On July 3, 1919, she gave birth to a fine heifer calf which bids fair to be as good a prize winner as its mother."

Tom's willingness to make the best of what he thought was rather a bad bargain and his perseverance in the care and management of the heifer brought him big returns. These qualifications also led him into other honors. In the summer of 1919 in a contest within the club membership

(Continued on page 595)



States Relations Service

TOM KING AND HIS GUERNSEY COW, GROWN FROM A CALF OF LOW QUALITY TO A PRIZE WINNER BY GOOD CARE AND FEEDING

Yield of Each Cow Figured for You



By the *CP* Pail Balancing Scale

Has two indicators. Weighs the milk in the pail. Eliminates errors. First hang the empty pail on the scale. Turn the thumbscrew in the center of the dial, which moves the red indicator until it is at the 0 mark, thus balancing the weight of the pail. Then add the milk or cream and the result shown by the red indicator gives the net weight of the milk or cream, and at the same time the black indicator gives the gross weight of pail and milk.

The capacity of these scales is 30, 60 and 120 pounds, according to size, in pounds and tenths of pounds. With each scale we furnish special blanks that will contain the record for two milkings a day for one week for 14 cows.

The scale can also be used for all weighing purposes.

Price each, 30 lbs. capacity by 1-20 lb. $4.85, 60-lb. $6.65, 120-lb. $8.85. Extra records per dozen, 15c.

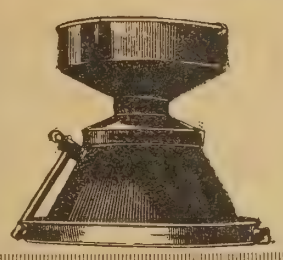
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The Ideal Milk Cooler



This apparatus has been, and now is, the best low priced MILK COOLER AND AERATOR on the market—extra large cooling surface, simple, strong and durable, ice chamber easy of access—easy to clean and easy to operate—adapted to use with either ice or running water. It has been in use *more than twenty years and all improvements added to date.*

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Heat BOTH in the Farmers' Favorite Feed Cooker and Agricultural Boiler



Don't sit by and watch your profits fall off through feeding stock chilled food and ice water. Give them warm food—they'll thrive on it and give you more and better milk. Hogs have larger frames and more solid meat; hens lay better. Have plenty of water for scalding, boil spraying mix, render lard, boil sorghum or sap, heat water for stock, for washday, preserve fruit. Burn chunks, long sticks, cobs — anything. Guaranteed. Write for prices.

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Engine, Saw, Etc., all complete. From Pittsburgh add $6.80. Ask for Terms. Folder FREE.

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Simply send your name, address and number of cows you milk and we will mail you, postpaid, our *free milker book.* It tells all you need to know about milking machines and what kind to buy. It tells about the most successful milker ever sold and what the experiences of its users show. You will find this book very interesting and helpful. Better write today for your free copy before they are all gone.

Liberty Milker Co. 103 N. Cedar St. Owatonna, Minn.

BETTER FARMSTEADS

H. B. WHITE, MINNESOTA

THE farmer, with his many duties and responsibilities, has not been able to give the time and study to the arrangement and planning of his farmstead and buildings that he knows they should have. This has, in many cases, resulted in the farm home not being the attractive and convenient place to live that it might be. If the boys and girls of the rural communities are to appreciate the life in the country so that they will be willing to take up their life work on the farm, it will be necessary to improve the average farm considerably.

It is impossible to plan a farmstead and buildings that will be suitable for all farms, but satisfaction and economy may be secured if careful thought is given to the arrangement and plans of the buildings on each farm. There are many conveniences that may be easily installed later if a little planning is done before the buildings are located and erected and which it is almost impossible to secure if proper arrangements are not made when the buildings are under construction.

A study of the essentials of a good farmstead arrangement shows that there are at least ten points to be considered. They are:

1. Ease of access to the field and pastures and yet near enough to public road to not be isolated; usually this locates the farmstead near the middle of one side of the farm.

2. Good drainage around the buildings. This must be so that the water from melting snow, etc., will not collect and make the yards and roads almost impassable.

3. The size should be suited to the size of the farm and should take into consideration the kind of farming and the future development of the business.

4. Convenient arrangement of the building so that the work of feeding stock, etc., can be carried on without extra travel.

5. Proper distance of other buildings from the house so that odors, flies, and noises will not be objectionable and danger from fire serious, and yet not so distant that unnecessary time will be consumed.

6. Proper distance of buildings from road so as to avoid dust and danger from passing automobiles.

7. Proper location of trees, shrubs, garden, etc. The trees for windbreak should be in the direction of the prevailing winds in winter; in Minnesota, this is north and west. The shrubs should be located so as to improve the appearance. The garden should be near enough for the vegetables to be cared for and gathered without unnecessary travel.

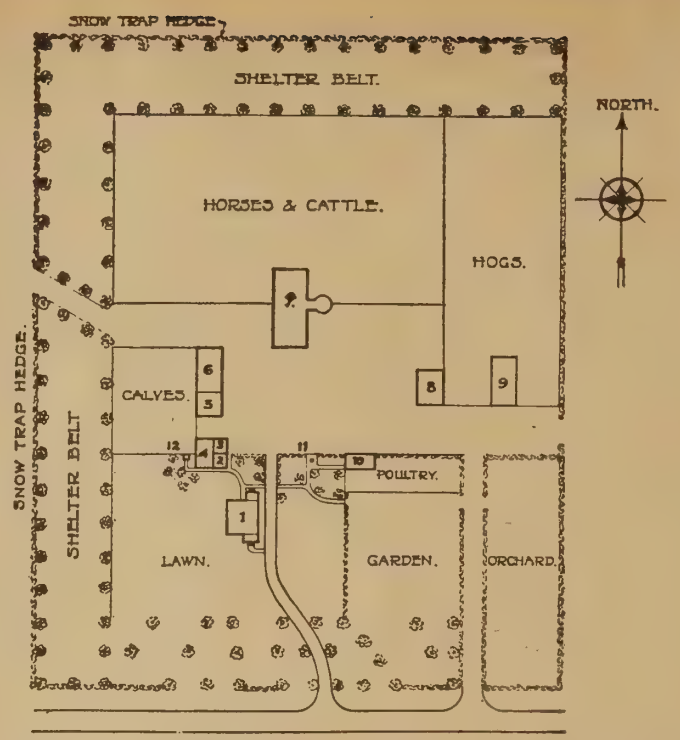
8. Convenient driveways add much to the satisfaction derived from a well laid out farmstead.

9. Attractiveness of view from house. It is well to consider this point carefully when locating windbreaks, shrubs, etc., as it adds much to have the view toward the road, village, and lake left clear to be enjoyed. It is important that the view from the kitchen windows be carefully considered, as much time is spent in the kitchen of a farmhouse.

10. The attractive appearance from the public road has much to do with the value and satisfaction derived from a farmstead. The house should have the most carefully selected site and the barns and other buildings should be in the background.

Sketches and drawings help in the planning of a farmstead. A good method is to stake out on the ground the location of buildings and drives and then make a plan for future study and reference.

In order to help the farmer in his study of farmsteads, the University of Minnesota, through the Division of Agricultural Engineering, has prepared several plans of farmsteads along with farm building plans. The plans shown are typical of the farmsteads. A list of these may be secured by addressing the Division of Agricultural Engineering, University Farm, St. Paul, Minnesota.



This farmstead, facing south, shows the house about 150 feet from the road and the other buildings and grove arranged as a background thus making the house the most important feature in the farm building group.
1, represents house; 2, washroom; 3, milk house; 4, ice house; 5, shop and garage; 6, machine shed; 7, barn; 8, granary and corn crib; 9, hog house; 10, poultry house; 11, well; 12, outhouse.

Dairy Farming, The Most Permanent Industry

Seven Reasons Which Prove the Truth of This Assertion

J. H. ALEXANDER, WISCONSIN

AS a secure and permanent occupation, none of the common forms of farming compare with dairying. Still, many dairymen have regarded the future of the industry with doubt. Falling prices during the past few months have led them to wonder and worry regarding their heavy investments in live stock, land, buildings, and machinery. Let them consider the following seven reasons why dairying is the most permanent form of farming. We could give more, and will gladly do so if called upon, but seven always was a lucky number with us. Besides, we rest assured that seven reasons will more than remove the last vestige of doubt from the mind of any farm reader.

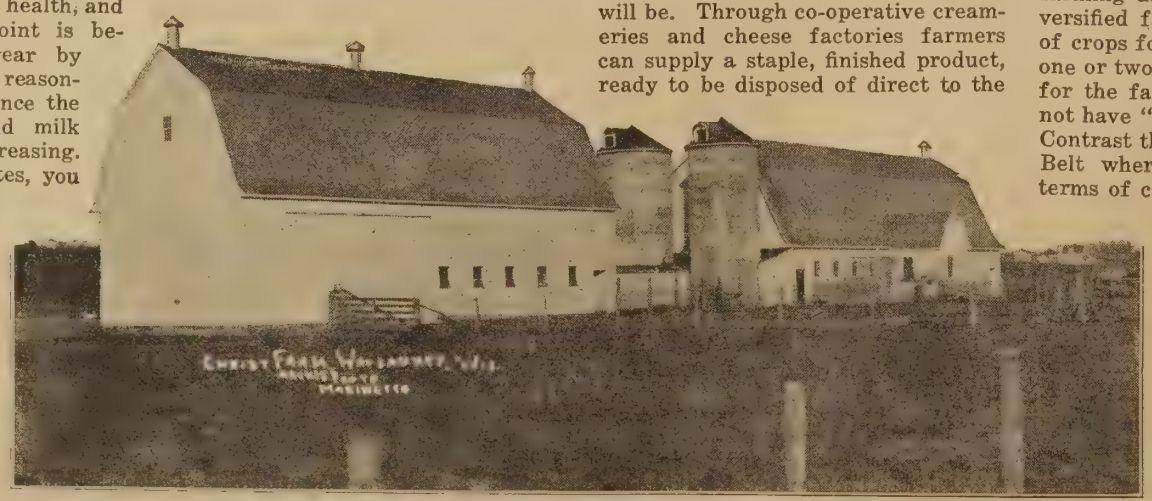
First—Milk and milk products are absolutely essential to life, health, and normal growth. This point is becoming better known year by year to our reading and reasoning public; as a consequence the consumption of milk and milk products is steadily increasing. So is the use of substitutes, you may say, and you would be right. War prices and highly commendable patriotism popularized the use of substitutes. But none of the so-called substitutes, no matter how extensively advertised, dare meet pure milk products in open battle. Why? Because milk products contain vitamines, and vitamines are absolutely essential to normal health and growth. They are not found in appreciable quantity in other animal oils and in vegetable oils, and it is these oils that form the base of all substitutes on the market.

Second—During the past five years our population has increased seven per cent; milk consumption has increased ten per cent in the same period. What do these indisputable facts promise for the future? The population of the United States is increasing rapidly and history will show that it has been on the steady increase for the past century. Immigration and the natural increase through births assure further growth. Education in child welfare and general health insists on milk for the growing child. Therefore we may expect to see milk consumption increase far more rapidly and markedly in the next generation than in the decade just ended. What could be a more promising guarantee for the future than an ever increasing and expanding market.

Third—Dairy products are a source of regular and reliable profit. The market for dairy products has never been controlled by a few; it never will be. Through co-operative creameries and cheese factories farmers can supply a staple, finished product, ready to be disposed of direct to the ultimate consumer if necessary. This in a sense makes possible the elimination of the middleman, and has been used by farmers where it was found that the "split" in profits was going against them. Once a month, twice a month, or even every week or day in some cases, the dairyman receives payment for the work his cows have done for him—and cows don't work on an eight-hour day basis either. Thus the dairy farmer is enabled to pay cash for things he buys and is free to "stand from under" when hard times threaten. The fact that rural Wisconsin is better situated financially right now than any of the Corn Belt states proves the truth of this point.

Fourth—Dairying and diversified farming are one and the same. Diversified farming produces a variety of crops for market; a failure of any one or two does not mean bankruptcy for the farmer. The dairyman does not have "all his eggs in one basket". Contrast this condition with the Corn Belt where wealth is measured in terms of corn, hogs, and steers. This year has seen the "bottom drop out" of the market for the three things he produces — commodities he has always considered as legal tender. As a consequence there is no money in circulation, farmers are not able to meet their obligations, farm sales made a year ago at

(Continued on page 590)



DAIRY BARNS SUCH AS THESE ARE MADE POSSIBLE BY THE PERMANENCE AND SECURITY OF THE DAIRY INDUSTRY

Successful Soldering

(Continued from page 581)

at a lower degree of heat than those of high lead content.

Soldering Fluxes

Before two surfaces are soldered they should be scraped and cleaned. Then some soldering flux should be applied and the process completed.

As borax and resin are the most commonly used fluxes for soldering, they may be used in dry or liquid form. The liquid is most convenient, especially for outdoor work where the wind will blow the dry powder.

Resin may be dissolved in wood alcohol and applied with a stick, brush, or feather. As the alcohol will evaporate easily, the solution should be kept stoppered up when not in use.

Borax may be had at most any drug store. It will dissolve in water and may be applied to the object to be soldered the same as the resin solution. When the hot soldering copper is passed over such a flux in solution, the liquid vaporizes and leaves the flux adhering to the material to be soldered.

There are many soldering compounds on the market in the liquid and paste form which are satisfactory.

Use of Soldering Copper

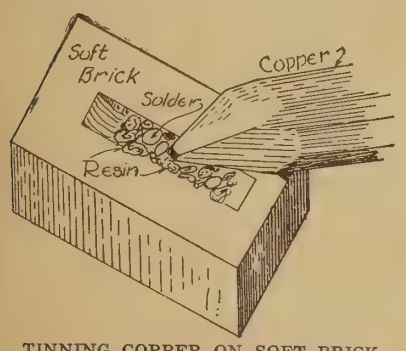
When the object to be soldered is cleaned and the flux applied and the copper heated and tinned, the next step is to take solder with the copper. It is impossible to "scoop" up the solder with the copper. Press the hot copper on the end of the stick of solder and a small drop will be melted and stick to the copper when it is removed. If the solder does not stick to the copper it is not tinned properly. This is the secret to a good job of soldering. It is impossible to make solder stick to a poorly tinned copper by pressing it on the stick of solder. This will melt large quantities of the solder and result in waste.

When two pieces of metal are to be soldered together lay one piece on the other after they have been cleaned, apply the flux and hold the surfaces together with a file or screw and run the seam. The copper should be carried along as fast as the solder will flow.

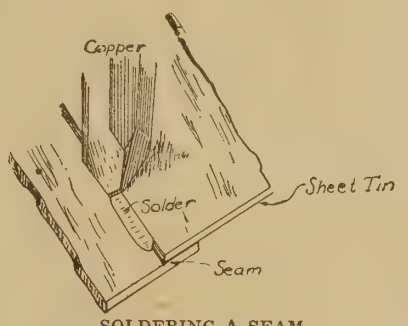
Soldering Coppers

When one has to solder a pin hole in a tin pan, he wants a different kind of soldering copper than when he wants to run a seam on the barn roof. A small copper is the thing for fixing up the milk pails and such jobs. In fact, one can easily make a small soldering copper with a piece of copper wire. Just file one end to the shape and bend the other end in the shape of a ring for a handle.

Always keep the soldering copper in the right shape. If it begins to become round at the point, it becomes next to worthless. A round point soldering iron may be put in shape by the average blacksmith. Heat the copper to a bright red and hammer all four sides equally, and the point will come right. Probably the end of the copper may be squared off with a file.



TINNING COPPER ON SOFT BRICK



SOLDERING A SEAM

Exodus of Scrub Bulls From Missouri

Ninety scrub bulls in Missouri have been replaced by well bred registered animals as a result of the first three months' efforts in the "Two Thousand Dollar Better Bull Contest". This report is incomplete since it includes only 20 counties while there are 44 counties in the contest. This contest is conducted jointly by the Extension Service of the College of Agriculture and the Agricultural Department of the Kansas City Chamber of Commerce. Four prizes, $1,000 first prize, $500 second prize, $300 third prize, $200 fourth prize, are offered by the Chamber to the counties replacing the greater number of scrub bulls with pure-bred bulls.

Grundy County leads with 15 scrubs replaced. County Agent W. H. Kern writes that this is not all because he has been unable to get reports from some sections of the county. County Agent W. W. Merritt reports Ralls County second with 12 less scrubs. Johnson County is third with 8 replacements and the county agent, R. S. Clough, reports two bull sales arranged for in the near future. Gentry County has replaced 7 scrubs according to L. A. Saunders, county agent.

The rules of this contest define a scrub bull as one that is not registered or eligible to registry and he is replaced when castrated or sold out of the county, and an interest in the registered bull purchased. With this provision it is safe to assume that these 90 scrubs either hang in the coolers of the packing plants or they are traveling in that direction.

April and May will be hard months for the Missouri scrubs. Pettis County will sell 50 registered bulls of different breeds at auction May 11. Nodaway County has six sales arranged with 15 to 20 pure-bred bulls for each sale. Knox, Johnson, and other counties have one or more sales advertised. The sale of well bred bulls to his neighbors is one of the best advertisements a breeder can have. Breeders realize this and are offering good individuals for these sales expecting them to sell for very moderate figures. In many letters received by the Kansas City Chamber of Commerce, bankers signify their willingness to extend credit for the purchase of pure-bred bulls.

Managers of live stock shipping associations are co-operating with the county agents in locating and disposing of scrubs. Professor E. A. Trowbridge, chairman of the Better Bulls Committee which has charge of the contest, says that interest and competition between counties is becoming keen and that he hopes this contest will be the beginning of a series of such efforts to improve Missouri live stock.

Missouri. GEO. W. CATTS.



Bigger Production For Bigger Profits

More acres, more bushels raised at less cost, will determine farm profits this year. Twin City Tractor power will help you get them.

The speed, dependability and economy of a Twin City 12-20 Tractor enable you to use it on every farm job and to make the quickest time.

The Twin City 16 valve-in-head engine made the record of 45¾ cents per acre in 1920 plowing contests.

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Due to its separate control of cutter head and blower speeds the Gehl Cutter never wastes power on any silo—has six fan low speed blower, heavy all steel frame, positive safety device, and a self feeder that 2-21

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EDITORIAL COMMENT



GOVERNOR Hartness of Vermont has suggested that the Commissioner of Agriculture, E. S. Brigham, may soon be a plumber, regulating the flow of synthetic milk as it is piped from place to place. This may occur if scientists become successful in the manufacture of such milk. On the other hand, we rather believe the expense of piping milk from place to place can be saved as we expect each family will have an outfit to brew its own milk. All that is necessary it to take a little hay, silage, grain, and perhaps some of the wastes from the kitchen and put it into a kettle, stew it, then open the faucet, and draw out the milk. This would simplify our present system of milk supply and save Mr. Brigham from becoming a plumber.

SILOS ON CREDIT

Securing credit to finance farmers is receiving a good deal of attention these days by Congress and the various state legislatures. This is as it should be, but what is needed is needed now and cannot wait entirely on slow moving governmental machinery.

It is refreshing to notice that some communities are meeting the need of credit in part at least, and the latest of these to come to our attention is the plan of the Farmers' Livestock Credit Company of Marinette County, Wisconsin. This concern was primarily organized to supply farmers of that county with money for the purchase of good cows, the money to be repaid in equal monthly installments extending over a period of three years. This concern has more recently offered to loan money on like terms to farmers in its territory for the purchase of silos, the slogan being: "Good cows will pay for themselves, and a silo well filled will give them a chance to prove it".

This new plan of putting silos in the reach of farmers on an easy payment plan provides that any farmer of Marinette County who has five or more good milk cows can buy any good silo he desires and the company will loan him the money upon his giving a chattel mortgage on his live stock. This loan is payable in equal monthly installments extending over a period of three years, with interest at six per cent. It is a case of "let the silo pay for itself".

MUNICIPAL MILK PLANTS

A bill has been introduced in the Assembly of the Wisconsin Legislature which, if enacted into a law, grants a city the privilege of owning and operating its own milk plant.

Those favoring this bill hold that milk should be considered a public utility because it is such an important food product. For a city to get into the milk business the bill requires 10% of the qualified electors of the city to sign a petition. The petition is presented to the city council and, if adopted by this body, the mayor is required to appoint a commission of nine from the names that appear on the petition, and it will become the duty of this commission to make the necessary arrangements for the city to handle and distribute the milk supply.

We are opposed to such legislation. It is uneconomical and non-essential to securing a wholesome supply of milk for the people. We do not believe that cities should go into business and there is no more reason for the city going into the milk business than into the business of selling sugar, flour, etc. Those who favor this bill can not point out where any saving could be made by a city handling the milk business.

The most ridiculous thing about the bill is that 10% of the people can determine what the other 90% shall do. In our governmental affairs we believe the majority must rule but we would demand more than a majority to decide whether a city or a state is to enter business. The very fact that the bill provides for but 10% of the people to decide what the other 90% shall do, shows how unfair and inconsiderate are the persons responsible for this bill. They do not consider the rights of 90% of the people. If there is a group of persons in any city which desires to handle the milk business it can do so upon a co-operative basis, for our laws will permit them to organize a co-operative milk plant. But for 10% of the people to vote the other 90% stockholders in a business enterprise is so unreasonable and unjust as to be unthinkable. It is un-American, un-democratic, and it is adopting the rule of the few for the many. It is autocracy.

FILLED MILK INCREASES

While condensed and evaporated whole milk declined in 1920 over fifty per cent from the high record of 1919, the imitation, cocoanut product, filled milk, increased twenty-four per cent. Consumers paid nearly the same price for this imitation product that they would have paid for the genuine article and the market for the honest product was depressed by over 85 million pounds.

We have here represented the "great value" of filled milk to the dairy farmer. This hard headed individual took the glowing advertisements as buncombe, and he can now sit down and figure. This product found a market for nearly seven million pounds of fat from foreign lands at the expense of a like amount of butterfat from cows milked twice a day by the American dairyman. Not only this, but it was also the means of placing some eight million pounds of butter on the market to compete with the regular creamery supply.

Despite this injury to his business, the dairy farmer is told that this wonderful filled milk is a great aid to him because it finds a market for skimmilk. Even here, however, the argument walks on one leg. In the manufacture of filled milk the whole milk is separated and the cream churned into butter. The skimmilk and the buttermilk are then evaporated and the cocoanut oil added. Very little, if any, skimmilk is used other than would have been used had the milk originally been made into the honest product from which the consumer would get real value.

Filled milk must go, both in the interest of the consumer and the producer. It is injurious to both. Has your legislature acted on this yet? Ohio is already safe, Pennsylvania and New Jersey are on the way to safety, and New York and Wisconsin will soon act.

CLEAN HERDS FOR EXHIBITION

The American Jersey Cattle Club has expressed itself in a resolution that no cattle should be exhibited at the National Dairy Show beginning with the year 1924 unless they come from accredited herds. The Club also contemplates offering no premiums to fairs, cattle expositions, etc., unless the managements of these institutions require all cattle exhibited to come from accredited herds.

We approve most heartily of the position taken by the American Jersey Cattle Club and urge all breed associations to take the same action. It is very essential, if tuberculosis is to be eliminated, that no cattle be exhibited unless they are free from tuberculosis. The rules of many fairs and of dairy shows require cattle to be accompanied by a tuberculin test certificate before they are permitted to enter for exhibition purposes. It is commonly reported that some fairs have not rigidly enforced this rule which we consider very unfortunate for the herds exhibited.

It is to be regretted that the showing of cattle has been one of the methods of spreading tuberculosis. No one with a clean herd of cattle can afford to exhibit any of its members unless it is positively known that the managements of fairs and dairy shows require a tuberculin test certificate to accompany every animal exhibited. Tuberculosis is an insidious disease and when it once gains entrance to a herd it requires vigilance and extreme care to eliminate it. Since the advent of the accredited herd list and the large number of breeders having their herds accredited, it will work no hardship upon the various cattle expositions to require all cattle shown to come from accredited herds. We have arrived at a time, we believe, when the very life of any cattle exhibit depends upon how well these rules are enforced. Too many of the herds that were on the show circuit last year are suffering from having several of their members react to the tuberculin test. To require exhibition cattle to be free from tuberculosis is only safe and sane.

JOHN BURROUGHS

In the death of John Burroughs we are reminded of the large opportunities for gaining happiness and living a life of large enjoyment. Mr. Burroughs did not make any substantial contributions to improve methods of farming or advocate any principles of economics which would improve the income of the farmer, but by his life he taught a most wholesome lesson for every person living upon the farm.

He made companions of the birds. The trees and rocks became his friends. He studied nature in every department and so adjusted himself to her ways that he reveled in her beauty and understood her purpose. It is a wonderful accomplishment to be able to understand the language of the birds, the habits of the bees, the home of the squirrels, the meaning of the rocks, and the beauty of the flowers. When all these things are understood they bring a constant source of pleasure and make life supremely interesting and enjoyable. We must of course pay attention to the things which bring us our daily bread but at times we feel that if we were to emphasize the earning of money less and devote more time to learning of nature we would be a better people and develop a greater nation.

John Burroughs wrote many books which reveal the wonderful understanding he had of nature and her purpose. One of his volumes is devoted to weeds and by associating them with folks he gives a person an entirely different attitude toward them. He makes them human for they are not found except in civilization. To show just a bit of his conception of nature we quote a paragraph from one of his many books:

"I have loved to feel the grass under my feet and the running streams by my side. The hum of the wind in the treetops has always been music to me, and the face of the fields has often comforted me, more than the faces of men. I am in love with this world because by my constitution I have nestled lovingly in it. It has been home. I have tilled its soil, I have gathered its harvests. I have waited upon its seasons and always have I reaped what I have sown. While I delved I did not lose sight of the sky overhead. While I gathered bread and meat for my body I did not neglect to gather its bread and meat for my soul."

The farmer is constantly surrounded by the things that gave Mr. Burroughs such a delightful life, and would find his work less arduous and the world a brighter place in which to live if he would take time to observe and understand them.

STOVER SILAGE FOR MILK COWS

Recent widely diverse statements concerning the feeding value of corn stover silage has led the University of Wisconsin to make some experimental tests with this feed. The University says, "In certain advertisements of husking and silo making machinery the surprising and obviously unwarranted claim has been made that corn stover silage is equal in feeding value, ton for ton, to normal corn silage from which the ears have not been removed."

A feeding trial has been carried on in which two lots of cows were fed either corn silage or corn stover silage along with alfalfa hay and a concentrate mixture made up of ground corn, wheat bran, linseed meal, and cottonseed meal. The cows were fed all of the silage they would clean up and the amount of the other feeds was kept equal for the two lots. It was found that the corn stover

silage was eaten quite readily, but that five pounds a day less was consumed than of normal corn silage, indicating that the corn stover silage was somewhat less palatable.

The moisture content of the corn stover silage was 73%, which is about that of normal corn silage. When corn stover silage was fed, the cows gave an average yield of 24.5 lbs. of milk daily containing .97 lb. of fat. On normal corn silage they produced 27.4 lbs. of milk containing 1.05 lbs. of fat; that is, they yielded 11.8% more milk and 7.1% more fat than with corn stover silage. When the smaller production with corn stover silage is considered it is calculated that this silage is worth about 61% as much per ton as normal corn silage as shown in these feeding trials.

Clover With Soy Beans

Would it be desirable to seed clover seed with soy beans or with sudan grass? When the nurse crop is cut, should a long stubble be left? Some of my seeding failed. Which would be the most profitable for this year, soy beans, sudan grass, or serradella on heavy soil?

Sparta, Wis. A. P.

The one objection to sowing clover seed with soy beans is that the soys are not planted until the latter part of May and there is some danger that the small clover plants will be injured by the hot summer weather. It would seem preferable, if hay is desired, to sow a bushel and one-half each per acre of field peas and oats, seeding with this the usual amount of clover seed. The oats and peas will come off the ground early in the summer and will then give the clover a chance to recuperate and make a fairly good growth, providing the season is at all favorable.

We have had no experience with growing clover, either with soy beans or peas and oats. We have had, however, personal experience in seeding alfalfa with canning peas. The canning peas are cut very close to the ground and we thought, the first season, it would absolutely destroy the alfalfa. We have followed this practice for three years and we have not yet failed to secure an excellent stand of alfalfa by this method. We anticipate the same rule would hold in cutting oats and peas for hay, although it might be some additional precaution to leave a moderately good stubble. To cut as grain is cut would represent considerable loss in the first hay crop and we question whether the results would justify this procedure.

We would scarcely advise sudan grass or serradella for this section of Wisconsin, although these will make excellent growth. As previously stated, we believe the oats and peas the better crop. However, it might be desirable to try out a small seeding of these other crops and then note the results.

Human and Bovine Tuberculosis—Acidity Tests

A country physician in southern Wisconsin claims there is no danger of any person contracting bovine tuberculosis from the use of milk from tuberculous cows, except in the case of a very weak, puny infant. We claim he is not an authority on that subject. Kindly give us the results of experiments conducted along those lines by persons who are in a position to know.

How many acid tests are there for milk? Please define the best one and give formula for calculating the percentage. How do we obtain this formula?

Wisconsin. F. L.

There are distinct differences between the human and bovine types of tubercle bacteria. It is now generally believed that adults seldom become infected with the bovine variety of tuberculosis, but children seem to be particularly susceptible to this.

In a special investigation made in New York where 389 cases of human tuberculosis were studied bacteriologically, it was found that only 8 of the 175 who were 16 years of age or older were infected with the bovine type. Of the 78 tubercular children between the ages of 5 and 16, 24 were infected with the bovine variety, while of the 136 tubercular children under 5 years of age, 37 were infected with the bovine type. Dr. Park states that from 200 to 300 children die in New York City annually with tuberculosis of the bovine variety. This is a heavy toll to pay for infected milk from a disease that can be prevented by care either in securing milk only from tuberculosis-free herds or by the use of properly pasteurized milk.

There are several different methods of testing the acidity of milk and a detailed explanation of which it is impractical for us to give. "Testing Milk and Its Products", by Farrington and Woll, has a very complete discussion of these several different tests.

There has recently been considerable discussion as to whether the acidity test is a proper test to determine the desirability of milk for condensing purposes. Professor Hart of the Wisconsin College of Agriculture states that experimental work with the University herd has shown that according to this test the milk of many normal cows would be rejected, for these cows will frequently show tests of over .18 per cent acidity. He holds that the only accurate test is one which is really usable only in the laboratory and that the availability of milk for condensing cannot be accurately determined by the so-called acidity tests. However, these tests do indicate, to a certain degree, milk which is not of the right character for condensing and the test also has a place both in the creamery and cheese factory.

Contents of Silo—Value of Silage

Please give me the amount of silage in the bottom 8½ feet of a silo 14 ft. in diameter? The silo was filled last October to a depth of 36 feet deep. Corn in the field at that time averaged about 50 bus. per acre, and is now worth about 45c per bu. What would silage be worth per ton now?

Traer, Iowa. C. S.

If the 14-foot silo was filled to a settled depth of 36 feet, the bottom 8½ feet would now contain approximately 28½ tons. If the settled depth did not exceed 30 feet, then the 8½ feet left would contain slightly less than 27 tons.

The most convenient and usual way of valuing silage is to compare it with the price of timothy or other hay that is common in the vicinity. In this method of computation, it is assumed that one ton of hay in the stack is equal in value to three tons of silage in the silo. In other words, if hay is worth $15 a ton in the stack, the silage would be valued at $5 per ton in the silo. Owing to the fact that silage is more palatable than hay, it is often assumed that it does not make more than 2½ tons of silage to equal one ton of timothy hay.

Another method of computation, that has been used to some extent, is to base the value of silage on the price of corn per bushel. In a ton of corn silage there are approximately 5 bushels of corn. With corn at 45c per bushel, this would make the silage worth $2.25 per ton. However, to arrive at a more nearly correct price, take the price of corn in the local market, as it is assumed in this estimate that the cost of ensiling and storing corn just about offsets the expense of harvesting, husking, and delivering corn to the local market, with some slight allowance for the value of cornstalks as feed.

At the present time, it is more than reasonable to suppose that silage is worth somewhat more per ton than this method of valuation gives, owing to the fact that it supplies a certain portion of the dairy cow's ration that cannot be supplied adequately by either corn or corn stover. With the present prices of dairy products, we would expect cows to return a very good profit on corn silage at $4 to $5 per ton.

Seeding Alfalfa in Corn

I have about six acres of meadow sod land that I want to put in corn this spring, and some time in August I want to sow this land in alfalfa. Would it be a good plan to go through the rows with a 5-shovel, one-horse cultivator to loosen up the soil, then sow about 10 lbs. inoculated Grimm alfalfa seed per acre? I would like to do this in August as the corn will not be ripe to cut up in shocks by this time. Kindly advise me if this would be a good way to sow, or cut up to shock corn first, or sow in spring.

Festus, Mo. E. J.

A few months ago one of our Wisconsin readers gave us the following information concerning his method of seeding alfalfa in corn. He says: "We have seeded alfalfa for the third time in our corn. We do not recommend this as the best method, but we cannot seed in grain nor can we afford to miss a crop. The corn should be well worked early and kept clean. Cultivate the last time with a harrow-tooth cultivator and seed with a wheelbarrow seeder. Do not stir the ground after sowing or some seed will be covered too deep. The corn is cut off for silage and the corn stubbs are harrowed down when the ground is frozen."

This gives the usual system of seeding alfalfa in corn and some men have reported very excellent results. Unless a special form of drill is used, there may be some difficulty in properly distributing the seed, especially if the last cultivation comes when the corn has reached a fairly good growth. If this corn is to be cut and shocked, care must be exercised to get the corn shocks off the field with very little delay, otherwise they will kill out the growing alfalfa. The better system is to seed alfalfa in corn which is to be used for silage.

Another method of seeding alfalfa in corn is discussed on page 1114 of our issue for January 14.

Udder Trouble and the Milking Machine

Three Men Give Their Experiences

In a recent issue I read Mr. Larsen's reply to an inquiry on inflamed udders resulting from use of a milking machine. Mr. C. Larsen says this condition cannot directly be blamed on the machine. However, I have had the same experience as Mr. F. M. B. If the machine is handled at all carelessly, inflamed quarters will result.

Mr. Larsen may have handled the machine with extreme care and thereby avoided this condition, but I have seen several cases where inflamed quarters were caused by the milking machine, especially is this true of the machine receiving strong suction and it is mostly always caused by leaving the machine on too long. If the operator will massage each cow's udder long enough so that the cow lets down her milk before applying the machine and watches closely when the flow stops, removing the machine at once, he will have no trouble with inflamed udders. Too many dairymen think that a machine ought to work well even if not looked after, but it won't; and the way some men operate their machines with leaky hose, etc., it is no wonder that they have cause for cursing the machine. A careless man is always better off to leave the milking machine alone in the first place.

Colorado. WALTER ANDERSON.

I note some are having udder trouble with milking machines. I have had less trouble with udders since using milker than I had before. I do not attempt to use but two units and try to get to each cow before she quits milking and massage the udder. I believe Nature intended that such should be done or the calf would not do so much punching.

Iowa. F. M. EDGERTON.

I have used a milker for over four years on a herd of Guernseys and had charge of the same herd for six years previously with hand milking. In over four years of machine milking we have had only one bad case of infected udder, while under hand milking I never went six months without a case.

I have had symptoms of infection at times, but a gentle massage while milking with the machine has drawn the infection out before the milk showed any signs of clots. The infection has never spread, as I have never had two cases at near the same time since milking by machine. I have had some cases of cowpox but have milked them with the machine and never had them spread to other cows. The cause of the infection not spreading I take to be the use of the chloride of lime and salt solution in which the teat cups were kept.

I have found the use of the milker with a gentle massage the best remedy for caked udder. In several cases I have had teats stepped on and badly crushed, and on at least two occasions have saved the udder and cow when I know from past experience that it would have been exceedingly difficult, if not impossible, to have done it by hand. The milker causes intense pain when first applied but when the teat cups are once seated the cows do not even act uneasy. In my experience with milkers, do not find any drawbacks to their use whatever when they are given reasonable care.

New York. EMERY M. GROUT.

Oil Meal for Calves

Please let me know if it is harmful to feed calves all the oil meal they will eat.

Frederic, Wis. J. B.

It is safe to let young calves have all the oil meal they care to consume, provided it is given to them as soon as they begin to consume feed. If this is done they will accustom themselves to eating considerable quantity without injury. To permit a calf several months old to eat all the oil meal it may care for will cause scours. This would produce bad if not fatal results.

We saw a group of calves at the Michigan Experiment Station being fed all the grain of various kinds they cared to consume and they were apparently in the best condition; but this system of feeding was begun when the calves were but two or three weeks old.

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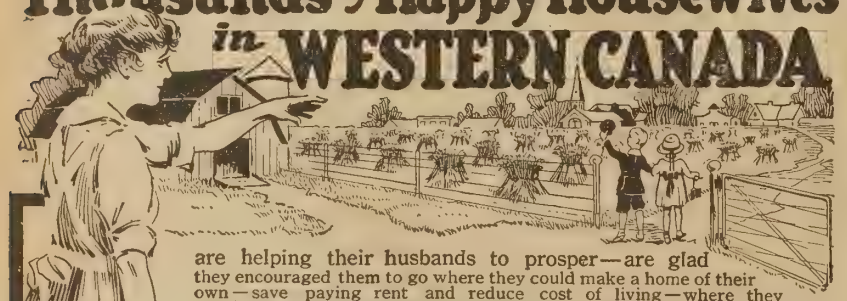
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Cow Testing Associations

RECORDS, PRICES OF FEEDS, FAT, AND MILK

Following is the summary of reports received during the week and up to the time of going to press of this issue:

State	Association	Tester	Month	No. of cows tested	No. of cows producing over 40 lbs. fat	Fat production of high cow	Owner
Penn.	Juniata County	Karl A. Fettig	March	296	13	51.3	D. Q. Adams
"	Rome	Frank Beebe	"	387	34	60.6	R. J. Taylor
"	Wyalusing	Walter West	"	338	22	72.4	W. B. Kennedy
"	Troy	Marion V. Bennett	"	331	60	75.1	Walter Stanton
Wis.	Avoca	F. R. Austin	"	275	13	95.0	Malter & Son
"	Wausau—Marathon	Nander M. Nelson	"	408	25	58.1	Fred J. Bandy
"	Unity	Carl D. Smith	"	300	42	75.6	Morgan & Sons
"	Fort Atkinson	Wm. Seales	"	506	95	87.3	H. J. Yandry
"	Wood Co. No. 2	H. M. Kuckuk	"	359	24	62.1	W. Maxwell
"	Amherst—Nelsonville	Geo. W. Baumel	"	388	106	75.9	Matt Domaszek
Ill.	McHenry Co. —		"	611	105	67.9	Wm. Ohlhaver
Tenn.	Rutherford Co.	W. H. Oliver	"	106	29	72.	Chas. Pearson
Wis.	Luck—Milltown	C. M. Johnson	"	680	152	77.3	Peter Jensen
Iowa	Winneshiek	Carl L. Wennes	"	198	19	54.0	A. E. Fuller
Mich.	Hillsdale Co.	E. G. Barrett	"	205	21	61.9	Cleon Bailey
Ky.	Oldham	W. Brough	"	250	23	79.0	Fred Von Allmen
Ill.	Knox Co.	J. B. Countiss	"	254	48	62.5	E. H. Kirkpatrick
Iowa	McGregor	E. A. Stacy	"	244	22	61.7	Kinsley Bros.

Association Notes

Wausau—Marathon, Wisconsin:—One pure-bred Holstein bull was purchased and two cows were sold for dairy purposes in order to make room for better producers. The average production of the cows for this year is lower than the previous year, due chiefly to neglecting to feed last fall when feed prices were rather high and pasture very poor. Market milk testing 4 per cent sold for $2.20 per cwt. The creamery paid 45—52c per pound for fat and the cheese factory 50—56c per pound. Milk retails for 8 to 12c per quart; butter 48c per pound and cheese, 32c. Prices for feed are: Hay, $20 per ton; silage, $6; bran, $30; middlings, $30; corn, $30; corn meal, $34; oil meal, $48; Wisconsin balanced ration, $43; beet pulp, $36; hominy, $33; oats, 48c per bushel; barley, 75c.

Unity, Wisconsin:—One member raised his daily milk production over 100 lbs. in less than a week by changing his ration to conform to the tester's suggestion. Two herds in this association are doing A. R. O. work. One pure-bred Guernsey was purchased to replace a grade sire. Milk testing 3.5 per cent sold for $2.25 per cwt. Milk retails for 10c per quart; butter, 49c a pound; and cheese, 21½c. Feed sold for: Ground oats, $29 per ton; ground barley, $30; ground corn, $28; wheat bran, $28; oil meal, $44—$46; cottonseed meal, $45—$55; gluten, $48—$54; wheat middlings, $30—$33.

Fort Atkinson, Wisconsin:—During March the condensery paid $2.25 per cwt. for 3.5 per cent milk and 5c per point above. The creamery paid 50.5—53c per pound for fat. Feed prices: silage, $6 per ton; alfalfa, $24; timothy, $22; clover, $20; corn meal, $30; corn, $23; brewers grains, $42; bran, $24—$30; oil meal, $46; cottonseed meal, $42; hominy, $30; oats, 50c per bushel.

Wood County No. 2, Wisconsin:—Three cows were sold during March on the basis of their association test. Five members have been admitted which makes a total of 43. The condensery paid 57½c per pound for fat, and the cheese factory 56—63c. Corn sold for $25 per ton; middlings, $30; bran, $29; oats $30; oil meal, $45; clover, $18.

Amherst—Nelsonville, Wisconsin:—A consignment sale of Guernseys will be held at Amherst, May 25 and 26th. Six cows were sold for beef and four for dairy purposes. Four herds have been tuberculin tested. Balanced rations are being fed in this association. Oats sold for $28 per ton; bran, $26; oil meal, $43; Unicorn, $50.

McHenry Co., Illinois:—This association is being supervised by the County Farm Bureau and Soil Improvement Association. There is a Farmers' Co-operative Mill at McHenry. Nearly all members feed balanced rations and use pure-bred sires. The standard of production is being raised by co-operating with the Soil Improvement Association. During March 3.5 per cent milk sold for $2.35 per cwt. and 4c for each point above. Feed prices: Alfalfa, $28 per ton; clover, $24; timothy, $25; silage, $6; corn, $28; oats, $40; cottonseed meal, $48; oil meal, $50; bran, $33; barley, $36; brewers grains, $35.

Rutherford County, Tennessee:—Rutherford County is forging ahead in R. of M. testing. This month, 70 per cent of all cows tested are on R. of M. tests. Twenty-nine per cent of all cows tested made more than 40 lbs. of fat. This association wishes to know if there is any other county in the United States that can duplicate the two above facts. Corn still continues to sell locally for $4.00 per barrel, while it is quoted much cheaper.

Luck—Milltown, Wisconsin:—Five cows were sold for beef. One hundred per cent of the members are feeding balanced rations in this association. Official work in testing is having good effects. Two seven-day tests have been finished during the past month, with the result that there are two 21-lb. cows which were fed under ordinary conditions. Oil meal sold for $41 per ton; wheat middlings, $26; oats, $24; corn, $26.

Hillsdale County, Michigan:—During March, 3.5 per cent milk sold for $2.10 per cwt. Feed sold as follows: Alfalfa hay, $10—$12 per ton; mixed hay, $8; oats, $25; bran, $40; corn, $25; cottonseed meal, $45; oil meal, $45.

Oldham, Kentucky:—Practically every dairyman in the association has been feeding balanced rations this winter. The rations consist mainly of crushed corn, ground oats, bran, and cottonseed meal. Very satisfactory results have been obtained when these balanced rations have been fed in the proper amounts. During March market milk, testing 4 per cent, sold for 20c per gallon. The creamery paid 46—53c per pound for fat. Milk retails for 11c per quart; butter for 50c per pound. Bran costs $34 per ton; hominy, $32—$34; oats, $40; cottonseed meal, $36; oil meal, $52—$56; corn, 65c to 70c per bushel.

Knox County, Illinois:—Fifty-three cows produced over 1,000 lbs. of milk. More than 40 per cent of the cows in

this association are pure-bred. All members are using pure-bred bulls. Nine members are using milking machines and two more are planning on purchasing machines soon. Fifty per cent of the cattle in this association have been tested for tuberculosis. Two members have purchased a well bred bull co-operatively. All members are feeding balanced rations made up of home-grown feeds with the addition of a little cottonseed or oil meal. As a side line to testing, the tester of this association has been weighing babies at the various farms and recording the weights from time to time in the herd book. There is as much competition among the women about the gains the babies make from time to time as there is among the dairymen for high cows. During March 3.5 per cent milk sold for $2.43 per cwt. and 6c paid for each point above. The condensery paid 44c per pound for fat, and the creamery paid 46c. Milk retails for 15c per quart and butter for 45c per pound. Feed sold as follows: wheat bran, $34 per ton; molasses feed, $37.50; cow chow, $39; cottonseed meal, $42; oil meal, $50; alfalfa hay, $22.50; clover hay, $18; corn silage, $5.00.

McGregor, Iowa:—The members of this association are seeing the benefits to be derived from the cow testing association. Especially this spring, they see that by feeding cottonseed meal and oil meal their cows will not decrease in milk flow. One statement was made by one of the members which lets us know what he thinks of the cow testing association: "I believe the cow tester saves me enough money on my feed bills in one month to pay his wages for one year." Oil meal sold for $50 per ton; cottonseed meal, $38; bran, $26.50; clover hay, $18; timothy hay, $20; alfalfa, $23; oats, 30c per bushel; corn, 60c.

Minnesota Test Records

Professor M. H. Fohrman, superintendent of official testing in Minnesota, says that February was the biggest and best testing month his department has yet known. Both the long and short time divisions established new figures for quality. "By the end of March," says Professor Fohrman, "we will have done more testing in the nine months of the present fiscal year than was done in the entire fiscal year before."

Forty-seven supervisors were kept busy in February with 970 tests, as follows: 735 one and two-day tests; 209 seven-day tests; 8 30-day tests; 2 60-day tests; 7 retests; 9 verification tests.

The yearly tests were divided among 100 herds of the various breeds as follows:

Breed	No. tests
Holstein	515
Guernsey	149
Jersey	49
Shorthorn	13
Red Polled	4
Brown Swiss	1
Ayrshire	1
Total	735

There were 148 cows, from 58 herds, on the honor roll for February as against 100 cows on the roll in January. To get on the honor roll a cow must produce four pounds or more of butterfat in two days, or at the rate of at least 60 lbs of butterfat for the month.

In his monthly news letter for Februray, L. V. Wilson, University Farm, state agent in dairying, says that February was also a big month for Minnesota cow testing associations. A cow owned by Marlow & Randall of the Blue Earth County Association produced 97.33 lbs. of butterfat during the month. Two hundred ten cows were tested in this association and 75 produced more than 40 lbs of butterfat each. A cow owned by P. A. Lyngen of the Chippewa County Association produced 99.9 lbs. of butterfat during the month. Another good producer was from the herd of E. J. St. Martin of the Hennepin County Association, her record being 85.2 lbs. of butterfat for the month.

Forty-one cows in the Pope County Association produced 40 or more pounds each of butterfat during February. Pope County association members have recently purchased four pure-bred bulls and six registered heifers. One member paid $400 for a yearling Guernsey bull.

The records of the Northfield Association were exceptionally good for the month. Sixty-one cows produced more than 1,200 lbs. each of milk or 40 lbs. of butterfat.—Minnesota College of Agriculture.

Wisconsin Associations

In seventy-five cow testing associations in Wisconsin, from which reports were received in February, the Holstein cow, Epa Debores in the Wood County Association, was the leader. In the 28 days of February she produced 115.5 lbs. of fat. Eighteen other cows produced 80 lbs. fat or more during the month. Of the 75 highest producers 48 were Holsteins and 20 were Guernseys. The Byron Association leads in the number of 40-lb. cows for the month, having 130 in 20 herds. In the Horicon Association, which was second, 123 cows produced 40 lbs. or more of fat.

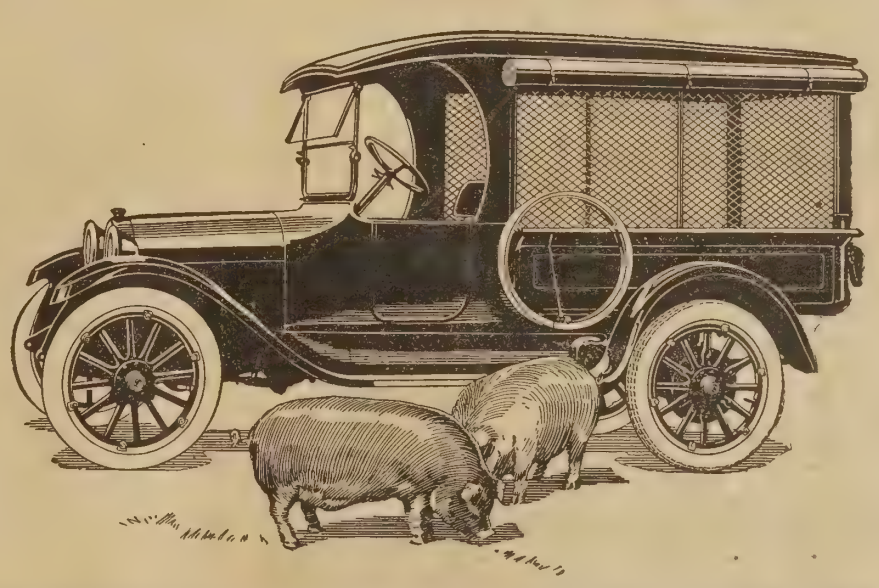
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Dairy Farming the Most Permanent Industry

(Continued from page 584)

high prices are falling through, and banks are unable to assist farmers by making loans. In Wisconsin, primarily a dairy state, conditions are much better in spite of decreased prices. Banks are still able to take care of the needs of farmers, and farmers seem to be able to "scare up the cash" with which to meet their debts. Why? Because diversified farming with the timely aid of dairy dollars can meet and is successfully meeting the emergency.

Fifth—The dairy herd conserves and even increases soil fertility, assuring good yields of farm crops in future years. At the same time the herd provides a sure, prompt, and profitable outlet for grains and roughage grown on the farm. Land that supports good dairy herds becomes richer year by year, whereas land devoted to raising grains and hay for market soon becomes sadly depleted unless carefully managed and unless commercial fertilizer is purchased. Every ton of corn sold off the farm, worth in normal times about $20.00, takes with it $6.50 worth of plant food; every ton of wheat worth $35.00 takes $17.00; every ton of butterfat worth about $1,000.00 takes away only 49 cents worth of plant food! Meanwhile the herd is returning many times this amount in fertility. It pays to market crops in the milk can. Keep these facts in mind when you haul away your next load of oats or hay.

Sixth—Our biggest and most successful dairymen, with years of practical experience to back up their statements, say, "The dairy crop is the only one which has never known a complete failure". They base this statement on a few simple facts. In the first place dairying is more quickly adjustable to new conditions and prices than any other kind of farming. We can easily see why. Field crops are marketed once a year, and the price is forced down—temporarily—because of the overload of any single crop on the market. The marketing period is not distributed. To purposely hold for higher prices means to wait for the money tied up in the crop. Not so with the dairyman. He markets his "crop" every day, or every few days at most, and is paid once or twice a month or oftener. His returns no doubt do vary in times such as the present when all lines of industry are being readjusted, but a few months of low prices do not condemn the industry. The reasoning farmer notes a drop of 15 to 25 per cent in milk prices, then compares this to the drop of corn from $1.50 per bushel to around 60 cents, and pork from 23 cents to 9 cents. He figures his average earnings for the last two years and is satisfied. He knows that no business is entirely free from ups and downs; he also knows that none are more highly favored than dairying in this respect.

Seventh—The dairy cow is a home builder. Farming, no matter how profitable, never reaches the position of dignity which is its heritage until the farm home becomes so attractive that it is the greatest pride of the entire family, something to be handed down from generation to generation. The growing boy or girl does not look forward with pleasure to the time when they will inherit a mortgage-ridden, impoverished ruin. They do thrill at the thought of a farm both fertile and fair, stocked with the blood left as the breeders' handiwork of father and grandfather. The dairy herd always has stood and always will stand as a symbol of permanence for the good farm, the real farm home, the farm from which the boys are not easily attracted to the job in the city nor the girls lured away to the office.

The truth of these rather strong statements may be severely attacked. They may raise a lusty howl of dissent and disapproval from the fruit farmer and from the grain grower; the corn and hog raiser of the corn belt may cuss us and threaten bodily harm. But we are in possession of facts and proofs sufficiently strong and numerous to refute any arguments they may advance.

Dairyman Uses Movies to Advertise Milk

HOARD'S DAIRYMAN:—J. Frank Frain, one of the dairymen supplying milk to consumers in Winamac, Ind., has adopted the plan of advertising milk from his accredited Holstein herd to users by way of slides run at the Isis theater, a local moving picture house. These have been running for over a month now, and Frain claims that his new customers and enlarged orders show him that this method is getting results. Frainholm is the name of the dairy and it has a peculiarly melodious sound which makes it an asset in the advertising. Copy taken from some of the slides follow:

1. "We buy Christmas Seals to care for tubercular patients. To keep from making more patients, buy milk from Frainholm Holsteins—only herd state and federal tested for tuberculosis."

2. "Over 3,000 people die every week in the U. S. from tuberculosis. Children contract the disease readily from tubercular milk. Herds apparently healthy often have 90 per cent tubercular cows. Write your senator to support the bill requiring all milk cows to be tested for TB."

3. "Frainholm Sanitary Dairy uses a covered mechanical milker which excludes all foreign matter including hair, dandruff, alfalfa—even to chalk water, fish, and tadpoles. Satisfaction guaranteed. Herd TB tested."

4. "Senate bill requiring all milk cows to be TB tested has been indefinitely postponed. But death from TB was not postponed in the case of one man in the county the past week."

5. "We are glad to rectify any mistakes in our delivery such as giving a pint of cream instead of a pint of milk, or a gallon of whole milk for skimmilk, etc. Call the Frainholm Sanitary Dairy. TB tested by Uncle Sam."

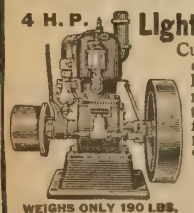
6. "Doctors claim that cow TB can be transmitted through milk to human beings. Why take the risk when you can buy milk and cream from Frainholm Holsteins? Health guaranteed by Uncle Sam."

7. "Money refunded on any bottle of milk containing any foreign matter, filth, froth—frills, feathers, frogs, or fishes. Telephone your troubles to Frainholm Sanitary Dairy. TB tested by Uncle Sam."

8. "Milk from untested cows can be rendered perfectly safe for human consumption by heating to 145° for 30 minutes. Frainholm Holsteins are approaching their fourth semi-annual test for tuberculosis. Only federally inspected herd."

The local movie house runs films at least three times a week and often has extra shows. The capacity of the

Dried Beet Pulp
- An Inexpensive Milk Producer -
Ask your Feed Dealer
THE LARROWE MILLING CO. DETROIT, MICH.
(13)

CUSHMAN
4 H. P. Light Weight Engines

Cushman Engines weigh only 40 to 60 lbs. per horsepower. Easy to move around from job to job. They deliver four times as much power per pound as ordinary farm engines.
Saves a Team Saves the Crop
WEIGHS ONLY 190 LBS.
The Cushman 4H. P., on the binder, saves a team, two horses easily pulling an 8-foot binder in heavy grain. A Cushman saves the crop in a wet season, as the engine enables you to cut grain in a wet field, when the slipping of the bull-wheel would make it impossible without the Cushman.
Equipped with Throttling Governor, Carburetor, Friction Clutch Pulley and other extra equipment not supplied with ordinary engines.
Cushman 2-cylinder Engines—8 to 20 H. P.—make wonderful power for silo-filling, grinding, sawing, threshing and all other farm jobs. **Ask for free book on Light Weight Engines.**
Cushman Motor Works, 817 N. 21st St., Lincoln, Neb.

Hoosier WOOD SILO
Yellow Pine or Oregon Fir, with or without hinged doors. Best Anchoring system on the market. We can furnish one-piece staves in Pine up to 24 feet long, Fir up to 32 feet long. Prompt shipment from stock.
STEEL ROOFS, CHUTES AND PAINT
Complete line of steel roofs and chutes for silos. Paints for all kinds of farm buildings at money-saving prices direct from manufacturer to buyer. *Write for prices and special agents' proposition.*
HOOSIER SILO CO.
Dept D86 Albany, Ind.

"B-V-T" Silo
Will last forever. You will never have to rebuild it! Neither will your grandchildren.
Built from the famous BRAZIL VITRIFIED FIRE CLAY. The "B-V-T" has been on the market **nine years without a failure.**
Send for Catalog G
Brazil Hollow Brick and Tile Company
BRAZIL, INDIANA

house is about 350 and the management advertises the shows well so the house is usually well filled. These slides are run for $1.50 a month for the first slide and 50 cents for each additional slide. So if a dairyman runs five for a whole month, the charge would be $3.50 for the month and the slides may be changed as often as the dairyman cares to make new ones to replace those that have been run. Frain changes the slides every two weeks as he figures that the same persons do not come to the cinema house oftener than once every two weeks as a rule. He is, however, taking definite steps to find out just how frequently folks do attend.

Just a word as to how the slides are made. For this particular use, window glass serves well. It can be cut into the correct size at the drug store and a few cents will buy glass enough to make several slides. Take a piece of paper the size of a slide, rule off a rectangles slide size, then lay off margins and rule lines for the writing. Put the glass slide on top of this, wipe the top surface with a cloth just moistened in turpentine and as soon as this dries, write the message, using India ink. Do not get too much turpentine on the cloth, just a "smell". A little experience and one will be able to write without having the ink run into blots. When a new slide is to be made, the old writing can be readily removed.

From the standpoint of advertising, Frain believes he gets good value. He claims that in a picture house, all the patron's attention is given to what is on the screen; it is not dissipated on other things besides the slide. From the standpoint of individual promotion work, these advertisements quoted embody some essential points:

1. Each slide mentions in some way the particular dairy doing the advertising.

2. The point is made prominent that "Uncle Sam" is behind the TB test. In other words, the customer is not taking the producer's word on this vital matter.

3. The abstract facts about tuberculosis are coupled with concrete current events with which the consumer is familiar.

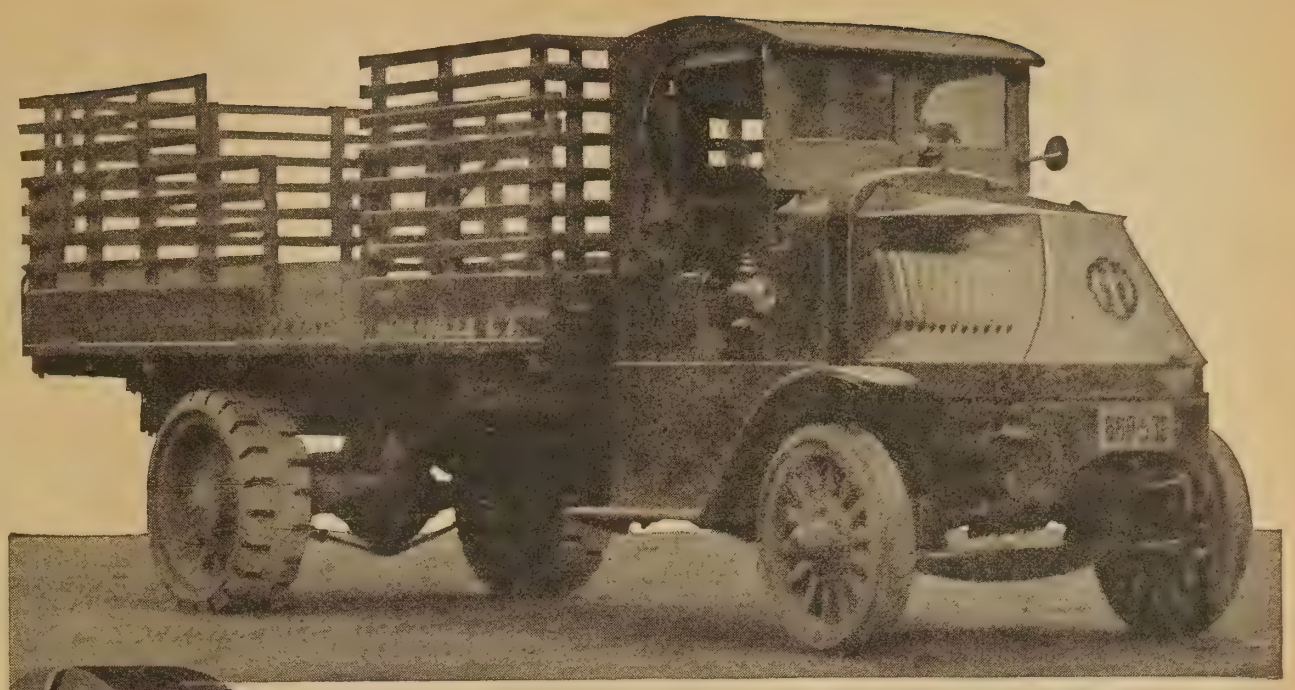
4. An element of humor keeps the continuous mention of tuberculosis from becoming unduly depressing. In a city where the milkman is not known personally, this humor might be harmful but in medium sized towns where the milkman is personally known by many, the humor serves a useful purpose.

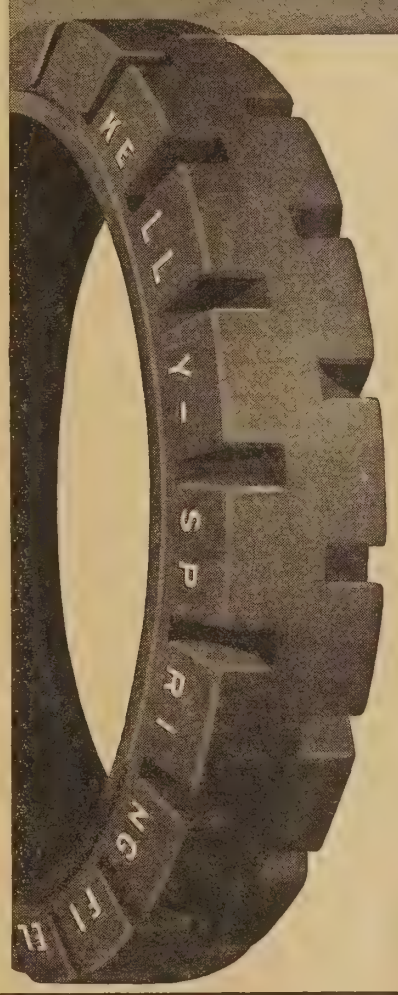
Any man interested in dairying knows that three things are in order just now. One of them is to raise the quality of cows kept, the next is to raise the quality (cleanliness) of milk put upon the market, and the third is to raise the quantity of milk consumed. Frain's next batch of slides will tell the food value of milk as compared with other products, some of which are not foods at all.

In this particular case, Frain's herd is the only one on the accredited list. It is easy for him. It might not be so easy in some towns where all herds are accredited. In such a case, the greatest good would come from all milkmen going in together and having the slides run at joint expense, running one slide which listed all dairies on the accredited list. However, it would benefit all dairymen to run slides advertising the food value of milk and comparing it with other materials offered prominently in the local market.

Indiana. I. J. MATHEWS.

Uncle Ab says: Happiness is a good deal like honey; you can't hand it to others without having at least a little of it stick to yourself.





Motor trucks are seldom worn out; they are usually pounded to pieces

It is the constant pounding over rough roads that gradually weakens a truck's resistance and finally sends it to the junk pile.

Naturally the truck owner is deeply interested in anything that will minimize the effect of this pounding and prolong the useful life of his truck. This is especially true of the farmer, because the truck is usually the most costly piece of machinery he has to buy.

That is one reason you see so many Kelly Caterpillar Tires on farm trucks. Their unusual volume of rubber and patented side-vent construction make them exceptionally resilient and enable them to absorb the destructive road shocks which ordinary tires pass on to the truck.

Made in sizes suitable for trucks of all types and weights

Kelly-Springfield Tire Co.
GENERAL SALES DEPARTMENT
1710 Broadway New York

Missouri Creates Department of Agriculture

The legislature of Missouri has enacted a law which creates the Missouri Department of Agriculture and all work pertaining to agricultural activities will be under the direction of the Commissioner of Agriculture.

Among the Board of Agriculture activities consolidated and continued under the new State Department of Agriculture may be mentioned: (1) The State Veterinary Service including the state veterinarian, live stock inspection, and state control of animal disease including quarantine service; (2) The State Bureau of Dairying; (3) Feeding stuffs Department; (4) Seed Law Department; (5) Farmers' Institutes Department; (6) Farm Census and Crop Reporting Department; (7) State Marketing Bureau; (8) Farmers' Week Co-operation; (9) Publications Department; (10) Miscellaneous Activities Department.

A laborer in the city works only eight hours a day but it takes him two hours more each day to get to and from his work.

Don't Worry

When It Storms

Your buildings and your lives are in no danger—no matter how near Lightning strikes—if you have Shinn-Flat protection.

Shinn-Flat

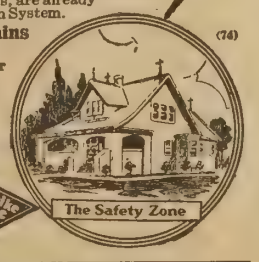
Lightning Rods Protect

The Shinn-Flat Conductor is the modern, scientific form of Lightning Rod. It is woven in a continuous flat cable of pure copper wires, one inch wide, with greater carrying capacity for electricity. Over 200,000 buildings in the United States and Canada, including many Government buildings, are already protected by the Shinn System.

Free Book Explains Lightning

Send for a copy of our free booklet explaining the Cause and Control of Lightning.

W.C. Shinn Mfg. Co.
1237 Lytton Bldg. Chicago



Lightning Can't Strike Shinn Gets There First

COOL MILK INSTANTLY



Halt germ growth—remove animal and feed odors—stop waste and loss. Leading creameries and producers recommend The Improved CHAMPION Milk Cooler—Aerator. Folder free.
Champion Milk Cooler Co., Dept. D, Cortland, N.Y.

Eggs, Baby Chicks

8-week-old pullets. Won over 2,500 prizes 1917-18. Furnished U. S. Government and state schools, stock, eggs, chicks. Safe delivery guaranteed. Eggs, $8 per 100, 50 for $4.50, 15 for $1.75. Chicks, Barred, Buff, White Rocks, S. & R. C. Reds, R. C. Blk. Minorcas, Buff Orpingtons, White Buff, Silver Laced Wyandottes, S. C. Anconas, $18 per 100, $9.50 per 100, $5 per 100. 8-week-old pullets $1 each. S. C. White and Brown Leghorn chicks $15 per 100; 50 for $8; 25 for $4.50. 8-week-old pullets, 85c each. White Orpingtons, Black Langshangs, Partridge Wyds., Columbian Wyandottes, Light Brahmas, S. C. Blk. Minorcas, R. C. Anconas, chicks $21 per 100; 50 for $11; 25 for $6; 8-week-old pullets $1.25 each.

STERLING POULTRY FARMS
Box H, Sterling, Ill.



Save your temper, your cows, your milk. Does not excite the cow, nor disturb the flow of milk. Indispensible for breaking heifers, cows with sore teats, or vicious kickers. Cannot wear out. Put on or off in 15 seconds. Guaranteed to be an absolutely perfect anti-kicker, or put on loosely as hobble for cow, horse or mule. Price $1.15 Postage extra. Weight 2 lbs. Send for it **today**, when you need it you won't have time.

DAIRY EQUIPMENT CO.
Dept. H. Topeka, Kansas

Hoard's Dairyman

Fort Atkinson, Wisconsin
Founded 1885 by W. D. HOARD

W. D. HOARD & SONS CO., Publishers
H. L. HOARD, A. R. HOARD, F. W. HOARD
EDITORS
A. J. GLOVER, P. C. BURCHARD,
C. L. BURLINGHAM

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PROF. C. H. ECKLES - Minn. Exp. Station

Subscription Rates

Subscription in United States and Mexico $1.00 per year; 3 years, $2.00; Canada, $1.50 per year.

FOREIGN SUBSCRIPTIONS may be sent through news dealers and book sellers in all foreign countries.

All foreign countries in the Postal Union $2.50 a year; not in the Postal Union $3.00, including postage.

Correspondents must not expect us to acknowledge the receipt of letters containing remittance for subscription. The receipt of Hoard's Dairyman is sufficient notification that money has been received. The label on the paper will show date to which subscription is paid. in case of renewals, if date on label is not changed within two weeks after remittance is sent, inform us at once.

We solicit advertisements of meritorious articles needed by the farmer. We try to keep our advertising columns clean and wholesome, that they may merit the patronage and confidence of our readers. Unwholesome, immoral, and quack medical advertising are excluded. A sincere effort is made to exclude frauds, irresponsible and unscrupulous firms. We will always take it as a favor to be notified whenever any advertiser's dealings with a subscriber are in bad faith or evidence a lack of business honor. Advertisers generally recognize the readers of Hoard's Dairyman as an up-to-date class of farmers, who farm with business-like methods, and we hold our columns for the patronage of only those with whom our readers can deal with profit and satisfaction.

ADVERTISING COPY must be received eight days previous to the date of publication. Advertising to be classified or changes in advertising must reach us twelve days previous to date of publication.

Entered at Fort Atkinson, Wis., as second class matter.

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Coming Events

May 23—Missouri State Holstein Association first Annual Show of Sale Cattle at Sedalia, Mo.

June 9—Ayrshire Breeders' Association meets in Springfield, Mass. Secretary, J. G. Watson, Brandon, Vt.

Uncle Ab says: The man who thinks he has a mean job has one; and the man who is proud of the place he fills in the world has a right to be proud.

New York Milk News

HOARD'S DAIRYMAN:—Was it "Uncle Ab" who observed, "if we were happy all the time happiness would lose its flavor?" At any rate we have little to fear in that line when we consider our present co-operative problems. League matters look brighter but we have had a serious time for six months or so. Doubtless we will see other troubles before we are out of the difficulties. We will never be out so long as we continue to try to have a voice in markets. There is considerable to say now in relation to milk but our more serious difficulties at present seem to be along general lines of co-operation.

The Progress of Pooling

It has seemed to me for some time that we can pool milk in League territory by May first. It cannot be done before that. At this moment it looks a very little in doubt if we can get the fifty thousand by that time. If not we wonder if our prices will have to be dropped on the first. If we pool we look for a continuance of the present prices. We are above 47,000 at this moment. Can we get the other three thousand in three weeks?

Nearly all the dealers have practically agreed to co-operate in pooling when they get the orders from the League. There are a few who haven't. One recently posted notices that they would not receive milk from any who sign pooling contracts. This we regard as bluff. Nestle's refuses to deal with the League thus far. In territory where they operate most widely the League has secured a large number of small plants and is expecting to be able to take care of nearly all the milk there. In the place of twelve or fourteen plants that are owned and have been operated by the League there are now thirty-seven either operating or ready to be operated. If the Nestle's Company continues to try the fight game, it will mean some hardships for us in the pooling contract but we are ready for the test if necessary and our members will stick.

Active Demand for League Products

In the fourteen League plants recently in operation there were a number of thousand cans of milk taken in each day. The amount is constantly increasing now. A number of other plants were opened on the first of April. Cream is also received at Auburn. About 2,000 lbs. of butter a day are made and at that rate all orders cannot be filled. Considerable milk is evaporated. Some milk is shipped to New York and goes to dealers there, while a large amount is daily shipped to the League plant in Newark to be placed in stores. Over five hundred cans are condensed.

In all lines there is now an active demand for the products. Even the dry milk situation is clearing up and accumulations are being sold or are already gone. Butter is generally being sold to grocers about League territory and the condensed and evaporated goes out through the regular channels of trade. In a few cases there seems to be some disposition to discredit the butter, but we fear it is being done in the interests of oleo which is getting quite a set-back in League territory. Not that oleo or butter substitutes get too little favor now, but less than before we began to show it up and to insist on the greater desirability of using butter.

The Filled Milk Bill

There is little doubt that we will have further trouble with butter substitutes. We are certainly having something with cocoanut oil in condensed and evaporated milk and in other ways. A car of such oil came right into our territory for such purposes recently. A bill is now before our state legislature to prohibit its use in the place of butterfats. I have a letter this morning that indicates that the bill may pass, but we do not know that to a certainty yet.

The Delaware and Greene Creamery

Much is being made by dealers, or what seems to be the dealers, relative to the big milk plant known as the Delaware & Greene Creamery Co. The statement sent out to local papers all over the territory is not signed and its authorship is unknown. The concern has proved to be in bad shape and I knew that it must come to that for it started with too little capital. It is useless to start a co-operative plant unless the members are in sufficient numbers and willing to take up the necessary burden. I do not know who are to blame and it may be no one in particular. I have reason to believe that those farmers who went into it and who have worked so hard to make it a success have been loyal men and deserve well of their neighbors. It was too big an undertaking without more support. These news items are gotten into the local papers to cast some reflection on the League.

It is not a League plant but the League did try to help them out and would have done so if it had been possible. I have a statement before me from the League office as to the figures involved. There is no blame to be placed on the League and it would be no use to mention it were it not for the anonymous news items sent out from somewhere. The figgures indicate a mistake on the part of the local people who felt that it would be possible to get ahead on the small capitalization that they had. It is worth noting, for such mistakes have been made in many cases. It is a bad idea to go in until the way can be seen clear as to support.

With milk problems looking brighter, with feed questions in the balance, and with general co-operative interests getting a rather black eye so far as the general public is concerned we have enough to keep us interested. We can be happy if we like this sort of a thing.

New York. H. H. LYON.

Washington, D. C., Weekly News

[Special to Hoard's Dairyman.]

WASHINGTON, APR. 12:—Strong efforts are in evidence to secure the appointment by Secretary Wallace of Prof. William Frear of Pennsylvania State College to succeed Dr. Carl L. Alsberg as chief of the Bureau of Chemistry. Dr. Frear is a chemist, educator, administrator, and business man of high repute. Other men mentioned for this post have been mentioned in this correspondence. The appointment is expected soon.

⚜

The opening of Congress Monday was marked by the introduction of over two thousand different bills. The one which has dairy attention is the emergency tariff bill. The butter item remains at six cents a pound, and milk, cream, and condensed milk remain exactly as in the bill passed and then vetoed by President Wilson. The message of President Harding asks for "instant action" in the passage of this bill. It calls attention to the fact that it is " for the emergency only" which means that dairy interests must redouble their energies if they wish permanent tariff equality for their products. Of all the items in the emergency bill there is not one which has a stronger continuing argument in its favor, as shown by the trend of imports from which protection is demanded, than dairy products.

⚜

The Republican membership of the House Committee on Agriculture has been announced. Hon. Gilbert N. Haugen, staunch friend of the dairy industry, remains as chairman, with his committee made up as follows: James C. McLaughlin of Michigan, Charles B. Ward, Fred S. Purnell, Edward Voight, Melvin O. McLaughlin of Nebraska, Carl W. Riddick, J. N. Tincher, Thomas S. Williams, James H. Sinclair, Edward O. Haye, Charles J. Thompson, Fred B. Gernard, Frank Clague, and John D. Clarke. The last seven are new men.

⚜

The officers and directors of the National Association of Milk Producers opened a two-day session here on Tuesday with President Campbell of Michigan presiding. Plans for increasing their Washington representation, securing a manager in place of W. G. Warber, and for participating in the inter-organization conference, were the chief items of business. In an address Tuesday President Campbell said that their reports showed that the activities of their member organizations showed a net increase in revenue of not less than $60,000,000 a year to their members, at an operating cost for the entire group of not nearly a million dollars per year. He cited this as the clearest evidence of the success of co-operative marketing, and the need for legislation to make the legal status of these organizations above criticism.

⚜

Following the farm bureau, grange, milk producers, and inter-organization conferences and meetings this week, there will be held two big meetings next week of great interest, a mass meeting of the National Farmers' Union and of the first meeting of the newly organized National Union of Farm Loan Associations. Both these sessions will open on April 20, at the rooms of the National Board of Farm Organizations.

National Dairy Marketing Conference

The American Farm Bureau Federation has issued a call for a dairy products marketing conference to be held at the Congress Hotel, Chicago, Ill., at 10 a. m., May 3rd and 4th. The program will be divided into three parts: Present methods of marketing milk and other dairy products, problems of milk producers' associations, and plans for unorganized territory.

There are a number of successful co-operative milk producers' associations and marketing companies and many of them have been invited to send representatives to this marketing conference for the purpose of giving information concerning their organizations. It is planned that both the large and the small cities will be represented. It is hoped that through the information they can give a more uniform plan of organization can be perfected and plans can be worked out for unorganized territory.

The creamery and the cheesery will be discussed as they relate to the producer and to diversified farming and methods of co-operative marketing butter, cheese, and by-products will receive full consideration. The purpose of this conference is to gather information which will assist in marketing dairy products more economically and how to obtain better returns for the dairy farmer.

Washington A. F. B. F. Conference

[Special to Hoard's Dairyman.]

WASHINGTON, APR. 12—The American Farm Bureau conference on legislative matters which has been in session here this week has developed several items in a legislative platform which are of much interest to American agriculture. President Howard is presiding and the entire executive committee is all present except one or two and a delegate is present from most of the state federations. In point of numbers and farmers represented it is the largest gathering of farm organziation representatives held here in some time.

Proceeding without a program, and in semi-executive session, the conference first discussed in a general way the problems of the farmers of various parts of the nation, as represented here, and then the various legislative propositions which might be hoped for or expected to assist them in improving social and economic conditions. It soon developed that financial legislation, better credit for farmers, occupied first place. The need of legislation clearing the right of the farmers to bargain collectively for the sale of their products was very near the front and tariff legislation, increased functioning of the department of agriculture, and export trade facilities were the other leading subjects. General questions affecting taxation were also found to be of general interest.

Following the policy of getting the highest authority possible to furnish the desired information, the conference at its opening afternoon's session heard A. F. Lever, member of the Farm Loan Board and former chairman of the House Committee on Agriculture, and Governor W. P. G. Harding, of the Federal Reserve System, on the subject of rural credits. Commissioner Lever urged the strong endorsement by the Farm Bureau of the proposed amendments to the Farm Loan law, whereby the land banks can be supplied capital for loans to farmers on commodity security, evidenced by warehouse and storage receipts. This proposal was placed before Congress at the last session as the Dickenson bill in the House, and the Kenyon bill in the Senate, and is to be reintroduced in nearly the same form. Governor Harding of the Federal Reserve system made the suggestion that a working capital and reserve fund for this purpose could be easily provided out of the earnings of the Federal Reserve system. These earnings total a hundred million dollars in the past year, it is said. The law now provides that the earning may be used only for the purchase of U. S. bonds, or to be added to reserve funds. To use this for the proper foundation and protection of a rural credit system, in Governor Harding's opinion, would be a more useful direction of these funds than in any other way.

Following this the collective bargaining situation was brought up. Great regret was expressed at the failure of Congress to enact a workable and satisfactory law at the last session. Representatives of various state bureaus spoke of the special interest of the fluid milk organizations in this subject. Representatives of milk producers' associations have more frequently than any other representatives of agriculture been subject to prosecution on charges of violating the anti-trust laws as they may apply to monopoly control of farm products. The recent Louisiana case was referred to, calling attention to the fact that the courts there had held that the present law—the Clayton amendment—was sufficient to permit farmer producers to organize and market their own products, but in other states, it was pointed out, New York, Ohio, and California, in particular, federal and state officials have made several attempts to interfere with the work of the associations in such a way as to seriously interfere with the progress of the form of co-operative marketing operations.

Assistant Chief Hiller of the Bureau of Markets discussed the legal features of this plan and its relationship to the anti-trust laws. There was much of interest in this discussion in relation both to the general question of the legal advantages and disadvantages of co-operative organizations in general, and the particular problems of the milk distributors. The conference passed on to the next subject without formulating any resolution or statements on this subject, but it is certain that a strong demand for laws which will make it possible for farmers to form co-operative organizations and sell their own products will be made.

Professor Adams, treasury expert on taxation, gave facts as to the cost and collection of the various kinds of taxes comprehended in the present tax system, and some clear statements as to what might be expected in the future, showing the dwindling of the excess profits tax, the way changes in surtaxes would work, the results in revenue of the different kinds of sales taxes, the changes which would be involved in cutting off the transportation tax and the soda fountain tax, and the other fundamental facts of this problem.

The conference finds itself embarrassed by the bigness of its problems and the sectional character of the appeal in some instances, and also by the self-evident fact that, serious as are the facts which agriculture faces, legislative remedies do not seem competent to reach very far into means of betterment.

The federation representatives, before the end of the conference, are quite likely to take action toward increasing the strength of their representation in Washington. The conference has had a very enlightening effect on the representatives present, of the size and the importance of the representation of agriculture in the capital. There have been some opportunities to see, size up, and measure the representation of other industries and organizations here, and to understand the overwhelming sweep of the recent tendencies toward organization and the industrialization of government. Regardless of the good policy of class representation, it is evident that there is a mad scramble just now for class protection and class benefit, participated in by both large and small groups, and that the participation of agriculture in this scramble is a matter of self protection and absolute necessity. The situation has reached its most acute period just at this time, and the Farm Bureau conference here has seen and sensed it. The action which will result is not settled yet. It partly depends on the result of the inter-organization conference to begin on Thursday. The result of either what the farm bureaus do, or what the whole group does, or both, is likely to be the strongest and most aggressive representation that agriculture ever had anywhere in the world. Agriculture never needed it as badly as now, and regardless, as stated, of the good policy of such representation, or its possible danger in provoking reprisals and creating internal and external jealousies, it is most likely to be brought about as the result of these sessions here now going on.

Grain Marketing Plan Adopted

Committee of 17 Plan Program

The Committee of Seventeen plan is now a program. The 99 delegates, representing all farmers' organizations interested in grain marketing in all grain growing states, unanimously accepted the grain marketing plan of their committee.

This means that the United States Grain Growers' Inc. will be organized by grain growers of the United States as a non-stock non-profit corporation. Individual farmers will hold 10 memberships in this national selling agency. They will contract to sell their grain to local co-operative elevators and the local elevators will contract to sell it through the United States Grain Growers' Inc. Each farmer will have the option of marketing his grain by the usual method of consignment and outright sale to the elevator or to put it in a pool.

The plan provides for a board of directors of 21. By resolution the Committee of Seventeen was asked to divide the United States in 21 districts, and the delegates in each district will nominate directors from their district. Probably an organization committee will be selected by the delegates in each state to carry out a definite plan of getting memberships. It is expected that a share of the 1921 crop will be marketed through the new machine.

Never for a minute in the two days' heated discussion was there a note of split or quit. The big subject of discussion was an amendment introduced by C. O. Mosher of Texas, making it compulsory for each member to pool one-third of his wheat. This amendment was principally supported by the cotton growing states of the South, the wheat growing states of the Northwest where they have had experience in pooling, by Illinois, and a few scattering votes in other states. Proponents of the amendment maintained that the only way to regulate the supply in accordance with the demand was to form a pool out of which the national sales agency could hold or sell as would be necessary to prevent market slumps and gluts, and to stabilize prices. Opponents doubted the legality of the one-third compulsory pooling plan and the willingness of farmers to sign such a contract. Wm. G. Eckhardt, grain marketing director; President Howard Leonard, and Secretary D. O. Thompson of the Illinois Agricultural Association argued in favor of the amendment.

I. A. A. for One-third Pool

"We should have a pool," Secretary Thompson declared, "in which every grower should put a part of his wheat and take even the chance of losing a little in order that he may help the other fellow to make more. All honor to the Committee of Seventeen Plan, but—I believe the one-third pool amendment is necessary. Trust in God—but keep your powder dry."

"I know that the farmers will sign this contract and deliver their wheat," declared Howard Leonard in his address Thursday morning. "Illinois will be back of this plan."

Wm. G. Eckhardt, the I. A. A. member of the Committee of Seventeen, has worked hard for the pooling plan from the very beginning.

The session ended Thursday night and was held at the First M. E. church. The meeting started with the singing of "America" and gospel hymns. Clifford Thorne began with an address in which he argued against the one-third pool. C. V. Gregory, editor of Prairie Farmer and member of the Committee of Seventeen, followed with a strong rebuttal.

Compulsory Pool Voted Down

The vote on the amendment was 38 for the amendment and 61 against. Ten of the fourteen Illinois delegates voted for it. This question had been up before the Committee of Seventeen and they stood four for the compulsory pooling and twelve against, one member not voting.

Committee Plan Unanimous

Then the vote came on the original plan with a few minor changes. No ballot was necessary. At the call of the president, J. R. Howard, of the American Farm Bureau, for the vote in favor, there was an overwhelming outburst of "Ayes", and when he asked for the "Nays" you could have heard a pin drop. "Blest Be The Tie That Binds" was in the air. When the hymn was ended three or four men wanted the floor all at once. They were proponents of the one-third pool plan: the northwestern wheat growers, cotton growers, Illinois delegates, and all of the others that had argued for the pool plan. They stated they were behind the plan with every ounce of energy they had and would do all within their power to make it a success.

All the farmers of the United States have agreed upon a plan of co-operative marketing, by which they hope to stabilize prices and get a fair return for the grower.

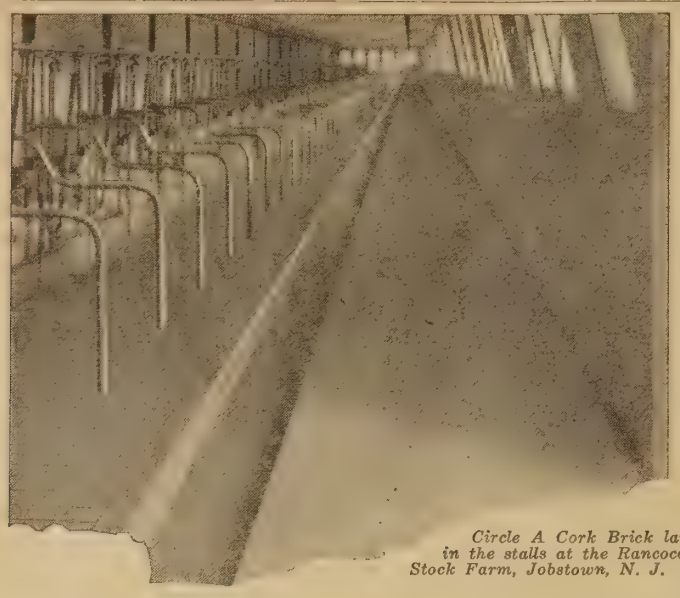
H. C. Wallace—Secretary of Agriculture

"Nobody has ever disputed the right of the manufacturer to market his own products," declared Secretary Wallace, who spoke Wednesday afternoon, "and I don't see how anybody could justly deny the farmer the same right. It has too long been the case that the farmer was expected merely to produce and to take his chances on somebody else's market.

"There is just as much reason why the United States Department of Agriculture should assist in intelligent marketing as to promote increased production. It is our business to reach for methods of getting products to the consumer efficiently.

Hoped Plan Would Be Adopted

"For the good of producer and consumer, I hope you will adopt this grain marketing plan. It will put you on a basis to intelligently study marketing methods. As producers you are the best in the world, but as salesmen you are rotten. You have put all of your energy into production and paid no attention to marketing. That is the business side of the game."—Illinois Agricultural Association.



Circle A Cork Brick laid in the stalls at the Rancocas Stock Farm, Jobstown, N. J.

"For the Money there Is in It"

IF you have a feeling that Circle A Cork Brick are "fancy" equipment all right for the barn where profit is no object, but impractical for the dairyman whose herd is his bread and butter, read this letter. A. G. Stone and Son, Hudson, Mich., are business men and their experience has a practical value for you men who run dairies for profit.

"I am writing you in regard to our Cork Brick floor, which we installed six years ago. There seems to be a notion among some people that the use of Cork Brick is sort of fad, but we consider that it is an essential part of a good modern dairy barn. We follow dairying for the money there is in it, and in no sense are other than practical. Before we built our new barn, we had a good deal of experience with both wood and cement floors, and they were never very satisfactory.

"We were induced to try Cork Brick and though somewhat skeptical, finally put them in and have been more than satisfied with them. They are very easy to put down and in the six years that we have used them, there has not one come out of place or broken. The bedding stays in place, well up under the cattle's fore feet, which is not the case with cement, and I have never seen a cow slip on them since putting them in. We have never been troubled with any of the diseases common to cows that lie on cold and unsanitary floors and we most certainly recommend them to anyone who cares for the comfort and health of their cattle."

For you, as for these men, Circle A Cork Brick are protective insurance. They conserve health and increase comfort, the two factors most vital to the profitable productiveness of dairy cows.

You will want to know more about cork brick floors. Write for the 28-page book, "Better Stall Floors." There is no charge and a copy will be sent promptly with a sample brick.

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What Drainage Has Done for Middle West

(Continued from page 580)

and the co-operative plan must be used.

First, and simplest method, is for a group of farmers to band together under a common law agreement, put in the outlet drain and connect up individually with their small farm drains, paying for the improvement outright and making an agreement among themselves as to the amount of the expense each one shall bear.

Second, is a similar co-operative plan which has some jurisdiction from the county court and,

Third, is the more businesslike and therefore the most commonly used—the incorporated drainage district.

Proceeding for forming a co-operative drainage district is started by petition of some farmer or group of farmers who feel that they need an outlet for farm drains. Petition is therefore circulated among those who it is believed will come within the required section or district. The size of the district depends largely on the area of land which falls within the given drainage area which can be served by one or a few outlets. The outlet drain must go far enough to carry them to a natural outlet for the drainage or to connect legally with an outlet from a neighboring drainage district.

If the court finds that the expense appears to be warranted, and that the improvements will exceed the amount of damages to property, etc., he is empowered to authorize that the proceedings shall progress in the usual manner. If a ditch must be cut across some farm, temporarily throwing out of use a certain amount of land, this is considered damage to that property and the owner has to be reimbursed.

One growing tendency is to eliminate almost entirely what have previously been termed damages to the land. Except in extreme cases, it is possible to use large tile instead of open drains. The sketch in Figure 1 shows comparative carrying capacity of the large tile drain with an equivalent cross-section drainage ditch which will be required to carry the same capacity under good conditions. The open ditch, however, in certain periods will grow full of weeds which will interfere with the flow or under certain soil conditions will gradually fill with silt and soil which slips from the banks under heavy rains and floods. The open ditch is the most inefficient type of drainage but of course is required under certain conditions where a tremendous amount of water must be handled at various periods. In Iowa and Minnesota, drain tile even as large as 72 inches in diameter are used for outlet drains. These ditches are then back-filled and farming goes on as usual.

An open ditch wastes valuable land. An open ditch 14 feet wide at the water line and 8 feet wide at the bottom and with sides sloped 1:1 will have approximately an equivalent carrying capacity to a 48-inch drain tile, assuming that the fall is about one foot per mile in each case. The possibilities of the tile and the ditch are figured by means of formulae in common use by drainage engineers.

Figure 1 shows the loss of tillable ground when the open ditch is used. Assuming a strip of land 80 feet wide, required for such an open ditch, an acre of ground is lost to farming for every 544 feet in length. Assuming that such a ditch were to cross 80 rods of one farm, there would be lost 2.43 acres of valuable land. In addition, there is a damage from such a ditch due to weeds, inconvenience in farming irregular areas, and cost of upkeep for bridges to cross the ditch, etc. In average soil, it would be difficult to maintain a slope as steep as 1:1 for the sides of the channel would soon fill and render the ditch inefficient. Therefore, under ordinary circumstances, an even wider trench would be necessary to handle the same amount of water.

It is common knowledge that the crop yields begin to increase almost as soon as drainage improvements are made. A fresh example comes from Chickasaw County, Iowa, a county which has unusually rich black loam soil. A fifty-acre tract upon which a crop report has just recently come in was tiled in 1916, previous to which time the ground was worthless. The 1918 crop produced 76 bushels of oats per acre, 1919 crop produced 60 bushels of corn per acre.

So extensive has this work become, that it is nothing uncommon for one county to spend one million dollars in one year on drainage district improvements. This, in addition to the small lateral tile placed by farmers, gives the reader an idea of the magnitude of the drainage development in the middle west. The reclamation of hundreds of thousands of acres annually is now going on and, in some states, the work has only just begun. The result of tile drainage in this area is the opening for service of some of the most fertile and productive land in the world.

H. J. Goelzer's Biennial Sale

H. J. Goelzer held his sixth biennial sale at Plymouth, Wis., April 1, selling 88 animals for a $236 average with $530 the top price. F. W. Traxler paid this for an excellent 7-year-old granddaughter of Piebe Champion.

Emil Zager, Wisconsin, paid the same price for Nancy Johanna Sarcastic Melchior, a very good five-year-old.

Krause, Wolf, and Schrage did the selling with J. G. Voss in the box.

Following is a list of those animals selling for $300 or more and buyers:

F. W. Traxler, Wisconsin	
Lillian Clothilde Challenge	$370
Quinello Lillian Johanna De Kol	305
Irene Johanna Melchoir	450
Pietertje Gipsy Queen De Kol	500
Segis Cornucopia Hengerveld De Kol	400
Korndyke Melchoir De Kol	305
Rosa Beauty De Kol	530
Lady Bonheur Johanna	300
Piebe Ormsby De Kol Abbekirk	350
Belle De Kol Segis Hengerveld	310
Wm. Zemke, Wisconsin	
Teddy Johanna Segis De Kol	$450
Lina Pietertje Johanna Mercedes	$430
Chas. Miller, Wisconsin	
Fanny Maudina Pietertje Johanna	$340
M. P. Andrus & Sons, Wisconsin	
Crosby Johanna Pietertje De Kol	$375
Wm. Ford, Wisconsin	
Mamie Johanna Segis	$375
Emil Zager, Wisconsin	
Tilda Pontiac Yesletine	$470
Nancy Johanna Sarcastic Melchoir	530
Arno Hueppchen, Wisconsin	
Catalog No. 30	$420
W. Krause, Wisconsin	
Clothilde Shadeland Dudley	$500
G. Y. Kempink, Wisconsin	
Johanna Mercedes Princess 2d	$300
Otto Zemke, Wisconsin	
Ruby De Kol Mechtilde Korndyke	$360
Delores Marie Pontiac De Kol	365
Otto Helmer, Wisconsin	
Scout Valley Topsy 2d	$300

Jersey Cattle Notes

For week ending April 1:

Number of animals registered: Bulls, 189; cows, 608; total, 797. Number of transfers recorded: Bulls 155; cows, 607; total, 762.

Inventions and Appliances of Interest to Agriculture

Turning Bolster

This bolster is designed particularly for two-wheeled trailers. It is of the ball and socket type, and has two sets of springs which permit the trailer and tractor to oscillate end-

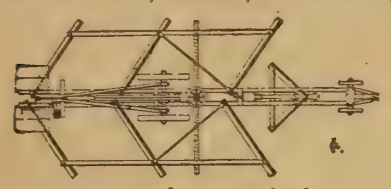


wise and sidewise without undue stress on either.

(Wm. G. Hesse and Son, Leavenworth, Kansas. U. S. Patent, 1,330,805.)

Road Scraper

The V-shaped plow here is driven by a push bar, running from behind its nose to the central frame members; this puts the strain where it belongs on the nose and central frame. The three pairs of scraper blades are carried by the main frame, and are raised, lowered, or steered by

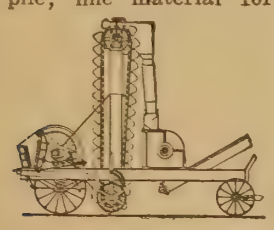


an operator on the rear platform.

(Chase Foundry and Mfg. Co., Columbus, Ohio. U. S. Patent, 1,330,783.)

Portable Crusher

The important feature here is that the jaws are low and can be fed from the ground. Coarse material for road-making is crushed and discharged from the elevator to wagons or a pile; fine material for agri-



cultural purposes is crushed and then powdered in the impact pulverizer.

(Allis Chalmers Mfg. Co., Milwaukee, Wis. U. S. Patent, 1,331,963.)

Animal Poke

The object of this device is to prevent an animal from going through or under the wires of a fence. It is made of heavy wire and is attached

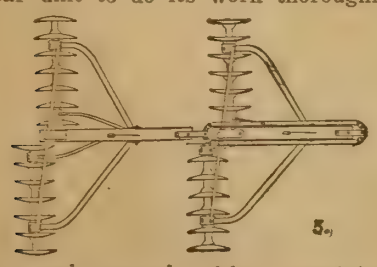


to the hide by pointed wire pins which are then bent as shown.

(D. F. Busskohl, Pedro, South Dakota. U. S. Patent, 1,332,484.)

Disk Harrow

The special feature of this tandem disk harrow is that the rear unit is connected directly to the draft point of the front unit. This permits the rear unit to do its work thoroughly



on rough ground, without straining either unit.

(Bissell Co., Ltd., Elora, Ont., Can. U. S. Patent 1,331,299.)

Canada. C. J. LYNDE.

TIMKENS MEAN - MORE *and* BETTER FARMING - BY POWER



More Extensive Yet Less Expensive Farming

Just as the reaper and binder years ago did away with the necessity of collecting, at a certain time, from six to ten extra "hands", so does the tractor replace not only horses and men, but so distributes the work that a general saving in time, men, and money results.

Whether it be a job of plowing, cultivating, threshing, potato digging, or any of a dozen and one other farm activities, the tractor must be ready at all times to take up the burden.

And so every single part of a tractor must be inherently reliable and dependable. Each part must withstand the tremendous strain to which a tractor is put. A tractor never "coasts".

When it comes to a question of bearings designers and engineers usually specify Timkens.

They know that in the wheels, transmissions, differentials, and pinion and worm mountings Timken Tapered Roller Bearings carry *all* loads no matter from what angle they are applied.

They know that when the inevitable wear that *must* follow motion does come Timkens do not have to be thrown away and replaced at considerable cost in time and money. A simple adjustment or take-up, easily and quickly made, makes a Timken Tapered Roller Bearing function as if it were new.

And they know that Timken Bearings will prolong the life of the tractor; will save time and money for the farmer; and consequently will aid in the development of More and Better Farming By Power.

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TIMKEN Tapered ROLLER BEARINGS

Tom King Makes A Start

(Continued from page 583)

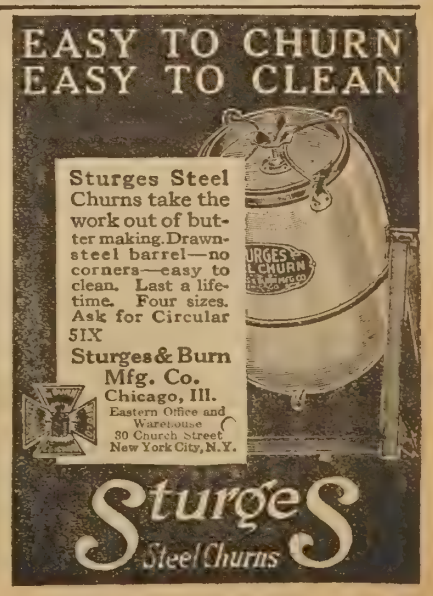
staged at the Grove City dairy picnic and show he won a place as one of the members of a dairy judging and demonstration team to represent Pennsylvania at the Eastern States Exposition. This team came through with flying colors. They won first place as a team in judging and for his individual score Tom was awarded a fine pure-bred Jersey heifer calf.

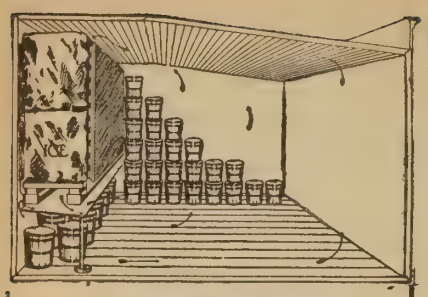
Mercer County has an achievement organization of club members and vocational school boys known as the Young Farmers' Club. Membership can be gained only through some worth while achievement. The spendid showing made with his heifer and his fine record in the judging work gave Tom admission to the Young Farmers' Club and he is now serving it efficiently as secretary. Outside the field of club work he is also making good. He is in high school and is looking forward to a course in agriculture at the Pennsylvania State College.

What Tom King has done can be repeated a thousand times by other boys. There are real opportunities in the dairy club work but it requires fellows with good sticking qualities to win.

Ohio's New Jersey Champion

Miss Melia Oxford, a Jersey cow owned by L. P. Bailey of Ohio, is now junior four-year-old champion of that state. Her record is 12,391 lbs. milk, 707 lbs. fat. Her former record, begun at two years and 11 months, was 10,604 lbs. milk, 576 lbs. fat.





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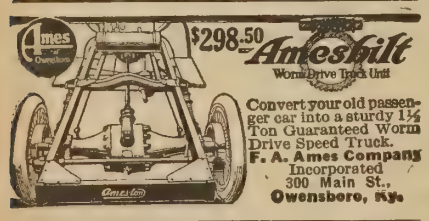
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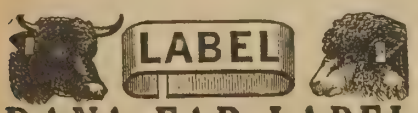
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DAIRY MARKET NEWS

New York Butter Market

New York City, April 12:—One very pleasing feature of this market of late is the improvement in quality of the butter that is being received. It is quite probable that creamery operators learned a lesson during the months which were lean for creameries which produced butter of inferior quality and have gone about it systematically to improve the quality of their butter. Reports from many sections state that systems of cream grading have been initiated in many creameries and that poor cream is being refused in other plants. While the price range between butter scoring 88 points and 92 points has been reduced to 3½c, where formerly it was as great as ten and twelve cents at times, it is quite probable that creamerymen will remember their losses during the early winter months and will attempt to keep cream grading systems in operation indefinitely. However, there is a danger that the lessons that were well learned during times of stress may be forgotten with the establishment of better times. It is to be hoped that the good work that has been started will continue as losses which will otherwise ensue during the coming fall and winter months can be avoided by so doing.

No Danish butter is known to be on the water at the present time. No other vessels will leave Denmark until April 22 and it is quite improbable that any butter will be forthcoming then as Denmark is now disposing of its entire surplus of butter to other Scandinavian countries, England, France, and Switzerland at prices above a parity with values in our market at the present time. It seems to be conclusive that we will have to depend on our domestic supply to satisfy demand during the coming season. At the present time, considerable butter is reaching this market from California but it is not expected that a sufficient quantity will be forthcoming to take the place of the Danish butter. A quantity of Danish butter, probably 7,500 casks, is still in first hands but that is moving freely and will entirely disappear in the course of a few days. There is nothing to lead one to believe that there will be a sharp break in butter prices for a considerable time.

The consumption of butter is apparently high throughout the country. Creameries in all sections report that local demand is absorbing the greater part of their output. Statistics show that there has been a material curtailment in the output of plants manufacturing butter substitutes. It is reported that several oleomargarine plants have been forced to close their doors because of the lack of demand for their products. It is quite apparent that the consuming public is beginning to appreciate the food value of high quality butter. It is hoped that dairymen and creamery operators realize that and that each will do his part to improve the butter made in our creameries.

On last week Tuesday, extras were quoted at 52c. Buyers apparently considered the price too high and ceased buying. The result was a price decline of 2½c on Wednesday. On the following day, there was a further decline of ½c. During the remainder of the week, there were no other changes and the market was steady. A firmer feeling developed yesterday and prices advanced ½c. The market is firm and active today but values have not changed. Danish butter is in demand at 47½@48c, which is the same price that is being asked for the California butter. General quotations are: Extras (92 score), 49¼@49½c; higher scoring than extras (93 score or higher), 49¾@50½c; firsts (90—91 score), 48@48½c; firsts (88—89 score), 46@47½c; and seconds (83—87 score), 38@44c.

W. B. LIVERANCE.

Cheese Trading Extremely Dull

(Report by U. S. Bureau of Markets)

Cheese prices did not show any radical changes during the week ending April 9, but the tone of the market was weak and business was extremely dull. Many distributors think the market will go several cents lower and whether their analysis of the situation is right or wrong they do not expect to buy until the drop comes or until the bottom has undoubtedly been reached. Reports from certain sections indicate that production is a month ahead of last year and that grass cheese will soon be on the market.

In the distributing markets the feeling is also weak. New York country markets are higher than Wisconsin, and considerable cheese from New York is being consigned, especially to the Boston market. The fact that so much of this is being ordered sold by shippers indicates that the feeling lacks strength. Current receipts at the different markets are irregular in quality, although on the whole quality may be classed as fairly satisfactory. The new style referred to as Sandwich cheese is becoming very popular and in certain markets is being taken by trade accustomed to buying Longhorns or Young Americas.

The average wholesale prices on American cheese (style Twins) for the week ending April 9, 1921, and for the corresponding week a year ago, were as follows:

	Week ending April 9 1921	1920
	cents	cents
New York	28.0	29.5
Chicago	20.0	29.5
Boston	23.4	30.5
San Francisco	20.5	27.5
Wisconsin	20.0	29.5

The total receipts of American cheese at these markets were 2,896,563 lbs. as compared with 1,932,562 lbs. a year ago and 2,948,160 lbs. a week ago.

Butter Prices React Downward Under Heavy Receipts

(Report by U. S. Bureau of Markets)

The firmness and good trade noted the previous week continued to advance prices on the butter markets until Wednesday of the week ending April 9. At that time a slight accumulation caused by heavier receipts and withdrawal of buying support caused a reaction. Prices have been rather high for so late in the season and in view of the recent declines in prices of other commodities buyers are operating cautiously. This has resulted in a nervous, jumpy market. Opinion generally is that the supply of fresh butter is still short and likely to be for some time yet, because no Danish is coming and only a moderate amount of Pacific Coast stock. With this in mind many look for the market to recover.

About four cars of California butter were received at New York during the week and sold at prices ranging from 1c to 2c under 92 score. The supply of Danish is working out nicely. The Frederick VIII is due but it is the general opinion that little or no Danish butter is aboard. New offerings of Danish were on basis of 49c c. i. f., but none is reported purchased.

The tone was quite a little firmer on Saturday and reports from all markets indicated that the supply of butter available was light. The net change under the Monday's price on most markets showed a decline but the difference as compared with the prices of a week previous was negligible. Undergrades have been fairly well cleared up and for this reason the range in prices between these grades and the top grades was not wide.. With the advent of more weedy butter in the market, however, this condition will undoubtedly change.

The average wholesale prices on 92-score butter at five of the principal markets for the week ending April 9, 1921, and the corresponding week a year ago were as follows:

	Week ending April 9 1921	1920
	cents	cents
New York	50.0	69.2
Chicago	47.5	65.7
Philadelphia	49.1	69.5
Boston	50.5	68.0
San Francisco	34.5	57.0

The receipts of butter at these markets were 8,251,208 lbs. as compared with 5,688,921 lbs. a year ago and 7,958,321 lbs. a week ago.

Carload Prices of Hay and Feed at Important Markets April 9

(In dollars per ton)

Commodity	New York*	Philadelphia	Baltimore*	Richmond	Jacksonville	Atlanta	Memphis*	Cincinnati*	Pittsburgh	Buffalo	Chicago*	Minneapolis*	St. Louis*	Omaha*	Los Angeles
HAY															
Timothy and clover:															
No. 1 Timothy	29 50	25.00	....	27.00	30.00	30.00	27.00	22.50	24.50	23.00	25.00	19.50	26.00	.....	....
No. 1 Clover, mixed	25.00	....	18.50	25.00	28.00	29.00	.....	19.00	20.50	.....	20.00	16.00	22.00	.....	....
No. 1 Clover	22.00	.....	15 50	24 00	.....	.....	.....	14.00	20.50	21.00	19.00	16.00	21.00	.....	.....
Alfalfa:															
No. 1 Alfalfa	.....	.....	.....	.....	32.00	33.00	27.00	18.00	.....	.....	25.00	20.00	26.00	20.00	18.00
Standard Alfalfa	.....	.....	.....	.....	31.00	31.50	23.00	16.00	.....	.....	21.00	18.50	24.00	17.50	.....
No. 2 Alfalfa	.....	.....	.....	.....	30.00	28.00	20.50	13.00	.....	.....	17.50	16.00	18.00	11.00	.....
FEED—Bagged															
Wheat Bran:															
Spring	25 00	24 50	24 75	29.00	27.00	28.50	.....	23.00	24.00	22.00	19.00	16.00	.....	.....	.....
Soft Winter	30.00	30.00	29 50	32.00	.....	29.00	21.00	24.00	27.00	.....	.....	.....	20.50	.....	.....
Hard Winter	26.25	26 00	.....	.....	30.00	28.00	.....	23.00	25.00	.....	.....	.....	19.50	16.00	33.00
Wheat Middlings:															
Spring (Standard)	24 75	24 25	25.00	26.00	28.50	29.00	.....	22.00	23.00	20.50	18.50	15.00	.....	.....	.....
Soft Winter	.....	31 00	28.00	32 00	.....	31 00	24.00	24.00	28.00	.....	.....	.....	23.00	.....	.....
Hard Winter	.....	28.00	.....	.....	32.50	30.00	.....	22.00	28.00	.....	.....	.....	22.50	.....	.....
Rye Middlings	.....	23.00	.....	24.00	.....	.....	.....	20.50	22.00	.....	16.75	15.00	.....	.....	.....
High protein meals:															
Linseed	43.25	42 50	.....	.....	.....	.....	.....	43.00	42.30	39.00	40.00	38.00	44.50	40.00	.....
Cottonseed (41 per ct)	.....	34.25	.....	.....	.....	.....	.....	.....	32.00	33.00	31.50	.....	31.00	.....	.....
Cottonseed (36 per ct)	31.50	31.50	.....	31.00	27.00	24.00	22 00	27.50	30.50	31.00	29.00	.....	28.00	.....	30.00
No.1 Alfalfa me'l (med)	.....	.....	30 50	.....	32.00	31.00	22.50	24.00	.....	.....	24.00	.....	21.00	18.00	29.00
Gluten feed	39.62	39 20	39.00	39.00	.....	.....	.....	35.30	.....	36.00	31.00	.....	31.00	.....	.....
Hominy feed (white)	28.00	27 50	27.50	30.00	.....	31.00	.....	23.00	26.00	26.50	22.50	.....	20.00	17.75	.....
Ground barley	.....	30 00	.....	.....	.....	.....	.....	38.00	.....	.....	31.00	23.00	.....	.....	†29.00
Beet pulp	30.00	32.00	31.00	.....	40.00	.....	.....	31.00	30.30	36.00	.....	.....	.....	.....	32.00

*Hay quotations represent average of cash sales at these markets. †Rolled.

Straw.—Straw of all sorts remains steady under a fair jobbing inquiry. Receipts are light. Demand for oat and wheat straw in Omaha is good. Stocks are light in most of the markets. Wheat straw is quoted as follows: $8 Oklahoma City, $14.50 Baltimore, $15 Richmond, $15.50 Pittsburgh, $12.50 Chicago, $8 Omaha, $8 Minneapolis, $18 Philadelphia; oat straw: $9 Oklahoma, $16.25 Baltimore, $15.50 Pittsburgh, $13.50 Chicago, $9 Omaha, $9 Minneapolis, $18 Philadelphia; rye straw: $18.50 New York, $17 Baltimore, $16 Pittsburgh, $14.50 Chicago, $9.50 Minneapolis, $19 Philadelphia

Dairy Markets

MILWAUKEE, Wis., April 15—Butter—Creamery, tubs, 46c; prints, 47c; extra firsts, 42@44c; firsts, 40@41c.

Eggs—Miscellaneous receipts, country candled, cases included, 23½@24c; cases returned, 22½@23c; seconds, 19@20c; checks, 18@19c.

Cheese—Twins, 18½@19c; Daisies, 19@19½c; Young America, 20@21c; Longhorns, 19@19½c; Brick, 19@19½c; Limburger, 27@28c; Swiss, loaf, 48@50c; block, 30@31c.

CHICAGO, April 15—Butter, creamery, extra, 46½c; standards, 44c; dairy, firsts, 40@45½c; seconds, 32@38c.

Eggs—Ordinary, 21@22c; firsts, 24¼c.

Cheese—Twins, 18½@19c; Young Americas, 19@21c.

NEW YORK, April 15—Cheese, dull; state milk, common to specials, 18@29c; skims, common to specials, 5@19½c.

Butter—Weak; receipts, 7,651; creamery, extras, 49@49½c; state dairy, tubs, 29@48½c; imitation creamery: prints, nominal.

Eggs—Weak; receipts, 57,328 cases; nearby white fancy, 37@38c; nearby mixed fancy, 25@34c; fresh firsts, 25½@36c.

Milky Way Sells to Pabst

A transaction of more than common interest in the Holstein industry is the sale of the entire herd of the Milky Way Farms of Washington to the Pabst Stock Farm of Wisconsin.

Ninety-seven head of cattle were included in this herd which ranked second as a winner of prize money from the Holstein-Friesian Association of America in 1920.

Among the famous animals in this herd are Aurora Fobes Fayne De Kol 3rd, Lady Aggie Echo Hengerveld, Jewell Pontiac Segis, and Chimacum Spring Farm King Pontiac.

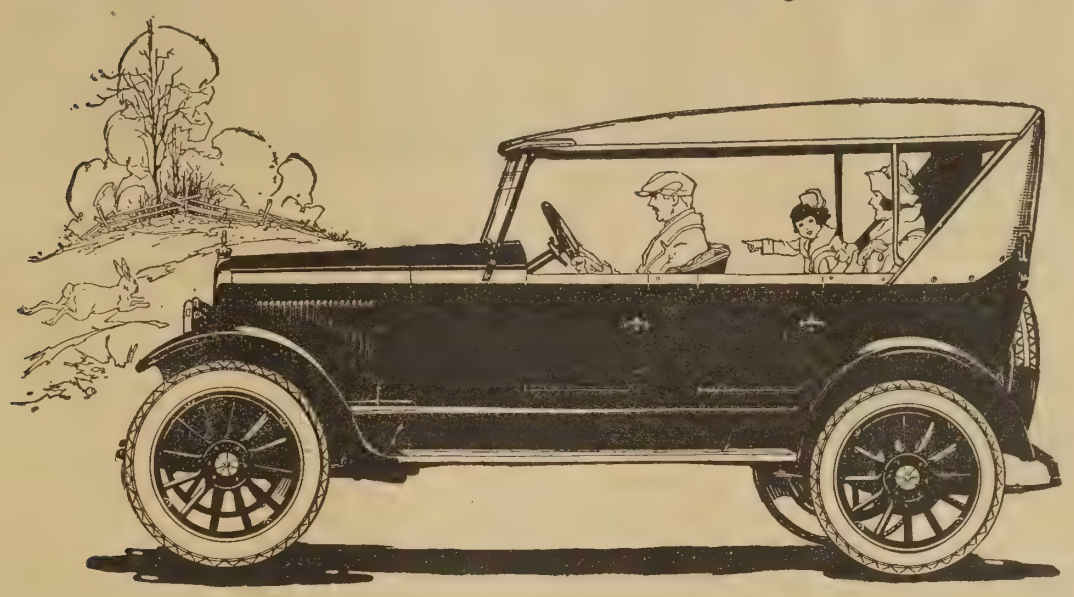
Jersey Fieldman in Louisiana

The Louisiana Jersey Breeders' Association has employed H. H. Haggard, who until recently has been the manager of A. J. Price's Jersey Farm as field secretary. Mr. Haggard fed and cared for Golden Bar's Foxy Lass, the champion producing dairy cow of the state, and placed seventeen other Jersey cows in the Register of Merit during the two years he worked with Dr. Price, which proves his ability to assist the Jersey breeders of the state in the development of their Jersey cattle. Mr. Haggard will spend his entire time with the Jersey breeders of the state and with their co-operation he can, and no doubt will, be of much service to them. His headquarters will be with the Dairy Department of the State University at Baton Rouge.

A pure-bred sire for the dairy herd can start an increase in milk production that continues through future generations.

BRISCOE

The Trustworthy Car



A Direct Statement—and a Challenge

The farmer has grown tired of the one-feature car—the car that plays up one point of satisfaction to the exclusion of all others. It is not safe to judge a motor-car merely by an unusual motor—a freak spring suspension—the winning of a race—a stunt or an unproved departure from standard design. A car should be good in everything.

Every feature of desirability must be taken into consideration. And that's why we make this positive statement,

The 1921 Briscoe

Is the Best Car Built Today

and we will prove it

What Combined Qualifications Make the Best Car

Let's put them down, and give each one the value to the average purchaser as shown by careful analysis—taking 100 points for all.

1. Reliability		
Engineering efficiency	6	
High-grade materials	7	
Accurate workmanship	6	
Balanced design	4	23
2. Power		
Ample power in relation to weight for speed, hill and road-ability, without costly excess	15	15
3. Economy of operation		
Gasoline and oil consumption	14	
Tire mileage	7	
Low cost of maintenance	6	27
4. Appearance and Convenience		
Style	11	
Comfort	11	
Ease of operation	5	27
5. Price		
Based, of course, on what you get per dollar	8	8
		100

Now take the 1921 Briscoe and measure it against perfection

1. Reliability

The 1921 Briscoe is a car light in weight, yet possessing the maximum of strength. This has meant the development of special steels; it meant the purchase of hundreds of thousands of dollars worth of machinery—much of it specially designed—so that we could make all the essential parts of the car in our own great plants. And it means now 100 per cent plus in sturdiness, strength and durability.

2. Power

The Briscoe has a remarkable reserve of power that carries it almost without effort wherever wheels will track. Hills that make most cars overheat and drop back to second speed are taken on high, with never a trace of motor-labor or boiling. Sand and mud have no terrors for the wonderful power-plant. You can readily prove this for yourself in a demonstration spin.

3. Economy of Operation

The Briscoe motor is world-famous for low fuel consumption. Owner's records of 20-25 miles to the gallon are the usual thing. The amount of unsprung weight has been so reduced and the car so perfectly balanced that tires seem almost everlasting. And the chassis is so simple and sturdy that few adjustments are necessary, and those are easily made.

4- Appearance and Convenience

It was Briscoe who originated the idea that beauty is not a matter of dollars and cents. Briscoe, too, first realized that comfort was just as essential in the low-priced car as in its expensive brother. That is why, today, you can ride all day in a Briscoe over country roads without feeling tired. And a child can operate it.

5. Price

That means not alone the actual number of dollars you pay, but what you get for each dollar. Briscoe today gives you more automobile value and more automobile satisfaction per dollar than any other car on the market, bar none.

We Challenge a Comparative Test

To any car, and all cars, we make this definite challenge. Taking the points of motor-car satisfaction indicated above, we will enter the 1921 Briscoe in a series of competitive tests, with the American Automobile Association or any other impartial motoring organization as the judge. The tests are to involve a thorough try-out of every car on every point, and each car is to be given a comparative rating by the judges on each test. Sounds fair, doesn't it?

And to every motor-car buyer we offer the same opportunity for the most thorough test. Go to the nearest Briscoe showroom and study the car; let the dealer demonstrate in any way you wish. Give him a chance to prove our statement—*the 1921 Briscoe is the best car built today*. And remember that the 1921 Briscoe price for open models is only $1285, f. o. b. factory. Most car per dollar and most satisfaction per dollar—that's Briscoe. *Free booklet mailed on request.*

BRISCOE MOTOR CORPORATION, JACKSON, MICHIGAN

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PASSENGER CARS

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Time was, and not so long ago, when the farmer who owned a motor car was the exception—the envied of all his neighbors.

Today, the successful farmer and breeder who owns only one motor car, is the exception.

Two motor vehicles at least, are now essential on the well managed, efficiently operated farm.

A car for the family, of course.

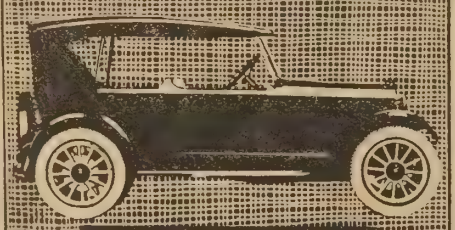
More frequently, a runabout or coupe for the busy head himself, and a five-passenger touring car or a sedan for "mother" and the rest.

And then, for all the farm hauling—all the road work—a Reo Speed Wagon.

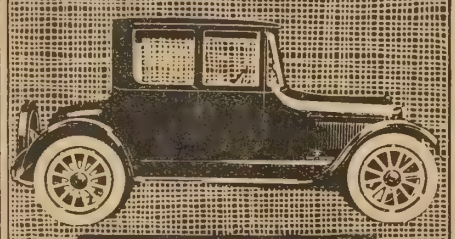
You no longer think of using the slow team for road work—nor for the thousands of trips during the year transferring stock, tools, feed, implements, etcetera, from one part of the farm-plant to another.

That Speed Wagon must be a Reo—for "If it isn't a Reo it isn't a Speed Wagon."

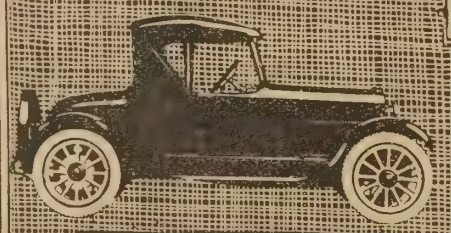
Dairy farmers were the first to see and appreciate the superiority of this pneumatic-tired Speed Wagon for their special needs.



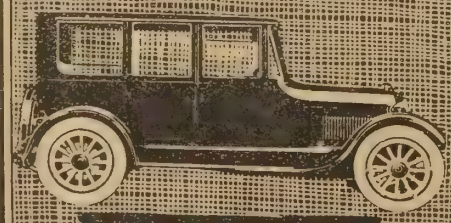
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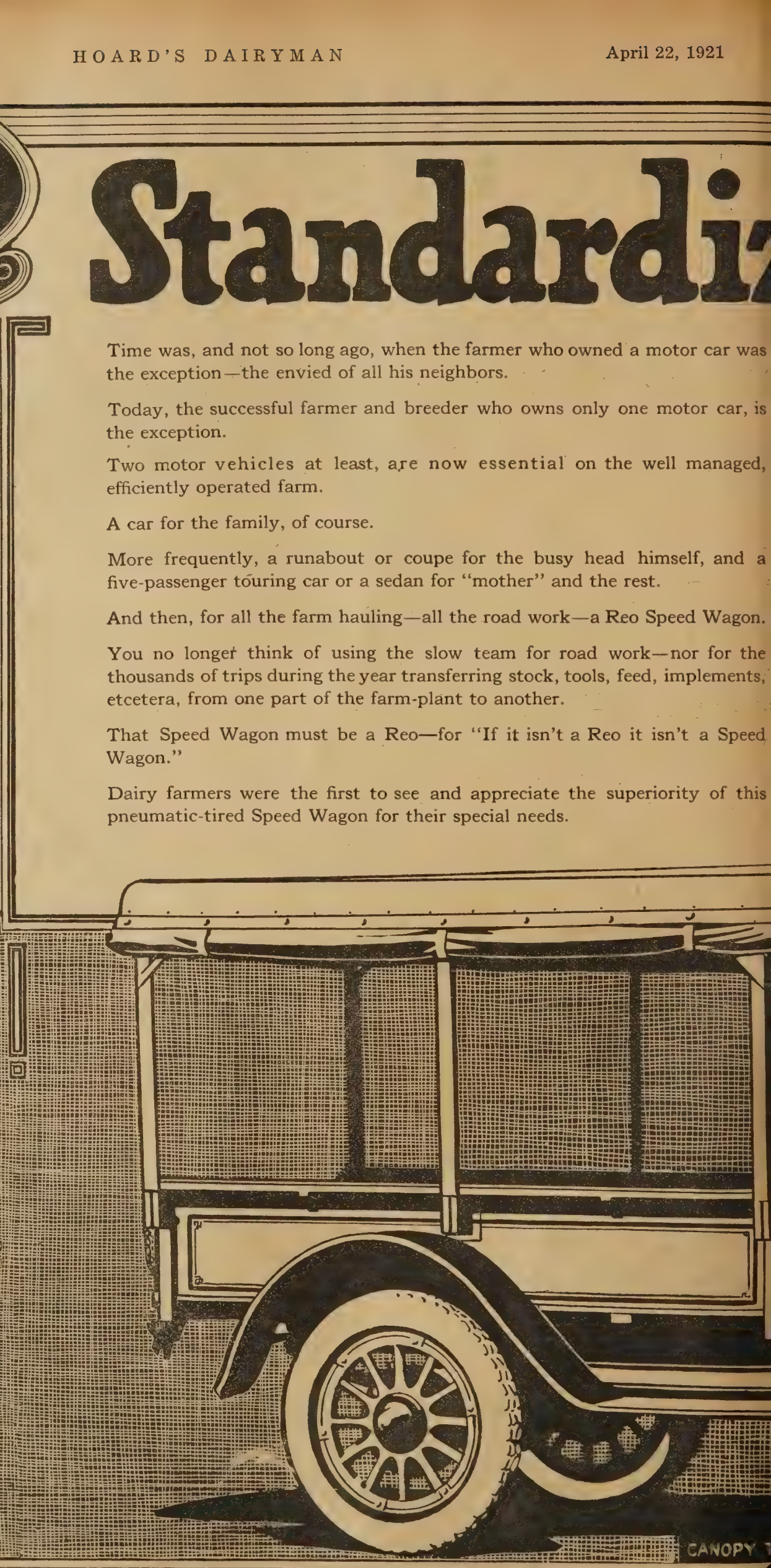


THREE PASSENGER ROADSTER
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TRADE MARK REG U.S. PAT OFF

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Fitted with a Reo convertible body you may deliver your milk, haul your grain and feed, transfer breeding stock—calves or hogs—do any and all the road work that, with horses, consumes so much time and causes so much shrinkage and loss.

And for this work this Speed Wagon acknowledges no rival—no equal.

If you own one Reo of any model no need to tell you—you know its quality.

Consider then, the advantages of making your entire equipment—passenger cars and trucks—all Reos.

"Standardize on Reos"—that is what thousands of business men in city and country are doing.

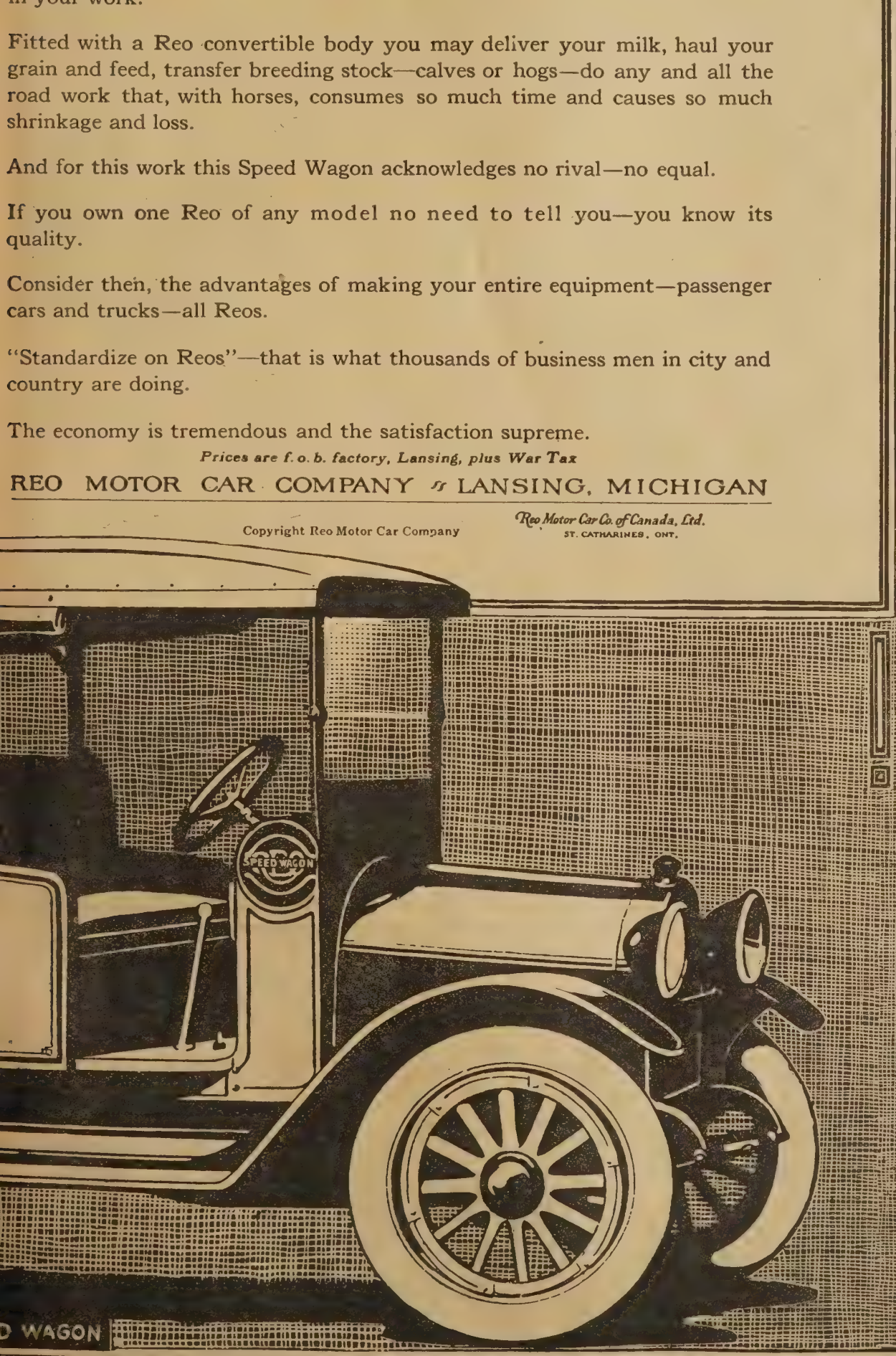
The economy is tremendous and the satisfaction supreme.

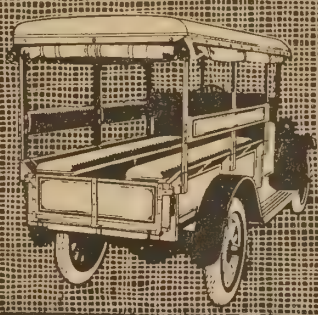
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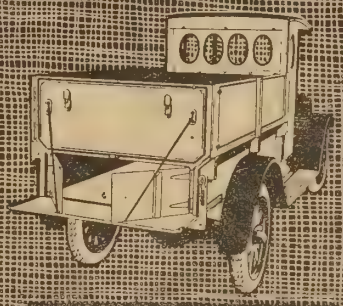




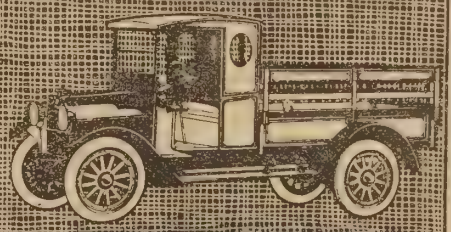
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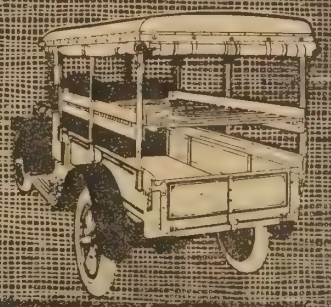
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Must Be Made to Breed or Your Dairy Business Will Be a Failure. They

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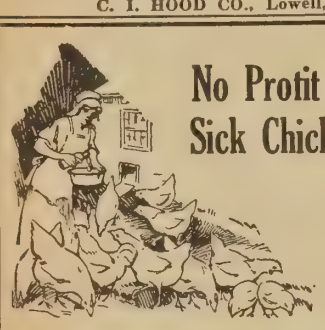
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Intelligent use of this powerful germicide will save little chicks from white diarrhoea and protect you against loss from gapes, pip, blackhead, cholera and the many other ailments common to poultry. All are caused by germ infections and are largely preventable.

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DON'T LET YOUR COWS ABORT

Take no chances of losing calves, cows and milk profits from Contagious Abortion. If it has attacked your herd, get rid of it at once. If you have escaped so far—KEEP IT OUT.

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Treats this disease scientifically through injections into the blood which kill the abortion germs and immunize healthy animals against them. Can't harm the cow. Has wonderful record of success. Prompt and positive in action—reasonable in cost.

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Advice is given free in this department. Inquires must be signed by the writer, and should pertain to veterinary Matters only. Where an immediate reply and prescription are desired by mail, the inquiry must be accompanied by a fee of one dollar. In every instance it will be necessary to give a full description of the symptoms present.

Hard Milkers

The inside of a cow's teat is open like a glove finger, and when not distended with milk its walls come together. Where the walls come close to form the tip of the teat there is an opening not much exceeding the thickness of the skin forming an entrance to the cavity of the teat. There is no large, strong sphincter muscle like a draw-string keeping this opening closed, neither is there a sphincter of that sort at the top of the teat where it connects with the milk sinus or reservoir or cistern, nor are there true sphincter muscles in the various lactiferous ducts which discharge into the cistern. The cow cannot willfully or purposely "hold up her milk" for the muscle fibers of the teat wall and udder are not under control of the will, nor is the "letting down" of milk under control of the cow. It is operated by the sympathetic nerve system, which is, however, intimately associated with the cerebro-spinal nerve system which operates the voluntary or motor nerves. The involuntary nerves and the muscles they supply may, however, be instantly affected by chill or shock and those influences often interfere with or impede milk secretion. Gentleness encourages milk secretion; roughness "shocks the nerves"; and the reflex influence impairs milk secretion. Muscle fibres may also become weakened so that leaking of milk occurs, or that may be due to an injury of the muscular tissues about the teat opening.

In some cows the openings of the teats are abnormally small and such cows are hard to milk. In others, the teats are flabby and weak in muscular tissues and milking then is easy or milk flows out between milkings. In most instances, however, hard milking is abnormal and has resulted from infection, injury, or growths within the opening of the teat or upon the lining membrane of the teat cavity, near the orifice, part way up or close to the udder. In some cases catarrhal discharge solidifies in the teat opening after the "drying off" process or an attack of garget and this substance has to be removed to make milking possible. It is not uncommon also to meet with a case where there is no orifice present at calving time and the attending surgeon has then to make an artificial orifice.

Warty growths are the commonest cause of partial closure (atresia) of the teat opening, or interference with milk flow. They may be removed if in the orifice or close to it, the veterinarian having special instruments for such work; but it rarely is safe or advisable to attempt by ordinary methods removal of growths that are high up in the teat or which hang into the teat cavity from the milk cistern. The right way to remedy such conditions is to cut through the teat wall when the cow is dry and that is a formidable operation only to be attempted by the trained surgeon. Sterilized dilators or expanders, properly used, often make a hard milker more easily milked, when the cause is a stricture at the tip of the teat, and teat plugs, or even a clean, fresh clove, may serve fairly well for the same purpose.

Congested Udder

I have a registered Jersey heifer one year old and by running with bull she was served to come in by next August. Please give me advice. Her udder is swelling up and is hard and she seems to have some pain in her udder. What can I do for her?

Algoma, Wis. J. J. D.

Many a heifer of the age mentioned has done fairly well, although bred so young. Let her run on grass and do not feed her heavily but keep bowels active. Twice daily, massage udder thoroughly and then rub in a mixture of 2 parts of fluid extract of poke root, 1 part of fluid extract of belladona leaves, and 5 parts of compound soap liniment.

Dysentery

I have a young cow that began scouring in January. I just about got her over it when she broke out with it again. Her hair seems to stand out straight all over her body so you can see her skin. She eats well enough and was tested last fall for tuberculosis.

Greene, Me. J. H. J.

It is to be suspected that the cow is afflicted with Johne's disease, which is incurable and contagious. Isolate her at once and cleanse, disinfect, and whitewash the stall she has occupied. Destroy or bury her feces as that spreads the disease. Have her examined by a qualified veterinarian and tell him what we have said. Meanwhile, try the effects of 20 drops of beechwood creosote and half an ounce of oil of eucalyptus given twice daily in 2 ounces of cottonseed or raw linseed oil and, if necessary, give it 3 times a day.

New Guernsey Champion Records

A number of Guernsey cows have lately completed splendid records. The following data concerns the records of four of these cows from as many different states.

Phebe D. of Maplelawn, a Guernsey almost twenty years of age, has completed a record of 7,467.2 lbs. milk, 416.7 lbs. fat. She is the oldest cow of the breed to complete an Advanced Register record, finishing at the age of 19 years and 7 months. She is owned by J. H. Seaman of New York.

A California Guernsey, Rose of the Rancho, owned by the Brant Rancho, finished a class F record of 14,731.2 lbs. milk, 707.27 lbs. fat. This gives her seventh place in this class. She ranks third in the class in milk production.

Honeymoon of Waldwic is a new champion in class EE. She is owned by Waldwic Farm of Wisconsin. Her record, recently completed, is 12,929 lbs. milk, 582.76 lbs. fat.

The first cow of the breed to complete an Advanced Register record in Idaho gained sixth place in class FF with a production of 9,583.4 lbs. milk, 562.37 lbs. fat. This cow is Edna of Mountain View owned by Leslie G. Perry.

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90 Head—90 Head

Lake Mills, Wis., Thursday, May 5th, 1921

Don't Miss It. Will be a Genuine "Right Down to Brass Tacks" Good Offering. The Sale will be On The Square, and the Consignors are Breeders of Good Reputation.

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For Catalog write

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A few Good Record Bulls backed by Productive Breeding.

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100 Registered Guernseys

The two greatest Guernsey Consignment Sales ever held in adjoining counties in central Wisconsin will be conducted at Waupaca and Appleton, May 5th and 6th, respectively.

INDIVIDUALITY—The individuality of the cattle consigned is superb because the sale committees had practically a free hand in selecting the choicest animals from the best herds in these two well-known Guernsey communities.

FEDERAL HERDS—Over 65% of the animals to be sold are from Accredited Herds or herds under Federal Supervision. This means no chances will be taken in buying cattle from these two great sales.

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50 Head Registered GUERNSEYS will be sold.
Waupaca County Guernsey Breeders' Ass'n
James Dance, Sale Mgr., Waupaca, Wis.

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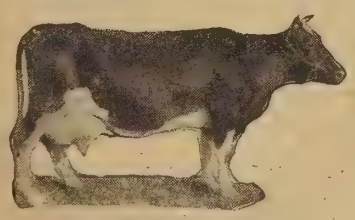
IMPORTANT—Free transportation, by auto, will be furnished to those attending the Waupaca sale who would like also to attend the sale at Appleton.

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Address all inquiries for circulars and catalogs to sale managers.

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Announce the Absolute Dispersal Sale of Their Select Herd of May Rose

GUERNSEYS

Tuesday, May 10th, 1921

This herd has won an enviable record through its long list of successes at the National Dairy Show, The Eastern States Exposition, The Waterloo Dairy Congress, New York State Fair, Interstate Fair, Trenton, etc. The females have also made some splendid A. R. records; among them the second cow in Class FF, Masherlette of Harbor Hill 2nd 96653 who produced 12,602.20 lbs. milk, 634.20 lbs. fat; Dairymaid of Harbor Hill 96652 (A. R.) who produced 10,828.40 lbs. milk, 550.84 lbs. fat. These great cows and many others will be included in this dispersal.

For catalogue address:

LEANDER F. HERRICK, Sale Manager
405 Main Street, - - Worcester, Mass.

Announcing
THE
Wisconsin Holstein Breeders' State Association Sales

May 17
Wisconsin Breeders' Annual State Sales
MILWAUKEE
STATE FAIR GROUNDS
65 Head
of Wisconsin Type Production Breeding

Wisconsin's Holstein Sales Classics 1921

Does it mean anything to you as a buyer to know that a committee made up of Bill Baird, Jerry Riordan, Addison Kaye, Fred Southcott, Rudolph Schaefer and Frank Everson have been touring the state locating and prying loose the good ones—the kind that breeders hate to price and which they can ill afford to sell. They are the only kind we catalogue in sales under the auspices of the Wisconsin State Association. You know what our State Sales have been in the past. You won't be disappointed in these this year. Just a one-day sale at each place. Watch future copy in this paper for full particulars.

Announcing
THE
Wisconsin Holstein Breeders' State Association Sales

May 26
Wisconsin Breeders' Northern State Sale
MARSHFIELD
SALES PAVILION
70 Head
of Wisconsin Famous Foundation Families

The Holstein-Friesian Association of Wisconsin, L. L. Oldham, Secretary, 241 Washington Building, Madison, Wis.

HOARDS DAIRYMAN JUNIORS

A DEPARTMENT FOR THE DAIRY FARM BOY

Filling the Corn Popper

[Continued]

"Well, we haven't much time tonight to talk about the details of the plans, son," he answered, at the same time glancing upward toward the clock which already had issued its musical warning that it was time for all decent farm folks to be in bed.

"Oh, let's finish the plans tonight, dad," Bruce anxiously urged, "We've got started now and it isn't going to take long when you get your head to working, dad," he flattered. "Let's see," he hurried on as he began to count those on whom he was certain they could depend. "Number one, of course, will be Jimmy Webb," he announced and he slyly glanced in the direction of his mother who recognized his first choice with an approving smile. Bruce was quick to note this. "I knew you would love Jimmy, mother. Every one does! He's a winner, he is, and the club wouldn't be complete without him. He's so full of good ideas, dad, that no matter how well we plan things, he'll have some valuable suggestions to make. All right, Jimmy's in for number one. Number two will have to be Bill—big Bill with the pug face," he reflected. "That makes a good beginning."

"How about having the girls, Bruce?" his mother interrupted. "I think it would be nice for them, too, if they want to come in."

"Oh, they'll want to come in on it," he hesitated, "but it kind a seems to me that they will be out of place with us boys," he boldly announced. "They're all right in their places and I'll bet Jimmy will agree with me that their place isn't trying to raise popcorn. Imagine Jimmy's sister, Jenny, in the club with all her bossy ways," he said in serious disgust. "Life would be unbearable and I'll bet Jimmy wouldn't consent to come in at all if she is to be a member. And we want Jimmy, so I am going to suggest, dad, that we do not allow any girls in this club. We'll keep out lots of trouble," and he laughed outright as he added, "we'll grow the popcorn and the girls can pop it for us and make the popcorn balls and if they want to form a corn popping club next winter, they can do it and we'll all keep out of it—but we will help them eat it."

And all the time that Bruce was orating upon the subject, his mother cast glances of satisfaction toward her worthy husband and undoubtedly the two were thinking the same thought—what a clever son our Bruce is. "Well, I was merely suggesting the girls, son," his mother commented, "but I see that I have met with but little favor. What do you think about it, dad?"

"Oh, maybe Bruce is right," he answered. "It doesn't make much difference though as far as I can see. What we want to do is to raise some popcorn in this neighborhood this summer and the more the merrier. But we'll see about that a little later after some other things have been decided."

"Well, let's see again," said Bruce, "who else we can bank upon, and he held up two fingers naming them Jimmy and Bill. "Yes, and there is Kenneth Sayre, that makes three, and Frank and Joe Bunce will make five and the Callenbach twins makes seven as he started to keep track of them on the other hand. We don't need to worry about not getting enough, dad, and I'll bet we will have a job keeping them out. Just wait 'til it gets noised around that you are interested in the boys and see what happens."

"We want all that we can get, son, all that will live up to the agreement of the plans we present. And now I am going to suggest that tomorrow morning you give Rex some exercise by riding 'round to see all the boys you think will be interested in our game and invite them to spend the evening with us at our home, and then we can complete our plans. The meeting place for the club can be right here," he continued, "and now I think we had better let the matter rest until tomorrow evening when we will try to complete our plans."

Bruce was out earlier than usual the following morning. The events of the past evening were uppermost in his mind as he groomed Rex so vigorously that even he became excited as he stepped nervously about in his stall to avoid his over enthusiastic master. And now and then he would enter a protest against what he thought was uncalled for kindness by nipping savagely at Bruce when he thought he was not being watched too closely. And once he really did pinch his young master on the arm which only made Bruce laugh as he continued the rubbing.

"Say, you little shaggy maned runt," he shouted at him. "Who do you think you are?" and he pushed him so hard against the other side of the stall that the horse in the next was startled. "Now you stay right there," he commanded as he resumed his work. "You've got a big job on your hands this morning, old boy, and you must look your best. Did I say on your hands, you little rascal?" he queried as he laughed aloud. "Guess I should have said your feet," and he stooped to lift one of the fore feet which he thought needed some trimming.

"Well, it does need looking after, young man," he said, "but it will have to do for this trip, because mother is calling me to breakfast, so you had better hurry up and eat yours, old fellow," he ordered, "for we'll soon be on our way."

Following a hearty breakfast which he hurriedly consumed with an appetite that only a fourteen-year-old boy knows, he was off on his mission. It would be difficult to say which was in better spirits, Bruce or Rex. There had been a light frost that night which left the morning air crisp and clear. Rex champed at his bit as he stood at the back door where Bruce had left him while he went in to say good-bye to his father and mother.

"Ask them all," were his father's last words as his son proceeded to mount Rex, who danced about more than usual in his eagerness to be off. "I'll do that, dad," he shouted back as the impatient pony dashed out of the yard. Bruce headed him straight for Jimmy Webb's home. "That's where we'll go first, Rex, and see how excited we can make Jimmy over our new stunt." Rex seemed to know where he was going and why shouldn't he, for hadn't he spent about as many hours at Jimmy's as he had at home! And what usually meant about a half hour's ride was made in fifteen minutes, according to Bruce's watch.

"Chicks hain't out yet," Jimmy greeted him at the door while he gulped down the last mouthful of breakfast.

"Well, what of it?" Bruce laughed, dismounting from his pony. "I didn't expect that they were."

"What's the matter, then?" asked Jimmy. "Some one sick at your home?"

"I should say not, are they, Rex," as he affectionately stroked the pony's mane. "We've got a new scheme at our house, Jimmy," he started. And he related in hurried breath enough of the conversation he had had with his father about the popcorn club to make Jimmy understand why he was there so early.

"Do you mean to say, Boo, that your dad has got the club fever, too?" he seriously inquired.

"That's what, at least that's what I think from what he said last night. And mother's got it too," he laughed. "They're just as excited about it as I am and just think of it, dad is going to be our leader in this club! All we've got to do is to support him and each of us do our part and he wants every one who will become a member to come over to our house tonight to talk over the plans. I think it will be lots of fun to do this and it will give us all a chance to have a little business of our own."

"Well, count me in for one, old kid," said Jimmy, "and I'll be Johnny on the spot tonight. I've raised popcorn before but I am willing to learn more about the job and I am sure that your dad has something to teach us or he wouldn't be interested. How many are you going to try to get?" he asked.

"All we can, Jimmy, and I don't believe we will have any trouble in getting enough, do you?"

"I should say not," he replied. "They'll all come in if for no other reason than to get a chance to come to your fine home. You know that will be a treat in itself for all of us and especially for the ones who have never been there before."

"Well, I'm glad you like the idea, Jimmy, and we'll count on you for one of the ring leaders. Maybe you can be the biggest popcorn grower among the bunch, anyway we'll all know at the start that you are the biggest eater," and at that he wheeled Rex about in his tracks and was off to see big Bill Horne.

Bill needed little coaxing. He had little initiative and inventiveness of mind but he was always a good follower. "Sure I'll be in," he assured Bruce. It's a good scheme and I don't see why we haven't been doing some of these things before this."

"Neither do I," Bruce returned "But now we have the chance and we better make the best of it."

"Who are you all going to have in the club?" Bill asked.

"All we can get," replied Bruce.

"Well, there's only two fellows that I'd like kept out," he sullenly suggested.

"Who are they?' Bruce quickly asked.

"Oh, them Callenbach twins! They make me tired every time I see them and they're so mighty hard to get along with."

The truth of the matter was that these same twins had at one time given Bill a licking for bullying them more than it is possible for any red blooded boy to endure. It was a bitter pill for big Bill and he swore at the time that he would get them some day for this, but in his own mind he knew that for him there was danger wherever the twins were.

"Well, we are going to ask them Bill," was Bruce's answer. They're mighty good little kids and their dad works them more than is good for them and maybe this will add a little pleasure to their lives. And it would be foolish for you not to come in. It will be a good chance to make up with them and, besides, if you stay out, every one will know the reason. You got that licking because you deserved it, Bill. You were simply taking advantage of them, one at a time, but they were clever enough to combine their forces before they attacked you and they'll do it again if they have to. So you'd better be a good fellow and make up with them and now's your chance."

"Oh, I'm coming in all right, but I don't think that I'll have anything to do with them though."

"Suit yourself about that, Bill, that's your own business and I'm glad that you will be one of us."

Bruce had made the rounds by eleven o'clock and he had been more than successful for not one of the boys he visited had said he wouldn't be a member. In fact, in more than one case, he had to be rather diplomatic in turning down the requests that came from some of the younger girls of some of the families to allow them to join too.

He was back home by noon. His success was related to his parents at



HENRY GABRIEL OF WISCONSIN AND HIS 1919 GARDEN EXHIBIT

the dinner table and was received with much enthusiasm. "That's splendid," remarked his mother, and his father added that he guessed he had taken on more work than he had anticipated.

That evening the young enthusiasts arrived in numbers that even Bruce couldn't explain, and as he afterward laughed to his father and mother. "it didn't take long for the news to travel." Of course, the whole truth was just this. This particular community was envious of the Carters and it had never had the pleasure of an acquaintance with them in a way that country folks like. To have the Carter home thrown open to the boys of the neighborhood was indeed quite a surprise so it was not unlikely that among those present there should be those to whom a formal invitation had not been extended by Bruce that morning.

The large cheery living room of the Carter home was completely filled with the arrival of the last ones and it is not going too far to say that never before had its walls had pent up within them so much of what life really is. To most of the boys it was indeed a rare treat to be entertained in so gorgeous a home, and no doubt more than one heart felt out of place as the boys' eyes gazed in wonder at the beautiful furnishings with which the room was decorated. But to Bruce there was something more wonderful. Try as hard as he might he found it difficult to engage in conversation with the boys, not even with his best friend, Jimmy. He could not keep his eyes from following his mother as she passed gracefully about among the boys, greeting them in a way that held his attention almost completely. It seemed to suddenly dawn upon him that his mother was beautiful as she mothered the household full of boys and he wondered to see all this coming from her who had always evinced a dislike for all of his friends. In fact, Bruce was not exactly himself, until he had called his mother from the room and whispered in her ear, "Mother, I never have seen you look so pretty before. You are simply lovely to these boys," and he reached up to plant a kiss on her glowing cheek.

For a moment the tears came to her eyes, and she said in return, "I see now what I have been missing all these years that I have lived among these people, Bruce. I see now what life really is and these boys are genuine. I wish that I could be the mother of them all and that each could have the benefits of our fine home. They are worth it, my boy, and from now on your mother will do all she can to help to bring sunshine into their lives, and remember, son, if at any time my boy feels that his mother is not giving him enough attention, he must remember that she is sharing herself with his friends. And when they returned to the room, his father was explaining to the boys the purpose of the meeting. He was saying to them, "and we want to go in to stick to the finish. Every one who signs up tonight to be a member of this club must firmly resolve to do his best and to work according to what all the members think is the best. I shall always be on hand to help you and from time to time we will have meetings like this one to talk over things of interest to us all and of course I shall want to visit you all some time during the summer to see how well you are growing your crop. We don't want anything like a constitution in this club. I think our word to be a member is enough to bind us all to our agreement which is simply this:

"Each member of the club must agree to grow a quarter of an acre of Baby White Rice popcorn. If any one wants to grow more he can, but we think that a quarter of an acre will furnish plenty of popcorn for each home this winter and maybe some of you will have enough to sell. I am going to furnish the seed to each of you free of charge to be sure that you are all growing this particular kind, because it is the best. How does this strike you, boys, so far as we have gone?" he asked.

"Fine," a number of the less bashful ones answered.

"What will be the name of our club?" inquired Jimmy.

"Just what we want to talk about now," answered Mr. Carter. "A club that is going to do as well as we are, must be well named," he smiled to them. "Are there any suggestions that any of you wish to make?"

"I was just thinking when I asked the question, that if we called ourselves 'The Poppers', we'd have a pretty good name," Jimmy volunteered. "How do you all like it?" he asked.

"Very good name, Jimmy," commented Mr. Carter. "And it also suggests that we will all have to hustle to do our best. Yes, I think it will be a very good name for us. How many would like that for a club name?" he asked. To which the majority of hands indicated that they agreed. "It is agreed then that we will call ourselves 'The Poppers'," he concluded, "and now that we have taken the first step and are organized, we will wait for the next meeting to learn our first lesson in popcorn growing."

There was a shuffle of feet as the boys arose to leave. But just at that moment, Mrs. Carter appeared in the doorway leading to the kitchen and said, "the meeting is not over yet, boys, I have something to say," and as she stepped aside, Bruce entered carrying a tray heavily loaded with dishes of ice cream and plates of cookies. While this greeting seemed to be highly pleasing to all as they sank back into their chairs, there was but one in the crowd who had the courage to express it, and that was the smaller Callenbach twin, Jake.

"Gee, I didn't want to go home, yet," he said as he walked forward to meet Bruce and helping himself to the biggest dish he could spy. "I'd like to stay here all the time," he added as he greedily proceeded to make away with what he had before him.

"Well, we'd be glad to have you, Jake," smiled Mrs. Carter.

"But I guess I'd get an awful licking from pa," he volunteered, which made all the boys stop and laugh. "He didn't want Pete and me to come tonight, because he said that you was all stuck up and we wouldn't be good enough. But we cried awhile and then he said we could come this time.

"The big boob," whispered Bill Horne to his neighbor. "What will she think of him!" But it was plainly evident what Mrs. Carter thought of him, for after filling his dish again, she sat down beside him to add to his pleasures by her motherly presence.

Junior Letters

Hoard's Dairyman Juniors:—I can scarcely wait until our Hoard's Dairyman comes to see what some of the juniors have to say.

My brother and I have joined a pig club. We will get our pigs soon. We are going to do our best to win the prizes. First prizes as far as I have heard yet are $10, second $8, third $2.

I would like to learn improved ways on raising hogs. They are urging a calf club, too. If they begin one father wants me to join and raise a fine cow.

I believe every junior should try and learn all he can, so I will do my best. I like to raise and see pigs and calves grow. If any junior belongs to a calf club I wish he would tell me how he raises them and the kind and what he feeds them.

I am 14 years of age and in the 8th grade in school. I wish the juniors good luck in the future and wish every junior would write me letters. I will answer. Address: Friedens, Pa. Wayne McCarney.

Hoard's Dairyman Juniors:—I have not written for quite a while as I have been busy working. I am going to have a garden this year and try to raise something to take to the fair. I have some queer seeds known as "the Chinese Yard Long Beans", also the "French Carrot" which weighs from 4 to 5 lbs. apiece. If they grow to be that large I shall take them to the fair this year.

My calves are doing fine. I feed them hay, grain, a little ensilage, and they are outside every day when it is not raining. Our cows are fed hay, grain, ensilage, and kale.

I have missed only one-half day of school. I ride my pony every day.

My mother has eleven little chickens and she has four hens set. One hen is mine and she has fifteen eggs. I will get half of the chickens and the hen.

We have three turkey hens and a gobbler. My mother is going to raise a lot of turkeys this year I think.

My father has moved our granary and is going to make a garage out of it.

I wish some of the juniors would write to me. My address is R. R. No. 2, Box 33, Gaston, Oregon. Robert L. Gibson, Jr.

Hoard's Dairyman Juniors:—I am eleven years old and in the seventh grade in school. I live on a fifty-acre farm. We have ten head of Guernsey cattle and fifteen sheep. Four of the sheep have twin lambs. The mother of one pair of lambs died so we are feeding them on a bottle. Their names are Topsy and Turvey. I have a pure-bred Guernsey heifer in the calf club. She won first prize at the fair this year. We took three of our sheep to the fair and they won the first prizes. I belong to the calf club of Chenango County. Harry L. Case is the leader. We have had an open winter but it has been very cold. I have a brother fifteen years old. His name is Alton and he is in the eighth grade. I wish some of the juniors would write to me. My address is R. F. D. No. 2, Norwich, N. Y.

Mildred Cook.

Hoard's Dairyman Juniors:—I have been a junior for a good many years and like to hear how some of the juniors are getting along in the dairy business. We have at present about thirty-five head of Holstein-Friesian cattle. I am also very much interested in our herd, because I have one cow and a heifer calf of my own. Her name is Majascala Lady Small Hopes. She's a nice, straight heifer, and perfect in every respect. She was bred April 27, 1920, to Empire Segis owned by H. A. Moyer of New York. On January 26th, 1921, she dropped a heifer calf, as nice a calf as can be found in many a herd. I am raising some calves again this year and like to see them when they are healthy and grow. I like Holstein cattle, therefore I try to make a success of them. I hope some of the juniors will write. My address is Box 242, Macungie, Pa.

Timothy H. Gehman.

Hoard's Dairyman Juniors:—We are just beginning to set eggs for hatching. We have set two hens. We have the R. C. Rhode Island Reds and White Wyandottes and our 70 hens lay from 40 to 50 eggs per day.

We have two old sows and 4 gilts; they are the big type Poland-Chinas. Thornwood's Big Jumbo and Thornwood's Big Leader are the two boars that head the herd. One of the gilts is to farrow in about 4 days and she is bred to Thornwood's Big Leader, one of the biggest boars for his age in the state. Thornwood's Big Jumbo is about 2 years old and weighs about 900 lbs. Our sows weigh from 400 to 650 lbs.

We have Guernsey cattle. At present we have 8 pure-breds, 1 bull, 4 cows, 3 calves, and the rest are grades.

Wisconsin. Henry Schultz.

SALE ANNOUNCEMENTS

April 23—Selected Guernseys from the Sunnybrook and Willowbrook Herds at Sunnybrook Farm, Eatontown, N. J. Leander F. Herrick, Sale Mgr.
April 25-26—Holsteins. Waukesha County Holstein-Friesian Association Sale at Waukesha, Wis. W. L. Baird, Sec'y.
April 27—Holsteins. French Bros. Dispersion Sale, Shipman, Ill.
May 2—Holsteins. Walworth County Holstein Breeders' Association Eighth Semi-annual Sale at Elkhorn, Wis. Ben Bachhuber, Mgr.
May 3—Holsteins. Clark County Quality Sale at Owen, Wis. J. Wuethrich, Sale Mgr.
May 4—Holsteins. Minnesota Holstein Breeders' Association Third Annual Sale at Faribault, Minn. B. D. Scott, Sec.
May 4—Guernseys. T. C. Norman Dispersal Sale of Registered Guernseys at Lake Crystal, Minn. F. E. Fox, Waukesha, Wis., Sales Mgr.
May 4-5—Holsteins. Ohio Holstein Breeders' Association Second Annual Sale at Columbus, Ohio. H. C. Barker, Sec.
May 5—Guernseys. Waupaca Co. Guernsey Breeders' Assn. Annual Consignment Sale at Waupaca, Wis.
May 5—Holsteins. Lake Mills Holstein Breeders' Consignment Sale. F. H. Everson, Mgr., Lake Mills, Wis.
May 6—Guernseys. Fox River Valley Guernsey Breeders' Association Consignment Sale at Appleton, Wis.
May 6-7—Holsteins. Illinois Holstein-Friesian Ass'n. State Sale at Wheaton, Ill. R. N. Thompson, Sec.
May 9—Holsteins. Brown County Holstein Breeders' Sale at De Pere, Wisconsin.
May 9—Holsteins. West Salem, Wis. F. H. Everson, Sale Mgr., Lake Mills, Wis.
May 10—Guernseys. Dispersal Sale of Emmadine Farm Herd at Hopewell Jct., Dutchess Co., N. Y. Leander F. Herrick, Sale Mgr.
May 10—Guernseys. Berrien County Breeders' First Annual Consignment Sale of Registered and Grade Guernseys at Eau Claire, Mich. F. E. Fox, Waukesha, Wis., Sale Manager.
May 12—Holsteins. Green Co. Holstein Breeders' Ass'n. Semi-annual Consignment Sale at Monroe, Wis. H. D. Schindel, Sale Mgr.
May 12—Guernseys. J. L. Hope's Annual Sale at Florham Farms, Madison, N. J. Leander F. Herrick, Sale Mgr.
May 12—Holsteins. Marathon Co. Holstein Breeders' Association Sale at Wausau, Wis. Francis Darcey, Watertown, Wis., Mgr.
May 12—Jerseys. Wisconsin Jersey Breeders' Ass'n. Sale at Madison, Wis.
May 13—Holsteins. Chippewa Falls, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 13—Holsteins. Consignment Sale at Chippewa Falls, Wis. F. H. Everson, Mgr.
May 13—Eastern Guernsey Breeders' Association Combination Sale at Devon, Pa. Leander F. Herrick, Sale Mgr.
May 17—Holsteins. State Fair Grounds, Milwaukee, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 18—Jerseys. Monroe County Jersey Breeders' Consignment Sale at Tomah, Wis.
May 18-19—Holsteins. Manitowoc County Holstein-Friesian Breeders' Association, Manitowoc, Wis. Chas. Hampke, Manager.
May 18—Holsteins. Livingston Co. Holstein Association Sale at Howell, Mich. F. J. Fishbeck, Sale Manager.
May 20—Holsteins. Sheboygan Co. Holstein Breeders' Sale at Plymouth, Wis. F. H. Everson, Manager.
May 20-21—Holsteins. Wheatfield Farms Consignment Sale at La Salle, N. Y.
May 23-24—Holsteins. Missouri State Holstein Association Show and Sale at Sedalia, Mo.
May 24—Guernseys. Marathon Co. Guernsey Breeders' Ass'n. Second Annual Consignment Sale at Wausau, Wis. F. E. Fox, Waukesha, Wis., Sales Mgr.
May 25—Guernseys. Portage Co. Guernsey Breeders' Association Annual Consignment Sale of Registered Guernseys at Amherst, Wis. R. K. McDonald, Sec'y. F. E. Fox, Waukesha, Wis., Sale Manager.
May 26—Brown Swiss. First National Consignment Sale, Peoria, Ill. Wm. S. Dunn, Mgr., Middleburgh, N. Y.
May 26—Guernseys. Portage Co. Guernsey Breeders' Association Annual Consignment Sale of Registered Guernsey males and grade females at Amherst, Wis. R. K. McDonald, Sec'y. F. E. Fox, Waukesha, Wis., Sales Manager.
May 26—Holsteins. Marshfield, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 27—Holsteins. Michigan Holstein-Friesian Breeders' Assn. Sale at Grand Rapids, Mich. H. W. Norton, Jr., Secretary, Lansing.
May 27—Holsteins. Outagamie County Holstein Breeders' Ass'n. Sale at Appleton, Wis. Edw. O. Mueller, Sec.
June 1—Holsteins. Dispersion of Fairview Stock Farm's Herd at Anderson, Ind. O. L. Janney, Owner.
June 1, 1921—Holsteins. Central Wisconsin Holstein Breeders' Ass'n. 13th Semi-annual Consignment Sale at Marshfield Sales Pavilion, Marshfield, Wis. R. A. Peterson, Wisconsin Rapids, Wis., Sale Mgr.
June 2—Guernseys. Clark County Guernsey Breeders' Annual Consignment Sale at Owen, Wis., C. E. Beck, Manager.
June 3—Guernseys. Fond du Lac Co. Combination Sale. Charles L. Hill, Mgr.
June 4—Guernseys. Folly Farm Guernseys at Fond du Lac, Wis. Chas. L. Hill, Mgr.
June 8—Guernseys. The Southern Wisconsin Guernsey Breeders' Ass'n. Sale, Ft. Atkinson, Wisconsin.
June 9—Holsteins. First Annual Bred Heifer Sale, Thorp, Wisconsin. W. H. Krause.
June 9—Holsteins. First Annual Sale, Holstein-Friesian Co-operative Association of New Jersey, Trenton, New Jersey. J. W. Bartlett, Secretary, New Brunswick.
June 9—Guernseys. Waukesha County Guernsey Breeders' Ass'n. Eighteenth Semi-Annual Sale of Registered Guernseys at Waukesha, Wis. F. E. Fox, Sec.
June 9—Guernseys. Massachusetts Guernsey Breeders' Sale. Leander F. Herrick, Sale Mgr.
June 14—Guernseys:—Minnesota Guernsey Breeders' Annual Sale. State Fair Grounds, St. Paul. L. V. Wilson, Secretary.
June 15—Guernseys. First Michigan State Sale at Lansing, Mich. F. E. Fox, Waukesha, Wis., Sales Manager.
Oct. 19—Guernseys. Wm. S. Ormston & Son, St. Johns, Mich., Dispersal Sale. F. E. Fox, Waukesha, Wis., Sales Mgr.



The rate for advertising in this department is 10 cents per word. Count address. Remit in advance. Copy must reach us 8 days ahead of date of issue. Farm labor advertising 7c per word.

STOCK FOR SALE

Holstein heifer and bull calves. Pure-bred, registered and high grade. Splendid individuals and breedings. Delivered to you, $25 and up. Your inquiry will be given our best attention. BROWNCROFT FARMS, McGraw, N. Y. 5*

I have usually 100 head of registered and high grade Holsteins on hand for sale. Also registered and imported Percheron and Belgian horses. RALPH HUDSON, Milton Junction, Wis. 12*

For Sale—At Elmwood Stock Farm, high grade Holstein cows, fresh and springers, by the carload. JOHN MURPHY, Mukwonago, Wis. 3*

"The Willows" offers fifty high grade Holstein cows for sale. S. D. SHAMBEAU, Waupaca, Wis. 12*

High Grade Holstein heifer calves, two to four weeks old, from tuberculin tested herds, $30 each, crated. Will ship C. O. D. WAUKESHA CO. HOLSTEIN-FRIESIAN BREEDERS' ASSOCIATION, Waukesha, Wis. 9*

High Grade Holstein and Guernsey calves. $25 crated. Safe delivery guaranteed. BROWN & COLLINS, Lima Center, Wis. 16*

Serviceable grandsons of Lola Segis Pontiac Homestead for sale, he a 34-lb., 1,000 lb. son of Piebe Laura Ollie Homestead King. Their dams are daughters of Joe Oak De Kol Fobes. Well grown, good individuals. Your choice, $150. R. W. MEAD, Stillwater, Minnesota. 10*

High Grade Holstein calves 6 to 8 weeks old, $30.00 each. We pay express and ship C. O. D. SPREADING OAK FARM, Whitewater, Wis. 11-tf.

For Sale—30 high grade Holstein milkers and springers. Will sell one or all. FRED JOHNSON, Waupaca, Wisconsin. 23*

Closing out herd of grade Holsteins, $100.00 each. H. A. KUHTZ, Waukesha, Wisconsin. 24*

For Sale—My entire herd of choice high grade Holsteins, mostly bred to and sired by thirty-pound bull. There is one full load of the best large heifers in southern Wisconsin, uniformly marked, about three-fourths white. C. L. SIMMONS, Belmont, Wis. 1*

Baby Bulls—Registered Holstein-Friesian by high class sires and heavy producing dams. Price is right. C. S. MULKS & SON, Whitewater, Wisconsin. 3-*

Holsteins—37-lb. herd sire, young bulls, cows, heifer calves. PHILIP LEHNER, Princeton, Wisconsin. 6*

If you want the very best Holstein heifer calves delivered promptly, order from me. Will ship C. O. D. express prepaid at $25 each or $18 F. O. B. Oconomowoc. Also a fancy load of cows and a number of heifers priced to sell. E. F. THOMAS, Oconomowoc, Wis. 9-8

For Sale—Registered Holstein and Guernsey calves. 25 Holsteins and 20 Guernseys. BURR OAK FARM, Whitewater, Wisconsin. 11-6

Holstein bull, ready for service, 2 dams averaged 106 lbs. milk 1 day, 40.67 lbs. butter 7 days, $200. Terms. ROY HARRIMAN, Appleton, Wisconsin. 11-6

Write me for prices on high grade Holstein heifer calves and registered bull and heifer calves. Special low price for next 60 days. Will ship C. O. D. PAUL McFARLAND, Route 7, Watertown, Wis. 12-4

For Sale—Carload of high grade cows. Ten head of registered cows, bred to a 32-lb. sire. TWIN PINE STOCK FARM, Oxford, Wisconsin. 13-4

Listen! Your last chance to get some of those beautifully marked extra high grade Holstein heifer calves at greatly reduced prices. Registered bull calves $35.00 C. O. D. Look them over and if they don't suit don't pay for them. J. M. MCFARLAND, Watertown, Wisconsin. 14-4

Twenty registered Holstein cows and heifers bred for yearly production. FRANCIS CREANE, New Douglas, Illinois. 14-3

Lake Shore Holsteins—Fifty fine, big, fat, pure-bred yearling heifers. One or all, priced to move them at once. Come. E. J. OPPLIGER, Forest Lake, Minn. 14-4

Bargain—Five high grade, well marked Holstein heifer calves from 6 to 8 weeks old. First check received for $100.00 takes them. L. W. MITCHELL, Whitewater, Wis. 14-2

Holstein heifer calves, high grade and well marked, three to six weeks old for $16.00 crated. Registered bull calves $35.00 each. RUDOLPH KUNDERT, New Glarus, Wis. 14-*

My entire herd of grade Guernseys for sale. Also a few choice heifer calves at $30.00 delivered. SHADY HILL FARM, Whitewater, Wis. 23*

Guernsey heifer calves. Can ship you 10 at once about 4 weeks old. Calves out of my own herd, so know what I am shipping. $30 each crated. F. O. B. Waukesha. WERN FARMS, Waukesha, Wis. 18*

Guernseys—High grade Guernsey calves, either sex, four to six weeks old, bred for production of milk and butter. Thirty dollars apiece delivered to any station, express charges paid here. Send orders or write. LAKE VIEW GUERNSEY PLACE, Whitewater, Wisconsin. 26-tf

For bargains on May Rose bulls with type and production, write KUHTZ BROS., Waukesha, Wis. 21*

For Sale—Registered Guernseys. Both sexes. Herd under Federal Supervision and free from disease. CLOVERNOOK FARM, Whitefish Bay, Milwaukee County, Wisconsin. 6-10

Guernsey calves six weeks old, $20. F. O. B. Knapp. THOMAS HAGERTY, Knapp, Wisconsin. 2*

Guernseys—Registered males and females, all ages. Breeding and type unexcelled. Grade cows, yearling heifers, heifer calves. No better quality anywhere. Tuberculin tested. Prices reasonable. Why not buy through an association and from breeders in the business to stay? Write your wants today. F. E. FOX, Secretary Waukesha County Guernsey Breeders' Association, Waukesha, Wisconsin. 6*

High grade Guernseys—Twenty young cows and heifers to freshen. Some with records. Almost pure-bred. Tuberculin tested. OAKLAND GUERNSEY FARM, Mukwonago, Wisconsin. 9*

Young bulls for sale. Sons, grandsons and double-grandsons by Bell Buoy of Linda Vista 19430 with 20 A. R. daughters, who has six daughters that average 524.55 lbs. fat at two years. O. R. SCHWALEN, Roberts, Wisconsin. 11*

For Sale—Guernsey herd sire. A. R. backing. Priced for quick sale. HOOPMAN & JAGERINK CO., Oostburg, Wisconsin. 11-4

May Rose Guernsey bulls for sale. Sire, Langwater Frenchman, Danish A. R records 500 to 660 lbs. fat. Federal Accredited herd. HOMER RUNDELL, Livingston, Wisconsin. 12*

Guernsey—Our herd bull for sale at reasonable price. DAEMMRICH BROS., Pittsville, Wis. 14-2

Will express baby heifer calves, Holsteins or Guernseys, C. O. D. BYRON GATES, Fort Atkinson, Wisconsin. 13*

STOCK FOR SALE

Registered Guernsey bulls and bull calves from $100 to $200. Sired by Sunny Brook Barrington, son of Barrington May King and a grandson of Florham Autocrat. Also a few young cows for sale. GEO. W. ADAMS, Wild Wood Point Farm, R-1, Nashotah, Wisconsin.

Guernsey Bulls—Two to fourteen months old, grandsons of Ne Plus Ultra out of A. R. dams; priced to sell. Federal Accredited herd. WM. F. FRETZ, Pipersville, Pa. 14-4

For Sale—Two May Rose bulls, good individuals and splendid breeding; both have A. R. daughters and more on test. Priced for quick sale. W. F. MURPHY, Aitkin, Minn.

Guernseys—Registered bulls of Advanced Registry breeding—$100.00 and up. Herd Federally inspected. Write for list. HELENDALE FARM, Athens, Wisconsin. 14-spl.

Brown Swiss bulls of serviceable age. A. C. BOODY, Hudson, Wisconsin. 4*

Brown Swiss Bulls. A. W. WILLMANN, Hawkeye, Iowa. 11-4

Ayrshire bull calves sired by a grandson of Buchan Peter Pan. Priced reasonable. CHARLES DUNLAP, Elkhorn, Wisconsin. 13-2

Registered Jersey bull calves. Solid color, black tongue and switch. Constitution, type and production combined. ISAAC B. FAST, Goessel, Kans.

STOCK WANTED

Wanted—Lists of registered and grade Guernsey cows and heifers for sale. Report to any bank in Wisconsin or write to BANKER-FARMER EXCHANGE, 1822 Chadbourne Ave., Madison, Wis. 8-spl

Wanted—Best blood, registered Holsteins; baby bulls; heifers, any age; one cow. Near stock prices. Give breeding, prices. BUFORD, Gas Building, Chicago, Ill.

Wanted—Car grade Jersey heifers. U. G. CASS, Monmouth, Iowa.

STOCK BUYER

Registered dairy cattle bought and sold. EDWARD A. WALTER, 111 Monroe St., Chicago. 18*

Will buy for you, dairy cattle of any breed, grades or pure-bred. DAVID W. WILLIAMS, Lake Forest, Illinois. 6*

Commission basis—One hundred and fifty head in our own herd for sale, Holstein and Guernsey, registered and grade. Large barns for centralizing and testing shipments of any size. Private yards for shipment. Every herd near here known by us. Write your demands. EDGEWATER STOCK FARM, Fort Atkinson, Wisconsin. Breeders and commission buyers. 10*

Save 30 per cent by buying your cattle through J. D. POWERS, Fort Atkinson, Wis. 12*

DOGS

German Shepherd, airedales, collies, and old English Shepherd dogs. Brood matrons, puppies, farm helpers. 10 cents for instructive list. W. R. WATSON, Box 520, Oakland, Iowa. 20*

POULTRY

Highest prices paid for live and dressed poultry, pigeons, veal, hides, etc. Quick returns, fair treatment. C. E. McNEILL & CO., 325 W. So. Water Street, Chicago. 24*

Eggs $1 setting. Parcel post paid. Thoroughbreds. Barred Rocks, White Rocks, Buff Rocks, Anconas, White Wyandottes, Brown Leghorns, White Leghorns, Rhode Island Reds, Buff Orpingtons. PHILIP CONDON, West Chester, Ohio. 5-15

Baby chicks $11.00 per 100 up. Postpaid. Catalogue free. FARROW-HIRSH CO., Peoria, Illinois. 9-16

Baby chicks, quality first. Pure-bred, bred-to-lay from free range flocks. White Leghorns, Buff Leghorns, Barred Rocks, White Wyandottes. Send for catalog. WANDSCHNEIDER'S HATCHERIES, Box 1, Fort Atkinson, Wisconsin. 12-4

Baby chicks $10.00—100 up postpaid. Catalog free. UNIVERSAL BABY CHICK CO., Peoria, Ill. 14-4

SWINE

Duroc-bred gilts and boar. Prize winners. Spring pigs. PHILLIP LEHNER, Princeton, Wisconsin. 5*

Chester Whites—Order your boar or gilts now. Combination of blood lines of Wildwood Prine and Big Sensation. Ship at ten weeks. GEORGE D. SPRINGER, R-6, Grand Rapids, Mich.

HORSES

Wanted—One or two good riding horses, gaited, good lookers, about five years old. FRANK P. BLAIR, Mukwonago, Wis.

MACHINERY

Want the cheapest, handiest belt power? Then ask me about my Little Twister Power Transmitter for Ford and Dodge cars. FRANK R. WEISGERBER, Salina, Kansas. 16*

For Sale Cheap—A small lot of standard make Swedish Cream Separators, 400 pounds capacity, $29.00, 500 pounds capacity, $34.00, 700 pounds capacity, $39.00. These are all new machines, wonderful bargains. THOMAS TAFFEE, Box 355, Lansing, Mich. 18*

One Waterloo Boy 12-20 tractor good as new. One Grand Detour Jr. 3-bottom plow, new. Two 16-inch pulverizers new. H. C. KARSTEN, Huntley, Illinois. 10*

Capital Tractors—First in America, spring mounted. 8-16, $600; 12-24, $850; 15-30, $1,200. Self oil saw frame $15. 4 H. P. engine, $100. 6 H. P. engine, $150. DISSINGER COMPANY, Wrightsville, Pa. 11-4

We offer Sharples suction feed separator and milkers at reduced prices. LOUBAT GLASSWARE COMPANY, New Orleans, La. 12-4

For Sale—Perfection two double unit milking machine. Brand new. Going out of business. Cheap. PAUL L. MORGAN, Darlington, Wis.

TANNING

Let us tan your hide. Cow and horse hides for fur coats and robes. Cow and steer hides into harness or sole leather. Catalog on request. THE CROSBY FRISIAN FUR CO., Rochester, New York. 10-17

FARMS FOR SALE

Rose Valley Farm—137 acres; 17 miles macadam roads to City Hall, Philadelphia; owner's residence, electric lights, hot water heat, open fireplaces; beautiful lawn and shade; extended view; large stable and carriage house; modern cow barn, 48 head; tenant houses; purest water in abundance; all necessary buildings; macadam roads each side and through farm; $50,000 less than cost of buildings. FARM 2024 N. 10TH ST., Philadelphia, Pa. 26*

Hardwood cut-over land, silt loam, clay sub-soil. Neither sandy nor gravelly; close to town; good roads; good schools; in the heart of the dairy country. You deal directly with the owners. No agents and no commissions. Easy terms. Also improved farms. Write for map and Booklet No. 4. NORTH WESTERN LUMBER CO., Land Department, Stanley, Wisconsin. 1*

When you buy land buy the best. We have choice hardwood land in one of the very best sections of Central Wisconsin for sale on easy terms. Best of clay loam soil. Good roads, climate, water and markets. No rough, stony or sandy land. Write for information. JOHN S. OWEN LUMBER CO., 112 Mill St., Owen, Wisconsin. 9-8

Price very low if sold immediately. Modern dairy farm on good road in Waukesha County. 200 acres, comfortable brick dwelling, furnace heat, running water, horse barn, two large connected, modern dairy barns, two silos, tile milk house. Complete breeding establishment. Convenient to Waukesha and Milwaukee. R. E. BENSON, Dousman, Wisconsin. 10*

Western New York farms stocked and fully equipped, $50 to $100 an acre. Taxes low. Free list. THE HAZARD-RHODES CO., Salamanca, N. Y. 11-4

Landology special number just out, containing 1921 facts of clover land in Marinette County, Wisconsin. If for a home or as an investment you are thinking of buying good farm lands where farmers grow rich, send at once for this special number of Landology. It is free on request. Address SKIDMORE-RIEHLE LAND CO., 47 Skidmore-Riehle Bldg., Marinette, Wisconsin. 11-5

Farms near New York City. Dairy, grain, potato, fruit, poultry. 752 pictures sent free. SLOCUM FARM AGENCY, 141-T Broadway, New York City. 12-4

A bargain in a 190-acre blue grass dairy farm 8 miles from Nashville, Tennessee; oiled highways, interurban and railroad service. Two-story brick residence, barns, silos, etc. $160.00 per acre. C. M. ARMISTEAD, Madison, Tennessee. 12*

Cut This Out—Learn today how settlers with farming experience can get new made-to-order dairy farms with buildings, stock, tools, etc. First payment $300, balance 30 years. Location famous Chippewa Valley, heart of Wisconsin. Close neighbors, markets, railroads, schools, creameries, best soil, pure water. Greater opportunity than Homestead. Several farms ready to move on now. Send today for free information. CHIPPEWA VALLEY COLONIZATION CO., BP-201 Plymouth Bldg., Minneapolis, Minnesota. 12-4

For Sale—2,000 acres fine hardwood timberland, birch, white ash, maple, white pine, spruce. Sawyer County, Wisconsin. Logging would pay handsome profit. Land delightfully situated for stock ranch. Two trout streams, six springs. Also 130-acre dairy farm, buildings new, on lake shore in Barron County. W. A. HANCE, Freeport, Illinois. 7*

Taxes don't worry farmers in wealthy Western New York. Cheap farms, best markets, big profits! NEW YORK FARM AGENCY, Westfield. 3-spl

160-acre farm, 4 miles from town, Red River Valley land. Will take Dairy cows up to $3,000.00. Easy terms. JOHN WINTHER, Galchutt, N. Dakota.

Clover, alfalfa, sugar beet, prairie. Owners price. Easy terms. Submit trades. GASEL, Thief River Falls, Minnesota. 14-4

Illustrated Booklet on Southern Idaho irrigated lands and Great Dairy Country sent free on application. H. A. CHAPPELL, Caldwell, Idaho. 14-3

Farm for Sale—Partly improved farm for sale. Four miles from railroad town; good school and road; in new growing community. Easy terms. Kennan soil. Owner absent. ROBERT AMUNDSON, Oconto, Wisconsin. 14-2

$800 secures 180 acres with horses, 4 cows, tools, machinery, vehicles, etc.; convenient town, advantages; productive machine-worked tillage; 35-cow spring-watered pasture; estimated 60,000 ft. timber, 100 cords pulp, 2,500 cords wood worth $16 a cord in nearby market; fruit; 8-room painted house, spring water, 11-cow barn; if taken now $2,000 gets all, only $800 needed, easy terms. Details Page 16 Illustrated catalog 1100 bargains. Free. STROUT FARM AGENCY, 150 Nassau St., New York City.

230 acres rich land. $18,000. New buildings. On macadam road ½ mile town 1,500. 3 railroads. Dairying community. Best markets. Finest climate. Write owner, BOX 1, Route 3, Orange, Va.

Modern farm for sale—500 acres in heart of rich and beautiful farm area. Location:—Near Hartford, Wis., Washington County. Equipment:—Cow barns, 80 James stanchions, calf and bull pens. Electric lights, water system, grain elevator, ice house, comfortable farm house, 4 concrete silos. Price and particulars also arrangement for inspection upon application. E. L. PHILIPP, owner, 139 Sycamore St., Milwaukee, Wisconsin. 14-2

Marathon County, Wisconsin, improved and partly improved farms. Send for list. WM. ALBRECHT, JR., Wausau, Wis. 14-3

For sale—89 acres, horses, cows, hens, tools; $3,000, only $1,000 cash, balance $100 yearly. 320 acres, good buildings, $3,500. JOHN FRANTZ, Earlville, New York. 14-2

For Land's Sake! 840 acres of good hardwood cut-over land in one body, with spring brook; excellent for sheep or dairy farm, 4 miles from railroad station. Owned and for sale by H. E. ANDREWS, Portage, Wisconsin. Price and terms reasonable.

EXCHANGE

Wanted—To exchange 50 acres river bottom alfalfa land in ideal fruit and dairy section of California at $10,600—3,000.00 down—for small farm in central states as second payment. R. W. SHARP, 601 N. Fourth St., Fresno, California. 2*

HAY

Alfalfa and prairie hay for sale. Prompt shipments. Personally inspected loading. Wire or write GUNN HAY CO., Lexington, Nebr. Reference Lexington State Bank. 11*

Number one and choice alfalfa hay and seed ready for shipment. Address A. L. DAMON & COMPANY, Inc., Rapid City, South Dakota. 8*

Alfalfa Hay for Sale—Write or wire for delivered prices. ALBERT MILLER & COMPANY, 192 North Clark St., Chicago. 17*

FEED BAGS

We buy second-hand bags, pay one-half freight on 200 or more. LINCOLN BAG CO., Springfield, Illinois. 10-spl

FEEDS

Dried Beet Pulp—the wonderful dairy feed. New reduced prices. Ask your dealer or write THE LARROWE MILLING COMPANY, Detroit, Michigan or Los Angeles, California. 12*

Molasses—Richest feed, lowest cost. Write for special price. CHICAGO MOLASSES COMPANY, 1131 East 77th St., Chicago, Illinois. 25-spl

PRINTING

Hoard's Dairyman Art Department designs your letter head free. Just tell us your breeds of stock. Book of 5,000 Farm, Ranch and Cottage names 25 cents. Ask for samples of letter heads, envelopes, shipping tags, cards, milk tickets, etc. Poor stationery is more of a damage than a help. Be sure and give correct post office address, including state. Address HOARD'S DAIRYMAN, Art Dept., Fort Atkinson, Wisconsin. 8-tf

SEEDS

Farmers, ranchmen and dairymen. Order your Grimm and Cossack alfalfa seed direct from the grower. All seed recleaned and guaranteed. Ask for samples. WM. H. K. WILLIAMS, Triangle Ranch, Cottonwood, South Dakota. 28*

Send for attractive price list of our select home-grown seed corn. Finest quality, several varieties. Fully guaranteed. Largest trade in Northwest. JOHNSON & ARNESON, Dassel, Meeker County, Minnesota. 3*

Seed Corn—Eureka ensilage, ninety-day Silvermine, Riley's 52-day, Johnson, Reids, Catalog. HAMMOND & SONS, Rockport, Indiana. 11*

For Sale—Choice certified Green Mountain seed potatoes. Carlots at $.75 per bushel. Small lots $1.00 per bushel. Write PRICE COUNTY PURE SEED ASSOCIATION, Phillips, Wisconsin. 13-2

Golden Glow seed corn—bred for southern Wisconsin. A. M. TEN EYCK, Brodhead, Wisconsin. 8-spl

No. 1 Alfalfa seed, dodder free, $10.00 bushel. WILLIAM VEAZIE, Jerome, Idaho. 14-2

Fire Dried, shelled and graded seed corn, testing nearly perfect, bushel $2.50. Returnable if not satisfactory. Minnesota 13, Minnesota Ideal, Silver King. J. C. HANSON, Dawson, Minn. 14-2

Soy beans—Early yellow and black varieties. $5.00. Delivered free five bushel lots. 90 to 98% germination. 30 years' experience. Advise your needs. PARSONS—MCKINNIC CO-OPERATION, Canby, Ind.

Prize Winning seed corn—Golden Glow, Wisconsin No. 12, Silver King, Wisconsin No. 7. My Golden Glow has won three Sweepstakes at leading grain shows. Write for prices. JOSEPH A. BRUNKER, Ridgeway, Wis. 14-2

AGENTS WANTED

Yes Sir, we have a special opportunity for you during spare time, an opportunity to do some good work in your neighborhood, for the betterment of dairy farming, that will pay you in cash for the effort you put forth. Write for our "Special Opportunity Getting Together" folder. Address HOARD'S DAIRYMAN, Fort Atkinson, Wis. 2-tf

Representatives wanted to write hail and cyclone insurance every township in the Northwestern states. Little experience necessary, good commissions. Write quick. ST. PAUL MUTUAL HAIL AND CYCLONE INSURANCE COMPANY, 805 Pioneer Bldg., St. Paul, Minnesota. 12-12

$200 monthly and commission. Year's contract to men with autos. We start you, equipping cars with Rideezee, the better than air inner tire. A substance cheaper than tubes. RIDEEZEE CO., St. Paul, Minnesota. 12-4

MAPLE SUGAR

Pure Vermont maple sugar, made this season and of fine quality. 10-lb. pails sugar, $3.50; 1-gal. cans of syrup, $3.00. Sent by express f. o. b. train here, cash with order, or C. O. D. Sample ½-lb cakes sent by mail east of Mississippi postpaid for 30c in stamps. O. C. PITKIN, Marshfield, Vermont. 13-2

Vermont maple syrup—$2.25 per gallon. Cash with order. PARKS & PARKS, Jericho, Vt. 14-2

LIGHTNING RODS

Lightning Rods—Exclusive agency and quick sales to live dealers selling "Diddie-Blitzen Rods." Our copper tests 99.96 per cent pure. Write for agency. Prices are right. L. A. DIDDIE CO., Marshfield, Wis. 9*

MISCELLANEOUS

Western Red Cedar Poles and split posts at reduced prices delivered your station. A. R. DERR, Clark Fork, Idaho. 10-6

Lumber and shingles at reduced prices. Farmers' trade our specialty. Best quality. ROBERT EMERSON CO., Box 1156, W. Tacoma, Washington. 12-5

Choice, selected, progressive, everbearing strawberry plants. Sent prepaid for $2.50 per 100. F. C. HILL, Albert Lea, Minnesota. 13-4



Advertising in this department is 7c per word. Remit in advance.

HELP WANTED

Men—Boys Wanted—Railway Mail clerks $135 month. Write immediately. FRANKLIN INSTITUTE, Dept. K 115, Rochester, New York. 12-4

Wanted—Boy to work on grain and dairy farm. Age, between 15 and 17. State wages and nationality in first letter. Write JOE THOMAS, Belmont, Wisconsin. 13-2

Wanted—Single man to take charge of dairy on certified farm. Address BOX 715, care Hoard's Dairyman, Fort Atkinson, Wisconsin. 13-2

Wanted—A Swiss dairyman to take small interest in California dairy ranch—to work on salary. House available for small family. Prefer a man with some experience in raising hogs. Holstein cattle and Poland China hogs. For further particulars write W. C. MYERS, 7 Collinsville Ave., East St. Louis, Ill.

We want a single, middle-aged man to take care of calves and assist in cow barn on large dairy farm in Illinois. Must be good dry hand milker. Wanted also, middle-aged single man for bottle house. We can use for this position a clean man only, with experience. Both men must be absolutely dependable and must take interest in their work. Good board and conveniences. State wages and experience. Address BOX 732, care Hoard's Dairyman.

Wanted—Reliable girl or woman working housekeeper for 5 men. CRAB TREE FARM, Lake Bluff, Illinois.

Wanted—Honest man, German or Swiss preferred, for dairy work. $40 and board per month. Good position. Write to J. B. LUCHSINGER, Quincy, Florida. 14-2

Wanted—Young married couple general farm work. $50 a month, house, fuel, milk, garden patch included. Must have good reference. FRANK P. BLAIR, Mukwonago, Wis.

Wanted—A middle-aged, single man for test barn to milk 5 or 6 Holstein cows on semi-official test and to take care of calves. Must be steady an competent. State experience, wages and reference. JOHN BAZLEY STOCK FARM, Route 5, Ypsilanti, Mich. Phone 705F4. 14-3

Wanted—At once single herdsman and assistant herdsman to take full charge of registered Jersey herd. Twenty-five cows on test the year round. Must understand rationing and raising calves. References required. Best wages to right man. BOX 730, care Hoard's Dairyman. 14-2

Wanted—Working herdsman and foreman in certified dairy. Excellent living conditions. State if familiar with tractors. Large dairy farm, modern machinery used. Also two good men who are clean milkers. State all first letter. GRACEMORE FARMS, Center Village, N. Y.



Advertising in this department is 7c per word. Remit in advance.

HELP WANTED

Wanted—A good capable lady to keep house for a widower with no family. 28 years old, of good character, country creamery manager, nice home. State wages, etc. Address BOX 731, care Hoard's Dairyman.

Wanted—Married man to work 90-acre farm stocked with pure-bred Holsteins. Good cow man, a little knowledge of A. R. O. work preferred. Also knowledge of general farming. Shares or salary. ARCHIE REID, JR., Janesville, Wis. 14-*

Help Wanted—Married Couple to work in dairy and help on farm. Milking machine used. House furnished. H. W. FISCHER, Ethel, La. 14-2

Wanted at once—Single man to work up and drive a milk route in a town of 16,000. Must bottle and take care of milk. He must understand this business, be honest, agreeable, steady, neat and of good habits. Must know how to get customers and hold them. Must be experienced and able to give reference. State wages in first letter. Steady job to right man. C. H. HICKS, Marshalltown, Iowa.

Wanted on sheep ranch. Man, wife and growing boys. Hundred dollars per month, must be hustlers and understand sheep and general farming. Will arrange working interest with right parties. DUNKA RIVER LUMBER CO., Virginia, Minn. 14-2

First Class Milker for Guernsey herd, four time milking, wages $60.00, board and room. Write P. L. JONES, Iowa Dairy Separator Co., Waterloo, Iowa.

Wanted—An experienced man in creamery, washing and bottling. Must be clean. State wages in first letter. P. O. Box 476, KEYWORTH'S DAIRY, Houston, Tex.

Wanted—Thoroughly experienced dairyman take charge fifty-cow modern dairy. Must understand pasteurizing, making and putting away ensilage crops, and gas engines. Excellent home, extremely healthy, beautiful surroundings. Prefer man with family large enough to operate entire proposition. Satisfactory salary for all. Here's opportunity some good family to settle for life. Position to be filled May first. Apply with full references and salary expected. H. F. BARKERDING, 148 East Bay, Charleston, S. C.

Herdsman wanted—First class married man for small select herd of Guernseys in New Jersey. Must understand A. R. work, keeping records and be capable of assuming full responsibility. Modern improvements in cottage and barns. Send references and outline of experience and training, when applying. Address BOX 733, care Hoard's Dairyman.

POSITIONS WANTED

Position Wanted—As manager or herdsman, by May 15th or sooner. South preferred. Excellent references. Address BOX 719, care Hoard's Dairyman. 13-2

Herdsman available (single). Developed world record cows and animals which sold up to $10,000. Herd in charge of one of the very leaders in prize winning money. Life long experience in every branch of care, development and management of the black and whites. West or middle West preferred. Best of references. Give full particulars in first letter. Address BOX 717, care Hoard's Dairyman. 13-2

Position wanted with pure-bred herd by single man 30 years old; several years' experience with pure-bred dairy cattle; helped to develop two class leaders last year; three years with last herd. References furnished. LEO KELLY, 628 Second Ave., South Minneapolis, Minnesota.

Wanted—Position on large pure-bred farm. Single, experienced in handling, milking and caring for test cows, also in small dairy work. Write wages, details. CHARLES W. THOMAS, New Madison, Ohio.

Position wanted—Experienced dairyman (Hollander), calf raiser, milker and feeder. KLAAS VAN TWIST, Sheldon, Iowa.

Working Manager and Herdsman—Young American farmer. College graduate. Two years as herdsman of one of the largest and best Holstein herds in the East where large yearly records are being made. Understand farm bookkeeping, herd records, breeding, crop rotation, handling men and machinery. Want a good sized proposition with a first class business man who is developing a high class herd on a good farm. Address ELMER E. TOWNE, 377 Battle St., Montello, Brockton, Mass.

Position wanted—Young married man seeks position as herdsman with small Guernsey herd. Experienced in handling milk, calf raising and A. R. feeding. State wages and particulars. Address BOX 734 care Hoard's Dairyman.

DAIRY & DIVERS. FARMING
FARM MANAGER
HONEST
ECONOMICAL
PRACTICAL
PERSISTENT
LOYAL
PERFORMANCE
First Class References
Address Box 692
Care Hoard's Dairyman.
FARM AUDITOR
ESTATE—MANAGEMENT

Pooling Starts May 1st

Dairymen's League Concludes its Program and Says "Over the Top"

The time which dairymen have been looking forward to and working toward for many months has at last arrived. The Executive Committee of the Dairymen's League Co-operative Association at a meeting on April 12, voted to pool on May first the milk of all those members who had signed the co-operative contracts. This action of the League's Executive Committee will have to be confirmed by the Board of Directors which will meet on April 22, but, inasmuch as the Co-operative Association will have more than its 50,000 contracts on May 1st, there is no doubt that the directors will confirm the decision of their executive committee. No other decision that has ever been made in the dairy industry is of such far reaching importance as this decision to pool, and the news will be more than welcome to those thousands of farmers who have been without a regular market for their milk since October 1st.

The Dairymen's League Co-operative Association is busily engaged in hiring the necessary help and installing accounting and other equipment for the proper handling and safeguarding of the proceeds of its members' milk.

It is expected that the final decision to pool will have an immediate effect upon thousands of men who have hesitated as to whether or not they should sign the Dairymen's League Co-operative contract. Many have been waiting to see whether the campaign to get 50,000 subscribers to the contract could be brought to a successful close, and now, assured that the pooling is actually to begin on a definite date, these men will hasten to get in line with their neighbors and fellow dairymen throughout League territory in order to be assured of a regular market for their product.—Dairymen League News

Chance For Stock Man With $20,000 Cash

360 A. Finely Improved Stock and Dairy Farm in Central Michigan; prosperous, thickly settled neighborhood; near city with high school and state normal school; buildings alone worth $40,000; rich clay-loam soil. 240 A. in cultivation and meadow, balance blue grass pasture. Reliable men say this farm will make $35,000 per year clear profit as a stock breeding and dairy business. Trucks from two milk factories pass the farm daily. Worth $200 per acre; will sacrifice for $169. Will sell half interest to good stock and dairy man with $20,000 cash and give easy terms on balance. Will invest half the money needed to stock and equip the farm. Will make reasonable terms on entire farm. Address

HOWARD L. HYATT, Rooms 28-31 Swope Block
Terre Haute, Indiana

BE A BABCOCK MILK TESTER

Big demand for expert Babcock testers wherever there are dairy farms. Experts command good pay. Learn how easy it is for you to take up this interesting and necessary work. Send for free illustrated booklet giving complete details.

BABCOCK AGRICULTURAL SCHOOL
Room 218, 318 No. Michigan Ave., CHICAGO

OTTAWA
1½ H-P Pulls 2½ H-P, NOW ONLY $38.50
10 Years Guarantee; 90 days trial. FREE—Complete Engine Book. Wonderful bargains. Get my prices before you choose any engine. Write today. OTTAWA MFG. CO. 1521 King Street, Ottawa, Kansas.



780-Acre Washington Dairy Ranch For Sale

15 miles from Portland with Boat-Landing and Railroad Station on the place. 640 acres on bottom—140 acres on upland, all deep sandy loam which raises immense crops. 150 acres in cultivation and seeded to alfalfa, clover, grain and corn. Balance is mostly some of that great pasture, of which Mr. Aitken, the Holstein president, after his coast trip said, "Will bring, in connection with the mild climate, greater results in dairying and at a lower cost of production than east of the mountains."

THERE ARE TWO SETS OF BUILDINGS ON THIS PLACE, two barns for 75 and 50 cows each, 3 silos, etc.

THIS PLACE WOULD MAKE A FINE HOME AND PAYING INVESTMENT for someone on account of the fine view, the excellent soil, the mild climate, the good market, the very low price and would be especially adapted for breeding Registered Stock. We would either sell 500 acres of the bottom for $35,000 or the whole for $65,000.

Owners, CUENI & GASSER, R. 2, Box 49, Ridgefield, Washington

26 Registered Holsteins — 10 Grades—TO BE SOLD APRIL 30TH

The pure-breds include 17 females of milking age and 5 heifer calves. Among the grades are 8 of milking age and 2 bred heifers. Sold subject to a 60-day retest. Write for further information.

FRED GOLDBERG, Owner **East Palestine, Ohio**
L. M. FOX, Herdsman

British Condensed Milk Standards

HOARD'S DAIRYMAN:—England is not only the biggest consumer of condensed milk, but she also imports the largest quantity of this produce. Consequently the new regulations governing the sale of the product are of the greatest importance to those interested in the condensed milk industry. The most important provisions are as follows:

"No person shall sell or expose for sale or deposit in any place for the purpose of sale or dispatch or deliver to any purchaser, broker, or agent, any condensed milk intended for human consumption unless the condensed milk is of a composition complying with some one of the standards set forth in the first schedule to these regulations and is contained in a receptacle which is labeled in the manner prescribed in the second schedule to these regulations.

"When a sample of condensed milk has been taken in pursuance of the provisions of these regulations, the local authority or the medical officer of health, pending the receipt of a report on the result of the chemical examination of the sample delivered to the public analyst, may by notice in writing, addressed to the owner of the condensed milk or the occupier of the premises where it is deposited, require that for a period not exceeding ten days the consignment of condensed milk from which the sample has been taken shall not be removed from the place where it has been deposited without the consent in writing of the local authority or the medical officer of health.

"Where a sample of condensed milk does not comply with the required standards, the local authority shall not consent to the removal of the condensed milk unless it is satisfied either that the requirements of these regulations have been complied with, or that it will be exported or disposed of for manufacturing purposes or that it will not be used for human consumption.

"The import (otherwise than for re-export for use for manufacturing purposes) of foreign condensed milk intended for human consumption is forbidden, unless the same satisfies the demands of the standards and labels."

All condensed milk must comply with some one of the following minimum standards:

Type of condensed milk	Milk fat per cent	Total solids per cent
Full cream, unsweetened	7.8	26.5
Full cream, sweetened	9.0	30.0
Skimmilk, unsweetened		20.0
Skimmilk, sweetened		26.0

Every receptacle containing condensed milk shall bear a label upon which is printed such one of the following declarations as may be applicable or such other declaration substantially to the like effect as may be allowed by the Minister:

"Condensed Full Cream Milk Sweetened. About — per cent of the contents of this receptacle consists of added sugar.

"The contents of this receptacle are equivalent to — pints of fresh milk with added sugar. For use in the place of fresh milk with added sugar. This condensed milk should be mixed with — times the quantity of water (i. e. — spoonfuls of condensed milk to — spoonfuls of water)."

The labels for the other descriptions are nearly the same; in the case of skimmed milk, sweetened or unsweetened, there must be added: "Unsuitable for infant feeding." The prescribed declaration shall be printed on a label in dark black type upon a light colored ground within printed lines, forming a rectangular parallelogram in letters not less than one-sixteenth of an inch in height, and no matter other than the prescribed declaration shall be printed within such parallelogram. If there is attached to the receptacle a label bearing the name trade-mark or design representing the brand of the condensed milk, the prescribed declaration shall be printed as part of such label. There shall not be placed on any receptacle containing condensed milk any name, statement, design, or representation, in words or symbols, which is false or misleading. A person who neglects these regulations shall be liable to a penalty not exceeding £100, and, in the case of a continuing offense, to a further penalty not exceeding £50 for every day during which the offense continues.

It seems to us, that these regulations will turn out to be of the greatest importance for the bona fide condensed milk trade. The United States is especially interested in this matter as it delivered nearly 91 per cent of the total import of condensed milk in the United Kingdom.

Holland. N. H. BLINK.

Soybeans for Hay

Soybeans for emergency hay purposes have grown rapidly in favor during the last 10 years, especially among those who are farming the sandier soils where clover and alfalfa are not likely to do so well. Unlike millets and Sudan grass, both relatively low in protein, soy bean hay is very high in digestible protein, being about equal to alfalfa hay. Although it is a little difficult to cure, the palatability and high feeding value of this hay make it a very desirable forage.

Wisconsin varieties, such as the Ito San, Medium Early Black, and Medium Early Green, are among the best. They can be cut earlier at a time when the weather is better for hay making. Seeding broadcast or drilling in at the rate of 4 or 5 pecks an acre is a good method when growing soybeans for hay, because the plants are finer stemmed when grown under these conditions. However, they may also be drilled in cultivated rows. By using a special soy bean plate and setting the wheels of the corn planter 44 inches apart, rows 22 inches wide can be made by straddling every other row. From 20 to 30 pounds of seed an acre are required for row plantings. Everything considered, the first method is preferable. Seeding should be delayed until about corn planting or a week or so later.

Soy beans make the best hay if cut when the blossoms are fading and the pods are forming. In order to save the leaves, the most valuable part of the crop, the plants should only be allowed to wilt well in the swath. Then they should be put up in small cocks and left to cure, which usually takes about a week in good hay-making weather. Although peas and oats or Sudan grass may give larger yields, the high protein content of soy bean hay is a big advantage. The soy bean, being a legume, has the special advantage of enriching soil with nitrogen, providing the seed has been inoculated.—Wisconsin Special Circular.

The Farmer and His Friends

(Continued from page 579)

as evil. But do we recognize that good is also contagious? Good health is contagious. Success is contagious. Joy and happiness are contagious. Do I need to explain? You will understand this better as you think about it.

We are social beings and have to mingle together in order to be comfortable and happy. And since, if you have enough character to deserve the name of man, you have an influence for good or evil, there arises before you a responsibility. Probably there are at least a few lives upon whom you can exert the deciding influence between good and bad, between success and failure. It is one of the finest things in life for a man to rise up out of his own cares, his private duties, out of his own failure and gloom or out of his own happiness and lend a helping hand to the man within his reach who needs him.

There is no general rule regarding the depth of planting, as different kinds of vegetables and different soils necessitate different practices. The smaller the seeds the shallower the covering should be as a rule. In heavy soils the covering should be lighter than in light soils.

GUERNSEYS

Guernsey Bulls For Sale

Polly's Anchor No. 42845, born August 24, 1916, and Imp. Bluebird of Lakeside No. 45329, born June 15, 1917. Good, straight bulls, very gentle and sure breeders.

For Sale by

RADISSON FARM, ANOKA, MINN.

Guernseys

Best May Rose breeding. Both sexes and all ages from an Accredited Herd. Write your wants and send for lists.

E. S. Person, Minot, N. D.

Dairymen's Bulls

4 to 10 months old.

NE PLUS ULTRA BREEDING.

At prices that will make large returns on investment even when used on grade cows only.

WOODLEA FARM, Leesburg, Va.

Tilden Farms Guernseys

FOR SALE: Several typy, May Rose bulls out of A. R. cows and sired by Hope's May Rose of Maple Hill (35903), whose dam is a class leader with 776 pounds of butterfat at 3 years. Also several choice pure-bred females and a few excellent grade cows. Herd on Federal Accredited list.

TILDEN FARMS

James H. Murphy, Mgr. Delavan, Wisconsin

A May Rose Bull Ready For Service

He is QUARTERMASTER OF K. P., a son of Anton's King Cecil and from Quiet of K. P. (522.32 lbs. fat Class D), she a daughter of Jury of K. P. (21 A. R. daughters). Anton's King Cecil is by a double grandson of May Rose King and from Machere Cecile (545 lbs. fat in Class D).

"QUARTERMASTER" is a show bull.

Write me today.

A. R. HOARD, Fort Atkinson, Wis.

Pleasant Acres Guernsey Farm Is Offering For Sale

Bull calves of May Rose breeding from 3 to 14 months old. The dams of these calves either have A. R. records or are now on A. R. test.

Clyde E. Fruit, R. 1, Waukesha, Wis

A PROVEN SIRE

Of May Rose Breeding

For Sale or Trade

A good individual with high producing daughters. His half sister was first prize at Wisconsin State Fair 1918 and 1919. His sire is Langwater Hayes Rosie's King of the May No. 16723 with 15 A. R. daughters with records up to 797 lbs. fat. His dam is Mac's Blossom 2nd No. 47330 A. R. Her sire is May King's Vrangue of Ingleside No. 15430 with 15 A. R. daughters with records up to 900 lbs. fat. One of the oldest daughters of bull for sale sold for $1,500 at auction. Will trade bull for heifers or take Liberty Bonds in payment. We would also consider leasing bull in a pure-bred herd.

FRUIT BROTHERS, Waukesha, Wis.

FOR SALE Guernsey Bull

ZION'S STAR OF LIBERTY 68505. Born June 23, 1920. Masher's Sequel breeding. Sired by Hildred's King of Oaklawn 29781 by Imp. Silver King of the Isle 14363 with 8 A. R. daughters, a son of Imp. Sequel's Monogram 15649 with 26 A. R. cows.

Dam—3-year-old Imp. granddaughter of Galaxy's Sequel with 47 A. R. cows and 22 A. R. sons. A beautifully marked growthy-typy calf. Don't pay until you see him. Worth twice what we ask. Priced to sell at $125.00.

MOUNT ZION RANCH, Poynette, Wisconsin.

Address M. M. Parkinson, Madison, Wis.

Langwater Traveler

Carries 50 per cent blood of Imp. King of the May, greatest bull of the breed.

His dam is Langwater Lustre, A. R. 806.10 lbs. fat, fifth cow in Class C. She is the second highest testing daughter of King of the May. His sire is Langwater Holliston, sire of Langwater Levity, sold for $6,000.00 and leading cow in Class EE. Traveler's daughters are averaging over 500 lbs. of fat with their first calves. His first daughter to freshen will be a class leader in FF. We offer some excellent bull calves by Traveler out of May Rose cows with fine records. Federal Accredited Herd.

CHICONA FARM GUERNSEYS

A. L. Glle, Prop., Chinook, Washington.

Guernsey Bulls Special Low Prices

Guernsey bulls by Beauty Eagle's Bonny Boy 42893, he by Bonny Boy of Riverdale 29070 (noted show bull), and out of Beauty Eagle 18117, 846 lbs. fat, or a son of Glenwood's Champion 15639 (24 A. R. daughters) out of daughter of Langwater Demonstrator 16451. Splendid high producing dams. Send for sale list.

LA BELLE KNOLL FARM, Oconomowoc, Wis.

Mound City Farm Guernseys For Sale

May King's Reputation of Mound City (63800) born Dec. 3, 1919.

Sire—May King's Vrangue of Ingleside (15430). Dam—Alma Ethel, three records namely 495 class G, 621 lbs. class AA and 704 lbs. class A. Alma's King of Mound City (63801) born Dec. 23, 1919. Sire—Cinderella's King of Mound City (40476). Dam—Alma Lehigh (43704). 340 lbs. fat class G. 648 lbs. fat class A. Rose's May King of Mound City (63802). Born March 19, 1920. Sire—May King's Vrangue of Ingleside (15430). Dam—Rose of Little Platt (55717) record of 667 lbs. fat in class AA now fourth in her class. Some younger bulls of equal breeding.

Chas. A. Wilkins, Platteville, Wisconsin

Wern Farm Guernseys

I am offering for sale 20 head of choice Grade Guernsey springers coming with first and second calf. Also have two bulls highly bred along May Rose lines just ready for service, that I will sell. For full particulars, write, wire, or come and see the stock.

Wern Farm, Waukesha, Wis.

Young Bulls for Sale From A. R. Dams

Sons of Golden Noble of Craigamoor from A. R. dams with records up to 648 lbs. fat. They are from 3 months to a year old. Write for complete information.

MAPLE HEIGHTS GUERNSEY FARM

Frank E. Swan, Wauwatosa, Wis.

Federal Accredited Herd.

GORDONDALE

Guernsey bulls of serviceable age offered for sale, also younger ones. They carry May Rose breeding, are from A. R. dams and have splendid A. R. backing Ask us about them.

Herd under Federal Supervision.

L. E. GORDON, JR.,

Nelsonville, Portage Co., Wisconsin.

A Real Buy Serviceable May Rose Bull

Sire: A son of Langwater Steadfast, 19 tested dams average 714 lbs. fat. Dam: A splendid daughter of Gov. of the Chene, with 526 lbs. fat, Class D.

This fellow is a top-notch individual and full of pep. Priced to sell. Don't overlook this bargain.

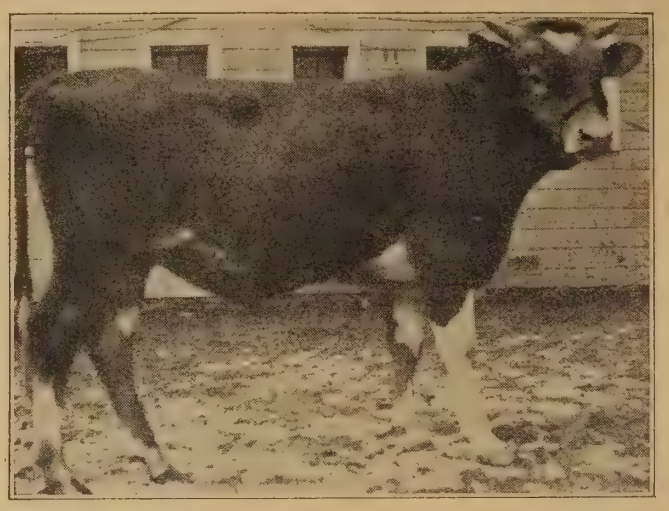
Federal Accredited Herd.

Norwind Farm, Sheboygan, Wis.

Homestead Farm

Offers for sale bulls from 11 to 13 months of age from A. R. dams. Also a few young bull calves of excellent breeding, and three A. R. cows. Write for sale list or come and see them.

JAMISON BROS., Appleton, Wis.



Anton's Starlight of Prospect 67294

SIRE—ANTON'S KING CONFIDENCE NO. 43517
DAM—ARVILLA OF PROSPECT 71589

This young bull is one of the big boned type. He is well filled out and his quality is excellent. He is the right kind of a sire to build up a herd and to instill some of the best blood of the breed into their veins.

His sire is Anton's King Confidence 43517, our present senior herd sire, who traces six times to May Rose 2nd.

The dam of Starlight is Arvilla of Prospect A. R. She is one of our grand old cows and has a record of 335.91 lbs. of butterfat in a year as a two-year-old on twice a day milking and regular herd rations.

This bull is an excellent buy for the man in search of an A-1 at a reasonable price.

Hoard's Dairyman Farm

Fort Atkinson, Wisconsin

Waupaca County Guernseys

More Federal Accredited Herds than any other County in Wisconsin

Grades and Pure-breds available by the carload

Write for information and prices to

SECRETARY E. A. HOTZ, Scandinavia, Wisconsin

Waupaca County Guernsey Breeders' Ass'n

GUERNSEYS FOR SALE

Pure-breds { 70 Cows; 61 Heifers and Heifer Calves; 162 Young Bulls and Bull Calves

Grades — { 116 Cows; 115 Heifers and Heifer Calves

Other Live Stock: Breeders are listing with us other dairy cattle, beef cattle, horses, sheep, and swine. Write us if you want stock. We will answer promptly.

BANKER FARMER EXCHANGE,

D. H. Otis, Director. 1822 Chadbourne Ave., Madison, Wis.

MR. GUERNSEY BREEDER

we are offering bulls of May Rose, Glenwood and Yeksa breeding out of A. R. cows. Our records range from 450 lbs. to 864 lbs. of fat; ages from 2 months up to serviceable age for $100 and up.

Can spare a few fine females.

CORIUM FARM, F. J. Rueping, Owner, Fond du Lac, Wisconsin

BETHANY COLLEGE FARM

Registered Bull Calves from 3 to 14 months old, sired by Rosetta's Raider of Waddington, out of Imported and A. R. dams. *Price $75.00 to $200.00.* Accredited herd. Write for extended pedigrees and particulars.

BETHANY COLLEGE FARM, Bethany, West Virginia

2 Guernsey Bulls

No. 1—A son of Bob Rilma's Monogram, whose dam and sire's dam have records averaging 887.5 lbs. fat. His dam, a daughter of Langwater Hambro, made over 400 lbs. fat in Class G., 10 months old and well grown.

No. 2 is from a 519-lb. cow and sired by a son of Lord Waukesha from a 717-lb. 13-year-old dam. They're priced right and they must be as represented.

Write me for further information.

RALPH TRATT, Whitewater, Wis.

Guernsey Females

bred to an outstanding son of Ne Plus Ultra, one of the greatest sires of the breed. Fifty head from which to select.

MEADOWLAND FARM, Litchfield, Conn.

SARNIA FARM GUERNSEYS

We are offering several very high class bull calves, 1 to 10 months old, nearly all out of A. R. cows. Send for sale list and circular giving pedigrees and pictures of the herd sires. Place your order now for bred heifers from 1920 importations.

Charles L. Hill & Son, - Rosendale, Wis.

Guernsey Bulls

GET A BULL, with Langwater, Pencoyd, May Rose or Haye's Cherub breeding. Prices reasonable, quality considered. Grades in limited numbers.

Fox River Valley Guernsey Breeders' Association,

Harry Leppla, Secy. Appleton, Wis.



Economy in Production ← GUERNSEYS → Quality of Products



10 per cent on $3,104 for 12 years was what one Guernsey cow, purchased for a moderate price, netted one breeder. This was not an unusual Guernsey, just a persistent, rugged, and productive Guernsey cow, such as anyone can buy. Write for free information.

THE AMERICAN GUERNSEY CATTLE CLUB, BOX H39. PETERBORO. N. H.

Absolute Dispersal Sale

of

Registered Guernseys

Wednesday, May 4th, Lake Crystal, Minn.

T. C. NORMAN, Owner

THIRTY REGISTERED GUERNSEYS AND TEN GRADE GUERNSEYS OFFERED. Herd on Federal Accredited List. Sale at farm one mile from Lake Crystal. Excellent train connections. Splendidly bred animals offered.

MAY KING OF CRYSTAL VIEW NO. 52170 HERD SIRE IS OFFERED.
Sire, May Rose King II No. 13130 (A. R.), sire of 11 A. R. daughters. Sired by Imp. May Rose King No. 8336 (A. R.).
Dam, Rosie of Locust Hill A. R. 2187. Milk 9,374.60 lbs., butterfat 537.10 lbs. Class A.

Some of the other fine offerings are:

Two daughters of SOLEY JOHNSON A. R. 4728. Milk 12,879 lbs., butterfat 543.9 lbs.

Two daughters of PETRA OF CRYSTAL VIEW A. R. 4313. Milk 9,262.3 lbs., butterfat 409.08 lbs. at 2 years. Dam's record, milk 17,508 lbs., butterfat 640.39 lbs.

HAZEL OF CRYSTAL VIEW No. 69197. Dam is BETSEY JOHNSON A. R. 4191. Milk 17,508.1 lbs., butterfat 640.39 lbs. at 5 years.

THREE DAUGHTERS OF ANNETTA'S GOVERNOR OF WOODEND NO. 25400, sired by Imp. Cora's Governor of Chilmark (A. R.), sire of 42 A. R. daughters, out of Annetta of Woodcrest A. R. 1706, milk 8,112.2 lbs., butterfat 339.28 lbs. at 4 years.

Two daughters of ROBERT GOLD No. 17055, by Ruddy Gold A. R. and out of Martha Valentine A. R. Milk 15,462.6 lbs., butterfat 648.1 lbs.

TWO DAUGHTERS OF FRIENDSHIP'S HARRY NO. 35091, sired by Polly's Masher, a son of Imp. Masher's Sequel A. R., and out of Friendship Snowball A. R., milk 8,724.5 lbs., butterfat 514.85 lbs. at 4 years.

Granddaughter of LANGWATER HAYES ROSIE'S KING OF THE MAY A. R. Sire of 16 A. R. daughters.

KEDGE RILMA OF BROOKDALE FARM NO. 87305, sired by Bob Rilma's Monogram A. R. Dam's record, 702.2 lbs. butterfat and out of Kedge Anchor Queen of Sunnyside A. R., 505.88 lbs. butterfat.

Auctioneers:—Love, Benjamin, Cayler.

Send at once for catalogue to

F. E. FOX, Sales Manager, Waukesha, Wis.

Guernsey Day in Michigan

Tuesday, May 10th Eau Claire, Michigan

First Annual Consignment Sale of

Registered and Grade Guernseys

Berrien County Guernsey Breeders' Ass'n

(SALE AT FARM OF GLENN CLARK)

40 Registered Guernsey Males and Females—15 Grade Guernseys

The Berrien County Guernsey Breeders' Association are endeavoring to make their First Consignment Sale a great Success. In order to do this, they have consigned the best stock from their herds.

A feature of the sale will be the selling of the entire herd of Glenn Clark, Eau Claire, Mich. Mr. Clark has one of the finest herds in Southern Michigan, and many Advanced Registry cows are offered, as well as daughters of cows that have large records.

Some of the Selections made for consignments are:

GLENWOOD'S PRINCESS THELMA A. R. 6270, milk 9,069.1 lbs., butterfat 454.2 lbs. at 5 years. Full sister has record of 590.0 lbs. butterfat.

AMY OF HICKORY GROVE A. R. 5435, milk 7,123.2 lbs., butterfat 389.67 lbs. at 4 years.

FRANCETTA'S BRENDA OF EAU CLAIRE A. R. 6630, milk 7,179.2 lbs., butterfat 367.2 lbs. at 2 years. On retest, in 163 days has made 217.6 lbs. butterfat.

BESS OF WINDEREMERE A. R. 5883, milk 7,072.8 lbs., butterfat 312.06 lbs. at 2 years.

MAGGIE OF HICKORY GROVE A. R. 5436, milk 8,232.5 lbs., butterfat 349.79 lbs. at 4 years.

MELBA OF YELLOWDALE II A. R. 5332, milk 7,748.9 lbs., butterfat 405.85 lbs. at 4 years.

LORNA OF SMALLIDGE FARM NO. 76275, on test, in 183 days has made 4,367.4 lbs. milk, 197.34 lbs. butterfat at 3 years.

NINA OF HICKORY GROVE A. R. 5303, milk 7,670.9 lbs., butterfat 382.51 lbs. at 2 years.

BONNIE MELBA OF BALLARD FARM A. R. 7116, milk 6,656.9 lbs., butterfat 350.0 lbs. at 3 years.

LINDEN LADY OF HICKORY GROVE A. R. 8489, milk 5,413.9 lbs., butterfat 314.0 lbs. at 2 years. On retest, in 120 days has made 203.2 lbs. butterfat at 3 years.

WE WANT YOU WITH US MAY 10TH

Sale at 1:00 P. M. **Auctioneers—Love and Benjamin.**

Write at once for catalogue, to

F. E. FOX, Sales Manager, Waukesha, Wis.

PENCOYD'S ROYAL SECRET

Golden Secret—King of the May

The only bull of the GUERNSEY breed that is sired by the greatest son of GOLDEN SECRET and out of the greatest breeding daughter of KING OF THE MAY. Three full sisters average 690 lbs. fat. Write for prices on his bull calves. They combine his type and production. Prices reasonable.

LYNBROOK FARM - Southboro, Mass.



HONESTY PRIDE OF BIRCHFIELD 44580



Sire — Langwater Warrior 26509
Dam — Langwater Honesty 49479

10,536.9 lbs. milk, 517 lbs. fat, at 2 yrs. and 5 months

We are now offering a few splendid sons of Honesty Pride of Birchfield. From cows with A. R. records or now on test. Everyone is a straight backed, growthy, vigorous youngster. These young bulls will put type and production in your herd. Prices range from $150 to $300.

Quality Guernseys **HIGHLANDS** *Tuberculin Tested*

NYE H. FREEMAN, Herdsman, Linwood, New York

Thorn Hill Farm Guernseys



Have several well bred young Guernsey bulls for sale at reasonable prices. All my own breeding. May Rose and Glenwoods, out of A. R. cows with records from 500 to 750 lbs. of fat. Write for sales list to

AUGUST ZIESING, Deerfield, Ill.

Do You Want A Guernsey Bull

Closely related to Pergue's Crescent A. R. with a record of 13,316.9 lbs. milk and over 582 lbs. fat in Class EE and dropping two calves within the year, entitling her to second place in her class? Some excellent young bulls closely related to Pergue's Crescent ready to head your herd. Write for descriptive circular, or come and see them.

Ernest W. Sass, Box H, Streator, La Salle County, Illinois

Iowanola Guernseys

We are offering

A Very Fine Son

born July 25, 1920, out of Imp. Kitchener's Express 43925, his dam has 592 lbs. of fat, and out of Franseca of Homa Della who has 12,855.2 lbs. of milk and 640.09 lbs. of fat in Class D. This is a very typy calf and should appeal to any one in need of a bull. Correspondence solicited.

MOUNTAIN BROS.,
Carrier 403, Des Moines, Iowa.

642 Pounds Fat

is the average on the A. R. daughters of Bellfounder, the sire of Countess Prue, the World's Champion Guernsey and My Fancy, eighth in Class A.

We offer bull calves carrying 15%—50% of this consistently high producing blood.

Prices $225.00 to $600.00.

The demand is keen; write today.

FALCON'S FLIGHT FARMS,
Litchfield, Connecticut.

GRASSLAND FARMS GUERNSEYS

Choicely bred males and females for sale. (The natural increase of the herd.)

Herd federal tested for tuberculosis. Send for sales list. Satisfaction guaranteed.

Taconic, Conn., Litchfield Co., (C. N. E. R. R.)

The Mixter Farms

For Sale at farmers' prices,—**bull calves** sired by May Rose bulls and out of May Rose dams with records of 500 to 700 lbs. fat. Also a number of producing females—animals that will be a credit to any herd and prove profitable in dollars and cents.

Write us before purchasing elsewhere. Mixter Farms have bred over 3,000 pure-bred Guernseys. **J. S. Clark, Supt., Hardwick, Mass.**

300 Guernsey Females.

Hillswold Farm

Shrewbury, Mass.

Registered Guernsey bull calves for sale. Dams in Advanced Registry and tuberculin tested. Prices right and animals guaranteed to suit. **W. A. Cloues, Mgr.**

When writing advertisers please mention Hoard's Dairyman.

Harbor Hill Guernseys

Masher's Galore 8572 A. R.

Increased the Average Production Credit of 12 A. R. daughters out of A. R. dams by 181 lbs. We offer his double grandson out of another daughter also making a better record than her dam.

C. H. Hechler, Superintendent
Box 30, Roslyn New York

Forestdale Farm

3 Bully Baby Bulls 8 Handsome Healthy Heifers — 2 to 18 months

from Superior Standard Sires, also a few A. R. matrons. May Rose Breeding. Tuberculin tested. $250 lowest price.

R. D. DeForest, Amsterdam, N. Y.

Munroholm Guernseys

We are offering bulls of May Rose breeding from two months old up to serviceable age. Nearly all out of A. R. cows with creditable records. For $75 up. Can spare a few females, also some grade heifers.

Herd under Federal Supervision.

Address
Thos. H. Munro, Owner, Camillus, N. Y., or Fred M. Smith, Herdsman.

STOP GUESSING!

Buy Triple Oaks Guernseys with A. R. records and ancestry. Size, type, uniformity, and health. Results 23 years' selection and breeding. Accredited herd plan 100% clean. Send for illustrated circular.

Lewis A. Toan, Batavia, N. Y.

Guernsey Bulls

Our last 9 official records average over 510 lbs. fat, including all ages. Our herd sire has 8 A. R. daughters, including one with 572 lbs. fat in Class GG. His three nearest dams average 822 lbs. fat. Send for pedigrees and prices on young bulls with this backing.

Folly Farm, Box 587, Libertyville, Ill.

Guernsey Bulls

Sons of our bull, Rexo King, whose dam made 620 lbs. butterfat. Prices $75 to $150. Send for list.

MIDVALE FARM,
F. M. Byers, Moline, Ill.

Major Oliver S. Johnson



The Dairy Auctioneer

Tipton, Ia.

"Maj. Johnson has conducted twenty-five Sales for me"—Dr. M. B. Wood, Mankato, Minn.

Two Dakota Jersey Champions

Two Jerseys owned by William Page of North Dakota have recently completed new state records. Damsel's Noble Jubilee has broken the senior two-year-old record with a production of 8,811 lbs. of milk containing 392 lbs. of fat. Among the senior 3-year-olds Carnation Jubilee Signal has set a new high mark by producing 10,324 lbs. milk containing 556 lbs. fat.

BROWN SWISS



BETTY OF LAKE VIEW

Breed Brown Swiss Cattle

They prove their superiority over other breeds when subjected to trying conditions on the farm, by keeping in good flesh and filling the pail while other cows grow thin and reduce their yield. You can prove this to your satisfaction.

BROWN SWISS CATTLE BREEDERS' ASS'N
IRA INMAN, Secretary, Beloit, Wis.
William B. Hale, Pres., Aqueduct Bldg., Rochester, N. Y.

JUBILEE FARM

Box 747, Peoria, Illinois.

All Females Withdrawn from Sale Until After the
ILLINOIS BROWN SWISS BREEDERS' ASSOCIATION SALE
MORTON, ILL., APRIL 21
and
FIRST NATIONAL CONSIGNMENT SALE
PEORIA, ILL., MAY 26
A number of line-bred bulls for sale.

On Account My Poor Health
Dispersing Entire Herd Brown Swiss

Consisting of one cow 4 years old, one cow 3 years old, 2 heifers 2 years old bred to freshen next September, and 1 heifer 15 months old not bred. All registered and excellent dairy type and breeding. Priced for quick sale at $1,000. Guaranteed free from all disease.
A. W. Blankenburg, Lakefield, Minn.

JERSEYS

JERSEY BULL

14 Months Old
From Register of Merit Dam

With record of 416 lbs. fat, age 3 years, 2 months, carried calf 247 days. 7 nearest dams of this bull are in Register of Merit with good records. Solid dark color and a very good individual. Price $140.00.
P. G. WARMINGTON, Honey Creek, Wis.

Register Merit Jersey Herd

At Head, Mona's Jacoba Premier grandson: Pogis 99th of Hood Farm. Dam, Mona's Jacoba, record 806 lbs. butter: Granddaughter Jacoba Irene, young stock; St. Lambert breeding for sale. R. C. Green & Son, Albion, Wis.

Ten Splendid Jersey Bulls

Good type, 6 to 18 months old. Heifers bred and open. Hood Farm Torono, King Sappho King, Loretta D. Bright Prince, etc. blood lines. Free from abortion. Dams are in the R. of M. or on test. Accredited herd. Address: J. Q. Emery & son, Edgerton, Wis.

Hillcrest Jerseys

Bull calf born March, 1920. Sired by Imp. grandson of Golden Fern's Noble. Priced right for quick sale. Write
ROLLIE VANDERVORT. TOMAH, WIS.

JERSEYS—DUROCS

Just one bull old enough for service and a few young calves. Hood Farm breeding.
F. R. Constance & Sons, Waupaca, Wis.

HERE'S YOUR OPPORTUNITY

Bull calf born March 4, 1920, sired by a grandson of Majesty's Western King and out of a R. of M. daughter of Ibsen's Chief. For full pedigree and price write
E. E. HILL & SONS, Tomah, Wis.

Valley Farm is Offering

Several bulls, 6 to 12 months old, from R. M. cows. Sired by Golden Maid's Viscount and Kilda's Royal Majesty, two of the best Island bred bulls living. At prices to sell. Write
FRED STUBLEY, Black Earth, Wis.

The Elms Jersey Farm

A few young cows, bred heifers and unbred heifers, for sale at from $150 to $250. Write for pedigrees and descriptions.
Thos. T. Bacheller, Jr., Mgr.
Forest Lake, Minn.

Montpelier Jerseys

Three young bulls ready for service. Trace three times to Oxford Lad. Fine typy individuals. Right in every way.
Montpelier Manor Farms, Laurel, Md.

POLLED JERSEYS

Breeders' names and Spillman's "Inheritance of the Poll Character in Cattle" mailed free.
CHAS. S. HATFIELD, Secy, R4, Box 5, Springfield, Ohio.

25 out of 80

OR

31¼ per cent of the highest record cows of the breed, at various ages from yearlings to mature cows

Bred or Their Sires Bred at Hood Farm

These 25 cows and heifers average 14,156.6 lbs. milk, 765.5 lbs. fat. Two out of the eighty Imported cows; seven out of the eighty sired by Imported bulls; 9 or 1⅛ per cent Imported or sired by Imported Bulls.

A Sophie Tormentor Bull
at the head of your herd means increased production and profit. Four-generation pedigree on request.

HOOD FARMS, Inc.
Lowell - - Mass.

BELSWOOD FARM

Financial Bred Jerseys

Six young bulls out of dams with R. of M. records of 500 lbs. butter and better. Good typy individuals.
Also yearling heifers. Let us send you our illustrated catalog.
A. F. BLOCK, Norwood Park, Ill.

AYRSHIRES

BLACKBURN FARM

Home of Addington's Champion

Grandfathers—Nox'emall and Finlayston.
Father—Rena's Champion—17 A. R. daughters
Mother—Addington Queen 3d—Two mature records each over 19,000 lbs.
Fully Accredited Tuberculosis Free Herd.
SEWICKLEY, PENNSYLVANIA

Pure-bred Ayrshire Cattle For Sale

Best of breeding. Calves sired by a Grandson of Brown Kate, record 1,080 lbs. butter in year.
Wm. Nisbet & Sons, Richland Center, Wis.

INCREASED PRODUCTION GUARANTEED

We guarantee any Jersey bull we sell to increase the average production of any herd

OR MONEY REFUNDED

YOU TAKE NO CHANCES. Our guarantee insures increased production and profit. Bulls for sale, ready for service.

AYREDALE STOCK FARM
F. W. Ayer, P. O. Box 713, Bangor, Maine.

N. B. Write us the size and producing ability of your herd, and we will describe and price a bull guaranteed to increase their production.
By mentioning "Hoard's Dairyman" we will know you are asking for a guaranteed bull.

MIDDLESEX MEADOWS FARM

OFFERS

Two outstanding AYRSHIRE BULL CALVES for sale for immediate shipment

No. 1—MIDDLESEX WHITE CHANCELLOR 25273, born September 17th, 1920.
Sire—Cavalier's Netherall Chancellor 21216, who sired the winning bull calf at this year's National Dairy Show.
Dam—White Heather of Highland 42752, who stood 2nd in the aged cow class at the same show (this year's National) and who has two good Roll of Honor records.

No. 2—MIDDLESEX MANCHESTER, born March 10th, 1921.
Sire—Auchenbrain Toreador (Imp.) 24761, record priced bull of the breed and Grand Champion at Maryland, New York, Connecticut, and New Jersey State Fairs this year.
Dam—Bida Clinton 31489, who has three A. R. records that average 11,000 lbs. of milk, 453 lbs. of fat, 4.17%; and whose two-year-old daughters will have records of over 10,000 lbs. of better than 4.00%.

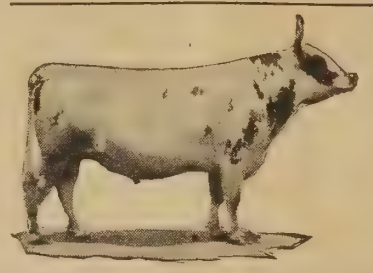
Both bulls have excellent individuality, and are fit to go into any show ring and hold their own. They should develop into extra good herd sires. Prices reasonable—we KNOW you can't get as good as these two for any less money elsewhere.

A. Henry Higginson (Owner). W. R. COUTTS, (Supt.)
South Lincoln, Massachusetts

Monstone Farm Ayrshires

"Production — Size — Individuality"

Bull calves out of dams with A. R. records of 10,000 lbs. (and better) of 4% milk—Winners in show ring—Sired by Lessnessock Gem's Good Gift Imp.—Winner in show ring and proven prepotent sire—Weight 2,250 lbs. in breeding condition—Whose dam made 8,930 lbs. milk, 4.05% fat, in *36 weeks* (Scotch record)—Sire's dam 10,342 lbs. milk 365 days (Scotch record)—Prices $100 to $1,000. If you want class and a square deal, correspond with us. We can supply your wants at your prices. Nothing but the best. Herd Federally tested.
MONSTONE FARM, John Chalmers, Manager, IPSWICH, MASSACHUSETTS



We Have For Sale

the well bred Ayrshire bull, Bargenoch "Drexel" (18474) Imported. Bred by John Logan, Bargenoch, Scotland. Born Feb. 2nd, 1919. Color white and red. Sire, Bargenoch Magnificent (9579). Sire of Bargenoch "Royal Champion" sold at Bargenoch sale, 1919, for $7,267.00.

Dam, Bargenoch Victoria (37003). Scotch record: 9,221 lbs. milk, 4.23% fat in 43 weeks; 11,070 lbs. milk, 4.50% fat in 47 weeks.
BARCLAY FARMS, John Cochrane, Manager, ROSEMONT, PENNSYLVANIA

Delchester Farms Ayrshires

Tell us your wants and we can supply them at prices you can afford to pay.
Aged cows, bred to Glenury, an A. R. son of Finlayston.
Aged cows, bred to Rena's Baron of Highland, an outstanding son of Baron's Best of Bargenoch.
Heifers, bred to these two great sires.
Young heifers.
Bull calves.
All the above stock carries some of the best producing blood of the breed with A. R. ancestry on both sides.

Herd free from tuberculosis
DELCHESTER FARMS
Edgemont, Del. Co., Penn. - Thomas W. Clark, Supt.

Weymouth Farms

"Ayrshires of Quality"

All cows on Advanced Registry Test. Herd Tuberculin Tested.

We can supply you a herd sire of choicest breeding.

MARTIN A. TOWLE, Mgr.
NORTH WEYMOUTH, MASS.

Linndale Farm Ayrshires

"Are bred for Production"

Bull calves out of A. R. cows and sired by sons of World Record cows, for sale.

Our { Breeding, Conformation and Prices } are right.

See what we offer before you buy.

JOHN LINN & SONS,
Manhattan, Kansas.

World's Champion Ayrshires

Fully Accredited Tuberculosis Free
— 200 Head in Herd



AUCHENBRAIN WHITE BEAUTY 2D
A. R. 14,721 lbs. milk, 4.33%
In 13 years, 112,486 lbs. milk and 13 calves
110 animals in herd are descended from this cow

The 1st, 2nd, 6th and 7th highest records were made here. Four cows average 22,823 lbs. milk, 1,046 lbs. butter. 100 A. R. records made here average 13,246 lbs. milk. Choice stock of all ages for sale at pre-war prices. Special—Young bulls line bred to Auchenbrain White Beauty 2d.
PENSHURST FARM, Narberth, Pa.
(7 miles from Philadelphia)

AYRSHIRES—

Gold Medal and Silver Cup Winners in Advanced Registry Roll of Honor Division. Young Bulls ready for service. Bull and Heifer Calves at prices you can afford to pay.
Pure-bred Berkshire Boars and Gilts.
Superintendent, Masonic Homes
Elizabethtown, Pennsylvania

Metropolitan Farm

For Sale—Bull calves from our best A. R. cows. These calves are from one month to one year old. Priced for quick sale.

Write for pedigrees and prices.

METROPOLITAN LIFE INS. CO.,
Neil J. Parker, Farm Supt.,
Wilton, New York.

Ayrshire Stock

of all ages for sale. Satisfaction guaranteed
L. W. McCONNELL. Wellington, Ohio

A Quality Sale

De Pere, Wisconsin

Monday, May 9, 1921

84 HEAD

The Brown County Holstein Ass'n

plans a rare treat for Holstein enthusiasts on the above named date. The word "quality" has been used freely in connection with sales but we want every reader of this ad to be thoroughly convinced that the word applies to this sale in its fullest significance. Not only will it be a quality sale but a sale of above board and absolutely square dealing. Have you heard of many one-day County sales which boasted of 20 A. R. O. cows including a 28½-lb. four-year-old daughter of a 29-lb. cow bred to a 37-lb. bull who is by a good 34-lb. sire? Another good cow that is bred to a bull whose dam and sire's dam average 1,329 lbs. for yearly butter production. Have you attended many one-day sales of this character that could include in their catalog 35 daughters of A. R. O. cows? We think not. Brown County has done it. On top of this Brown County feels proud to announce that 45 of her cows in the sale are bred to 30-lb. bulls.

THE BULL OFFERINGS are splendid, including as they do a son of the Mighty Monarchy out of a 37-lb. dam; a son of King Segis Pontiac Superior out of a granddaughter of King Segis Pontiac Count; a grandson of 37th's through Sir Pietertje Ormsby Piebe whose six nearest dams average over 31 lbs. in 7 days and whose seven dams average 831.85 lbs. for yearly butter production—his dam a good 20-lb. three-year-old daughter of Johanna King Segis. Five other good bulls will be sold whose dams have records above 24 lbs.

REMEMBER that Brown County boasts, and justly so, of the health of her herds; that the cattle in this sale will be sold under the Wisconsin Federation rules, which includes the 60-day retest.

COME TO DE PERE ON MAY 9TH and participate in the benefits that this sale holds out to you, by making selections from as choice an assemblage of cattle as Wisconsin can offer you.

Hager, Mack—Auctioneers. **F. Darcey in the Box**

Jos. Hoskins, Manager

Write for Catalogs to Francis Darcey

Watertown, Wisconsin

MISSOURI HEALTHY HOLSTEINS

We'll Pay Your Car Fare

to and from the

2d Annual State Sale

OF

"Missouri Healthy Holsteins"

AT STATE FAIR GROUNDS

Sedalia, Mo., May 24th, 1921

1st Annual Show May 23rd

Banquet Night of 23d — you know the kind

For Particulars write

Mo. Holstein-Friesian Ass'n, SEDALIA, MISSOURI

Clark County Quality Holstein Sale

Owen, Wisconsin, May 3rd, 1921

60 Head Selected Pure-bred Holsteins

The Cream of Clark County's Best Herds

These cattle were selected by the three officers of the Clark County Holstein Breeders' Association and nothing but two or three head of the best of each herd were permitted to be entered.

The quality and type of these animals is as good as any found in any show ring. If you want to buy come and see Clark County's best animals. To show you, most of the cows are bred to the following reference sires:

1—**King Korndyke Haidee Ormsby,** an $8,500.00 bull. His 2 nearest dams average butter, 365 days, 1,137.61 lbs.; milk, 23,860.85 lbs.; butter, 7 days, 32.58 lbs.; butter, 30 days, 135.45 lbs.

2—**King Hendricke of Piebe** a $5,000.00 sire, a son of Piebe Laura Ollie Homestead King out of a daughter of King Segis Pontiac Count, butter, 365 days, 966 lbs.; butter, 7 days, 32.9 lbs. as a 3-year-old.

3—**Producer**—His two nearest dams average **1,191 in one year; his four** nearest dams 30.26 in 7 days.

4—**Sir Bess Ormsby Starlight**—a son of 37th whose three nearest dams average 1,048.

We have the best bred 6-month-old heifers at this sale ever dropped in Clark County, sired by Reference Sire No. 1.

Also we have two of the best bred bull calves ever born in Clark County.

No. 1 sired by Reference Sire No. 1, out of the full sister to Prospect Johanna Posch, Champion 4-year-old butter cow in the state. Dam is making over 900 lbs. butter this year.

No. 2 sired by King Pietertje Ormsby Piebe, show bull winning 4th at Waterloo Cattle Congress, also at Chicago, whose 4 nearest dams average over 1,000 lbs. Dam of calf a 2-year-old daughter of Duke Pietertje Korndyke Ormsby 8th, whose two nearest dams average 1,056 lbs. This heifer is making a fine yearly record. Calf is almost perfect individual.

Also a number of heifers whose dams milked 100 lbs. milk per day on official test, records 20 to 30 lbs. of butter.

Most of the cows with records from 20 to 30 lbs. showing fine breeding all through pedigree, bred to Reference Sires. All animals tuberculin tested, sold subject to 60-day retest. This is Clark County's first quality sale. You can close your eyes and bid and get every dollar's worth you pay for.

Auctioneers: KRAUSE and MACK. **EVERSON in Box.** **JOHN WUETHRICH, Sales Manager.**

Address inquiries to John Wuethrich, Greenwood, Wis. Catalogs ready April 15th

!!! LAST CALL TO !!!

Waukesha Holstein Breeders' Spring Foundation Sale

MONDAY AND TUESDAY—APRIL 25TH AND 26TH

130—Selected Pure-Breds—130

You buy them at your own price

Remember a Number of the Choicest Animals of the Breed Will Be Sold Without Reserve

25 of the Choicest Pure-bred Bulls, Sired by the World's Greatest Sires and Out of Record Dams up to 33 lbs. or 1,000 lbs. in 365 Days. We Have Selected the the Best We Could Find.

40 of the Choicest Cows with Records up to 33 lbs. in 7 Days or 1,000 lbs. in a Year. There are Six of the Choicest 30-lb. Cows in this Sale.

There is a Cow with Over 25,000 lbs. of Milk as a 4-year-old. In Heifers and 2-year-olds the Offerings Can Scarcely be Duplicated.

From State or Federal Tested Herds and Sold Subject to Retest

Sale commences at 10 a. m each day in Sales Pavilion, Waukesha, Wis.

WAUKESHA COUNTY HOLSTEINS

Write for information to

Waukesha Holstein Breeders' Ass'n
Waukesha, Wis.

Holstein Breeders' Sale Co.

2nd Spring Sale

May 10-11, Fond du Lac, Wis.

150 Head Pure-bred Holsteins

All animals over 6 mos. tuberculin tested and a 60-day guarantee given

This sale will include the dispersal of the good herd of H. L. Pieper, Brownsville, Wis., with cows with records up to 24 lbs. This herd has been built up with the aim of type and production.

We will sell 50 cows, many close springers, bred to bulls with records up to 37 lbs.

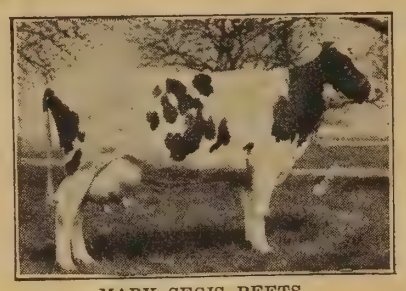
We will sell heifers of all ages. Here is a good opportunity to buy calf club calves and yearling heifers. These heifers are out of dams with records up to 25 lbs.

We will sell 25 bulls whose dams have records up to 25 lbs. and 657 lbs. yearly.

Now is the time to start that Pure-bred Herd

S. H. Bird, Sales Mgr., So. Byron, Wis.

Her Son Is For Sale



MARY SEGIS BEETS

She a 32-lb. 1000-lb. Cow

He is just past a year old, well grown and a splendid individual. His dam, Mary Segis Beets, has twice made over 31 lbs. and has just finished a 1000-lb. yearly record. His sire is King Pontiac Artis Sadie Vale, a 34-lb. son of the great K. K. S. V. Several of his daughters are doing very well on yearly test in our herd.

He'll suit you for a herd sire. Write us about him today or come and see him.

Gustave Pabst's Hollyhock Farms

Fred J. Southcott, Manager **Dousman, Wisconsin**



Yearly Records

Choice Young Bulls

from one to fourteen months old for sale. Sired by Cloverlawn Johanna Piebe whose five nearest dams average 1,070 lbs. of butter, 23,809 lbs. of milk a year. Herd numbers 140 head, forty cows with yearly records. State exactly what you want.

JOHN PULS, - HARTFORD, WISCONSIN

Holstein CATALOG

Prices

These prices include compiling of pedigrees.

STYLE I.

A 6x9 inch book bound on the end.
$3.25 a page, 500 books
$3.55 a page, 700 books

STYLE II.

A 6x9 inch book, bound on the end. Good quality paper.
$3.75 a page, 500 books
$4.15 a page, 700 books

STYLE III.

A 7x10 inch book, bound on either end or side. Good enameled paper.
$4.25 a page, 500 books
$4.75 a page, 700 books

Wisconsin Live Stock Advertising Company

Pioneer Bldg., Madison, Wis.

Send For Our Bull Sales List

Three bulls of serviceable age—four others will be old enough for service in a month or two—others three months old and older. Almost all of them sired by SIR ORMSBY BEAUTY PONTIAC SEGIS, the son of a 37-lb., 1112-lb. three-year-old daughter of KING SEGIS PONTIAC COUNT.

If it will be of an accommodation to the purchaser, we will accept a six months' note in payment, WITHOUT INTEREST, or will accept payment on installment plan basis.

Pinehurst Farms Co., Sheboygan Falls, Wis.

Cows and Heifer

A Few Good Bulls

Because I am overstocked, I am offering some very good registered females for sale. They either have A. R. O. records or are from A. R. O. dams.

Can also offer some excellent young bulls by a 33-lb. sire and from A. R. O. dams with records up to 28 lbs.

Every animal sold is guaranteed to be as represented.

Write or come and see for yourself.

J. D. McDonald West Salem, Wis.

Bull Calves

by

SIR BESS ORMSBY FOBSE

out of

Cows with 7-day records now on semi-official; two-year-olds milking as high as 70 lbs. and mature up to 92 lbs.

LINDEN LAWN STOCK FARM

B. W. RABENHORST, Jefferson, Wis.

$100 to $200 Buys A Bull From A Good Record Dam

Am offering several for those prices sired by a 26-lb. bull and from A. R. O. dams with records up to 25.46 lbs.

Write at once. They'll go fast.

H. W. Crawford, R. 5, Campbellsport, Wis.

GREENBUSH FARM

Registered Holsteins

Canary Mercedes Champion II No. 318082 recently made 29 lbs. of butter from 512.5 lbs. of milk in 7 days. Now on yearly work. Her bull calf, sired by a 32-lb. bull is for sale. Write for complete information in regard to this well bred younster to

GREENBUSH FARM

R. Turano, Herdsman, Glenbeulah, Wis.

Bull Ready For Service

Nicely marked and a good individual. Dam 20 lbs. butter at just 3 years. Next dam a 23-lb. 4-year-old. Two nearest dams of his sire average over 32 lbs. and ten nearest dams over 29 lbs. in 7 days Not a break in a three-generation pedigree. Priced to sell. Call or write

Halsey J. Sedgwick, Limeridge, Wis.

Serviceable Bulls For Sale

Sired by Pabst Pontiac Hengerveld, a son of King Pontiac Champion from Pabst Hengerveld Colanthus (31.5 lbs. butter in 7 days, 1,057 lbs. in a year.

These are nicely marked, well grown youngsters out of good producing dams. Several are ready for service, others are younger.

Write today.

John Alexander, Baraboo, Wis.

I-N-V-E-S-T-I-G-A-T-E—Pure-bred Holstein bulls sired by Wisconsin 3-year-old at National Dairy Show 1920. Herd tuberculin tested. Pure-bred Duroc pigs sired by Great Wonder Sensation.

RIDGEHURST STOCK FARM,

Glen O. Ramsey Ft. Atkinson, Wis.

1000---HERD---1000

Quality Holsteins

GRADES AND PURE-BREDS

Just now we have a splendid lot of grade heifers. Write for our pure-bred bull list.

Jefferson County Holstein-Friesian Breeders' Association,

A. F. Gafke, Secretary, Jefferson, Wis.

FOR SALE

Holstein bull ready for service, well built, light color, 30.72-lb. sire, 18.56-lb. dam, Korndyke and Ormsby breeding. Also a yearling from untested dam, very reasonable. Will also sell 4 yearling heifers and 4 heifer calves from same sire and A. R. O. dams, also 5 aged A. R. O. cows. Come and see them.

W. F. MIELENZ, 312 First Nat'l Bank Bldg., Milwaukee, Wis.

May 2d
11 A.M.

May 2d
11 A.M.

Come and Get A Bargain!

Elkhorn, Walworth County Wisconsin

Honest Quality 65 Head Holsteins Honest Prices

A Son of Iowana Sir Ollie—From a 505-lb. 305-day 2-year-old sired by a son of Pietertje Maid Ormsby, she from a 900-lb. dam.

A real daughter of Ollie—first one ever consigned to a County Sale.

A son of Sir Echo Sylvia Leeds—This youngster's 14 nearest dams average 29.43 lbs.—532.9 lbs. in 7 days.

A 21-lb. 3-year-old daughter of Elm Lawn McKinley Segis.

A 25.37-lb. Ormsby cow—621 lbs. milk. Test made by a blacksmith and the first cow he ever tested. Her daughter by a 30-lb. son of Pietje Hengerveld Segis.

A 21-lb. cow and her heifer calf—a 17-lb. senior yearling.

Everything Federally Tested. Held under rules adopted by Wis. Sales Mgrs. Federation.

For Catalog address Ben Bachhuber, Sec., Box H, Elkhorn, Wis.

Foundation Females

Two Excellent Young Bulls

Consigned to

The Waukesha Spring Sale

April 25-26

When the sale committee came to us for a consignment, they demanded good ones and they took several we would like to have retained in our herd.

Among them are:

PAULINE DE COLANTHA 3RD—25.38 lbs. butter, 572 lbs. milk in 7 days; 103 lbs. butter, 2,357.1 lbs. milk in 30 days.

BELLE TETTJE JOHANNA KORNDYKE—23.65 lbs. butter, 656 lbs. milk in 7 days; 90.38 lbs. butter, 2,476 lbs. milk in 30 days as a 4-year-old.

Two other 4-year-olds with 23 lbs. and 24 lbs. butter in 7 days.

A 14-lb. junior 2-year-old daughter of a 33-lb. 3-year-old and by "It".

A son of a 14-lb. junior 2-year-old daughter of KING MODEL. Her dam is a 29-lb. daughter of KING OF THE PONTIACS.

A son of a 24-lb. cow and a grandson of SIR PIETERTJE ORMSBY MERCEDES.

Look these up in your catalog. If you want further information, write us.

Riverview Farms

GEO. J. SCHUSTER, Owner **WARD W. HORNE, Mgr.**

Mukwonago, Wis.

WALWORTH COUNTY HOLSTEIN SALE

At Elkhorn, Wis., May 2, 1921

Accredited Herd of 4 Grand Females

1—Canary Johanna Ormsby 222368, (7 days 621.4 milk, 25.37 butter), (14 days 1,208.8 milk, 47.50 butter) made January, 1921, by a man that never saw a cow tested. Two more of her daughters can be bought here.
2—Her heifer calf, born Dec. 31, sired by a 30-lb. grandson of King Segis. All that a calf should be and then some.
3—Aaggie Orleans Pietertje 219839, 7-day record 21.19 butter made March, 1921, by a city raised 12-year-old boy who did all the feeding and every milking except midnight.
4—Her heifer calf, born Mar. 15, by a son of Pabst Burke De Kol King who is a 33-lb. son of King Pontiac Champion. This calf is called a wonder by judges who have seen her.
Both cows will be bred to King Pontiac Fayne Butter Boy, a 30-lb. son of King Pontiac Hengerveld Fayne, a 47-lb. son of King of the Pontiacs.

T. W. MORRISSY, **Elkhorn, Wis.**

One-half Interest Serviceable Son

of the 1235-lb. Sire

Sir Korndyke Bess

DAM—World's Record 3-year-old for Butter in 305 days
Also 2 young yearly tested male calves.

R. E. BENSON, **Dousman, Wisconsin**

HOLSTEIN COWS

We offer for sale a number of cows, heifers, bulls and calves of all ages. Some sired by King Korndyke Veeman whose two nearest dams average over

WISCONSIN STAR STOCK FARM,

HEIFERS and BULLS

37 lbs. butter in 7 days and bred to King Sadie Vale Walker who is a son of the youngest 29-lb. cow in the world. Come and see them or write to

ED. M. SCHULTZ, **Hartford, Wis.**

Ormsby Bulls For Sale

Good Ormsby bulls from dams with A. R. O. records from 18 to 31 lbs. Two sons of Lady Inka Ormsby 31.17 lbs. butter from 633.8 lbs. milk. Sired by grandson of Sir Pietertje Ormsby Mercedes.

C. G. KEYS. **Richland Center, Wis.**

ORMSBY BULL - Born Feb. 28, 1919

Sire, King Ormsby Pontiac De Nijlander, whose two nearest dams average over 30 lbs.
Dam, Aaltje Hengerveld Tritomia Segis. A. R. O. 17 lbs. at 3 yrs., next dam 29.68 in 7 days. Color light, fine individual. Ready for service. Price $300.

Fairview Stock Farm Whitewater, Wis., W. G. Marshall, Prop.

GRANDSONS OF SIR VEEMAN HENGERVELD

One ready for service. 7/8 white and a show bull. He'll suit you. Six bull calves 2 to 3 months old 1/2 to 3/4 white, most of them from heavy producing daughters of a 34-lb. son of K. K. S. V. All are from very good producing dams. Prices $50 to $65.

AUG. SEEFELDT, **Theresa, Wis.**

Grade Heifer Calves—$20

Good grade Holstein heifer calves by pure-bred sires $20 f. o. b. cars. Pure-bred bull calves $40 and up. Good, registered heifer calves at reasonable prices.

J. C. BOLGER, **Waterloo, Wis.**

The Ohio State

Wednesday, May 4th and

State Fair Grounds

Sale will start at 10 o'clock sharp each morning

120 of the Best and Choicest Animals We Could Find in 75 Ohio Herds

There will be two choice 30-lb. cows. One open, the other bred to a bull whose dam has 1,027 lbs. butter in 305 days.

A yearling son of Penopa Lass 2d, 30.06 lbs. butter, 471.2 lbs. milk, and by a son of Finderne Pride Johanna Rue, with 1,470 lbs. butter, 28.340 lbs. milk in 365 days.

A yearling daughter of Canary Mercedes Pietertje Hartog, with 980 butter, 24,834 milk in 365 days, and four yearly records averaging 20,280 milk, 769 butter, 365 days (Ohio State Record).

A yearling bull whose four nearest dams average 23,000 milk, 1,000 butter in 365 days.

A two-year-old heifer excellently bred that has 21.50 lbs. butter, 443.2 lbs. milk.

A yearling son of Daisy Pioneer Clyde, 30.08 lbs. butter, 622.10 lbs. milk in 7 days; 123.43 lbs. butter, 2,811.5 lbs. milk, 30 days.

Three daughters of King Walker Clothilde, whose five first daughters to finish yearly records have as 3½-year-olds, 20,046 lbs. milk, 845 lbs. butter.

Two full sisters out of Rustle Pontiac Lilith, 31.61 lbs. butter, 695.1 lbs. milk in 7 days; 105.6 lbs. milk, best day. Both are bred to a bull whose 7 nearest dams average over 31 lbs. butter.

A pair of sisters, one a 17.12-lb. 2-year-old, the other a 19.7-Junior-3-year-old. The Junior and Grand Champion bull Ohio State Fair 1920 out of De Kol Clothilde Woodcrest, a 20.68-lb. two-year-old.

A three-year-old son of Oak De Kol Ollie Homestead, the noted show bull and out of a former world record cow, Jessie Fobes Bessie Homestead, 34.96 lbs. butter, 7 days; 137.25 lbs. in 30 days, and 932.73 lbs. in 365 days. Also one of his daughters from a 31-lb. four-year-old.

A 17-lb. 2-year-old daughter of Aaggie Cornucopia Colantha, 33.23 lbs. butter, 747.2 lbs. milk in 7 days; 1,136.1 lbs. butter, 25,986 lbs. milk in 365 days. She is bred to a bull whose dam has 1,193.3 lbs. butter. 28,801 lbs. milk 365 days.

Facts that Interest You

Every animal has been personally inspected for this sale. The consignors take pride in sending their best that otherwise you could not buy.

Nearly every animal is from a herd under State and Federal Supervision and all are sold subject to 60- to 90-day retest.

Every animal is guaranteed a breeder.

You get your papers when you settle for your animals.

You buy at your own price. There will be absolutely no by-bidding.

Be on the job both days at Columbus May 4-5

Ohio Holstein-

H. C. BARKER, Field Secretary,

Guaranty Sale

Thursday, May 5th, 1921

Columbus, Ohio

If You are Looking for Foundation Holsteins All Ages, at Your Own Price, Attend This Sale

Remember the Holstein Banquet 6 P. M., May 4th

A five-year-old cow, holder of three Ohio State records for milk and butter.

Two granddaughters of Early Dawn Peep 2d, who has 33.32 lbs. butter, 634.1 lbs. milk in 7 days; 1,287.73 lbs. butter, 26,204.0 lbs. milk in 365 days. One an 18-lb. 2-year-old, the other a 16-lb. two-year-old.

A ten months bull calf from the heart of the Ona Family. His five nearest dams average 1,150 lbs. butter, 25,000 lbs. milk.

A show calf, son of a former world record cow, with 1,198.3 lbs. butter, 28,801 lbs. milk in 365 days.

Four yearling heifers sired by sons of Lindale Bonnie Pauline, Ohio's only 30,000-lb. cow and all out of tested dams.

A son of Lindale Bonnie Korndyke, with 914.16 lbs. butter, 23,038.3 lbs. milk. His three nearest dams average 24,000 lbs. milk, 1,000 lbs. butter in 365 days. Three daughters of Fairview Pontiac Beets Korndyke, sire of 5 cows with over 30 lbs.

A daughter of Nina May De Kol of Cooley Farms, 1,047 lbs. butter, 23,221 lbs. milk, as 3-year-old.

A daughter and granddaughter of Aroc Edna Pietertje, 1,130.21 lbs. butter, 26,529 lbs. milk in 365 days.

Two 25-lb. sisters. Splendid cows of the best type that promise well on semi-official test.

An excellent 3-year-old son of K. P. Princess Bettina, 31.09 lbs. butter, 625.7 lbs. milk in 7 days, 1,027 lbs. butter from 21,641 lbs. milk in 305 days as a 4-year-old. She is one of the good daughters of King of the Pontiacs.

A show cow with an 18-lb. 2-year-old record. She is from a 29-lb. daughter of King Hengerveld Model Fayne.

We could say something good about every consignment if space permitted. HERE'S THE POINT: you buy in this sale animals that breeders would not price in their barns.

Facts about Ohio Holsteins

Ohio has more 1000-lb. cows, more 1100-lb. cows, and more 1200-lb. cows than any other state.

Ohio has three 1300-lb. cows. This is equaled only by two other states.

Ohio has more cows with 25,000 lbs. milk in a year than any other state.

Ohio stands third as a HOLSTEIN state with over 30,000 pure-bred HOLSTEINS.

Ohio has more than 200 fully Accredited Herds and over 1000 that have successfully passed one tuberculin test.

Ohio HOLSTEINS will make DOLLARS for you.

Friesian Ass'n

TIFFIN, OHIO

Be on the job both days at Columbus May 4-5

Illinois State Holstein Sale

125 Head May 6-7, Wheaton, Ill. 125 Head

Wheaton is 25 miles west of Chicago. Suburban service on N. W. R'y or Electric

Now is the Time to Buy Holsteins—Prices are Low

May 6—75 Females

The Best the State Affords

Many yearly record cows with records up to 1,036 lbs. Many seven-day record cows with records up to 32 lbs. A great offering of open and bred yearlings. Several show ring winners.

May 7 — 50 Bulls

The Finest Lot of Bulls Ever Assembled in Illinois

Practically all bulls are of serviceable age. Sons of high yearly record cows. Sons of high 7-day record cows. Several 30-lb. bulls and also a son of a 26-lb. junior 2-year-old.

Type and Production



JUMA LONGFIELD HOMESTEAD 203147

Highest yearly record 4-year-old in Illinois — Consigned by University of Illinois. 365 days, 1036 lbs. butter, 24,655 lbs. milk.

All Animals sold subject to 60-90 day retest privilege.

Ill. Holstein-Friesian Ass'n
SALES COMMITTEE
130 N. Wells St. CHICAGO, Ill.
Write for Catalog

Auctioneers: Haeger & Mack
S. T. Wood
in the Box

A real Dairy Cow

Pine Knob Farm

BERT IRWIN, Prop., Mt. Carroll, Ill.

Consigns Two Diamonds to the Illinois State Sale

A real Show Cow



JOHANNA DE KOL FAIRMONT MAID 139893. WEIGHS 2,100 LBS.
1ST PRIZE A. R. O. COW NATIONAL DAIRY SHOW (1920)

7-day record: Milk, 604 lbs.; butter, 31.37 lbs. 365 days: Milk, 20,418.2 lbs.; butter, 922.0 lbs. Milked three times.

Bred August 16 to King Alcartra De Kol Pontiac, the 36.59-lb. son of King Segis Pontiac Alcartra

HER 2-YEAR-OLD DAUGHTER



JOHANNA DE KOL MAPLECREST 555848. WEIGHS 1,500 LBS.

Sired by a 31-lb. bull. Dam, a 31-lb. cow and bred to a 36-lb. bull. What is her calf worth? Bred July 16th, fresh and on test by sale day.

We also consign a show cow with a 20-lb. record and going strong; now on yearly work. And a 2-year-old grandson of Sir Pietertje Ormsby Mercedes; weighs a ton.

Also a daughter of the Ill. State Record 2-year-old. This heifer sired by a 35-pound bull from a heifer making over 1,900 lbs. milk and 800 lbs. butter in 365 days as junior 2-year-old.

Geo. E. Stocking, Rochelle, Ill.

Consigns His Small High-Class Holstein Herd to the

Illinois State Holstein Sale

12 HEAD

Including this Great Young Herd Sire



Elm Leaf Farm King 263854

Just 3 years old. His dam as a junior 2-year-old produced in 7 days 26.58 lbs. butter and 527.2 lbs. milk. She is the Illinois State Record Junior 2-year-old. Five daughters of this bull are in the sale and several females bred to him. In this offering is a show cow with a 28.06-lb. record.

"Dispersion of one of Illinois' Best Small Herds"

Send Me Your Note

For a 32-lb. bull. I will take your note for either of these high class bulls. We will give you your choice of the following bulls ready for service under our regular gilt edged guarantee. These bulls have a straight top line and possess every feature of show ring quality. They are from the most popular breeding strains and our prices are lower than ever. Study the breeding carefully and see what you are getting in these bulls. Send us a check today for $100 and we will carry the balance any reasonable length of time.

KING LYONS BOON GERBEN is the sire of the bulls offered. He is a grand individual and promises to make a great bull. He is by a 35-lb. bull. RAG APPLE KORNDYKE BOON who is now recognized as one of the greatest bulls of the Middle West; he is from a 33-lb. dam, 29-lb. grandam who is followed by a 900-lb. cow. Consider what you are getting in this bull. The grandam on the sire's side is a 38-lb. cow.

Dam, JESSIE FOBES MAUD BURKE CANARY 2ND, 4½-year record (28.86). She is daughter of HAMILTON COLANTHA LAD who is a son of COLANTHA JOHANNA LAD, that great bull that has more high records in milk production than any other bull. The dam is from a 27-lb. daughter of HOMESTEAD JR. DE KOL. The price for this bull is $500.00.

OMAHA SEGIS LYONS, 4-year-old record (31.56). She weighs 1,850 lbs. One of her sisters has a 39-lb. record. Her sire is KING SEGIS LYONS who has nine 30-lb. daughters. He is a son of KING HENGERVELD. His sire's dam, CATRINA SEGIS (23.12). Her dam is a sister to NIVA KALMUCK, Nebraska State Champion (45.18), KING SEGIS breeding.

The Price of This Bull is $650.00

Otto F. Schauble, Pilger, Nebraska

Edinboro Lake Farm

Show Type HOLSTEINS Production

Six state yearly record champions 1918-19.

We offer bull calves by Sir Paul Veeman Hengerveld and Sir Ormsby Skylark Fredericka, out of yearly record dams with type.

Edinboro, Pa.

THE TRAVERSE HERD

We have what you want in

BULL CALVES

the large, fine growthy type, guaranteed right in every way. They are from high producing A. R. O. ancestors. Dams' records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.

Traverse City State Hospital, - Traverse City, Michigan

The Pontiac Herd

"Where the Champions come from"

Offer Bull Calves sired by sons of *Pontiac Korndyke, Hengerveld De Kol, Pontiac Dutchland, or Admiral Walker Pietertje.*

Do you want a Pontiac in your herd?

PONTIAC STATE HOSPITAL, Pontiac, Mich.

Holstein Bull Bargain

Royal Breeding—Splendid Individual

Carries 43¾% blood of Pontiac Korndyke, the greatest of all sires, 25% of blood of King Segis Pontiac and 12½% blood of King Segis. None better. 4 others ready for service. First $250.00 check gets him.

Wm. N. Osborn, Wanatah, Ind.

HERE IS YOUR CHANCE

Bull calf born Aug. 17, 1920. Mostly white and a good individual. His sire is a 32.7-lb. grandson of King of the Pontiacs. Calf's dam has a 20-lb. record and his 3 nearest dams average 28.47 lbs. A bargain at $200. Send for pedigree and photo.

Have 2 other bulls for sale that are ready for heavy use from a 25.63-lb. sire. They are priced exceedingly low. Females for sale, all ages. Herd under Federal supervision. Write your wants.

UTOPIA DAIRY FARMS

C. I. Reamer, Prop. North Liberty, Ind.

FOR SALE

Registered Live Stock

All Breeds

Write us stating what you want. Over 100,000 members in our organization. If desired, our live stock specialists will make selections for you.

LIVE STOCK MARKETING DEPT.

Illinois Agricultural Ass'n.,

130 N. Wells St., Chicago.

SONS

of Sir Echo Sylvia Johanna —

⅞ Brother to the $106,000 Bull

From high bred fine individual A. R. O. cows up to 30 lbs. Several on test now. All good, straight individuals, backed by lots of milk and butter. Some are ready for service. Priced very low. Write for catalog.

(*Herd Under Federal Supervision*)

CHESTNUT HILL FARMS,

G. A. Burdick, Mgr., Gibsonia, Pa.

BULL CALF

Sire's dam, butter, 1 yr., 848 lbs.; her daughter, 1,055 lbs. Grandsire's dam, 987 lbs. at 11 yrs.; her full sister, 1,344 lbs.; another, same dam, 1,322 lbs. Dam, Miss Pietertje Alexina 3d, sister to Miss Pietertje Alexina 2d, 1,290.91 lbs. A dandy calf, priced right. Write quick to

McKAY BROS., - - CADDOA, COL.

Fairhurst Herd

On the Accredited List

We offer young bulls, fine individuals and well grown. Sired by 33-lb. bull and from dams with records up to 30 lbs. Write for pedigree and price.

KITTLE BROS., Holland, Ohio.

We Offer a Yearling Son

Of King Pietertje Homestead Ormsby No. 221488, out of the State record Junior 2-year-old with a record of 17,860.2 lbs. of milk and 716.16 lbs. of butter. His name is Prince Korndyke Ormsby Fayne No. 323862 and he took 5th premium at the last Dairy Show as a Junior calf. Write for pedigree and price. Herd under Federal Supervision.

BUFFALO CREEK FARM,

H. L. BINGHAM, Supt., Arlington Heights, Ill.

For Immediate Acceptance—

Three young bulls ready for service—Holsteins.

No. 1—Sire a 30-lb. bull. Dam a 27.5-lb. cow. Price $300.00.

No. 2—Sire 30-lb. bull. Dam 23-lb. 3-year-old. Price $250.00.

No. 3—Sire 30-lb. bull. Dam 16-lb. cow. Price $100.00.

King of the Pontiacs breeding, well grown and good individuals. Send for extended pedigree.

R. F. JOHNSON, Assumption, Ill.

Whitehurst Farms

BULLS FOR SALE FROM SEMI-OFFICIAL DAMS. Priced Right.

A. F. Randolph, Prop., Canton, Ill.

Bull of Ormsby Breeding

We offer Chief Segis Lyons Ormsby No. 280751 Born March 8, 1919, a grandson of Sir Pietertje Ormsby Mercedes 41st. His sire a 33-lb. bull; his dam a granddaughter of Sir Pietertje Ormsby Mercedes, who had more 1,000-lb. daughters than any other sire in the world. Also some splendid bull calves ready for service, from A. R. O. dams. Herd tuberculin tested. Write for prices.

Schermerhorn Farms, Mason City, Iowa.

A Son of LIEUTENANT RAG APPLE

from a ⅞ths sister to a 948-lb. junior two-year-old daughter of a 1,281-lb. cow. $100.00. Let us tell you about him. Serviceable.

BLUEBELL FARM, Riceville, Iowa

HOLSTEIN CATTLE



Indiana School for Feeble-Minded Youth, Fort Wayne, Indiana, G. W. Bliss, Supt., writes:

"We engaged in breeding Holsteins to secure a more sure foundation for breeding, increase our milk production, make a better farm profit, secure better milk for food and have a better sale of surplus stock."

Send for Free Booklets

The Holstein-Friesian Association of America

101 American Building, Brattleboro, Vermont

High Grade Dairy Cows

We have on hand around 100 HEAD CHOICE HOLSTEIN, JERSEY AND GUERNSEY SPRINGERS.

These cows are selected from the best dairy sections of Ohio and can be offered at a price in accordance with the times. All animals are sold subject to the tuberculin test and ready for inter-state shipments. Sixty-day retest if desired. Every animal guaranteed as represented. Correspondence solicited. Inspection invited.

THE RIECK FARM SALES CO. - Rootstown, Ohio



Eli Aaggie Fayne Johanna
Milk 27949 lbs.
Butter 1001 lbs.

Breeders of Holstein Cattle

2 WORLD } RECORD COWS IN OUR HERD
4 STATE }

Holstein Bull Calves For Sale

A Few Exceptional Individuals Ready for Service

Write for Bull Sale List LISLE FARMS CO., LISLE, ILL.



Lakeside Farm Herd

The records of his dam, dam of sire, and dam of grandsire, average 31.33 butter 7 days, milk 548.84. This bull was 2nd prize winner in New York State Fair in class of thirty. His dam was also prize winner in same show. Send for pedigree. Herd under State and Federal supervision.

E. A. POWELL, Syracuse, N. Y.

Five Heifer Calves

All show animals by a 31-lb. sire out of A. R. O. cows of good individuality. Will sell one or the bunch at bargain prices as we are overstocked.

Also bulls for sale.

G. C. BURLINGAME,

Cazenovia, N. Y.

ORIGIN FARM

HORNLESS HOLSTEINS, Registered and A. R. O. Animals, all ages, for sale. Federally Tested.

GEO. E. STEVENSON, Scranton, Penna.

WHAT DOES EVERY DAIRYMAN WANT?

Better cows, of course, which mean bigger profits for his labor and expense.

If you want them quick we will sell you any number, as good as you wish to pay for, if you prefer to raise them we can sell you a pure-bred bull that will sire them. If you can use heifer calves River Meadow can be of service to you.

Everything in grade and pure-bred Holsteins.

Let us figure on an order with you.

RIVER MEADOW FARMS, Portlandville, N. Y.

Choice at $100—Bulls Valued Up to $250.

Ready for service. T. B. tested by all three tests. Every one goes, to clean them out at once. A. R. O. dams and grandams. Sire's 15 nearest dams average over 30 lbs. Don't delay. Write now. Herd Federally tested.

HENRY J. KARPINSKI. Route 7, Oswego, N. Y.

MINNESOTA-HOLSTEIN-BREEDERS THIRD ANNUAL CONSIGNMENT SALE

The State Sale Classic of the Year

Faribault,

IN THE THIRD STATE SALE Minnesota offers as usual the best she has. The sale's committee has searched the State and 80 head selected from 55 herds represent the most desirable Holsteins to be found in Minnesota. Type, Quality and Breeding were given first consideration—not an animal was accepted that would not strengthen any herd, —the sort that is always in demand, but is very hard to buy.

FARIBAULT
is on the C. R. I. and P. R. R. and C. M. & St. P.—60 miles south of the Twin Cities on the Jefferson Highway

Annual Pow Wow, May 3d
We'll be looking for you—
Make your reservations early

Among the offerings are:

The 1,015-lb. cow, **Brookings County Maid**—an outstanding individual, just fresh and again on test.

A daughter of **Sir P. O. M. 41st** from a 1,000-lb. daughter of **Sir Fayne Concordia.** She is bred to **Sir P. O. M. 37th.**

A daughter of **Sir Ormsby Hengerveld Korndyke** (son of **Mother Ormsby**) from a daughter of **King Segis Pontiac Count** and **Wisconsin Bess Piebe Laura 2d,** 34-lb. maternal sister to **Piebe Laura Ollie Homestead King.** She is bred to **King Segis Pontiac Count.**

A 21-lb. junior 2-year-old daughter of the $33,000 **Duke Pietertje Korndyke Ormsby,** son of **Sir P. O. M.** and the 3-time 1,000-lb. cow, **Jenny Wren Korndyke Hengerveld.** Bred to **Sir Pietertje Ormsby Mercedes 37th.**

A 30-lb. 4-year-old daughter of **King Segis Pontiac** from a 20-lb. 2-year-old daughter of a 30-lb. cow bred to **Duke Pietertje Korndyke Ormsby.**

A daughter of **Piebe Laura Ollie Homestead King**—a typical show daughter—that has 15,702 lbs. of milk and 726 lbs. of butter at 2 years, 11 days. She is bred to the wonderfully bred show bull, **Sir Inka Superior Segis.**

A daughter of **King Bess** (2 nearest dams, 1,243 lbs.) from a 20-lb. 2-year-old daughter of **King of the Pontiacs,** bred to **Sir Pietertje Ormsby Mercedes 37th.**

A 31-lb. junior 4-year-old daughter of **Sir Korndyke Glen** (652 lbs. of milk) bred to **Sir Hengerveld Pietertje Ormsby,** the son of **Chloe Pietertje Ormsby.**

Auctioneers:
Mack, Hanson, Krause



Minnesota Holstein

406 Market Bank Building

MINNESOTA-HOLSTEIN-BREEDERS
THIRD ANNUAL CONSIGNMENT SALE
The State Sale Classic of the Year

May Fourth

A 28-lb. junior 3-year-old daughter of **Bessie Fobes Oak Homestead** bred to **Johanna Bonheur Champion.**

A 33-lb. daughter of **North Star Johanna De Kol Duke.**

The 30-lb. cow (586-lb. milk), **Marie Princess Hartog 3d,** bred to a 31-lb. son of **Duke Pietertje Korndyke Ormsby.**

Bess Johanna Oak, 967 lbs. butter, 22,224.9 lbs. milk at 3 years; and bred to **Sir Walker Segis Homestead,** son of the former world's champion, **Beauty Beets Walker Segis** and **Piebe Laura Ollie Homestead King.**

One of the greatest show daughters of the famous show sire, **Sir Pietertje Ormsby Mercedes 14th,** due at sale time to a son of **Ormsby Korndyke Lad** that is from a 1,000-lb. 2-year-old.

A daughter of **King Korndyke Colantha Ormsby** from a 27.5-lb. granddaughter of **Hengerveld De Kol** that should produce over 30,000 lbs. of milk this year. Bred to **Duke Pietertje Korndyke Ormsby.**

A daughter of the great show bull **King Segis Johanna Grahamholm** that as a junior 2-year-old produced in 7 days 20.27 lbs. butter from 479 lbs. of milk; in 365 days, 719.5 lbs. butter from 17,782 lbs. of milk. She is bred to **Dutchland Creamelle Colantha Lad.**

A daughter of **Ormsby Sensation** from a 22-lb. 2-year-old.

Daughters of **Sir P. O. M. 22d,** one from a 28-lb. dam, one from a 959-lb. 10-year-old dam, both bred to **"37th."**

A 1,000-lb. son of **S. P. O. M. 41st.**

A 34-lb. cow—**Sir Rag Apple Pontiac Segis Marie.**

And among the rest are some of the very best daughters of **"41st"**; a daughter of **College Cornucopia 2nd** from a 29-lb. 3-year-old dam and bred to **"41st"**; a n800-lb. jr. 3-year-old daughter of **King Korndyke Pontiac Lass** bred to **"Count"**; a daughter of **Sir P. O. M. 38th** bred to **Sir Ormsby Akkrummer Hengerveld**; a son of **Ormsby Sensation**; a son of **Piebe Laura Ollie Homestead King,** etc. We can't list them all here, though they are all "tops." Just the best specimens we have of Minnesota.

Size
Type
Health
Production

This is One Sale That You Can't Afford to Miss

Rice County Sale
Faribault, May 5th
75 Females
from the herds of the oldest established Holstein center of the Northwest
Two Big Days
See page 618.

Scott in the Box



Breeders' Association
Minneapolis, Minnesota

Rice County (Minn.) Holstein Breeders'

First Annual Sale

Faribault, May Fifth

In the same Pavilion and on the Day Following the Third Minnesota State Sale

70 Head
All Females



70 Head
All Females

There are always some people who meet with disappointment at Minnesota's Annual State Sale. There are never enough cattle to go around in that great one-day event. And then, there are always some who attend that Sale that are not in a position to buy animals of the truly remarkable quality that goes to make up the Sale that is each year the classic of all state Sales.

In order that the needs of every man may be met, the Rice County Holstein Breeders' Association will hold a Consignment Sale of young cows and bred heifers the day following the State Sale.

A Sale Well Above the Average

In Type and Quality the offerings will very nearly match those of the State Sale. Rice County is the oldest established Holstein section of Minnesota and many of Minnesota's greatest herds are located here. It is from these herds that the entries have been selected. They represent years of careful breeding for Type combined with Production—the big, straight, deep bodied, square kind that are a credit to any herd.

Among the Offerings—A 25-lb. daughter of Sir Natsey De Kol Pietertje bred to a 34-lb. son of Ormsby Korndyke Lad; a daughter of the 1,000-lb. bull, Schilling Colantha Langtry from a sister to Sir P. O. M. 14th, bred to North Star Sir Fobes Homestead; a 535-lb. (305 days) yearling due in June to King Segis Pontiac Fayne Star; a 16-lb. 24-month-old heifer bred to "Fayne Star"; three heifers of exceptional type bred to the 37-lb. bull, King Echo Johanna Sylvia; a daughter of a 900-lb. 3-year-old and Sir Johanna Glen Ormsby, the son of the 1,323-lb. Glen Canary De Kol 2d; two daughters of the show bull, Nockdair King Segis Combination bred to Sir Walker Segis Homestead, son of a World's Champion daughter of "Count"; a 15-lb. junior 2-year-old due at sale time to the 1,200-lb. son of "Count", Col. Abbekerk Pontiac Segis; etc.

Size, Type and Quality—Mark every animal that will enter the ring. The sale offers a first class opportunity to the beginner in search of foundation stock. And a large share of the offerings are due to freshen shortly after sale date.

Spend May 3, 4 and 5 in Faribault

The Rice County Holstein Breeders invite you to spend May 3d, 4th and 5th in Faribault. Attend the big meeting of Minnesota's Holstein breeders on the 3d and visit the herds of Rice County. And then stay over for the two big sales, both managed by the

Minnesota Holstein-Friesian Breeders' Association

406 Market Bank Building, Minneapolis, Minnesota

SIR JOHANNA FAYNE



42147

now has 9 daughters 20,000 pounds or over. All of his yearly tested daughters, 3½ years old or over average 21,465.1 pounds milk and 831.45 pounds butter. 17 daughters average 20,000 pounds. A few young sons left at reasonable prices. Herd under Federal Supervision.

IOWANA FARMS
DAVENPORT, IOWA



SADIE CORNUCOPIA EIBERTJE

Her Son For Sale—

This cow was 2nd prize A. R. cow and 3rd prize 4-year-old at Dairy Congress, 1920. She is by the best son of the 1st 30-lb. cow and has a 20-lb. 2-year-old record with 510 lbs. butter in 345 days. Now on test as a 4-year-old with 400 lbs. butter in 1st 6 months. Her dam 530 lbs. butter in 10 months; next dam 516 lbs. butter 365 days at 2 years. Calf is by Woodcrest Sir Clyde, who is from a 33-lb. and 970-lb. dam; born May, 1920. More black than white. Given a Federal Certificate of Health.

Write for photo and pedigree today.

W. B. BARNEY & SONS, - - - Chapin, Iowa

MINNESOTA HOLSTEINS

"The Home of the Ormsbys."



MISS KORNDYKE AKKRUMMER ORMSBY
30-lb. 4-year-old, 39.67 lbs. butter at full age.
(Owned and developed by J. B. Irwin.)

BARGAINS IN BULLS

A few richly bred choice young bulls ready for service,

on the bargain counter for a clearance sale.

Let us give you a good individual well bred at a very low price while they last. Tuberculin tested. Guaranteed in every respect and ready to ship. Come and see them.

Woodlake & Clover Farms,
JOHN B. IRWIN, Sta. F, Minneapolis, Minn.



Sir Walker Segis Homestead

The best show bull and son of the great bull, PIEBE LAURA OLLIE HOMESTEAD, out of a "COUNT" daughter, BEAUTY BEETS WALKER SEGIS, world's greatest heifer, with two yearly records over 25,000 lbs. milk and 1,000 lbs. butter in heifer form, and a seven-day record of 35.03 lbs. butter from 730 lbs. milk.

We offer several choice bulls, one month to a year old, out of high yearly record and A. R. O. cows, at very reasonable present day prices. Pedigrees and photos will be sent.

A. J. LASHBROOK, - - Northfield, Minnesota

Our Bulls Are Marked

down to where we will move them inside of thirty days. If you are in the market for a bull of Count or Ormsby breeding we have it. Send for the circular.

Flecks Farm, Faribault, Minn.

"DUKE" The only place you can buy sons of serviceable age sired by DUKE PIETERTJE KORNDYKE ORMSBY

The bull selling at the last Minnesota state sale for $33,000.00 is from the herd where he stood for three years prior to the sale. "Duke's" dam now has three records above 1,000 pounds, the last one was 1,190 pounds.

Now is the opportune time to buy one of these bulls as their sisters will be given every opportunity. Get a son now and be in line. Clean bulls from a clean herd. Prices reasonable. Write

EDW. H. ULRICH, Biscay, Minn.

A BULL BARGAIN

Bull calf born July 19, 1920.
Sire's nine dams average over 1,000 lbs. butter in year.
Dam has over 500 lbs. butter in 263 days.
This calf is an excellent individual.
Straight top line. Price $500.

MANKATO HOLSTEIN FARMS
Marlow & Randall, Mankato, Minnesota.

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6 Good Cows For Sale

THE MINNESOTA KIND

They are all by a 36-lb. sire, are bred to a son of King Korndyke Colantha Ormsby, and are due to freshen this fall and winter. They are from 3 to 5 years old and absolutely straight and right. Lack of barn room forces us to sell.
Write or come and see them.

E. J. Brosious, - Stillwater, Minn.

Cows Cows Cows

For Sale: Tested Holsteins and Jerseys, among which are some good family cows. All good milkers. Will sell one or a carload.

BARRETT & ZIMMERMAN,
Midway Horse Market, St. Paul, Minn.

A LINE-BRED "41st" BULL CALF FOR SALE



SIR PIETERTJE ORMSBY BESS BURKE
Born Dec. 20, 1920

A real showy calf, straight as a line and of ORMSBY type

His dam and sire's dam are both daughters of SIR PIETERTJE ORMSBY MERCEDES 41ST, the only son of Spring Brook Bess Burke. His dam is on yearly test as a junior two-year-old and bids fair to go 800 lbs. The sire's dam made 28.93 as a 3-year-old and 26.82 as a 2-year-old.

THIS CALF WILL GROW INTO MONEY —SEND FOR PHOTOS, PEDIGREE AND FULL PARTICULARS.

E. C. Schroeder Farms

(Under Federal Supervision)

MOORHEAD, Minnesota

HOLSTEIN FEMALES

Females of all ages for sale, priced very reasonable Mostly all bred to our 34-lb. sire, he a grandson of Count, from a sister of Piebe. One or a carload. Under State and Federal supervision.

BLACK & WHITE STOCK FARM, R. 3, Melrose, Minnesota



The Count-Piebe Combination



KING SEGIS PONTIAC COUNT
"The Marvel of All Sires"
Whose daughters have broken more World's Records than the daughters of any other sire.

PIEBE LAURA OLLIE HOMESTEAD KING
"The Present Day Sensation"
The only bull in the world with five 20,000-lb. two-year-old daughters.

Will Triple Your Milk Check Because It Will Put Production Into Your Herd

And more than triple the price you are getting for your calves. Because it combines individuality with production, it has given us thirty cows at Arden Farms that have each produced $1,000 worth of milk per year. Do you want that kind?

We Offer
Sons of "Count" from Daughters of "Piebe"
Sons of "Piebe" from Daughters of "Count"

We have the finest line of young bulls we have ever raised at ARDEN FARMS, priced in accordance with present financial conditions. LIBERAL TERMS GIVEN IF DESIRED.

J. M. Hackney, 602 Merchants Bank Building, St. Paul, Minnesota

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Registered Cows and Heifers

We have on hand more females than we usually carry so are able to offer some good ones for sale. A number have A. R. O. records and most of them are from tested dams. Bred to a yearly record sire and themselves backed by yearly producers.

Address correspondence to Axel Hansen, formerly with John B. Irwin.

MINERAL SPRINGS STOCK FARM, - - SAVAGE, MINNESOTA
Stuart—McIntyre—Hansen, Owners.
Address correspondence to Axel Hansen, formerly with John B. Irwin.



LORD BOBS KORNDYKE PONTIAC

Echoland Farms Offer For Sale

Lord Bobs Korndyke Pontiac

He is a show bull and a good sire.

His Sire—Roberts Abbekerk Pontiac is an excellent individual and a bull that has won first at many of the leading shows, and by a good son of King of the Pontiacs. His dam is a 29.37-lb. cow from the 33.79-lb. sire, Sir Gerben Pauline. This bull will make a real herd header for some small breeder and we know he will please as an individual. For price and description write

EGIL BOECKMANN, White Bear, Minn.



Lola Segis Pontiac Homestead

the highest record bull in southern Minnesota, heads our herd. His sire, Piebe Laura Ollie Homestead King, has more daughters that as 2-yr.-olds have produced 20,000 lbs. milk in a year than any other. His dam, a 34-lb. 4-year-old daughter of King Segis Pontiac Count, has 3 records averaging 33 lbs. and has made over 1,000 lbs. in 1 year. We have a few serviceable bulls and younger from A. R. O. dams for sale.

Clover Lea Farm, W. W. Walker, Owner. Austin, Minnesota

Grandsons of Sir Pietertje Ormsby Mercedes

The sire is Sir Pietertje Ormsby Mercedes 22d, a son of Minnesota's first 1000-lb. cow. These bulls are all nicely marked, straight top lines. Very good individuals from good A. R. O. dams.

For pedigrees and prices, write

O. J. GROVER, - GLYNDON, MINN.

Grandsons of

Duchess Skylark Ormsby and of S. P. O. M. 38th.

for sale. These youngsters are from A. R. O. dams that are now making good yearly records. Write today for further information.

POPLAR HOLLOW STOCK FARM,
Bertram D. Scott, Prop., Richfield Station
Minneapolis, Minn.

Bull Calf

advertised last week is sold. Here is another good one ready for light service. Sired by a 30-lb. bull. Dam a 14-lb. 2-year-old who will be tested again next spring. Priced so reasonable that you can't afford to be without him. $150.00 for immediate sale.

V. R. Holmes, Anoka, Minn.

Get A Calf

We have a grand bunch of youngsters on hand. Come and pick out a calf while you have a big choice. Grow him to suit you. Saves you money and we are selling them as cheaply as we can. Show calves that are backed by generations of official testing and careful breeding. Sons of DUTCHLAND CREAMELLE COLANTHA LAD No. 165049. His yearly daughters all average over 834 lbs. of butter at 26 months of age.

GRAHAMHOLM FARMS,
H. R. Searles, Mgr., Rochester, Minn.

REGISTERED BULLS

FROM TESTED DAMS

Sired by a 30-lb. son of Colantha Johanna Lad and a 26½-lb. son of Laura Piebe Ollie Homestead King. Well marked, straight individuals from two months to 2 years old. Priced to suit present conditions.

GEO. H. ELWELL,
Minneapolis, Minnesota.

COME TO BISCAY

for your next purchase of pure-bred or grade Holstein cattle, mature or young stock. Large selection, also a few select male calves to offer. Located near station

BISCAY SALES CO., BISCAY, MINN.

Holstein Bulls

At Farmers' Prices

We are not in the game to get rich but to help promote the breed by offering pure-bred bulls at the lowest prices, enough to cover raising. Write for prices and descriptive list. The Ormsby kind.

RAMSEY COUNTY HOME,
J. E. McMahon, Supt., North St. Paul, Minn.

WANTED

REGISTERED

Holstein Females

Am owner of unimproved Minnesota farm clear of incumbrance which desire to trade for registered females. Proposition will bear closest inspection. Will put in some cash or will carry back mortgage for long time on land. If interested write

James H. Leary, Builders Exchange Building, Minneapolis, Minnesota

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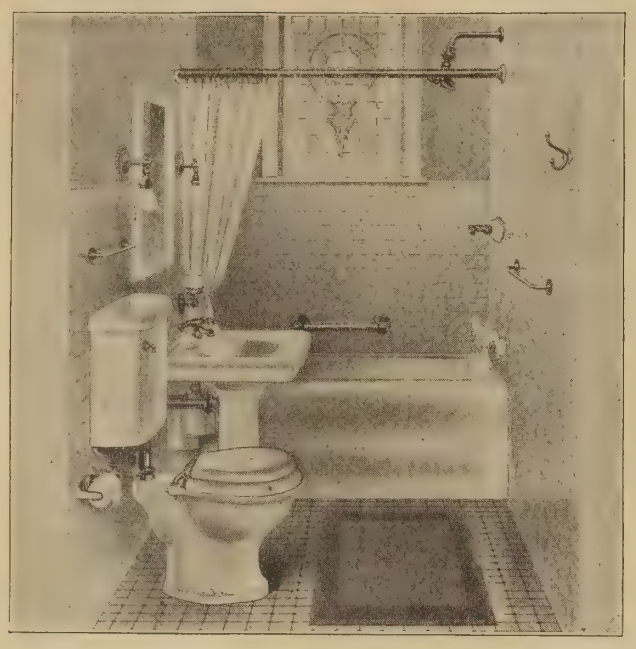
HOLSTEIN BULL CALVES

out of A. R. dams and sired by our two richly bred herd sires — King Piebe Ormsby Mercedes, a 35-lb. son of Sir Korndyke Bess and every dam in pedigree over 22 lbs. and King Pietertje Mercedes Ormsby, a son of Sir Pietertje Ormsby Mercedes and out of a 19-lb. senior two-year-old dam.

Herd tuberculin tested. Write for information or visit herd.

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Makes it possible to select, through one central source of supply, practically everything needed for the extensive heating, plumbing and sanitation systems, the refrigerating and water plants, and piping installations for use in the country and may be secured through the plumbing and heating trades.

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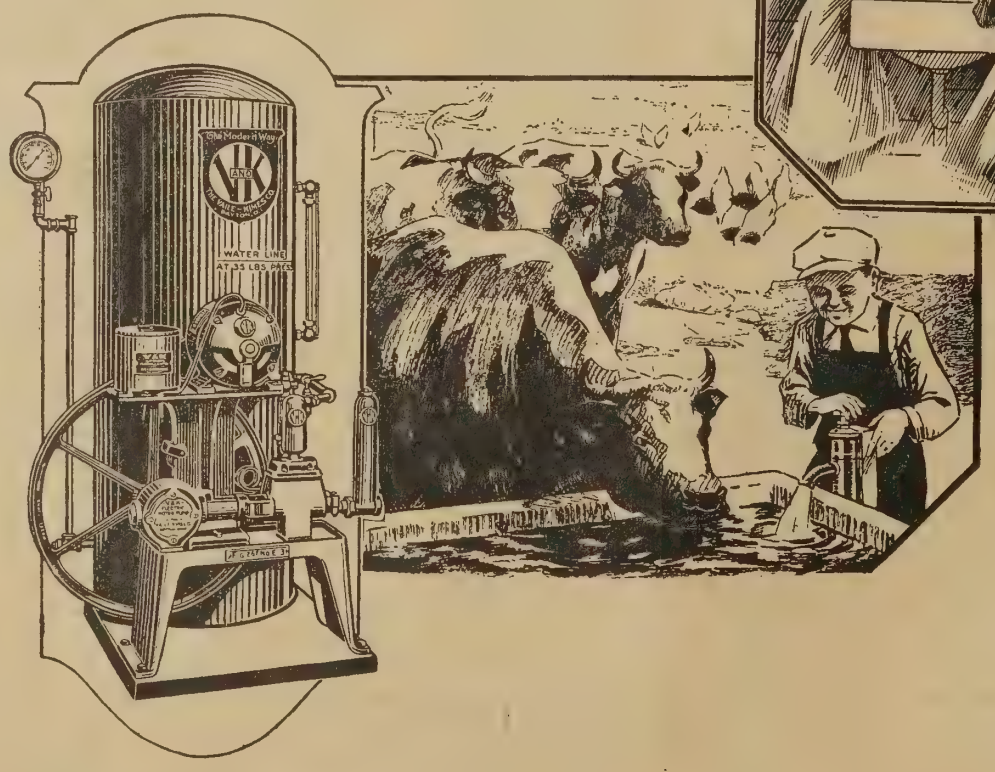
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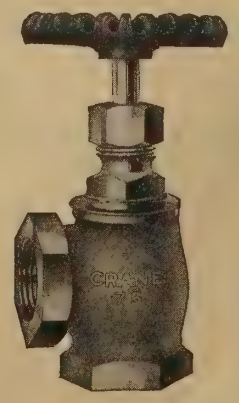
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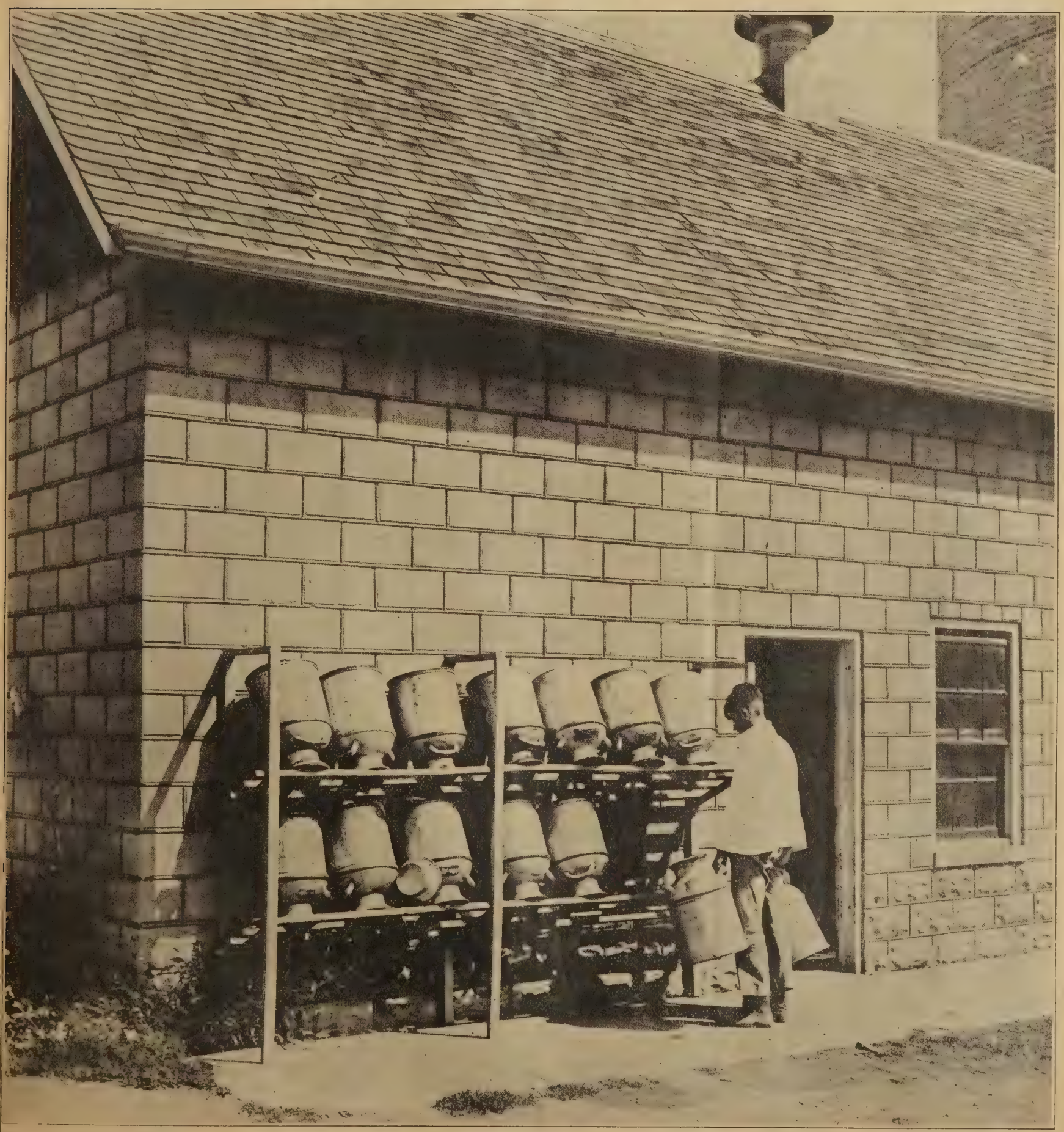
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20 Jul.21

HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING



Fort Atkinson, Wisconsin Volume LXI, No. 15 April 29, 1921

Divide the price of a De Laval by its years of service for its real cost.

THAT the best is the cheapest in the long run is doubly true of the De Laval Cream Separator.

Divide the price of a De Laval by the years of use you will receive—there are thousands in use from ten to twenty years, and even twenty to thirty years is not an unusual life for a De Laval—and you get a yearly cost that is much lower than that of any other separator you can buy.

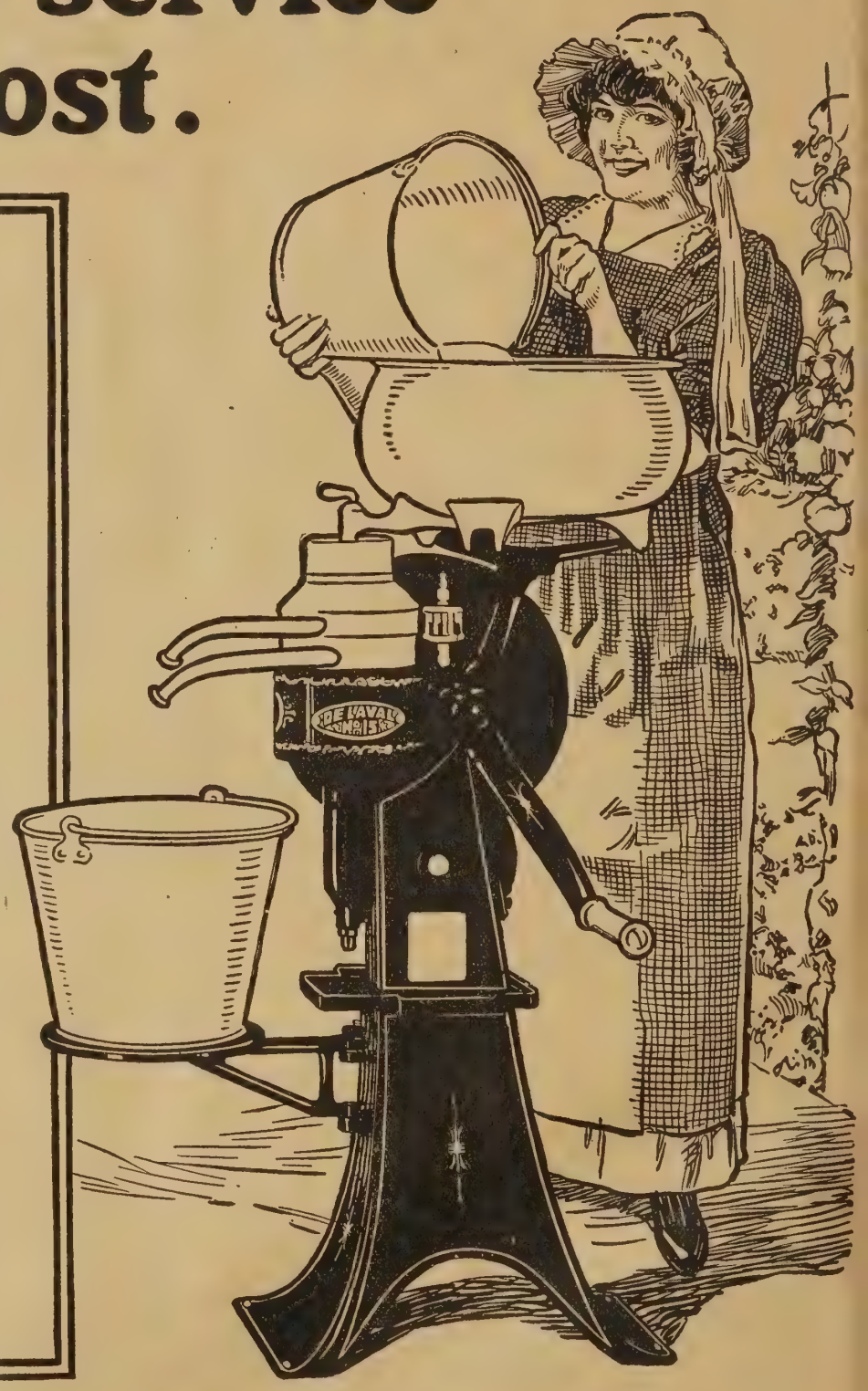
Consider also that during all these years of use the De Laval will skim with the utmost efficiency; that it will save instead of waste cream; that it will pay for itself over and over and return you the greatest cash income; and you will readily see why it is the most economical separator to buy.

The De Laval serves the longest time and saves the most cream; that's why there are more than 2,500,000 in use the world over.

Furnished with hand, power or electric drives; sold only through agents, and if desired, on such terms that it will pay for itself

The De Laval Separator Company

NEW YORK	CHICAGO	SAN FRANCISCO
165 Broadway	29 East Madison Street	61 Beale Street



Sooner or later you will use a De Laval Cream Separator or Milker

HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING

Volume LXI — FORT ATKINSON, WIS., APRIL 29, 1921 — Number 15

Possibilities of Irish Dairying

A. C. McCANDLISH, IOWA

SOLVING the Irish question is one of the most popular of indoor sports at the present time. Yet few realize that the main problem of the Emerald Isle is an economic rather than a political one, the political question being a result of and not a cause of the economic. It is not within our present scope to solve the troubles of Erin, but rather to show the relative economic position of Ireland compared to her sister countries in so far as these relate to dairying and other agricultural undertakings.

Ireland, with its encircling mountains and central plains is a great pasture country, though plenty of variety is introduced by barren hillsides and bleak bogs. The meanderings of the Shannon and Ban and other rivers of fame lead through fertile valleys; in Cork and Kerry and parts of Tipperary and other illustrious countries there are fertile loams; and even on many of the untillable hillsides the pastures are luxuriant.

The climate is equable, surpassing that of the remainder of the British Isles. The remarkable uniformity of climate can be seen from the fact that the average temperature varies only from 40 degrees F. in January to 60 degrees F. in July. Surely such conditions are well suited for dairying, and yet it is seldom that Ireland is even mentioned as a possible producer of dairy products.

Intensive Agriculture

Too often Ireland is looked on as the original home of the politicians and police of the world, while Irish agriculture is regarded as primitive. Primitive it is in many ways, but, when all the facts in the case are considered, it must be admitted that Ireland compares well with many other countries that have been given more publicity. The agriculture of Ireland that is primitive is picturesque and for this reason lingers long in the mind of the loiterer.

The agriculture of Great Britain, which includes Scotland, England, and Wales, is generally held up as one of the marvels of intensive agriculture, but in many ways it becomes rather insignificant when compared with the results obtained in Ireland. Ireland is little more than half as large as the state of Iowa and yet its population is double that of the "greatest state in all of the West", and this in spite of the fact that the population of Ireland has been decreased by one-half since the black days of the potato famine in 1847.

The great difference between Ireland and the remainder of the British Isles is that the major portion of the Irish population is directly dependent on agriculture; of the people in Ireland, 55 per cent of those over 10 years of age are actively engaged in agricultural pursuits, while in the other countries of the United Kingdom only 9 per cent of the population is similarly employed. This is further emphasized if the relative areas of cultivated land and of live stock be considered:

A Comparison of the Agriculture of Ireland and Great Britain on the Basis of 1,000 Acres of Land

	Ireland	Great Britain
Area cultivated, acres	703	566
Horses	27	23
Dairy cattle	77	53
Other cattle	171	79
Sheep	174	383
Pigs	48	34
Total population	222	568
Agricultural population	125	59

Although Ireland has only 222 people for 1,000 acres compared with 658 in Great Britain, yet the fact that it lacks large cities and their connected industries results in there being 125 per 1,000 acres connected with agriculture in Ireland as compared with less than half that number in the remainder of the British Isles. A greater percentage of the Irish land is also cultivated and the density of the live stock population is greater in every case, with the exception of the sheep, than that in Great Britain.

Dairy Cattle

When the dairy cattle are considered it is found that in 1920 Ireland had 1,580,734 coming under this classification. This group is quite broad but is comparable to that used in the United States. It is seen therefore that Ireland has more dairy cattle than any of the states of the American Union with the exception of Wisconsin. Ireland has never been noted for its native breeds of cattle; the only ones now in existence being the Kerry and Dexter. At one time, however, there were about four races of cattle in Ireland, ranging from the Longhorn to the polled or Maol. The Longhorn was somewhat similar to the Longhorn of England and, though it has practically been exterminated, traces of it are to be found in parts of Cork and Limerick. A curved-horn race was the predecessor of the miniature Kerry and Dexter, while the short-horned and polled races have been absorbed by the breeds imported from Great Britain.

The Kerry and Dexter are therefore practically the sole remnants of the original cattle of Ireland. Shorthorns appear to predominate now, but Ayrshires, Aberdeen-Angus, and other British breeds are to be found. The Kerries and Dexters form a small proportion of the total cattle of the country but they are to be found on many of the small farms, in fact, the Kerry is generally known as the "poor man's cow" as she can subsist on scanty fare and is quite a fair producer. The average annual production per cow in a number of herds tested by the Irish Department of Agriculture is 5,905 lbs. of milk and 251 lbs. of fat with a butterfat content of 4.2 per cent. This is a very good average for herds that are relatively unimproved but the claim that the cows with the highest yields of milk have the highest percentage of butterfat does not appear to be justified. The Kerry cow is small, weighing about 800 lbs., while the Dexter or Dexter-Kerry is even smaller and is a chunky individual not as well adapted to milk production as is the true Kerry.

Dairy Products

The chief industry of Ireland is agriculture. Its other staple industries are the manufacture of linen and whiskey, shipbuilding, and, to a lesser degree, the manufacture of woolen goods. With the exception of one primal industry, shipbuilding, the others are dependent on agriculture.

The income of Ireland is derived largely from her agricultural exports which go mainly to England and Scotland. The greater part of her export trade is devoted to feeder cattle which are one of the mainstays of the cattle feeders in other parts of the British Isles. Her dairy products also reach considerable proportions. In the last year for which full information is available there were 506 dairy factories in Ireland and of these 190 were co-operative undertakings owned by the farmers. The general practice is to haul the whole milk to the factories. Only two of them handled cream and nine of them milk and cream. Some of the milk is made into cheese but by far the greater portion of it is made into butter. In the factories under consideration, about 1¼ billion pounds of milk were used in the year being discussed.

The general conception of Ireland is that dairying is practiced mainly in the north, but, though Ulster is the main center of the linen and shipbuilding industries, yet the dairy industry is most prevalent in the South. Of the total number of dairy factories in the country, 333 are located in the southern province of Munster, while Leinster, Connaught, and Ulster contain relatively few.

The main outlay for Irish creamery butter is the populous centers of Great Britain and those who are not accustomed to consider Ireland as a dairy country are perhaps surprised when told that the greater part of the Irish butter ranks in the British markets with the far famed Danish butter. The main reason that it is not heard of more frequently is the fact that it has not been properly advertised whereas Danish butter has obtained fulsome publicity. Much of the Irish butter is considerably better in flavor and texture than the average run of Danish butter offered on the British markets.



THE VILLAGE BLACKSMITH IN IRELAND

The Future

When statesmen of world-wide renown are bewildered by the Irish

(Continued on page 638)

Five 700-lb. Cows in Herd of Fifteen

H. W. NORTON, JR., MICHIGAN

ASK any member of the firm of H. D. Box & Sons of Lansing, Michigan, the question, "Does Official Testing Pay?", and he will answer "yes" and invite you to the farm, where they have abundant proof of the correctness of the assertion.

The farm is about five miles southeast of Lansing, almost directly south of the Michigan Agricultural College campus. The buildings are not at all pretentious, just good, substantial farm buildings; but Messrs. Box & Sons are good, thrifty farmers and their cattle are well cared for. However, I doubt if there is a herd in existence which is more remarkable from the standpoint of milk production than this one.

The herd was established in 1913 but no attempt at official testing was made until two years ago. Yet when I was there recently five of the fifteen cows and heifers of milking age had produced above 700 lbs. of milk in seven days—five cows that had each produced more than one hundred pounds of milk per day for a week standing side by side in a herd of fifteen.

This herd, unknown outside of the immediate vicinity, became famous over night when Lady Clio Pauline De Kol produced 842.1 lbs. of milk in seven days and 3,394.8 lbs. in thirty days and her daughter, Model Lady De Kol, finished a record of 820.4 lbs. of milk in seven days and 3,228.7 lbs. in 30 days. Lady Clio is the only cow in the world that has produced above 800 lbs. of milk in seven days and has a daughter with a similar record. She was bred by M. J. McPherson of Michigan, and was nine years old when she made her record. Her sire, Pietertje Hengerveld Mercena King, was a grandson of Pietertje Hengerveld's Count De Kol, the great milk sire, and her dam, Calliope Pauline De Kol 2nd, is a daughter of Winnie Wayne Sir Paul De Kol, a grandson of De Kol 2nd's Paul De Kol.

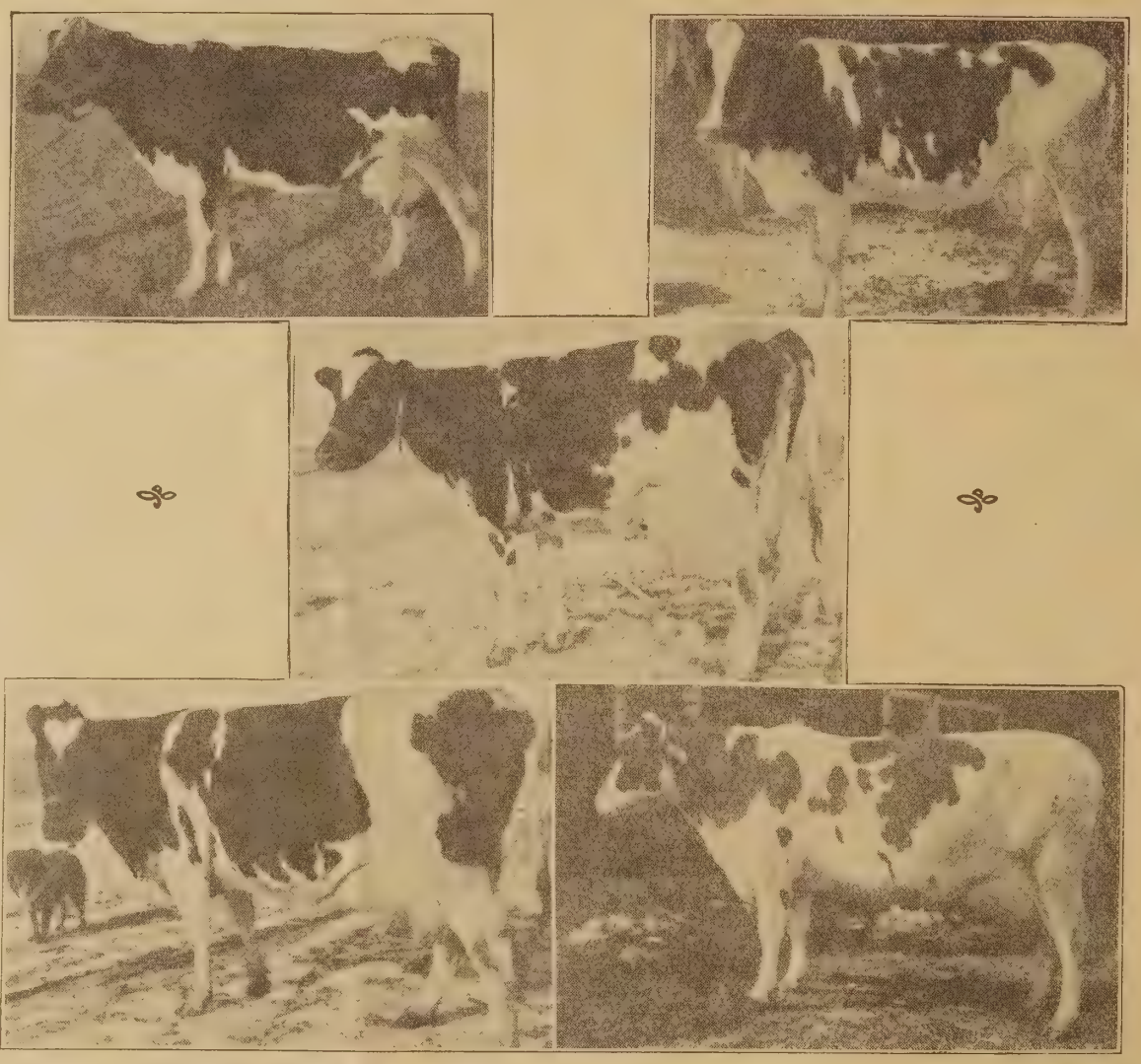
Flossy Hengerveld Johanna Fayne, the second daughter of Lady Clio, is a full sister of Model Lady De Kol and has recently finished a record of 726.2 pounds of milk in seven days and 2,711.7 pounds in thirty days, at five years of age. Another member of this remarkable family is Queen Model Johanna De Kol with a record of 729 pounds of milk in seven days and 2,907.5 pounds in thirty days at five years of age. She was sired by King Model Johanna Fayne, the sire of Model Johanna De Kol Lad.

Queen Model Johanna De Kol is a daughter of Calliope Pauline De Kol 2nd and therefore a half sister of Lady Clio. Thus Queen Model Johanna De Kol is related on both sides to the two daughters of Lady Clio, her sire being their paternal grandsire and her dam being their maternal grandam.

This remarkable family of cows, with the exception of Lady Clio, were bred there on the farm and all four were raised and developed by H. D. Box & Sons. In addition to the two daughters with records above 700 and 800 pounds respectively, Lady Clio has two other daughters there at the farm, one a three-month-old calf and the other, Mabel Segis Fayne Johanna, with a junior two-year-old record of 459 pounds of milk and 16.4 pounds of butter. Mabel Segis will freshen again soon and gives every indication of upholding the family record when tested in her three-year form.

These cows are all large, deep-bodied cows of strong constitution and great capacity, and, needless to say, they are enormous eaters. Of the younger members of the family the one which attracted our attention more especially was the heifer calf from Lady Clio. This heifer was sired by King Lansing, a son of Sir Korndyke Veeman Hengerveld, one of the best bulls ever used in Michigan and the sire of seven thirty-pound cows, and out of Dora De Kol Oosterboom, a 32.5-lb. cow with milk records of 745 lbs. in seven days and 3,022 lbs. in thirty days. The two nearest dams of this calf, therefore, have records averaging 793.5 lbs. of milk in seven days and 3,208.4 lbs. in thirty days.

One other member of the herd, Midnight May Johanna De Kol, a six-year-old cow, had just finished a test at the time of my visit, making 714.4 lbs. milk in seven days, with 112.7 lbs. of milk for the best day. This cow represents a different line of breeding from the other four, but was bred and raised there on the farm. Her sire was Karl Midnight Johanna 2nd and her dam Ianthe Maid De Kol.



Above—Left, Flossy Hengerveld Johanna Fayne, daughter, 726.2 lbs. milk in 7 days, 2,711.7 lbs. milk in 30 days; right, Model Lady De Kol, daughter, 820.4 lbs. milk in 7 days, 3,228.7 lbs. milk in 30 days. Center—Lady Clio Pauline De Kol, dam, 842.1 lbs. milk in 7 days, 3,394.8 lbs. in 30 days. Below—Left, Midnight May Johanna De Kol, 714.4 lbs. milk in 7 days; right, Queen Model Johanna De Kol, 729 lbs. milk in 7 days, 2,907.5 lbs. milk in 30 days.

Keep the Soils Fertile

A. R. WHITSON, Wisconsin College of Agriculture

IT takes at least one-quarter of the cultivated land in clover to supply the hay for cattle and sheep. Clover not only makes more milk than timothy, but it makes better manure, and that means more corn and oats. Good clover fields show where the good farmers live. We ought not to buy nitrogen in fertilizers when we can get it incidentally in growing the feed we need; and even if we did not need the clover for feed we could gather the nitrogen by growing clover to plow under cheaper than we could buy it in fertilizers.

When Soils Need Lime and Phosphorus

The soils now growing heavy crops of clover and alfalfa do not need lime for these crops, but when these crops do not do well it is a pretty sure indication that they need lime and phosphorus.

The first application of ground limestone on such soils should ordinarily be at the rate of two tons for clover and three or more for alfalfa for the first rotation. After that, one ton every three or four years for the rotation in which clover is grown, and two tons per acre every time a field is reseeded to alfalfa, should be applied. Limestone should be applied after plowing, either in the fall or in the spring.

We Must Buy Phosphorus

One of the greatest opportunities for increasing yields of crops is through the use of phosphate fertilizers. Phosphorus is leaving the farm constantly in concentrated form in the bones of animals, even if grain is not sold, and soils all contain so small an amount of this element that we must replace every bit we sell, or the fertility standard will be lowered. Governor Hoard realized that fact and used phosphate fertilizers on his dairy farm regularly.

First Rules for Maintaining Fertility on the Dairy Farm

1. Not less than one-fourth of the cultivated land should be in clover or alfalfa.

2. Use lime when needed to keep clover or alfalfa growing well.

3. Use every three or four years from 200 to 300 lbs. of acid phosphate, or 125 lbs. of treble superphosphate per acre.

4. Use carefully all manure produced.

Should We Buy Feeds to Get the Phosphorus?

On the ordinary dairy farm where little grain is sold, and where only a moderate amount of bran, or other concentrates, is purchased, the practice of applying 200 or 300 lbs. of sixteen per cent acid phosphate, or 125 lbs. of "treble superphosphate" per acre every three or four years will maintain the phosphate supply in the soils, and aid in keeping the yields up to a high standard.

Farmers who buy large amounts of concentrates and sell little or no

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BACK TO THE FRIENDLY FARMHOUSE

HELEN S. K. WILLCOX, NEW YORK



LIVING ROOM



PER LEE PLACE—HOME OF THE AUTHOR



PARLOR

THERE has been much discussion of late years as to why our farms, here, there, and everywhere, are daily being deserted by those born and bred in the country who would naturally remain to inherit and carry on the good and necessary business of feeding the world. The blame has been placed first on one cause and then on another, but it is left to the U. S. Department of Agriculture last year to put its finger on one of the best reasons, and one heretofore apparently ignored—the fact that eight out of ten farm women are not only deathly sick of their endless hours and arduous labor, but particularly because they are sickest of their unattractive, inconvenient houses which, even in the enlightened rural-America of today, compare too unfavorably with many moderately crowded urban flats.

The average farm house is not half convenient enough and so far as its one peculiar charm and appeal goes, too often hasn't any. The truth is that almost every farm house, no matter how much it may tower above its neighbors because of this or that improvement, can be made more appealing and more attractive from a good-looks standpoint, while the ninety and nine which lack any pretense at such much needed reforms offer striking material for radical changes. It was thus strangely left for agriculture's own farmer to corroborate what every farm woman instinctively knows—that she is not going to stick contentedly to her big job any longer if the house, among other things, must continue to repel instead of attract.

But, someone says, if you don't like your home as it now is, why not change it to suit rather than envy the city woman's? If she were consulted probably you would listen to a tale of insufficient, restricted spaces, of steep stairs to climb or of irritating elevator service, of dark hallways, of indifferent plumbing and outrageous gas bills! It is almost certain that Mrs. City Woman would vehemently deny that her house is a veritable paradise on earth just because it boasts a multitude of labor-savers and several specimens of smart looking installment furniture, without which Mrs. Farmer sometimes mistakenly feels that she can never be really happy. On the other hand, Mrs. Farmer Woman owns to coveting our big farm yards so full of alluring possibilities in the way of flowers, fruits, trees, shady walks, and beguiling gardens; also the big house with its high-ceiled rooms and generous spaces—a house sizable enough to call a bedroom a bedroom, instead of bringing forth a temporary guest room out of thin air by waving the living room divan into a full fledged bed with all accoutrements!

Yet the fact remains and will not be downed; our farm houses are several decades behind our progressive farm times and although some of us are happy at last with electricity and hardwood floors and so on, the majority of us are still engaged in hunting the real secret of why we want to get away and stay away, and this secret is: our homes simply lack that friendly, knowing touch which magically combines good taste, individuality, and charm—three indispensable virtues which are the rightful heritage of every faithful old dwelling in the countryside.

It is trite to remark that the house is the heart of the farm, yet we too often insist upon forgetting it and are content to complain because we do not inhabit the home of our dreams, the counterpart of which some other woman may have transformed from far more humble beginnings than the one with which we must deal. At the same time it is apparent that a surprising number of us take too little constructive thought for the place where we spend the greater part of our lives and although our excuse is that we are the busiest creatures on earth and the regular work must come before house hobbies, yet such seems strange and illogical reasoning when a woman and her home bear such close and intimate relations.

There is an old saying to the effect that everyone finds time somehow to do in this world what he most wants to do. Judging, then, by the thousands of farm houses which show not a trace nor spark of beauty and charm, we must conclude that their mistresses do not regard them in the light of pleasurable possessions, but rather irksome duties not worth the "tackling".

In a recent Woman's Home Companion an article entitled "Through English Eyes," by Mrs. Irvine, corroborates this indictment of American farmers where their "earthly mansions" are concerned. Says Mrs. Irvine, "I remember the flat fields about Chicago, dismally brown where they were not deep under snow; and then gazing out of the train that carried me from Southampton to London, I could hardly contain my amazed joy at the very vivid green of the hedge rows and the fields that flew past me. And I thought to myself how proud I should be to take my American friends into English villages, that they might contrast our picturesque cottages with the dull wooden farm houses, suffering apparently from a paint famine, gardenless, and ungracious, that one sees between New York and Chicago."

Mrs. Irvine went on to say that the interiors of American farm houses were often far more inviting, from the standpoint of doing work handily, than is the average British living place, but this advance over our cousins across the sea cannot entirely excuse our manifest lacks in the matter of charm and hominess as such virtues are sized up by the passerby or the transient within our gates. The writer's home ten years ago this spring could well have been numbered in the houses "suffering from a paint famine, gardenless, and ungracious" as described by the lady from England. The house as we came to it possessed the same good lines—rectanglar post-Colonial—as shown today in the photograph, but the rear where the greatest changes took place fails to reveal its transformations as caught by the camera, so a description a bit later on in our house narrative will have to convey how these things were brought about.

We started in on the old homestead's interior on the theory that it is indeed hard on the traveller to witness the gradual decaying and going down of folorn old farm dwellings, but at the same time it is much harder on those who must abide within their walls and daily reflect the gloomy atmosphere thrown off by such homely unattractiveness.

As we found our home-to-be typically uninteresting and down-at-heel, while means to change it for the better were at the time typically lacking, a great deal of thought and makeshift and ingenuity were required to at all satisfy the house standards we had set for ourselves. The two large front rooms, divided by a wide, long, old fashioned hall, were extremely good in their proportions, each containing an original fireplace which only needed uncovering to add its wonderful bit; so plain oatmeal paper in a soft tan with harmonizing ivory paint transformed parlor and living room and hall into liveable, enjoyable rooms—contrasts indeed to the same walls done in hideous "figured" wall paper. As the house is a century old, the floors were made of foot-wide boards which, of course, had always been hidden from view by carpets. But it was not my plan to use carpets in this day and age, and, as we could not afford hardwood floors, the problem was to make the best of the rough, bare boards without resort to artificial wood-like linoleums or expensive carpet fillers. Upon the advice of a certain interior decorator who is supposed to know her business, I was urged to paint around the rugs in soft gray, olive green, or tan and in no wise attempt to cover the old boards which had done such long and arduous service.

I was told that ancient floors so treated were considered rightfully correct and proper today and to replace them with oak or birch (as I had yearned to do) would not be at all in keeping with the old time atmosphere of the house. So to this day our floors are as they were over a hundred years ago, and rivals of hardwood are denied all entrance. So you farm folk who lack money to put in modern floors, take this "tip" from a professional decorator as I did and keep your old ones, painted in dull, unnoticeable colors, while your dollars go into some other part of the house needing more attention.

Like the little girl who, when she was good, was very, very good, our three main rooms—living room, parlor, and big hall—were now very, very good from an artistic standpoint, but the back of the house contained a baffling assortment of closets, small, odd rooms, and additions, including one immense unhandy kitchen, as horrid as the little girl when she became thoroughly naughty. It was obvious that we could not live in our pretty main part all the while and blissfully ignore the awful kitchen-dining room and its surrounding territory, so there was but one thing to do—wade in, cut out partitions right and left, insert others where needed and pray for eventual organization to emerge from the chaos and confusion.

The white paneled dining room which shows its lower end in picture was the most satisfying result we achieved from this grand fix-over. This was once the old, discouraging kitchen, with a little sink far from any window and all other work room

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EST ROOM, SHOWING FAMILY CRADLE AND FOUR-POSTER



DINING ROOM WITH FIREPLACE AND BRICK OVEN

EDITORIAL COMMENT



A SOUTHERN Wisconsin creamery, recently reorganized, remodeled, and equipped with up-to-date machinery, has contracted its butter with a Chicago firm at a price which will give it one cent above the quotation for extras. The firm buying this butter furnishes the cartons and pays the freight and drayage. The firm buying this butter knows that this creamery is in position to manufacture an extra fine quality of butter and is willing to pay a substantial premium for such butter. We have many times pointed out the necessity of producing high quality dairy products because it is one of the ways of increasing the dairyman's income.

THE severe liquidation of farm products would be accepted more gracefully by the farmer if the finished product which he must purchase were reduced in price in keeping with the commodities produced.

Corn, for instance, is selling below "pre-war prices", yet corn starch is selling for 12c a pound and before the war six pounds of starch could be purchased for 25c. In other words, the farmer is selling his corn cheaper and paying close to three times as much for starch. If everyone were taking a loss the same as the farmer, there would not be a basis for complaint.

It is expecting too much to have everything adjusted at the same time, but it would seem that the products made from what the farmer sells should not be 2½ to 3 times higher than they were before the war when his products are selling below pre-war prices.

DIRECT RATIO PAYMENT

Many Wisconsin condensers have just adopted the "direct ratio" in payment for milk. A certain definite price is fixed per hundred for 3.5 per cent milk and for each point (one-tenth per cent) in test above or below 3.5 per cent there is added or deducted an amount equal to the price per hundred divided by 35.

Stated concretely this means that if the price is fixed at $2.10 per hundred for 3.5 per cent milk, there would be added 6 cents ($2.10 divided by 35) for each point the milk tested above 3.5 per cent, a like sum per point being deducted for test below 3.5 per cent. The following table gives the prices per hundred that would obtain when $2.10 is set as the basic price per hundred for 3.5 per cent milk:

Test of milk, %	Price per cwt.	Test of milk, %	Price per cwt.
3.0	$1.80	3.9	$2.34
3.1	1.86	4.0	2.40
3.2	1.92	4.1	2.46
3.3	1.98	4.2	2.52
3.4	2.04	4.3	2.58
3.5	2.10	4.4	2.64
3.6	2.16	4.5	2.70
3.7	2.22	4.6	2.76
3.8	2.28	4.7	2.82

If the price of milk is set at $2.45 per hundred for 3.5 per cent milk, the price per point would be 7 cents; if set at $3.00, it would be 8 cents; and if set at $3.15, it would be 9 cents.

In actual practice this new method is the same as the payment for milk on the basis of its actual butterfat content, just as creameries pay for cream. The basic price of $2.10 per hundred for 3.5 per cent milk is identical with paying 60 cents a pound for fat, and the person delivering 10,000 lbs. of 3.8 per cent milk would receive $228, or at the rate of 60 cents per pound for the 380 lbs. fat it contains.

This system of payment is quite a radical departure from what has previously existed, but our best authority on condensed milk, Professor O. F. Hunziker, has repeatedly said it is the fairest and best system of paying for milk that is to be condensed. The old system of payment has merely been the means of putting low testing milk at a premium, has engendered the breeding of low testing cows, and has made it a decided temptation to partially skim all milk delivered to the condenseries. The result has been that the average test of milk at condenseries has dropped in many instances to as low as 3.3 per cent. To produce legal condensed milk from this low testing produce has necessitated the addition of cream to bring the average test to not less than 3.5 per cent, and some condenseries standardize to as high as 3.75 per cent.

Argument for and against the proposed system will wax warm. It will be acclaimed by the partisans of the higher testing cows and damned by the partisans of the low testing cows. It is, however, a step in the right direction, but time will doubtless bring some modification. Condensers assert that the price they pay for milk should not be based on the butter and cheese market, but only on the market for their own product, condensed milk. Others argue that the condensery really requires milk of a certain test, say, 3.5 per cent, and that they should set a basic price per hundredweight for such milk on the basis of the prospective market, demand, and supply. For tests above or below this they should make additions or deductions on the basis of the prevailing quotations of butter.

THE DAIRY SITUATION

A subscriber asks us to discuss the dairy situation and desires to know whether dairy farmers are satisfied with the prices received for milk and fat.

The milk situation in sections supplying cities with market milk is not as satisfactory as could be desired. There is a wide variation in the prices paid for market milk throughout the United States. Some sections are receiving very good prices considering the decline in other farm products, and in some sections prices are too low. In fact the creamery, when the feeding value of skimmilk is considered, is giving the farmer better returns than is received in many sections for market milk. We cannot recall any section where the prices of milk have declined as much as the prices of corn, cotton, hogs, and cattle. In this respect the dairy farmer is much better situated than the farmer growing grain or producing meat. On the whole, the patrons taking milk to creameries and cheese factories are in much better position than any other class of dairymen.

The prices of both butter and cheese have not declined as much as other farm products, and since there has been a large decrease in the prices of mill feeds, the patrons of creameries and cheese factories receive a larger return from their cows on feed consumed than at any time in several years past.

Bran is selling for $20 and less per ton. Corn ranges from $14 to $24 per ton. Oil meal can be purchased at less than one-half of its highest price. Hay has remained rather firm, but corn silage is being calculated on a much lower basis this year than last, since corn is selling at the farm for 40 to 50 cents per bushel.

On most well managed dairy farms hay is produced for feeding cattle and in some cases there is a little surplus to sell. There is no question but that in sections where dairy cows are kept hay is bringing a much larger price than where there is not enough live stock to consume what is produced. In dairy sections hay is worth in the neighborhood of $25 per ton and where not many cows are kept, good alfalfa hay has sold at $8 to $10 per ton.

The prices of mill feeds are not much, if any, higher than they were in the years 1913-1914, and butter and cheese are selling at much better prices, This is why we take the position that the dairy farmer is receiving more for his feed marketed to the dairy cow than in several years past. The prices for dairy cows are good. Recently a herd of 48 grades sold at an average price of $168. Several carloads have been shipped out of one community at an average price of $175. Well bred pure-bred cattle are selling at good prices. demand for both grade and pure-bred dairy c indicates an improvement in the dairy situation an increased interest in the production of mil farmers who have been engaged in other bra es of agriculture. These men would not be t ing toward the dairy cow if they had not com the conclusion that she was a better market the elevator for their farm products. It is opinion, based upon the prices of dairy prod and feeds, that the dairy cow offers the best ket for farm products.

COMMITTEE OF SEVENTEEN

The chairman of the Committee of Sevent Mr. C. H. Gustafson, in presenting the plan marketing grain, enunciated what we consid very important principle for every one intere in the improvement of marketing farm prod In referring to the plan of the Committee of enteen, he said:

"It is purely a co-operative plan offered in petition with existing unsatisfactory method marketing. The success of the plan does not upon the bestowal of special privilege, class leg tion, or governmental appropriations. It is a ness proposition—on a co-operative basis. The tire plan rests purely on business principles a is based on the fact that the farmer is as ab commercialize his products and conduct his business as are the producers of any other ucts."

We like the spirit expressed by Mr. Gusta Too many farmers have been looking to the ernment and to outside agencies for carryin affairs which rightly belong to them. The far of this country have sufficient brain power initiative to perfect a system of marketing products without the assistance of the govern or any other agency. It is our hope and d that the American Farm Bureau Federation continue its efforts until every branch of ag ture is so organized that farm products ma marketed in an orderly manner and upon the basis as is carried on by other enterprises.

The Committee of Seventeen has done a piece of work and the results accomplishe their plan will depend upon the support whic grain growers give to this new method of mark grain. It offers the farmer a sane and sen plan for marketing his grain but, unless he advantage of it, it will not bring relie place him in control of marketing his own modities. If it fails he cannot blame the sy big business, or any other agency. He alone be responsible because he has not accepted plan which makes it possible for him to be m of his own marketing affairs.

NATIONAL DAIRY CONFEREN

The American Farm Bureau Federatio calling representatives of the various bra of the dairy industry together to s information that will assist in its dev ment. This conference will be held in Chi May 3 and 4, at the Congress Hotel. The farmers have come to believe that since they duce milk they should have something to say a the price of market milk. Until recently carried their milk to the distributor, and a "What will you give us?" They now have agents, in many places, who meet the distribu and discuss market conditions and deter prices. This is logical and fair. The metho arriving at the prices of market milk and han surplus is not uniform and there is opportuni least to have a better understanding of the m ods in vogue and perhaps in the end adopt a form plan of selling market milk and handling plus.

Besides the market milk industry we

meries, cheeseries, and condenseries which titute the larger part of the dairy industry. nost instances these institutions are located ide the milk shipping territory and are rally considered in the unorganized territory. desirable that the creameries and cheeseries rganized into federations that their products be graded and marketed to better advantage. value of such organization and co-operation be thoroughly discussed at this conference everyone interested in these institutions is come to this meeting.

his conference will discuss present methods of keting dairy products, opportunity for improv- marketing, the relation which one branch of rying bears to another, the value of by-prod- s, and why creameries and cheeseries should be erated. It is an opportunity to discuss the im- fections of the present methods of marketing ry products and to lay plans for conducting the ry industry on a more satisfactory and efficient is.

Every farmer who can spare the time and desires help make dairying a better industry and to rect bad and uneconomic practices should at- d this national conference. Our dairy problems l never be solved by complaining about the sent system of manufacturing and marketing iry products, but by obtaining information of bad and uneconomic practices. We must first ve definite knowledge of our dairy conditions fore we can proceed intelligently and safely to rrect the evils of the dairy industry.

Moldy Silage

Last fall I filled silo with corn that was dead pe and frosted, consequently it was very dry. I t a tank of water and run a stream of water into ower, used a distributor inside silo and had it ell tramped. When I took it out, here and there rough the silage would be moldy cakes and as I eared the bottom a large part of the silage was oldy. As I used it off it seemed to heat readily nd what was not already moldy would soon start mold.

Quite a number of the silo owners are complain- ng of moldy cakes through the silage this year particular; in fact, the trouble has been preva- nt for the past two or three seasons. It does ot seem to make any difference what kind of silo used as there are various kinds and it does not eem to make any difference how green or how ipe the corn is when put in. I helped fill silos last all with corn in all stages of ripeness and it seems o have made no difference.

Any information you can give us would be reatly appreciated by your readers in this com- nunity as nearly every one reads the Dairyman.

My opinion is that there is some kind of bacteria causing the trouble that is uncommon to silage. Another theory is that the machine may have been run at too high a speed and the air was concen- trated on a certain spot by the aid of the distribu- tor inside when the machine was idle during the time of changing wagons. The air may not have all been squeezed out and left a sort of air pocket which helped cause the molded cakes.

Slippery Rock, Pa. J. C. D.

We cannot give a better reply than that given by Professor Eckles in our issue for March 18th. He there speaks of the necessity of a sufficient amount of moisture and sufficient packing in order to overcome the mold formations. We anticipate that one reason for both these requirements is to insure that the corn ferments rapidly and reaches a high heat 12 to 24 hours after ensiling. This high heat not only sterilizes the silage material but the fermentation itself consumes the air which the silage molds require in order to grow.

Our inquirer asks for the experience of other readers of Hoard's Dairyman. What have they to say?

Acid Phosphate and Soil Acidity

Referring to the article, "Grow More Clover Seed", it is stated that growing clover is not difficult where manure, acid phosphate, and lime are used. If clover is so susceptible to acidity, how can the acid phosphate be beneficial? It seems to me that the amount of lime used was not more than enough to counteract the soil acidity.

Mondovi, Wis. A. K.

Acid phosphate is applied to clover because of the demands of that crop for phosphorus. The amount applied (about 200 lbs. per acre) is not sufficient to make any great difference in the acidity of the soil. The Hopkins' theory of soil fertility holds that phosphorus, lime, and clover are all that is necessary to maintain and improve the fertility of our soils and insure maximum crop yields at a minimum of expense and they rely on rock phosphate. There is some controversy between the two forms of supplying phosphorus to the soil, but it has always been our opinion that either one is reliable and desirable and is a profitable investment for any farmer whose soil may be lacking somewhat in available phosphorus. The majority of investigators are of the opinion that acid phosphate is more readily available to the growing plant and for this reason its use is, perhaps, somewhat more generally recommended.

No person can recommend the actual amount of lime to use per acre. This is due to the fact that it is not known in any given case just how much acidity there may be in a particular soil nor what the quality of the particular lime may be that is applied. With the Truog acid test, the amount of acidity of the soil can be ascertained and, with a guaranteed analysis as to the lime to be used, it can be reckoned with a fair degree of safety as to the total amount of lime that should be applied per acre over a period of 3 to 5 years.

Silo Too Large

About two years ago an agent sold me a tile silo 12 feet in diameter and it is much too large for my small herd, half of the ensilage spoiling as I have not enough stock. I have thought of putting a brick partition across, making two small silos out of the large one. The partition would be cement coated on both sides so as to make it air and water proof.

La Crosse, Wis. C. G. Z.

The suggested partition of the silo will possibly work out all right, particularly if the corners are rounded out. It will be necessary in filling, however, to exercise particular care to see that these corners are properly packed as otherwise the silage will not settle evenly and there will be considerable spoilage at these points.

The worst feature of the partition is that it must be sufficiently strong to withstand the outward pressure of the ensiled material, and it is doubtful whether a brick wall will do this unless each side of the divided silo is filled at the same time. During the filling process and prior to the time the silage is fully settled, there is a considerable lateral pressure exerted by silage. This is sufficient to bulge out walls unless they are strongly reinforced.

There have been several methods suggested for handling silage to keep it from spoiling where a relatively few head of stock are being fed. One of these is to feed down one-half of the diameter of the silo for a week or more, and then clean off what is spoiled on the other half and feed this down, alternating in this manner from side to side. There is, of course, spoilage in this manner of handling but it can be partly obviated by covering the unused half with tar paper, canvas, feed sacks, wet straw, or other material which will exclude the air. If paper or canvas is used, it may be necessary to put on some weight such as silage or something else that will hold it down tightly to the surface and exclude the air. It would be desirable to wet down the top of the silage with a few buckets of water before putting on the extra cover; the purpose here is merely to exclude the air, and anything that will answer this purpose will help to stop any excessive spoilage.

Other men have used the system of taking off alternate halves of the silage every other day, keeping the unused half covered as under the previous plan. Some of our readers have suggested the sprinkling of two or three pails of water over the silage after taking off one feeding. This seems to help if care has been exercised in not loosening up the silage left in silo after taking off the layer for feeding purposes.

Cows Need Succulence

Please give me a balanced ration of the following feeds: Corn, kaffir, oats, cotton cake; all of these being ground thoroughly with plenty of alfalfa and roughage. Do you recommend feeding a cow on natural pasture? If so, what of the above would be suitable for such?

Oakhill, Kansas. F. S. J.

The combination of feeds being fed will easily provide a good balanced ration, for with alfalfa hay it would be difficult to get a combination of grain that would not supply an adequate amount of protein. The chief weakness is the lack of succulence. Dairy cows do better when they can be fed silage or roots. They not only desire this bulky succulent feed for doing their best work and for keeping their digestion in good condition but they will make better use of the other feeds given them. Cows fed upon dry feeds very often become constipated unless they are fed a pound of oil meal daily. Oil meal is better than cottonseed meal where the roughage contains no succulence.

Cows, on pasture, as a rule can be fed some grain with profit. When first turned out in the spring and grass is very tender they may not care for any concentrates for a few weeks or so long as the grass remains exceptionally good. A little roughage like alfalfa hay will be very acceptable to them at this time and will help to prevent severe scouring. When the grass begins to get a little old, and particularly if short, the feeding of a mixture of ground corn and oats, equal parts by weight, will be advantageous. It will help to increase the milk flow and prevent a rapid decline in milk production which is a factor too often overlooked in the care of dairy cattle.

Killing Crows

Can you suggest an effective remedy to prevent crows from destroying a corn seeding? Have tried shooting them for two seasons but acreage is large and crows many.

Toledo, O. J. S.

Perhaps as good a method as any is to make use of a poison bait, mixed in the proportion of 20 quarts of corn, 1 oz. of strychnine, 2 tablespoonfuls of starch, and 1½ pints of water. Mix the starch and strychnine in the water and heat to boiling, stirring thoroughly after the starch begins to thicken. Pour this mixture over the corn and stir until every kernel is coated. The corn may then be spread out and dried.

Whenever a feeding ground of the crows is located, the poison bait should be distributed if it can be done without danger to domestic animals. The crow is a wary bird and after treatment has proven effective on one ground the birds that do not get the poison are likely to avoid that field. Heads of cattle or other fresh carcasses may be treated with strychnine and placed in trees or places frequented by crows.

Amount of Cottonseed Meal to Feed

Kindly advise us what capacity of cottonseed meal could be fed to one cow, without injury, giving three gallons milk per day. Our ration consists of one-half gallon hominy meal, one pint cottonseed meal, and balance bran (one gallon in full with all three).

Georgetown, Ind. E. N.

Under ordinary feeding conditions we would not advise feeding more than one pound of cottonseed meal per day per cow. Two pounds may be fed with perfect safety to very large cows producing exceptional flows of milk. We appreciate that there are those that feed 3 and 4 lbs. of cottonseed meal per day per animal and in the South it is not uncommon to find feeders using as high as 7 or 8 lbs. We consider this unwise feeding and it would be especially so in the North where the animals are not as accustomed to cottonseed meal as those in the South. Taking it by and large we would not recommend feeding more than 1 to 2 lbs. of cottonseed meal per day per cow.

Valuing Corn Silage

Please furnish me with the present market prices on corn silage.

Milwaukee, Wis. E. G.

It is very difficult to estimate a fair price for silage because there is no genuine market on this feed. In addition, prices will, in part, be determined by the quality of the silage itself.

In calculating costs of milk production it has become the practice to fix the price of a ton of corn silage at one-third the price of a ton of hay; that is, if hay in the mow or stack is worth $18 a ton, corn silage in the silo, if of good quality, would be valued at $6 a ton. In actual feeding practice and because of the greater succulence of corn silage, we have estimated that one ton of timothy hay will displace not over 2½ tons of corn silage.

Another system of estimate, that has been used occasionally, has been to multiply the market price of corn on the local markets by 5, accepting this as the valuation of a ton of corn silage. This is based upon the average content of five bushels of corn to a ton of silage and the assumption that the value of the cornstalks offsets the extra cost of harvesting and marketing the ear corn.

We find that, as a general rule, Wisconsin farmers are this year estimating good corn silage at about $6 per ton, the range being from approximately $5 to $8 per ton.

Manufactured Dairy Products for 1920

A Decrease of Three Billion Pounds of Whole Milk Used in the Manufacture of Dairy Products is Registered

THE following table gives the amount of butter, cheese, condensed milk, etc., produced in factories in the United States during each of the past three years as reported to the United States Bureau of Markets. It does not include dairy butter or cheese made on farms, market milk, milk consumed by calves, etc., which accounts for over 50% of the total milk production of the country. The figures are preliminary and are not complete, but it is believed they are comparable and will come within five per cent of the actual total milk used in manufacture:

Whole Milk Products	1920 Lbs.	1919 Lbs.	1918 Lbs.
Creamery Butter	835,604,418	851,269,140	793,275,309
American Cheese	242,194,615	288,025,207	256,378,662
Swiss Cheese	18,679,073	20,387,306	18,586,505
Brick and Muenster Cheese	40,685,380	37,521,004	43,332,215
Limburger Cheese	7,169,871	7,625,541	8,808,140
Cream and Neufchatel Cheese	6,857,847	5,500,639	5,774,630
Italian Cheese	4,675,485	3,987,361	2,042,284
Other Full Milk Cheese	12,085,681	9,661,497	11,088,236
Condensed Milk	359,338,990	609,575,717	458,354,600
Evaporated Milk	534,772,547	1,234,202,722	1,090,049,868
Sterilized Milk	4,288,855	4,420,713	6,257,710
Malted Milk	19,631,554	17,495,887	15,654,243
Powdered Whole Milk	10,313,443	8,660,785	4,164,334
Powdered Cream	327,594	592,070	654,360
Ice Cream (gals.)	140,932,268	127,810,204	122,900,106
Dairy By-products			
Whey Butter	3,083,665	5,597,308	5,510,213
Renovated Butter	7,528,196	12,188,779	19,257,322
American Skim Cheese	10,708,833	6,985,356	6,610,993
Cottage, Pot and Bakers' Cheese	29,037,796	29,785,329	27,802,037
Dried Casein	10,492,736	13,924,836	8,755,100
Powdered Skim and Buttermilk	46,081,944	38,354,958	29,773,164
Condensed and Evaporated Skim and Buttermilk	182,168,867	130,630,363	130,322,099
Milk Sugar	4,733,614	6,615,874	2,749,928
Imitation Dairy Products			
Filled Milk*	85,581,787	65,010,345	48,625,037
Oleo (combined animal and vegetable oil)	174,601,104	224,061,770	262,253,014
Oleo (animal oil)	4,581,904	4,556,569	4,309,535
Oleo (vegetable oil)	191,536,926	142,698,848	88,973,966
Total Oleomargarine	370,719,934	371,317,187	355,536,515

*Evaporated skimmilk and foreign (cocoanut) oil.

By computing the above tables on the basis of the amount of whole milk used to produce the several manufactured dairy products, it will be found that in 1920 there was slightly less whole milk used than in 1918 but the decrease from 1919 amounts to nearly three billion pounds, or the equivalent of the annual production of 750,000 cows. The most decided decline from the 1919 figures was in condensed and evaporated milk, amounting to over 50 per cent or about 2½ billion pounds of whole milk equivalent. The production of creamery butter declined about two per cent and American cheese about 16 per cent. Foreign type cheese increased slightly, but the only material increase was that of 15 per cent for ice cream.

Filled milk increased 24 per cent over its 1919 production and is nearly double the 1918 production, now amounting to 16 per cent of the production of evaporated milk. In 1920 it found a market for nearly seven million pounds of cheap cocoanut oil at very near the price of butterfat, and at the same time placed over eight million pounds of extra butter on the market to compete with the regular supply of creamery butter.

Oleomargarine just about held its own in total production, but animal fats lost materially in the increased product made from vegetable oils. The ratio between creamery butter and oleo still continues at about 2¼ pounds of the former to one of oleo.

Corn and Oats at Record Low Prices

SANDERS SOSLAND, MISSOURI

DAIRYMEN eager to reduce their feed bills can find encouragement in the market for corn and oats which are frequently termed the "key" feeds. In recent weeks the coarse grains have assumed their leadership in the downward trend of prices for feedstuffs, with the extreme weakness in the market for the coarse grains wielding tremendous pressure on the feed commodities in which the dairyman is interested.

The weak tone of corn and oats has extended over a period of several months, virtually since the opening of the 1920-21 crop year. Prices are now at the lowest level of the season; in the case of corn, values are down to the lowest point reached since November of 1912, and not since March of 1911 have oats sold on a more depreciated basis than on the current market. On most Middle West markets corn is selling at a range of 40 to 50 cents a bushel, and oats are between 32 and 36 cents a bushel. On the basis of the terminal quotations, producers are selling corn between 25 and 30 cents a bushel, with the net prices paid to farmers for oats between 20 and 25 cents a bushel. Less than a year ago, in June of 1920, corn sold up to $2 a bushel and oats were well above $1 a bushel on Middle West markets at that time, ranging up to $1.25 a bushel, the highest price on record.

The readjustment in corn and oats has been one of the most remarkable price movements in the history of agricultural markets. Having already witnessed the unexpected in price fluctuations, observers of the trade are hesitant to venture a forecast on the probable trend of values until another crop of the grains becomes available. For a considerable period there was strong buying support in the coarse grain market on the theory that values had declined sufficiently and were as low as warranted. However, operators have since learned that prices, though already low, can easily go lower. With most of the important commodities at extremely low price levels and still tending downward, sentiment of the trade in the coarse grains is naturally friendly to the bearish side of the market.

Outstanding among the influences making for weakness in corn and oats are the abnormally large visible stocks in the United States. The stocks of corn at terminals amount to approximately 33,000,000 bushels, compared with 5,500,000 bushels a year ago, 2,350,000 bushels two years ago, 17,500,000 bushels three years ago, and 10,500,000 bushels at this time in 1917. The oats holdings are relatively as great, amounting to 33,400,000 bushels, compared with 8,000,000 bushels a year ago and 21,000,000 bushels two years ago. These enormous stocks of corn and oats have been accumulated by elevator operators on markets and their purchases hedged or re-sold in the future pits. For example, the elevator operator has been able, because of the wide discount on the cash under the future quotations, to buy the actual grain on the cash market, place the grain in the elevator for storage, and sell a similar quantity to speculators in the future pits at a price sufficient to cover storage and interest charges and then permit of an excellent profit for the handlers. The speculator bought future corn, not with the idea of demanding delivery, but with the hope that he would later be able to re-sell his purchase at a substantial profit. However, no cash demand has developed from the actual consuming trade, including feeders, corn products industries, and other buyers, and elevators are naturally preparing to unload their millions of bushels to speculators on the future contracts. Without any prospect for a consumptive outlet, it is apparent that the market is in an extremely bearish position.

Little coarse grain is moving from farms, yet the fact remains that even the insignificant offerings available from day to day are more than the trade can absorb, with the result that prices remain sufficiently attractive to permit purchases by elevators on a hedging basis. The producer is keenly disappointed over prices and is refusing to sell. But the trade realizes that stocks are of enormous proportions on farms, the largest on record for this period of the year, and belief in the possibility of a heavy carry-over into the new crop year as a result of the holding tendency by farmers tends to stimulate selling pressure on markets. There is an enormous supply of feeds other than corn and oats, and favorable weather and excellent pasture conditions as a rule are further restricting the demand for the grains.

Cattle and sheep prices offer no great incentive for strengthening corn. One of the prominent features of the trade in cattle is the repressive influence of tight money on the purchase of stockers and feeders. Naturally, with prospective feeders unable to acquire the number of cattle they desire owing to the lack of credit, consumption of corn and other feedstuffs will be held in check. In the hog market, declining wages at industrial centers are affecting prices of the fed animals. However, hog feeding is still attractive. Offsetting this in a measure is the moderateness of the supplies of hogs on farms.

Another influence must be considered in the prospective trend of corn and oats prices. The cotton belt, ordinarily an enormous consumer of the coarse grains, particularly at this season and well into the summer, is buying very sparingly. Depression in cotton and the resulting serious credit strain have reduced sharply the purchasing power of the southern planters, and they are now buying on a smaller scale than in many years.



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Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

Corn chop manufacturers, many of whom are almost entirely dependent upon the South as an outlet for their products at this season, have been forced to shut down for lack of buying power. Mixed feed manufacturers who use large quantities of corn in their commercial products and who have developed a large southern trade also are operating on a very small schedule. The export demand for both corn and oats also is insignificant.

An extremely bearish attitude toward the prospective trend of prices for the feed grains in view of the abnormally low level already prevailing is no longer advisable. Yet the position of the market is of such a character which offers little hope that sufficient buying power can develop to cause any material rallies in prices or even halt abruptly the declining trend. Somewhat lower prices are probable when elevators begin to make corn and oats deliveries.

Books by Parcel Post

HOARD'S DAIRYMAN:—As we have come to look to Hoard's Dairyman for clarifying discussion of other matters regarding the farmer's family beside the income through the medium of his cow, I wish the courtesy of your columns for a partial analysis of the possibilities of the rural delivery in its daily service to its 30,000,000 patrons. There is many a service that the rural delivery might well perform to the joint benefit of farm home and postal revenue, as well. One tremendously vital use might be the transportation of public library books at times when the farmer, his wife, son, or daughter wish to borrow and return a book, but when the trip of two, four, or even eight miles to town cannot be made. How foolish that this great and growing class of convenient parcels should be virtually excluded by the inadvertent working of the local rate. Thus it now would cost five, six, or seven cents each way to borrow or return a book just from the village. No one will pay that much, the farm home loses the reading, and the rural delivery its revenue.

What the National Grange, the Farm Bureau, and the American Library Association are now asking is simply that we have the privilege of borrowing by mail from our nearest library at, say, one, two, or three cents each way. This would be above the cost of handling, figured at two cents a parcel for all parcels big and small, all shapes and sizes, handled by the post office in a year. It would take up a slight per cent of the slack in the rural mail service, now a dead loss and would give, as no other means can, the privilege of daily library service at the farmer's door. Could anything be more sensible?

In contrast to some other theories of utilization of the rural delivery, this works and would meet a popular demand. I have proved this out on the ground, not theorizing in a city office, and have tried it out (with complete success) in a typical farm section. When this matter comes up at Washington may we not have the support of every farm man and woman who wants cultural equality for their boys and girls with the young people of city and town?

New York. ALFRED L. SPENCER.

Mississippi Creamery Men Meet

The Mississippi Creamery Association recently held its sixth annual meeting at the Mississippi Agr'l. College, H. F. McWilliams was elected president for the forthcoming year; A. G. Brush, vice-president; and L. S. Edwards, secretary and treasurer.

In a butter scoring contest samples from about half of the creameries of Mississippi were scored by Professor M. Mortenson of Iowa, Mr. Clevenger of the U. S. Department of Agriculture, and Mr. L. S. Edwards. They pronounced the average quality of the butter to be superior to that in the creamery sections of the Northwest. The Mississippi Co-operative Creamery of Brookhaven was awarded the highest score.

Professor Mortenson addressed the association on the subject of creamery management in its relation to the consumer, the producer, and the manufacturer. He emphasized particularly the profits from the production of a high quality product, drawing numerous illustrations from his wide experience in manufacturing work.

J. H. McClain, formerly of the U. S. Department of Agriculture, told of the ways in which a creamery can serve its patrons. He showed the wisdom of a creamery maintaining its plant in the most sanitary condition as an incentive to its patrons to adopt improved methods on their farms.

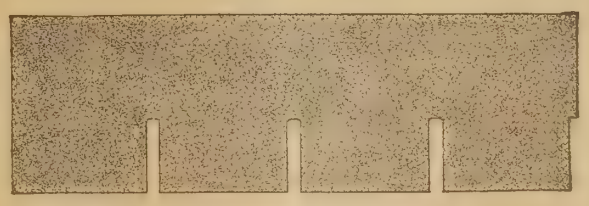
R. S. Wilson, Director of Extension in Mississippi, called attention to the work which that department is doing in bringing in good dairy cattle, in promoting bull associations, and in encouraging better feeding of dairy cattle.

P. C. Cromer, State Dairy Inspector, reported on the conditions found at the present time in Mississippi dairies.

Mr. Clevenger compared the progress of creamery work in Mississippi with that in other southern states and warned his hearers that Mississippi must continue to make progress to keep in the lead of other states.

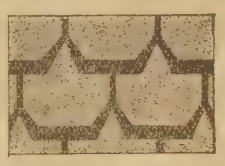
Mississippi. J. S. MOORE.

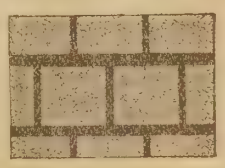




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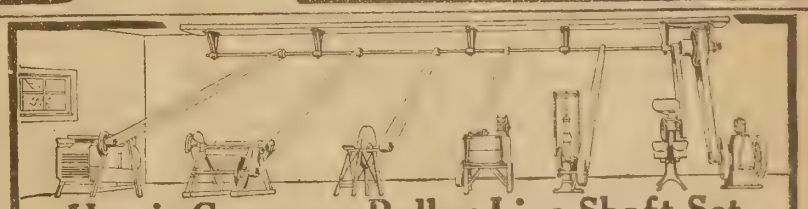
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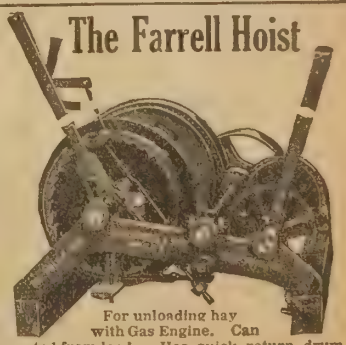
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The Cheapest Feed you can buy

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Or the feed which produces biggest profits?

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"You Get More Milk Or Your Money Back"



Cow Testing Associations

RECORDS, PRICES OF FEEDS, FAT, AND MILK

Following is the summary of reports received during the week and up to the time of going to press of this issue:

State	Association	Tester	Month	No. of cows tested	No. of cows producing over 40 lbs. fat	Fat production of high cow	Owner
Minn.	Eden Prairie	Sidney A. Wallin	Mar.	358	51	79.8	B. D. Scott
Mich.	Kent Co. Co-op.	Mavoric Farmer	"	340	43	61.7	Leu Clark
Ill.	Du Page Co.	C. J. Rieck	"	389	110	86.8	Peter Hay
"	Lake Co.	A. Christiansen	"	448	112	75.8	Rouse Bros.
"	Macoupin Co.	H. R. Fletcher	"	301	42	72.8	F. J. Slivka
"	1st Rock Is. Co.	J. C. McCormick	"	286	24	72.22	Midvale Farm
Wis.	Elkhorn—E. Troy	E. D. Burr	"	538	128	89.0	M. Westphall & Son
"	Rockfield	Wm. F. Liesener	"	280	83	76.3	Jacob B. Bast
"	Amery	Leonard Otterson	"	352	31	53.6	A. H. Olds
"	Polk Co.	F. Christopherson	"	475	61	73.5	W. S. Marshall
Ohio	Delaware Co.	E. L. Creager	"	131	19	53.59	C. M. Bell
Ind.	Posey—Gibson	L. H. Russell	"	112	19	83.9	Robert Black
Ore.	Tillamook	Peters & Hall	"	667	75	87.05	Neilson Bros.
N. Y.	E. Aurora Dairy Improvement	C. C. Spaulding	"	331	45	64.4	Foss & George
N. J.	Salem Co.	F. A. Tuoti	"	473	72	84.0	Chas. R. Hires
Mass.	Ct. Berkshire Co.	T. F. Coyle	"	355	62	88.67	Arthur Teot
Ida.	Bonner Co.	C. O. Miller	"	156	25	81.84	Wm. Alverson
Conn.	Canaan	B. F. Dibble	"	240	47	84.2	S. H. Moseley
Va.	Fairfax No. 2	F. H. Pease	"	398	32	65.4	W. G. Edmonton
N. H.	Claremont & Lebanon	E. C. Perry	"	446	31	60.7	J. Prentiss & Son
Pa.	Lebanon Valley	Paul S. Bubp	"	323	54	89.9	Harry Forney
N. Y.	Oneida Co.	J. W. Sloan	"	351	83	63.1	H. & E. Gallup
Wis.	Rosendale—Eldorado	R. G. Thurman	"	510	107	73.6	Harry Swanke
Ia.	W. Branch—Tri-Co.	Ralph Houser	"	225	20	67.5	R. W. Branson
Ill.	Tri-County	Edgar Booker	"	370	63	66.0	Ill. Sch. for Deaf
Ohio	Barnesville	Clyde F. Lewis	"	228	44	68.5	E. D. Bailey
Minn.	Pioneer	H. C. McMurry	"	1157	207	87.0	F. S. Ruble & Sons
"	Faribault	B. F. Fullerton	"	377	59	74.9	Alb. Meillier
"	Northfield	H. S. Marshall	"		87	75.1	J. M. Punderson
Cal.	Riverside Co. Bureau	E. Bahler	"	415	98	101.6	N. L. Browning
Ore.	Clatsop Co.		"	393	65	87.9	Peter Johnson

Association Notes

Kent County Co-operative, Michigan:—One of the members purchased a very good registered Holstein bull. March market milk, testing 3 per cent, sold for $3.20 per cwt. The condensery paid 56c per pound for fat and the creamery, 46—53c. Milk retails for 15c per quart and butter 50c per pound. Oats sold for $30 per ton; corn meal, $30; oil meal, $50; cottonseed meal, $45; Unicorn, $45; barley, $40; silage, $7; clover hay, $15; timothy hay, $10—$12; corn stover, $8.

DuPage County, Illinois:—One member bought a pure-bred bull to head his grade herd; another member purchased his first pure-bred cow. Two pure-bred cows were sold for breeding purposes and 17 grades were sold for dairy purposes. Considerable official work has been done during the past month by members of this association and two outstanding records were made. Yma Pearl Pontiac, owned by W. A. Rogers, made 24.89 lbs. butter in 7 days at 7 years of age. Illiona Alcartra Belle Pontiac 2nd, owned by A. W. Fischer, milked 29 days in March and made 1,548.6 lbs. milk containing 83.6 lbs. fat and later made an official record of 471 lbs. milk and 26.20 lbs. butter in 7 days. This was done at the age of 2 years 10 months. A number of the members are getting consignments ready for the Illinois State Holstein Sale to be held May 6th and 7th. Market milk, testing 3.5 per cent, sold for $2.35 per cwt. and 4 cents were paid for each point above. Milk retails for 14c per quart. Feed prices are: hay, $25 per ton; silage, $6; corn, $25; oats, $28; barley, $35; bran, $28; cottonseed meal, $38; oil meal, $44; gluten, $40.

Lake County, Illinois:—Mr. L. G. Hutchings sold 14 head of good pure-bred Holsteins at $4,500. Thornbury Farm finished two semi-official records during the month with 846 lbs. butterfat and 676 lbs. butterfat. One of John Nichol's pure-bred Holsteins produced 71 lbs. of milk a day from a three-quarter udder. This is the third month she produced more than a ton of milk per month. She gave over 600 lbs. in 7 days on official test. During March market milk testing 3.5 per cent sold for $2.35 per cwt. and 4c for each point above. Silage sold for $8 per ton; hay, $18—$24; corn and cob meal, $18; ground oats, $26; bran, $27; cottonseed meal, $40; oil meal, $48.

Macoupin County, Illinois:—Adjie Inka Countess, a pure-bred Holstein owned by F. J. Slivka, is high cow this month for the third month in succession. When fresh she made an A. R. record exceeding 28 lbs. of butter in 7 days. During the month, 10 unprofitable cows were sold and one pure-bred bull was purchased. The average cow produced 55½c worth of milk per day and her feed cost 35½c. During March market milk sold for $2.23 per cwt. Three cents were paid for each point above 3.5 per cent, the required test. Alfalfa hay sold for $25—$28 per ton; clover hay, $23; silage, $6; soy beans, $23; oats, $18.60; bran, $1.50—$1.70 per cwt.; cottonseed meal, $2; oil meal, $2.80; brewers grains, $2.40; hominy, $1.50; corn, 50c—70c per bushel; oats, 50c.

First Rock Island County, Illinois:—Five unprofitable cows were sold during March. All herd averages are higher than in February due to the feeding of balanced rations; nearly all herds are receiving balanced rations. One pure-bred Holstein bull was purchased by W. H. Newton, Jr., and another pure-bred Holstein bull was purchased by Carl Crampton. One carload of alfalfa hay was purchased co-operatively with good results. The creamery paid 47c per pound for fat. Milk retails for 12c—13c per quart; butter, 45c per pound, and cheese, 40c per pound. Bran sold for $30 per ton; cottonseed meal, $34; oil meal, $42; gluten, $48; alfalfa, $24; corn stover, $2.25; prairie hay, $14; clover, $22; silage, $6; corn, 63c per bushel; oats, 45c.

Elkhorn—East Troy, Wisconsin:—One more herd is on the accredited list. The average returns for each dollar expended for feed was $1.70. The average feed cost of a pound of butterfat was 37c and $1.38 for 100 lbs. of milk. Six cows were sold because they were found to be reactors

when tested for tuberculosis. Four more cows made over 20 lbs. of butter on 7-day A. R. O. test. Sixteen unprofitable cows were sold during March. Market milk testing 3.5 per cent sold for $3.20 per cwt. and 4c for each point above. The condensery paid 56c per pound for fat and in addition 25c per 100 lbs. milk. Milk retails for 12c per quart and butter for 52c per pound. During March bran sold for $26 per ton; middlings, $26; brewers grains, $34; oil meal, $43; gluten feed, $46; alfalfa meal, $30; hominy, $27; silage, $6; mixed hay, $22.

Amery, Wisconsin:—Four unprofitable cows were sold and three pure-bred Holstein cows were brought into the association. All members deliver cream to the creamery.

Delaware County, Ohio:—Last year 37 "boarder" cows were sold and 15 pure-bred cows and heifers were added. Four pure-bred sires were added during last year. Two have been added already this year. Milk retails for 14c per quart and butter for 55c—58c per pound. During March bran sold for $38 per ton; oil meal, $52; cottonseed meal, $42; corn, 50c per bushel; oats, 35c.

Posey—Gibson, Indiana:—Two Guernseys are on A. R. test. One Guernsey in Robert Black's herd finished her test with 576 lbs. fat, Class B. which makes her state class leader. Seventeen per cent of the cows on test produced over 40 lbs. fat. During March, 4 per cent milk sold for $3.20. The creamery paid 39c—43c per pound for fat. Milk retails for 15c per quart; butter for 45c per pound and cheese for 35c per pound. Corn and cob meal sold for $18 per ton; bran, $30; oats, $30; cottonseed meal, $45; hay, $15; silage, $7.

Tillamook, Oregon:—The Tillamook Association started its tenth year with many new members, there being 48 herds entered and over 1,100 cows, with bright prospects for a few more herds. Cheese has not taken a slump here as yet and at present the cows are being pressed to the limit.

East Aurora Dairy Improvement Association, New York:—Several new members will be taken on during the month of April. In a recent drive by city milk distributors to improve the quality of the milk shipped to them, dairy improvement work proves its value as a means of discerning which cows are desirable from a fat producing standpoint, and the elimination of the low producers gives a much more satisfactory herd average. During March, market milk testing 3 per cent sold for $2.38 and 4c was paid for each point above. The creamery paid 50c—55c per pound for fat. Milk retails for 9c per quart; butter, 58c per pound; and cheese, 37c per pound. Hay sold for $20 per ton; silage, $6; gluten feed, $45; ground oats, $42; corn meal, $38; wheat bran, $36; oil meal, $48; cottonseed meal, $45.

Salem County, New Jersey:—Three silos have been purchased and two farmers have installed drinking cups. A bull association has been organized consisting of 4 blocks. A young bull sired by Sir Inka Prilly Segis and out of the highest record junior two-year-old of King of the Pontiacs was recently purchased by S. L. Moore for $2,000. Corn and cob meal sold for $26 per ton; gluten feed, $48; linseed oil meal, $52; beet pulp, $40; brewers grains, $40; cottonseed meal, $43; distillers grains, $48; bran, $36; hominy feed, $35; molasses, $11 per barrel; mixed hay, $20—$25 per ton; clover, $24—$28; alfalfa, $26—$30.

Canaan, Connecticut:—During March 25 scrubs were sold and replaced by profitable cows. The members of this association are feeding their herds better and the number who mix their own balanced rations is increasing. Market milk testing 3 per cent sold for $2.25 per hundred pounds. Stock hay sold for $20 per ton; silage, $8; bran, $42; gluten, $45; cottonseed meal, $45; oil meal, $49; beet pulp, $40; hominy, $40; oats, $40.

Fairfax, Virginia:—This association began September 1, 1920. Three hundred and one cows were tested that month, while 398 were tested in March, 1921. The average production per cow in September was 518 lbs. milk and 20.7 lbs. fat. In March the production was 580 lbs. milk and 24.8 lbs. fat. Since September 1st, 29 poor cows have been sold. Only one scrub bull is used in the association. Seventy of the 398 cows tested in March are pure-breds. The members of this association making the most money are those that give the best individual care to each cow. One member of the association took charge of a herd four years ago where the cows produced only 2,500 lbs. milk per year each. Some of these cows were sold, but he still has most of them, and by proper treatment has raised the production to 8,000 lbs. per cow per year.

Claremont and Lebanon, New Hampshire:—Due to the fact that Lebanon passed an ordinance requiring all milk sold to be from tuberculin tested cows, a large amount of accredited herd work has been done since that time. At present all money appropriated by the state has been spent so the work has been discontinued. During March, market milk testing 3.7 per cent sold for $3.50 per hundred lbs. Milk retails for 12c per quart and butter for 60c per pound. Bran sold for $40 per ton; cottonseed meal, $42; oil meal, $53; corn and cob meal, $30; ground oats, $40; corn meal, $34; silage, $9; mixed hay, $20.

Lebanon Valley, Pennsylvania:—During the month of March, 8 unprofitable cows were sold. One pure-bred bull was purchased, replacing a grade. Pure-bred cows were introduced into two herds. Market milk, testing 3.5 per cent, sold for $1.95 per hundred lbs. and 4c were paid for each point above. Milk sold for 10c per quart and butter for 65c per pound. Feed prices are: Unicorn, $58 per ton; bran, $40; cottonseed meal, $40—$50; oil meal, $55—$60; corn, $20; oats, $30; gluten, $50—$60; Larro, $58; silage, $8; hay, $18; beets, $10; corn stover, $5.

Oneida County, New York:—June 2nd the registered Holstein two-year-old, owned by Clifford Gallup, produced in 5 months approximately 6,115.7 lbs. milk and 201.3 lbs. fat and at the present time is milking around 40 lbs. per day. Clifford is only 15 years of age and he raised this heifer and has milked and fed her during the time she has been on test.

Rosendale-Eldorado, Wisconsin:—During the month of March 19 cows were sold. Thirteen were sold for dairy purposes and 6 for beef. Market milk testing 3.4 per cent sold for $1.82—$2.02 per hunderd pounds and 4c for each point above. The condensery paid $2.08 per hundred lbs. for milk. The creamery paid 54.4c per pound for fat. Feed sold as follows: oil meal, $46 per ton; gluten, $42; bran, $30; Wisconsin Balanced Ration, $45; oats, 32c per bushel.

West Branch-Tri County, Iowa:—Market milk sold for $2.80 per hundred lbs. The required test was 3.5 per cent and 8c were paid for each point above. The creamery paid 80c per pound for fat. Milk retails for 14c per quart and butter for 15c per pound. Corn sold for $20 per ton; oats, $30; bran, $32; oil meal, $55;

(Continued on page 639)



"Dandelion Butter Color" Is Big Prize Winner

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Founded 1885 by W. D. HOARD

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Correspondents must not expect us to acknowledge the receipt of letters containing remittance for subscription. The receipt of Hoard's Dairyman is sufficient notification that money has been received. The label on the paper will show date to which subscription is paid. In case of renewals, if date on label is not changed within two weeks after remittance is sent, inform us at once.

We solicit advertisements of meritorious articles needed by the farmer. We try to keep our advertising columns clean and wholesome, that they may merit the patronage and confidence of our readers. Unwholesome, immoral, and quack medical advertising are excluded. A sincere effort is made to exclude frauds, irresponsible and unscrupulous firms. We will always take it as a favor to be notified whenever any advertiser's dealings with a subscriber are in bad faith or evidence a lack of business honor. Advertisers generally recognize the readers of Hoard's Dairyman as an up-to-date class of farmers, who farm with business-like methods, and we hold our columns for the patronage of only those with whom our readers can deal with profit and satisfaction.

ADVERTISING COPY must be received eight days previous to the date of publication. Advertising to be classified or changes in advertising must reach us twelve days previous to date of publication.

Entered at Fort Atkinson, Wis., as second class matter.

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Coming Events

May 3-4—National Dairy Conference, American Farm Bureau Federation, Congress Hotel, Chicago

May 11—American Guernsey Cattle Club, annual meeting, New York City.

May 23—Missouri State Holstein Association first Annual Show of Sale Cattle at Sedalia, Mo

June 1—American Jersey Cattle Club, annual meeting, New York City.

June 1—Holstein-Friesian Association of America, annual meeting, Syracuse, New York.

June 9—Ayrshire Breeders' Association meets in Springfield, Mass. Secretary, J. G. Watson, Brandon, Vt.

June 22-25—Tuberculosis Eradication Conference, State House, Boston.

Gift Corn on Way

Two solid trainloads of shelled corn, given by the farmers of America to relieve the starving children of Europe and the Near-east, started from Chicago last week for eastern mills.

Oneida Holsteins Average $425

HOARD'S DAIRYMAN:—The late sale in New York of the Oneida Community herd of 145 high class pure-bred Holsteins was a notable event among eastern Holstein breeders. The highest prices were received that have been noted in this territory for over a year. The sale was out of the ordinary in that nearly every animal dispersed had had official butter and milk records made.

Buyers came freely from other states and a spirit of confidence in the stock's quality prevailed. Few herds can show so splendid a health record, every animal being sold on a 60-day retest guarantee. The herd was built up by H. V. Noyes, who was last year president of the New York State Holstein Breeders' Association and who was owner of the herd. M. G. Adams has been the manager of the farm.

The herd had been maintained to supply the community with milk. Officials found the care of pure-breds involved too much labor and, though these animals have made wonderful production records, they will be replaced with grades which do not require the maintenance of testing stalls and other forms of labor and expense.

Of the 145 animals sold 63 left the state, 82 remaining to help build up other herds of the state. They brought a total of $61,765, or an average of $425. The highest price paid was $3,000 and the lowest was $20 for a young calf.

Two families led in good prices that related to the foundation cow, Onyx Pledge Dawning who, with five daughters, five granddaughters, and her only male calf, brought $13,245; and the Jennie Grant family.

The heaviest state buyer was Maikenshof. The following is a list of animals that sold best with their buyers:

Maikenshof, New York	
Onyx Pledge Dawning	$3,000
Queen Gale Reliance	1,525
Twin sisters of this family	2,500
M. L. Jones, Pennsylvania	
Male calf of Onyx Pledge Dawning	$1,000
Jennie Grant De Kol 2d	1,120
Jennie Grant Lilith	700
Mountain View Farm, Maryland	
Onyx Pledge Alma	$2,600
Korndyke Viola Reliance	1,000
Jean Jerold Farms, Ohio	
Jennie Grant Aaggie	$ 660
Ten head went to this farm for	3,190
H. C. Shepard, New York	
Onyx Segis Reliance	$420
Levi Timmerman, New York	
Grandson of Onyx Pledge Dawning	$255
M. M. Slocum, New York	
Thirteen head for	$3,035
C. R. Savidge, Pennsylvania	
Eleven head for	$2,740
H. M. Lunte, New York	
Five head for	$1,260
C. E. Fisher, New York	
Two-year-old heifer	$390
H. F. Farrington, New York	
Granddaughter of King Lyons	$340

Dryden, N. Y. E. F.

Illinois—Missouri Milk Producers' Association Organized

HOARD'S DAIRYMAN:—For some time the milk producers in Southern Illinois have realized that individually they have had very little bargaining power but collectively they have bargaining power on the level with that of the purchasing power of the dealers. This latter condition is important in order to make the law of supply and demand operate fairly and freely.

Secondly, the milk producers have realized that unless they themselves handle and take care of the surplus milk in the territory, the market price for milk cannot be stable.

During the last four months the milk producers co-operating with the Illinois Agricultural Association have been selling stock in the proposed co-operative milk marketing organization. The milk producers quickly saw the advantage of such an organization and have subscribed freely. In addition they have signed a contract agreeing to market their milk through this marketing organization for a five-year period. The capital stock of this marketing organization is $500,000. About 2,200 milk producers have taken at least one share at the par value of $100 in this co-operative milk marketing company, which means that about $220,000 has been subscribed. About 1,000 more than this number have signed the five-year milk contract.

On Thursday, April 14th, a subscribers' meeting was called to perfect the permanent organization. This meeting could have been called very early in the period of the stock subscribing campaign and the organization could thus have been controlled by a few of the men on the inside. It was, however, thought that as many milk producers and shareholders as possible should have a voice in the formation of the permanent company. This plan was carried out so as to make the organization strictly representative. The milk producers on the Illinois side were divided into five districts, each district having about an equal number of stock subscribers. The subscribers on the Missouri side were classed as one district. It was agreed that the Missouri producers should have two representatives on the board of directors and each of the other five districts on the Illinois side should have three representatives. These representatives on the board were nominated by the stockholders in each district. When this was accomplished there was full accord as to the personnel of the new board, and every milk producing section would be represented on the board. After the different districts had caucused and agreed on their candidates, a motion was made that the secretary cast a ballot in behalf of all the stockholders present for those nominees and they were elected unanimously to the board.

All of the various articles of the constitution and by-laws were gone over by the whole body of stockholders and after certain changes had been made all were unanimously adopted.

The personnel of the new board is as follows:

District one, including all of Madison and part of Bond Counties; D. A. Brooks, Fred Henke, and George Cassins.

District two, including Macoupin, part of Jersey, Greene, and Montgomery Counties: Horace E. Drennan, H. J. Schultz, and John Foster.

District three, including parts of Montgomery, Fayette, and Bond Counties: O. K. Allen, Percy Alexander, and W. J. Goers.

District four, including all of Clinton County and parts of Marion and St. Clair Counties: John Dousman, N. E. Baum, and Herman Imming.

District five, including Washington County, and parts of St. Clair, Jefferson, Randolph, and Perry Counties: John Koeningsmark, Fred Hemminghouse, and John Oaks.

District six, including all on the Missouri side of the river: A. S. Ennis and Abe Argent.

Two important things acted upon in connection with the by-laws as submitted by the organization committee were:

First, a change of the name of the association proposed by the by-laws committee. It was suggested that the permanent name of the Southern Illinois Co-operative Milk Producers' Association, on the request of the Missouri representatives, be changed to the Illinois—Missouri Co-operative Milk Producers' Association. Secondly, the stockholders increased the number on the board of directors from 11 to 17.

Mr. Fred Henke, chairman of the organization committee, called the meeting of the stock subscribers to order. Mr. D. A. Brooks was selected temporary chairman. Credential and resolution committees were appointed. Mr. Henke explained that the committee had in mind to district all of the milk producers so that every territory would be well represented. He also told of other important things included in the by-laws.

Professor Roy C. Potts, in charge of the dairy marketing work in the United States Bureau of Markets, gave a short talk. He said there were four things important to the success of this new marketing company, namely: first, there should be a desire to do; secondly, there should be right action and right plans; third, there should be ample finances; and fourth, they should select the best brains to manage the organization.

Mr. J. C. Sailor of the organization department of the Illinois Agricultural Association emphasized the importance of throwing away all personal desires and feelings. He said that if the organization was going to be a success and a model, all should assume the spirit of mutual service. He stated that the Illinois Agricultural Association was very anxious to see his marketing company a great success and would continue to do everything possible to assist along that line.

The very best spirit prevailed throughout the whole meeting. Everybody seemed to realize that an important enterprise had been undertaken.

The board of directors will meet shortly to elect their officers. It was authorized by the convention of subscribers to definitely incorporate and secure a permanent charter.

Illinois. C. LARSON.

Holstein Breeders Midland County, Michigan, Organize

The Holstein-Friesian breeders of Midland County, Michigan, met at Midland March 26th and completed the organization of the Midland County Holstein-Friesian Breeders' Association. Roy Walker was elected president; Chas. Lauphierd, vice-president; Erwin C. Smith, secretary-treasurer; and Geo. H. Bergtold, F. Trombley, E. L. Richardson, Earl Peters, and Chas. Barkley, directors. Probably the first project to be undertaken will be the organization of a calf club.

Much interest in the breed is being manifested and several non-members are already looking about for heifers as foundation stock. This is the first breed association to be formed in the county.

Michigan. ERWIN C. SMITH.

Two New Guernsey Class Leaders

California has a new Guernsey champion in class CC. Escalon Princess 62332, owned by A. B. Humphrey has completed a record which gives her ninth place in this class.

Governess Louise, owned by Mr. F. J. Rueping of Wisconsin, has completed a record of 14,198.3 pounds of milk containing 800.74 pounds of butterfat in class C. She is by Imp. Cora's Governor of Chilmark 8971. Fifty-nine records made by forty-four daughters of this bull average 472.08 pounds of butterfat.

More money should be spent for fruits, vegetables, and milk, and less spent for "spring tonics".

Wisconsin Filled Milk Hearing

Filled milk must go. This was the sum and substance of the testimony given before the committee of the Wisconsin Legislature that has in charge a bill that forbids the manufacture and sale of condensed skimmilk to which a foreign fat has been added. The bill was proposed primarily to prevent fraud and to protect the health of consumers. The testimony was convincing as to the fraudulent sale of the imitation product and also as to the danger to public health. The concern of the producer was held to be secondary to that of the consumer, but the producers' interest was held to be vital, that it was a case of the cocoanut cow vs. the dairy cow of Wisconsin, a case of the cocoanut farmer of the South Sea Islands vs. the dairy farmer of Wisconsin.

In presenting the case of fraud, Mr. Cramer testified that he had visited 35 stores in Milwaukee, Racine, and Kenosha where the imitation product was sold. In only one instance was it sold as a compound, in every other case it was sold as evaporated milk. In many cases the prices for the imitation product and the genuine were the same, and in no case was the filled milk sold at more than two cents a pound less. In some cases the request for evaporated milk was complied with by handing over a can of filled milk with a statement that it was the best. In one case the clerk even went so far as to say, "Hebe milk is more like fresh milk than Carnation milk."

Mr. Cramer substantiated his case by presenting to the committee the cans of filled and genuine milk, together with the purchase slips. His testimony was reinforced by that of other gentlemen appearing before the committee and also by newspaper advertisements in which the filled article was advertised as milk, establishing the case of fraud. The question of health was next presented in most convincing manner by Messrs. Glover, Hart, and Fisher. The nature of this testimony as to the value of the fat soluble vitamine is well known to readers of Hoard's Dairyman, so we give only one or two high points.

Dr. Hart of the Wisconsin College of Agriculture, under whom much of the McCollum work was done and who stands as an authority on nutrition, gave a most excellent exposition of the necessity of such legislation as that called for. Among other things, he scotched the argument that skimmilk contained this vitamine to any considerable degree. He said that it did not contain over one-tenth, and probably not one-twentieth of the vitamine in the original whole milk.

Dr. Fisher of the University of Wisconsin, food chemist of note, also gave unqualified endorsement to the proposed bill. He drew attention to the fact that the cocoanut oil was a refined, deodorized product made from rancid material that must be chemically treated.

Mr. K. L. Hatch brought to the attention of the committee that the makers of filled milk were a privileged class under the law, as they were permitted to abstract milk fat and sell an imitation product, whereas the cheesemaker cannot separate his milk and then add foreign fats to make cheese; the farmer and retailer of milk are not permitted to skim milk and add foreign fat. "As a farmer," he said, "I only ask that these manufacturers of filled milk be placed under the same restrictions I am, or that the restrictions on my actions be removed."

Mr. Hatch also showed the absurdity of the claim that filled milk was a cheap substitute for cooking purposes. There are two kinds of cookery in which milk is used. In one no shortening is needed, in the other more must be added than is found in filled milk. Mrs. Hatch supplied the committee with dishes made from filled milk, from powdered skimmilk, and from powdered skimmilk and butter. She showed the latter to be cheaper and better than the filled milk product, and defied the committee to tell the difference between the two first named dishes.

A representative of the women's clubs of the state said their organization would get back of the movement for they stood for health and honesty. She said people might eat too much of some foods, but she had never heard of any one getting too much vitamine and had seen many cases in which they got too small an amount.

The secretary of the State Dairymen's Association and Mr. Foster of the Walworth County Farm Bureau detailed briefly the economics as they affected the farmer. They showed that the makers of filled milk did not create a market for the farmers' skimmilk, but did create a market for cocoanut oil in place of butterfat, put additional butter on the market, and was a serious detriment to the dairy industry. They held that filled milk was not a dairy product, that it was a manufactured compound, and that like filled cheese it was a damage to the dairy farmers of the state. This imitation product had doubled in production in the past two years and had increased to alarming proportions, last year seven million pounds of cocoanut oil displacing a like amount of butterfat in evaporated milk and in addition placing eight million pounds of extra butter on the market that competed and lowered the price of creamery butter. If the present ratio of increase is continued, it would not be long before the small creameries of the state would be forced out of business and practically all good butter would be manufactured by the condenseries, prices of milk would fall to a low level, and the producers would be largely at the mercy of the large business units or forced out of business.

Mr. Foster said: "The enthusiasm of the manufacturers is easily explained. To make 100 lbs. of genuine evaporated milk takes about 210 lbs. of whole milk. At $2.10 a hundred, the present Wisconsin price, the milk costs the manufacturer $4.41. To produce 100 lbs. of filled milk requires about 215 lbs. of skimmilk and 7.8 lbs. of cocoanut oil. With skimmilk at 25 cents a hundred, the price some Wisconsin condenseries are now paying, and with cocoanut oil at 15 cents a pound, the cost of one hundred pounds of the imitation product totals only $1.70." "I, too, would get enthusiastic," said Mr. Foster, "if I could see a difference in price of $2.71 in the cost of making one hundred pounds of my product. I, too, could take an extra profit in its first sale and give every handler a nice additional profit that would induce them to push the product onto the unsuspecting consumer at a price in some case equal to and in all cases only slightly under the price of the genuine."

Closing the case of the proponents of the bill came Wisconsin's grand old fighting Dairy and Food Commissioner, J. Q. Emery. He devoted himself almost entirely to the legal phases of the question and the constitutional right of the legislature to act. He quoted from the Supreme Court decisions and from other courts, leaving no misunderstanding as to the right, power, and duty of the legislature to outlaw filled milk as a fraudulent product inimical to public health and damaging to the producer of milk.

New York Dairy Notes

A grain elevator and mill owned by the Grange—League—Federation Exchange burned on April 16 in Buffalo. The loss followed an explosion and amounts to $250,000. Dairymen will feel this loss keenly though the building and contents were pretty well covered by insurance. It cannot but interfere temporarily at least with the immense feed business with dairymen. The Exchange has a warehouse in Syracuse and efforts will be made to carry on the business which has amounted to over one and a half million dollars since January 1.

Tompkins dairymen will refuse to deliver milk to the Nestle's Food Company of Ithaca which opened recently after being closed since October 1. They have seen to it that only 1,000 lbs. of milk is delivered as compared to about 60,000 daily last fall. The company has been very unfair to the dairymen, according to their belief, and it is probable that the firm's expensive new plant at Ithaca will have to be sold or junked. Dairymen are getting more competent to protect themselves and expect to become more so as pooling is worked out. Last week the company's representative, Mr. Rowe, met a representative of the League in a debate in the presence of the dairymen of two counties. It seems that no truce was made as the firm refused to recognize the League in any way, though it would pay League prices in order to get the milk wanted. Spencer farmers on the southern boundary of the county voted this week to have nothing to do with Nestle's and will send their milk to Erie, Pa., where a plant is located that recognizes the League officially. Not a ballot was cast in favor of the Nestle firm.

The plan of giving the tuberculin test to all dairies of Tompkins County was held up temporarily for lack of funds. A county veterinarian has been employed and the herd owners pay him and his expenses. Federal funds were not available and state funds will pay the indemnities. Of the first 177 animals tested but 27 reacted. A federal veterinarian was on hand to get the work started. Cortland County is now to join the number of counties doing this work.

The Home Bureau of Syracuse, under Miss Edith Barber's capable management, is to put on a campaign the first week of May to increase milk consumption. She will be assisted by several welfare organizations. The Jolly Jester, clown, will succeed Cho-Cho of last year's campaign. The Jolly Jester is a ventriloquist and gets music out of a milk bottle which, with information as to what is best for children to eat, he will dispense to twelve schools of the city and to the crowds about the milk bar. The Onondago County Holstein Club has voted funds to assist the campaign. Last year a similar campaign increased the use of milk in the city 25%, it was said. It would seem that dairymen have every worthwhile agency working in their interests merely on the pure merits of milk as a food. Very little concerted action on the part of dairymen in the direction of sustained advertising of the valuable food ought to double or treble its use if fair retail prices prevail.



KING PONTIAC SEGIS LAD DE KOL, THE GRAND CHAMPION HOLSTEIN BULL AND WINNER OF THE $500 PRIZE AT THE BRENTWOOD SHOW HELD IN CONNECTION WITH THE SECOND BRENTWOOD NATIONAL SALE

By error this winning was credited to another bull in the April 8 issue of Hoard's Dairyman. The grand champion was consigned by R. M. Harriman, Wisconsin, and purchased by Baynewood Farms, Michigan, for $2,700.

The New York State Fair has set a precedent in offering a cash prize of $500 to the best state exhibit of cattle to be shown at the national cattle sale to be held in conjunction with the annual meeting of the American Holstein Association in Syracuse on June 2, 3, and 4. The breeders of the state will not compete, however, for the $500 prize offered by their state fair, as they are the hosts at the event. They are busy making arrangements to insure this being the biggest sale ever held in the East. California is to send two carloads of cattle. Michigan and Minnesota have their consignments nearly ready. Canada will send fifteen animals and New England 20. New York's quota is 40.

New York. E. G. FEINT.

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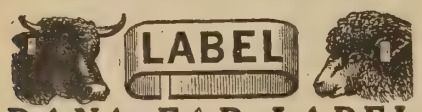
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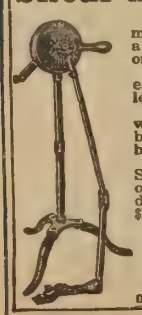
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Fistula of the Teat

A false duct or fistulous tract through which milk flows or leaks at milking time would be less common were wounds of the teat properly attended to at time of occurrence. Often the attendant merely washes a barbwire tear when the cow comes up from pasture and then applies axle grease which is none too clean. The wound then heals imperfectly and leaves a fistula. The chief cause is presence of foreign bodies such as sand, dirt, manure, or shreds of skin left in the wound. To prevent infection and formation of fistula the wounded teat should at once be immersed in hot water containing all the boric acid it will dissolve. Then every particle of foreign matter should be removed and shreds of skin cut away. This done, it is a mistake, as a general rule, to put stitches (sutures) in the wound. That can only be done with safety by the trained veterinarian and he should, if possible, attend to every valuable cow. Instead of suturing the wound he may consider it best to insert a sterilized milking tube in the duct and then proceed to bandage the teat spirally with surgeons' tape over a dressing of antiseptic powder. If the wound is made perfectly clean and fresh and has been freed of germs and foreign bodies, healing should then take place by "first intention" and that is found to have occurred when the bandage is removed in 10 to 14 days, after soaking the plaster with alcohol. A narrow strip of antiseptic gauze may be used in like manner and kept in place by means of pine tar. That is good treatment for a fistula of the teat after operation.

To do away with a fistula of the teat wall treatment should be given when the cow is dry. It is possible when she is in milk, but chances of success are greatly lessened by milk flow. Treatment consists in perfectly restraining the cow, soaking the teat in a hot saturated solution of boric acid, inserting a sterilized milking tube and then making a new, fresh wound of the fistulous tract by cutting with a small sharp scalpel or using a sharp curetting instrument. Then the blood flow has to be stopped, or practically so, and the wound swabbed with tincture of iodin, or dusted with iodoform after which a bandage is applied. For that purpose some use a strip of surgeons' plaster or tape or even a strip of porous plaster applied spirally from the tip of the teat to the udder. A simpler and effective covering for the teat is formed by coating the teat with pine tar, then winding on a 2-inch strip of antiseptic gauze from the tip of the teat upward, the milking tube being kept in place, and then covering the first and each successive layer of gauze with pine tar. The gauze should be drawn fairly tight, but not so tight that circulation of blood will be caused. Enough turns of the gauze should be taken to form a strong covering and the cow should afterward be kept in a clean box stall to prevent loosening or soiling of the bandage. The last turn of the bandage may be stitched to the one under it and when the time comes to remove the bandage it should be saturated with alcohol. In most cases the bandage may be removed in 2 weeks but sometimes is left longer. Using a red hot knitting needle to cauterize the fistula is not good practice.

Obstructed Teat

We have a registered Jersey heifer which freshened January 30 and milked all right until about eight days ago. One milking, however, we noticed that the left front teat was extremely hard to milk. We have had to use a milk tube to open teat at each milking and it does not seem to get any better. The teat has not been injured and there is no obstruction within, but it seems to be wholly at the opening that the trouble is.
Demopolis, Ala. (Mrs.) G. W. W.

A teat plug should be left in the duct between milkings, and boiled for 20 minutes each time before insertion after milking. If that does not suffice, a veterinarian should be employed to use special dilators and may find it necessary to cut through the obstruction in four different directions by means of a teat bistoury. The milking tube will be certain to cause ruinous garget unless sterilized before use.

Disposal of Afterbirth

Which is the best, to let a cow eat the afterbirth or take it away?
Philadelphia, Pa. R. T.

A cow should not be allowed to eat her afterbirth. She is not a carnivorous or omnivorous animal so cannot digest such a substance and it has therefore to decompose and finally pass away. Cows are often seriously injured by eating the afterbirth.

Barrenness

I have a fine 3-year-old Jersey that had one calf last fall. I have bred her several times but fail to get her with calf.
Marshalltown, Ia. W. H. S.

As often explained here, there is no specific remedy for this condition as the causes are many and different, but as disease of the womb or ovaries, from contagious abortion germ-infection, is the commonest cause, treatment of those organs by a trained veterinarian is indicated in all cases. Until you can have that done, syringe out the vagina every other day with a gallon of blood warm boiled water containing 2 tablespoonfuls of table salt.

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Back to the Friendly Farmhouse

(Continued from page 625)

necessities removed from each other where possible—to make the labor doubly hard, I suppose. The main reason for changing this old kitchen into our dining room, however, was the big fireplace and old brick oven which had been boarded up for, lo, these many years, forgotten and useless, behind more efficient stoves and ranges.

I had always abhorred large, inconvenient kitchens, so here was my opportunity. We converted it, together with a tiny bedroom and dark hall between the living room and old kitchen, into the long, large room intended for the new dining room, with the result that this is now 24 feet in length and 16 feet wide. The picture shows a part of its lightness and charm—an almost unbelievable contrast to the kitchen-that-was.

An unused milk room, ten by twelve feet only, was then turned into a kitchen on the east and adjoining the dining room, and here we cook and work as easily and quickly as does the machinist who stands at his wheel. Range, white sink, cabinet, table, work shelf, cupboards, cellarway, and convenient entrances to other rooms are arranged with efficiency and comfort in mind, and the steps taken in the performance of our duties are surprisingly few. By all means do I recommend the compact, handy kitchen for a large family—we are seven—if short shrift is to be made of work.

The remainder of our house at the back was converted into an annex to kitchen, a place where wood or coal, refrigerator, broom closet, oil stove, and laundry facilities are conveniently at hand. We now boast no pantries, no entries, no odd rooms for collecting junk down stairs. Each room is devoted entirely to its own purpose and serves it well. We cook in our kitchen, eat in dining room, read and rest in living room, and play in and entertain, and enjoy the parlor which is really another pleasant living room—wide open and inviting, through which we pass to reach the cool, shady eastern porch of afternoons.

Upstairs we found small, uncomfortable sleeping rooms in the main, the one exception being the big guest room shown in photograph, over the parlor below. This, with its cheery hearth, only needed old time chintz curtains and white paint to make it pretty indeed, the old four-poster, the old cradle, and the blue coverlid and blue knitted rugs giving the proper colonial feeling.

As in most old houses, there was a lack of bedrooms as only the main part of the house, the upright, had any; while the low ceiled attic was located over the long ell where we had wrought such satisfying changes in kitchen and dining room. So we proceeded to raise the roof of the ell and gain extra space much needed for a good sized bathroom and three more bedrooms. Meanwhile we had combined two little bedrooms upstairs in the main part, making one long, sunny southern room, all of which together proved sufficient sleeping quarters for our growing family. Each bedroom was papered tastefully, woodwork painted white, floors painted in neutral and spread with pretty rag rugs. The results are well worth while and demonstrate that money is not needed to effect charm and originality.

Inside the impossible had been accomplished, but not in a minute as this resume of mine may sound; and it was time to turn our thoughts to the bleak exterior as travellers past our door must view it.

To make a long story short, after the back part had been raised, doubling the upstairs space, we added two ten-by-twenty porches on both ends below, changed the windows formerly opening onto the new porches into big French doors, removed the long, rambling, fallen-in woodshed at the extreme rear of house, added windows wherever rooms were the least bit dark or cheerless, added hospitable little porticoes over all back doors (which do not show in picture), and finally ended up by painting the whole a colonial yellow with white trim, green window boxes gay with red geraniums adding the last touch. A brick walk bordered by spireas leads to the road.

We have lived in our new-old home for ten happy years. It is far from being perfection still, and in fact will probably never know the day when something cannot be added to make it more home-like and beautiful.

We attempted, and friends affirm with success, to change an old, old house lacking every modern convenience into a house young in feeling but old in its cherished memories, and we have tried to disturb these latter only where necessary for the sake of modern standards which experience has shown are right and necessary.

We were very careful to keep the fine lines of the old mantles, for instance, and to bring out their good points wherever possible. We opened up the fireplaces and kept the original floors and sought to add and never subtract from the really good points the house had to offer. Those which it so plainly lacked we tried to substitute, remembering that golden oak and "art squares" and cement walks and yawning windows of plate glass are in no way related to an old-fashioned home.

There is nothing so fascinating as to bring out the possibilities in our houses, whether they be of strictly modern feeling as the bungalow, or tending toward those earlier days of American history as does the dwelling of the writer. Farm women who seek to express themselves in their houses will never regret the time and money so spent. The friendly farm house, within and without, is only waiting to brighten the life of its fortunate mistress.



NATHAN CLOW, LA VERNE TAYLOR, WALTER WOOD, T. G. BROWN, COACH

This team, representing the department of vocational agriculture of the Oshkosh, Wis., schools, won the championship in judging dairy cattle at the state stock judging contest held at Madison, Wis., in February. It has been the custom to send the champion dairy team to the National Dairy Show to compete in the judging there.



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is low, it is more important than ever to have your rate of production high. Clean, light, sanitary living-quarters, free from lice, mites and disease germs, are just as necessary as proper feeding if you expect your poultry and livestock to thrive and produce their best. Thousands of farmers get these very profitable, sanitary conditions and also save much of the time, labor, and expense it means to first whitewash and then disinfect, by using

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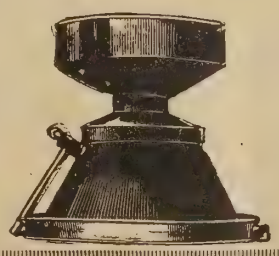
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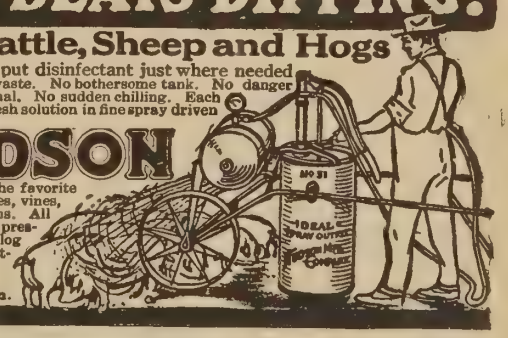
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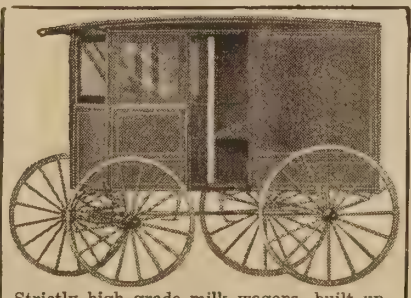
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Washington, D. C., Weekly News

[SPECIAL TO HOARD'S DAIRYMAN]

WASHINGTON, APRIL 18—The Farm Bureau legislative conference is still in session as this is written, having lasted into the second week. No formal announcements as to program have been made as yet but the different sub-committees which have been gathering data on the problems of finance, highways, tariff, taxation, collective bargaining, marketing, etc., are preparing their reports, and the entire list will be made up into a legislative program, behind which the full power of the federation will be mobilized.

⚜

Chairman Anderson of the Agricultural sub-committee of the House committee on appropriations has introduced a bill calling for an emergency appropriation of $400,000, available immediately upon passage for the payment of indemnities for cattle condemned and killed in the accredited herd and other anti-tuberculosis campaigns. The bill comes about as the result of the experience of the Bureau of Animal Industry in finding that it had sufficient funds on hand for the work of the tuberculosis eradication campaigns, but not enough, in the way that Congress divided the last year's appropriations, to pay for the animals condemned. Representatives of The National Grange here last week and of the National Milk Producers' Federation and of the Farm Bureau Federation expressed approval of the bill. Dr. Mohler, Chief of the Bureau of Animal Industry, also announces that funds heretofore tied up by a treasury decision have been released so as to carry on this work in a few localities.

⚜

Proposed new legislation in a few instances has some points of interest to the dairy industry. For example, there is the Aswell bill to authorize agricultural colleges and experiment stations to investigate and to teach the science and art of manufacturing and using oleomargarine, and to exempt such colleges and stations from the imposition of special taxes and the payment of taxes. This bill was introduced by Mr. Aswell, member of Congress from Louisiana, and referred, not to the Committee on Agriculture, where it belongs, but to the Ways and Means Committee, presumably because someone wanted it to go there, and some one else saw that it has to do with taxes.

The bill reads in part as follows:

Be it enacted by the Senate and House of Representatives, of the United States of America in Congress assembled, that agricultural stations shall be and are hereby authorized and permitted (a) to investigate and to teach the science and art of producing, refining and combining vegetable oils and fats including butter into palatable and wholesome food forms; and (b) to investigate and teach the uses to which such food forms are advantageously adapted; and (c) to use in the respective dining halls and boarding houses maintained by such colleges and stations, for their own faculties, student bodies, or employees, such foods so produced by them, free from any tax. In event any such institutions shall in the course of such investigations and teachings produce quantities of such food in excess of its own requirements, such excess may be placed on the markets, subject to all the laws, rules, and regulations which are now or may hereafter be provided for the production, sale, and distribution of such food."

The bill further provides for a special license to such colleges and stations to manufacture oleomargarine without payment of the tax provided by the revenue laws. Thus far this is the only oleo propaganda started, and this does not seem to emanate from the usual propaganda source, although the fact that it has gone to the Ways and Means Committee illustrates how well the real situation is understood by the enemies of the dairy industry.

Two butter bills have also been introduced. One is by Representative King of Illinois and provides that butter must be made from pasteurized cream only, and is so worded as to authorize the use of lime or other neutralizers to correct acidity. This and other butter bills have gone to the Committee on Agriculture. So far as learned no action is contemplated by the committee, at least until packer control and grain marketing legislation is disposed of.

⚜

Internal Revenue Commissioner Williams has finally declined to await the appointment of a successor, and, in a news release issued from his office this week, announces his retirement and that the office has been turned over to the Assistant Commissioner. Newspaper reports say this is the last important place not yet filled by a new presidential appointment, and that the announcement of his successor may be expected any day. In the meantime it is expected that the neutralizer ruling will be again postponed.

⚜

Acting Deputy Commissioner A. C. Holden has given out the figures on the export of colored and uncolored oleomargarine for the last calendar years as follows:—Colored oleo, 5,609,467 pounds; uncolored, 4,725,978 pounds. The Internal Revenue Commissioner has these figures because of the fact that the tax is remitted on all oleomargarine made in America and exported. The figures are interesting as showing the fact that the foreign demand, where there is no price difference due to taxation, calls for more colored goods than white, although there is no difference in either food value or flavor due to color.

DAIRY MARKET NEWS

New York Butter Market

New York City, April 19:—The peculiarly sensitive condition of the market, which is responsible for the desire on part of butter receivers to keep their stocks cleared up each day, is resulting in a fluctuating market each week. An added factor, which has resulted in sharp price declines during the past week, is a bearish sentiment that has developed during the past few days. On one or two occasions when supplies of butter were very moderate two of the largest butter receivers in the market have deliberately forced prices down by offering butter of high quality at prices considerably below prevailing quotations. With conditions as sensitive as they are at present, one dealer can do much to change the complexion of the market.

There is no excess supply of butter in the market. While reports state that there is a healthy increase in production at the present time, receipts in this market show practically no increase. In addition, no foreign butter is being received at present, and there is little likelihood that any will be forthcoming for several months. Receipts of boxed California butter are decreasing as only four cars are known to be in transist whereas eight cars have been received during the past week.

One encouraging feature which has developed during the past week is the revival of export interest in our domestic butter. England has purchased several comparatively small lots of low grade butter and is making inquiry for other lots. It is not known why there should be that demand for poor butter, unless it is to supply the bakers' demands, as England is well supplied with a sufficient supply of table grades of butter.

One disquieting feature which has become apparent of late is the prevalence of mold on considerable of the butter. While there is always more or less trouble with mold during the warm summer months, it is during the month of May that it usually puts in an appearance. The early spring, the scarcity of ice throughout the country, and the almost universal use of inferior parchment liners in butter tubs are undoubtedly responsible for the moldy condition this early in the season.

The market was weak and inactive on Saturday but on Monday there was a revival of interest and values increased 1c. Today, another receiver did force the price down 1c. The market seems to be gaining some strength and as the present decline seems to be the result of individual manipulation rather than normal functioning of the law of supply and demand, quotations will probably advance soon. Quotations at the close today were: Extras (92 score), 45½c; higher scoring than extras

Carload Prices of Hay and Feed at Important Markets
April 16

(In dollars per ton)

Commodity	New York*	Philadelphia*	Baltimore*	Richmond	Jacksonville	Atlanta	Cincinnati*	Buffalo	Pittsburgh	Chicago*	Minneapolis*	Kansas City*	St. Louis*	Omaha*	Los Angeles
HAY															
Timothy and clover:															
No. 1 Timothy	30 50	25 00	....	26 00	29 50	30 00	23 00	21 75	24 50	23 00	19 00	†19 25	26 00	....	....
No. 1 Clover, mixed	26 00	....	18 50	24 50	28 00	29 00	19 50	18 50	20 00	18 00	16 00	15 00	20 00	....	....
No. 1 Clover	22 50	....	15 50	24 00	....	....	14 50	18 50	20 00	18 00	16 00	†13 50	20 00	....	....
Alfalfa:															
No. 1 Alfalfa	....	....	....	....	32 00	32 00	23 50	....	....	23 00	19 00	†22 25	25 00	20 00	18 00
Standard Alfalfa	....	....	....	....	31 00	30 00	22 00	....	....	21 00	17 00	19 00	23 00	17 50	....
No. 2 Alfalfa	....	....	....	....	30 00	26 00	15 00	....	....	17 00	15 00	15 25	19 00	11 00	....
FEED—Bagged															
Wheat Bran:															
Spring	25 00	23 75	25 00	25 00	27 00	28 00	22 00	21 50	23 00	17 50	14 00	....	....	....	....
Soft Winter	25 50	27 75	27 50	28 00	28 00	28 00	23 00	....	25 00	....	....	....	19 50	....	....
Hard Winter	25 00	24 00	....	....	....	28 00	22 00	....	24 00	....	....	16 25	18 00	15 00	32 00
Wheat Middlings:															
Spring (Standard)	24 00	22 00	24 00	25 00	27 50	30 00	22 00	20 00	21 00	16 25	13 00	....	....	....	....
Soft Winter	....	30 00	26 00	30 00	32 00	32 00	24 50	....	28 00	....	....	....	23 00	....	....
Hard Winter	....	23 00	....	....	....	30 00	22 00	....	28 00	....	....	....	21 50	....	....
Rye Middlings	....	21 30	....	22 00	....	....	20 00	....	19 00	....	12 00	....	....	....	....
High protein meals:															
Linseed	42 00	39 00	....	....	....	....	40 50	39 00	†41 30	38 50	34 00	40 00	37 00	37 00	....
Cottonseed (41 per ct)	....	35 50	33 00	33 00	....	....	....	34 50	32 50	31 50	....	28 50	30 00	....	....
Cottonseed (36 per ct)	33 50	33 50	....	....	27 50	25 00	29 25	33 00	30 00	28 00	....	....	27 50	....	31 00
No.1 Alfalfa me'l (med)	....	30 00	30 00	30 00	31 00	30 00	24 00	....	....	24 00	....	†28 00	21 00	19 00	28 00
Gluten feed	39 62	39 20	39 00	39 00	....	....	35 30	....	†36 43	31 50	....	....	34 50	....	....
Hominy feed (white)	28 00	26 25	27 00	27 50	....	28 00	22 00	....	†26 00	21 50	....	....	19 50	16 50	....
Ground barley	....	33 00	....	....	....	....	38 00	....	....	28 00	21 00	26 25	....	....	‡29 00
Beet pulp	33 00	32 00	30 50	....	38 00	....	31 00	34 00	30 00	....	....	....	....	....	30 00

*Hay quotations represent average of cash sales at these markets. †Nominal. ‡Rolled.

Straw:—Prices of straw of all descriptions were well sustained in Baltimore on moderate receipts. In Chicago it became necessary to make reductions in order to move arrivals which were double those of last week. Philadelphia and the majority of the markets report light arrivals with prices firm on fairly good request. Quoted prices: wheat straw—$11 Chicago, $8 Oklahoma City, $12 Cincinnati, $14.50 Baltimore, $15.50 Pittsburgh, $14 Richmond, $17 Chattanooga, $18 Philadelphia; oat straw—$13 Chicago, $9 Oklahoma City, $18 Cincinnati, $16 Baltimore, $15.50 Pittsburgh, $17 Chattanooga, $18 Philadelphia; rye straw—$14 Chicago, $12 Cincinnati, $16.75 Baltimore, $16 Pittsburgh, $17 Chattanooga, $19 New York, $19.50 Philadelphia.



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W. B. LIVERANCE.

Cheese Markets Weak and Lower

(Report by U. S. Bureau of Markets)

Despite the fact that prices reached the lowest point of the year during the week ending April 16 trading was not up to expectations, and the market was slow and draggy. Heretofore markets have been somewhat irregular with regard to the relation between local conditions and the general situation, but now reports from all centers are alike in indicating that business is being done on an unsettled basis

In the distributing markets the weakness was also evident. At Chicago distributors reduced their prices in line with the decline in Wisconsin, but did not let established prices stand in the way of a sale. At New York dealers bought more heavily after country markets reached their lower level and receipts were a little more liberal. Some receivers were willing to shade asking prices in view of the fact that they expected selling prices to be generally lowered when the lower cost Wisconsin cheese reached the market, and that they desired to keep their floors as clear as possible at this time. Jobbers continue to buy for current requirements only.

The average wholesale prices on American cheese (style twins) for the week ending April 16, 1921, and for the corresponding week a year ago were as follows:

	Week ending April 16 1921	1920
	cents	cents
New York	28.0	29.5
Chicago	18.8	28.9
Boston	22.5	30.5
San Francisco	19.1	25.0
Wisconsin	18.2	29.2

The total receipts of American cheese at these markets were 3,077,403 lbs. as compared with 1,043,057 lbs. a year ago and 2,896,563 lbs. a week ago

Storage Holdings

The cold storage holdings of butter on April 1 showed an increase of over three million pounds over that of a year ago, despite a decrease of nearly 13 million pounds during March. The holdings of American cheese, on the other hand, decreased nine million pounds from that of a year ago, the decrease during March amounting to over three million pounds.

The following table gives the holdings on April 1 1920 and 1921, as reported by the U S Bureau of Markets:

Commodity	April 1, 1921	April 1, 1920
Creamery butter	14,737,000	12,555,000
Packing stock butter	2,214,000	1,149,000
American cheese	14,295,000	23,431,000
Swiss cheese	2,206,000	2,261,000
Brick & Munster	902,000	560,000
Limburger	495,000	546,000
Cottage, pot, & bakers'	2,842,000	1,954,000
Cream & Neufchatel	52,000	180,000
All other cheese	4,112,000	3,212,000
Case eggs	1,884,000	122,000
Frozen eggs	20,865,000	11,039,000

Dairy Markets

MILWAUKEE, Wis., April 22—Butter—Creamery, tubs, 45c; prints, 46c; extra firsts, 42@44c; firsts, 40@41c.

Eggs—Miscellaneous receipts, country candled, cases included, 23@24c; cases returned, 22½@23c; seconds, 19@20c; checks, 18@19c.

Cheese—Twins, 16¼@16¾c; Daisies, 16½@17c; Young Americas, 18@18½c; Longhorns, 16@16½c; Brick, 17½@18c; Limburger, 27@28c; Swiss, loaf, 48@50c; block, 30@31c.

CHICAGO, April 22—Butter—Creamery, extras, 45c; standards, 42c; dairy, firsts, 37@44c; seconds, 30@35c.

Eggs—Ordinary, 20@21c; firsts, 24½c.

Cheese—Twins, 18@19c; Young Americas, 21c.

NEW YORK, April 22—Cheese—Weaker; state milk, common to specials, 17@29c; skims, common to specials, 5@19c.

Butter—Firmer; receipts, 6,341 pkgs.; creamery extras, 46c; state dairy tubs, 45½c.

Eggs—Steady; receipts, 24,633 cases; nearby white, fancy, 40c; nearby mixed, fancy, 24½@35c; fresh firsts, 26@32c.

Butter Markets Display Nervous Tone

(Report by U. S. Bureau of Markets)

The governing factor in butter trading during the week ending April 16 was a desire on the part of both receivers and buyers to keep stocks cleaned up. In other words, no one appeared to have much confidence in the market and no one wanted to have any more butter on hand than was necessary for immediate needs. When receipts were short the market ruled firm, and vice versa. It so happened that the actual arrivals were only slightly in excess of those of the previous week and, with practically the entire trade on fresh butter this meant a fairly firm market.

Prices either remained unchanged or advanced fractionally throughout the week until Thursday, when New York weakened unexpectedly and declined 1c causing the other markets to follow. The decline was due partly to the fact that about 10,000 casks of Danish butter were still unsold on the New York market and partly to advices of heavier shipments rolling and rather liberal arrivals of fresh California butter. At the close of the week markets were weak and unsettled.

Danish sold this week in New York at 47—49c and California at 46½ to 48½c. California butter on the market scores anywhere from 90 to 92.

The average wholesale prices on 92-score butter at five of the principal markets for the week ending April 16, 1921, and the corresponding week a year ago were as follows:

	Week ending April 16 1921	1920
	cents	cents
New York	48.0	74.0
Chicago	46.6	62.7
Philadelphia	50.0	74.3
Boston	48.9	71.5
San Francisco	35.5	55.6

The receipts of butter at these markets were 8,730,577 lbs. as compared with 2,878,761 lbs. last year and 8,251,208 lbs. a week ago.

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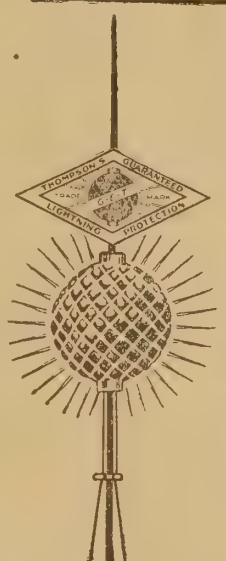


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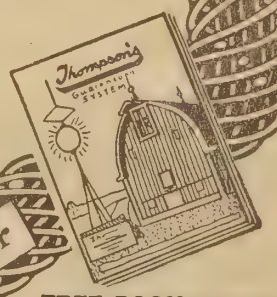
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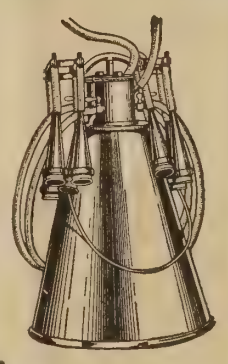
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Possibilities of Irish Dairying

(Continued from page 623)

question it is no time to make prophesies but a few facts regarding the prospects of dairying in Ireland are fairly evident. As already mentioned the fundamental basis of the Irish question is an economic one, and it centers on the land. The farms of less than five acres in extent constitute 12 per cent of the total number of holdings, while 68 per cent of the farms or "crofts" are of less than thirty acres. The trouble in Ireland has not been in obtaining more small holdings but rather in obtaining more land for those who already have such holdings. Anyone with a knowledge of farming will concede that thirty acres of land will not support a man and his family and render them financially independent. This does not apply of course to exceptionally good pieces of land that can be used for trucking near cities.

There are 125 people directly depending for a livelihood from every 1,000 acres in Ireland, or, in other words, 8 acres must provide a living for one human being. Compare that set of conditions with those generally prevalent in the United States and the results are perfectly obvious.

There appear to be two main methods available for the development of Ireland—the introduction and promotion of industries not directly connected with agriculture, and the application of more intensive methods to farming. Irish farming could be improved but the general practices are not wasteful except of labor which is all too plentiful at times. But what can a "farmer" do who owns four acres and a plow and sometimes a donkey and a ewe? Such men are common and they are frugal and, when working for others, as they must at times do, are trustworthy and energetic. The introduction of methods which will increase the yields of agricultural products and the establishing of industries to absorb the extra labor seem to be the solution. Dairying is already quite an important industry in Ireland and its further increase will fit in well with the development of the country.



A DONEGAL HARVEST

Keep the Soils Fertile

(Continued from page 624)

grain will not need to buy phosphate fertilizers. If you buy a half ton of bran or cottonseed meal for each cow fed, or a ton of other concentrates, you would keep up the phosphorus supply. But 200 lbs. of acid phosphate or 75 lbs. of treble superphosphate would supply an equal amount of phosphorus. Each farmer must decide which he will do.

How and When to Apply Phosphorus

Phosphorus is not lost from the soil by leaching; so it makes little difference when it is applied, or to what crop. Probably the best method is to spread it broadcast and disk it in in preparing for seeding. If a fertilizer distributer is available, that will do the best job, but it can be spread evenly over the manure in the manure spreader, and so be well mixed through the soil. Some are advocating the use of small amounts of fertilizers applied to the hill for corn. There is no objection to that method, except that no benefit is secured to the grain or clover following, while an application of phosphate, broadcast, when the ground is being prepared either for corn or small grain, will benefit all crops in the rotation, and clover or alfalfa are benefited more by phosphate even than corn and oats are.

Some Evidence That It Pays

All tests in Wisconsin with phosphate in addition to manure show an average increase of 15 per cent in yields or four times the cost.

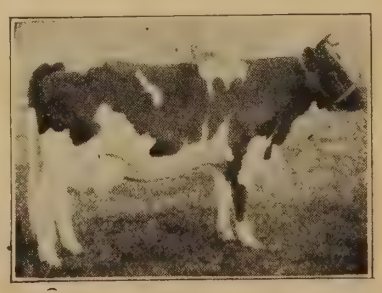
On the Ohio Experiment Station the addition of 320 lbs. of acid phosphate to manure and lime every three years has given an average increase above that receiving manure and lime only for twenty-one years of 8⅔ bu. of corn, 5½ bu. of wheat, and 838 lbs. of clover worth at present prices over $20, while the phosphate would cost $4. The director of the Ohio Experiment Station says:

"Acid phosphate, either with or without manure, has given large profits in all cases. Per dollar invested, it has been by far the most profitable of all the fertilizer treatments, either alone, with lime, or with both lime and manure."

In Indiana the Experiment Station makes the following statement:

"As a general average of 95 crops of corn, wheat, and clover on five experiment fields during the last 12 years, acid phosphate has yielded crop increases valued at $8.46 per acre per year, at an average cost of $1.38."

Even on the rich prairie soils of Iowa an application of 200 lbs. of acid phosphate annually has increased the yield of corn 10 bushels, or oats 15 bushels, and of wheat 8.4 bushels, or more than three times the cost of the fertilizer.—Wisconsin Bulletin 42.



Witte Ina De Kol Lass, Holstein heifer owned by Aitken Bros. of Wisconsin, and which as a three-year-old has made in 7 days 716.50 lbs. milk containing 24 lbs. fat. This is the state record for milk at this age. As a junior two-year-old this heifer produced 19,466.-90 lbs. milk containing 664.7 lbs. fat.

Cow Testing Associations

(Continued from page 631)

cottonseed meal, $40; molasses, $50; alfalfa hay, $20; clover hay, $16; and silage, $6.

Tri-County, Illinois:—Better feeding has been the goal we have been striving for. By individual feeding many herds have reached greater production and in some instances at a smaller cost than when all cows received the same amount of feed. The State Hospital for Insane, the Illinois School for the Deaf, and the Lincoln State School and Colony have received some good young pure-bred bulls. In March 3% market milk sold for $2.54 per cwt. with 2c per point additional up to 3.5% and 5c per point additional for milk testing above 3.5 per cent. One dollar and forty cents per gallon was paid for 18—20 per cent cream. Feed prices are: Shorts, $1.60 per cwt; bran, $1.50, hominy chops, $1.55; oil meal, $2.60; cottonseed meal, $2.00; alfalfa, $27—$31 per ton; clover, $26; corn, 75c per bushel; oats, 60c.

Barnesville, Ohio:—During March market milk sold for $2.35—$2.85 per hundred pounds. The required test was 3.5 per cent and 5c were paid for each point above. Larro sold for $2.60 per cwt.; bran, $1.95; oil meal, $2.75; cottonseed meal, $2.75; corn, $1.50—$1.80; oats, $2; beet pulp, $2.25; gluten, $2.75; oat middlings, $2; peanut meal, $2.75; alfalfa meal, $1.75.

Riverside County Farm Bureau, California:—March 18th was live stock day in Perris Valley, over 300 persons being present. Schools and stores of Perris closed. The event was supervised by the Perris Farm Center and the Agricultural Extension Service. Some of the speakers were: N. L. Chapin, J. E. Wherrell, Bob Walker, R. E. Nebelung, F. H. Scribner, and G. E. Gordon. The demonstration was held at Sierra Vista Ranch. O. H. Cash, director of the Farm Center, was in charge of the meeting. Market milk testing 4 per cent sold for $4 per hundred pounds. Milk retailed for 16c per quart; butter for 44c per pound and cheese for 40c. Rolled barley, $32.50—$33.50; rolled oats, $41.50—$42.50; cocoanut meal, $28—$30; bran, $33—$34; No. 1 Dairy alfalfa, $24; standard alfalfa, $21; barley hay, $16—$17.

Six Years a Member

I have been a member of the New Holstein Association for the past six years and find it a benefit in many ways. It shows a complete butterfat, milk, and feed record of all cows on test, also the loss or gain over cost of feed. Through the association testing you can also find out the merits of the herd sire, thereby keeping the good sire in the community or can sell him at a much better price. I also find that the members of an association have a better and more ready market for their surplus stock. Quite often a carload of cows are taken out of our association at a very good price.—HUGO LIBKE, WIS.

Sudan Grass for Hay

Sudan grass is coming into increasing use as a hay crop, particularly where the regular seedings may fail for one reason or another. It is one of the sorghum family and makes a very excellent growth, being particularly adapted to the drier sections of the country. It responds well, however, to more moisture and has been grown successfully in the northern states, as well as in the southwest.

Sudan grass prefers a warm, sandy loam soil, but will do very well on any upland soil suitable to small grains. Soils that are worn out or very sandy are not adapted to it, nor are low, wet soils. It should not be seeded before corn planting time, and a week or two later usually gives better results, for it is a crop that flourishes in summer heat. The right time of seeding is one of the main points of success.

With seed that has been well cleaned from all chaffiness and light seeds, 25 pounds is sufficient for one acre. With seeds of poorer quality at least 30 pounds should be used. It should be sown broadcast or drilled in upon a well prepared seed bed, care being taken not to bury the seed too deep.

It should be taken for hay when in full bloom and handled the same as timothy. It yields from 2½ to 3½ tons of cured hay an acre and is very palatable, stock eating it very readily.



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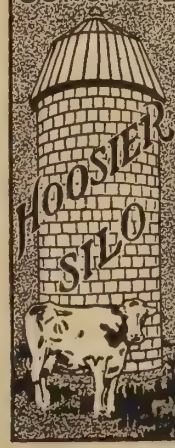


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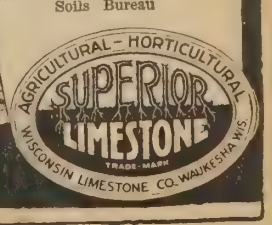
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Serviceable grandsons of Lola Segis Pontiac Homestead for sale, he a 34-lb., 1,000 lb. son of Piebe Laura Ollie Homestead King. Their dams are daughters of Joe Oak De Kol Fobes. Well grown, good individuals. Your choice, $150. R. W. MEAD, Stillwater, Minnesota. 10*

High Grade Holstein calves 6 to 8 weeks old, $30.00 each. We pay express and ship C. O. D. SPREADING OAK FARM, Whitewater, Wis. 11-tf.

Closing out herd of grade Holsteins, $100.00 each. H. A. KUHTZ, Waukesha, Wisconsin. 24*

For Sale—My entire herd of choice high grade Holsteins, mostly bred to and sired by thirty-pound bull. There is one full load of the best large heifers in southern Wisconsin, uniformly marked, about three-fourths white. C. L. SIMMONS, Belmont, Wis. 1*

Baby Bulls—Registered Holstein-Friesian by high class sires and heavy producing dams. Price is right. C. S. MULKS & SON, Whitewater, Wisconsin. 3-*

Holsteins—37-lb. herd sire, young bulls, cows, heifer calves. PHILIP LEHNER, Princeton, Wisconsin. 6*

If you want the very best Holstein heifer calves delivered promptly, order from me. Will ship C. O. D. express prepaid at $25 each or $18 F. O. B. Oconomowoc. Also a fancy load of cows and a number of heifers priced to sell. E. F. THOMAS, Oconomowoc, Wis. 9-8

For Sale—Registered Holstein and Guernsey calves. 25 Holsteins and 20 Guernseys. BURR OAK FARM, Whitewater, Wisconsin. 11-6

Holstein bull, ready for service, 2 dams averaged 106 lbs. milk 1 day, 40.67 lbs. butter 7 days, $200. Terms. ROY HARRIMAN, Appleton, Wisconsin. 11-6

Write me for prices on high grade Holstein heifer calves and registered bull and heifer calves. Special low price for next 60 days. Will ship C. O. D. PAUL McFARLAND, Route 7, Watertown, Wis. 12-4

For Sale—Carload of high grade cows. Ten head of registered cows, bred to a 32-lb. sire. TWIN PINE STOCK FARM, Oxford, Wisconsin. 13-4

Listen! Your last chance to get some of those beautifully marked extra high grade Holstein heifer calves at greatly reduced prices. Registered bull calves $35.00 C. O. D. Look them over and if they don't suit don't pay for them. J. M. MCFARLAND, Watertown, Wisconsin. 14-4

Twenty registered Holstein cows and heifers bred for yearly production, FRANCIS CREANE, New Douglas, Illinois. 14-3

Lake Shore Holsteins—Fifty fine, big, fat, pure-bred yearling heifers. One or all, priced to move them at once. Come. E. J. OPPLIGER, Forest Lake, Minn. 14-4

Bargain—Five high grade, well marked Holstein heifer calves from 6 to 8 weeks old. First check received for $100.00 takes them. L. W. MITCHELL, Whitewater, Wis. 14-2

Holstein heifer calves, high grade and well marked, three to six weeks old for $16.00 crated. Registered bull calves $35.00 each. RUDOLPH KUNDERT, New Glarus, Wis. 14-*

For Sale—Selected high grade Holstein springers, cows and heifers. Choice breeding to start a foundation herd. FRICK & HOESLY, New Glarus, Wisconsin. 11-spl

Longheath Carnation Matador, senior yearling, first prize winner, son of Matador Segis Walker half brother to Carnation Segis Prospect the new world's record cow. The dam was first prize winner in three state fairs and fourth at National Dairy Show. She is a State Champion cow for milk and butter. Should sell quickly at $1,250. Under Federal Supervision. Wire LONGHEATH FARM, Fallon, Nevada.

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Pure-bred Holstein bull calves for sale. These bulls are from A. R. O. dams and from 30-lb. sires or better. WHEELER AND SMITH, Wisconsianna Herd, Rockwell Farm, Elkhorn, Wis.

30 Registered Holsteins—Entire herd, prime condition. Bargain. All or part. DR. HAINES, Three Rivers, Mich. 15-3

For Sale—Registered Holstein-Friesian bulls and 15 heifers. A. R. O. Ready for service—$100.00 to $200.00 each. A. R. O. cows $300.00 to $400.00. Baby bulls—$50.00 FRANK STAFFEN, Howard City, Michigan. 15-2

My entire herd of grade Guernseys for sale. Also a few choice heifer calves at $30.00 delivered. SHADY HILL FARM, Whitewater, Wis. 23*

Guernsey heifer calves. Can ship you 10 at once about 4 weeks old. Calves out of my own herd, so know what I am shipping. $30 each crated. F. O. B. Waukesha. WERN FARMS, Waukesha, Wis. 18*

Guernseys—High grade Guernsey calves, either sex, four to six weeks old, bred for production of milk and butter. Thirty dollars apiece delivered to any station, express charges paid here. Send orders or write. LAKE VIEW GUERNSEY PLACE, Whitewater, Wisconsin. 26-tf

For bargains on May Rose bulls with type and production, write KUHTZ BROS., Waukesha, Wis. 21*

For Sale—Registered Guernseys. Both sexes. Herd under Federal Supervision and free from disease. CLOVERNOOK FARM, Whitefish Bay, Milwaukee County, Wisconsin. 6-10

Guernsey calves six weeks old, $20. F. O. B. Knapp. THOMAS HAGERTY, Knapp, Wisconsin. 2*

Will express baby heifer calves, Holsteins or Guernseys. C. O. D. BYRON GATES, Fort Atkinson, Wisconsin. 13*

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Guernseys—Registered males and females, all ages. Breeding and type unexcelled. Grade cows, yearling heifers, heifer calves. No better quality anywhere. Tuberculin tested. Prices reasonable. Why not buy through an association and from breeders in the business to stay? Write your wants today. F. E. FOX, Secretary Waukesha County Guernsey Breeders' Association, Waukesha, Wisconsin. 6*

High grade Guernseys—Twenty young cows and heifers to freshen. Some with records. Almost pure-bred. Tuberculin tested. OAKLAND GUERNSEY FARM, Mukwonago, Wisconsin. 9*

Young bulls for sale. Sons, grandsons and double-grandsons by Bell Buoy of Linda Vista 19430 with 20 A. R. daughters, who has six daughters that average 524.55 lbs. fat at two years. O. R. SCHWALEN, Roberts, Wisconsin. 11*

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Guernsey—Our herd bull for sale at reasonable price. DAEMMRICH BROS., Pittsville, Wis. 14-2

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Registered dairy cattle bought and sold. EDWARD A. WALTER, 111 Monroe St., Chicago. 18*

Will buy for you, dairy cattle of any breed, grades or pure-bred. DAVID W. WILLIAMS, Lake Forest, Illinois. 6*

Commission basis—One hundred and fifty head in our own herd for sale, Holstein and Guernsey, registered and grade. Large barns for centralizing and testing shipments of any size. Private yards for shipment. Every herd near here known by us. Write your demands. EDGEWATER STOCK FARM, Fort Atkinson, Wisconsin. Breeders and commission buyers. 10*

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Eggs $1 setting. Parcel post paid. Thoroughbreds. Barred Rocks, White Rocks, Buff Rocks, Anconas, White Wyandottes, Brown Leghorns, White Leghorns, Rhode Island Reds, Buff Orpingtons. PHILIP CONDON, West Chester, Ohio. 5-15

Baby chicks $11.00 per 100 up. Postpaid. Catalogue free. FARROW-HIRSH CO., Peoria, Illinois. 9-16

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Reduced prices on chicks after May 15th. Single Comb White Leghorns, Ferris 264-300 strain. $16.00 per 100 prepaid. Safe arrival and satisfaction guaranteed. Ask for catalog. R. A. ZIMMERMAN, Dept. H, Mayville, Wis.

100 White Wyandotte heavy laying pullets, 200-egg strain. Good ones. Priced reasonable. LOUIS HOOVER, Goshen, Ind.

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Duroc-bred gilts and boar. Prize winners. Spring pigs. PHILLIP LEHNER, Princeton, Wisconsin. 5*

Pedigreed Chester White sows, March farrow. GEORGE ROWELLS, Ogema, Wis. 15-2

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For Sale Cheap—A small lot of standard make Swedish Cream Separators, 400 pounds capacity, $29.00, 500 pounds capacity, $34.00, 700 pounds capacity, $39.00. These are all new machines, wonderful bargains. THOMAS TAFFEE, Box 355, Lansing, Mich. 18*

One Waterloo Boy 12-20 tractor good as new. One Grand Detour Jr. 3-bottom plow, new. Two 16-inch pulverizers new. H. C. KARSTEN, Huntley, Illinois. 10*

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For Sale—2 unit Hinman Milker, 160 Ampere Delco battery, 3 motors. Good as new. D. OFFRINGA, Ames, Iowa.

EXCHANGE

Wanted—To exchange 50 acres river bottom alfalfa land in ideal fruit and dairy section of California at $10,600—3,000.00 down—for small farm in central states as second payment. R. W. SHARP, 601 N. Fourth St., Fresno, California. 2*

Wanted To Exchange—Choice of 25 registered Holstein cows, valued at $8,000, for farm in Southern Michigan of equal or less value, not greater. BOX 94, Jasper, Mich.

HAY

Alfalfa and prairie hay for sale. Prompt shipments. Personally inspected loading. Wire or write GUNN HAY CO., Lexington, Nebr. Reference Lexington State Bank. 11*

Number one and choice alfalfa hay and seed ready for shipment. Address A. L. DAMON & COMPANY, Inc., Rapid City, South Dakota. 8*

Alfalfa Hay for Sale—Write or wire for delivered prices. ALBERT MILLER & COMPANY, 192 North Clark St., Chicago. 17*

FEED BAGS

Ship your bags to LARIMER BAG CO., Washington, D. C. 11-spl

FEEDS

Dried Beet Pulp—the wonderful dairy feed. New reduced prices. Ask your dealer or write THE LARROWE MILLING COMPANY, Detroit, Michigan or Los Angeles, California. 12*

PRINTING

Hoard's Dairyman Art Department designs your letter head free. Just tell us your breeds of stock. Book of 5,000 Farm, Ranch and Cottage names 25 cents. Ask for samples of letter heads, envelopes, shipping tags, cards, milk tickets, etc. Poor stationery is more of a damage than a help. Be sure and give correct post office address, including state. Address HOARD'S DAIRYMAN, Art Dept., Fort Atkinson, Wisconsin. 8-tf

SEEDS

Farmers, ranchmen and dairymen. Order your Grimm and Cossack alfalfa seed direct from the grower. All seed recleaned and guaranteed. Ask for samples. WM. H. K. WILLIAMS, Triangle Ranch, Cottonwood, South Dakota. 26*

Send for attractive price list of our select home-grown seed corn. Finest quality, several varieties. Fully guaranteed. Largest trade in Northwest. JOHNSON & ARNESON, Dassel, Meeker County, Minnesota. 3*

Seed Corn—Eureka ensilage, ninety-day Silvermine, Riley's 52-day, Johnson, Reids, Catalog. HAMMOND & SONS, Rockport, Indiana. 11

No. 1 Alfalfa seed, dodder free, $10.00 bushel. WILLIAM VEAZIE, Jerome, Idaho. 14-2

Fire Dried, shelled and graded seed corn, testing nearly perfect, bushel $2.50. Returnable if not satisfactory. Minnesota 13, Minnesota Ideal, Silver King. J. C. HANSON, Dawson, Minn. 14-2

Prize Winning seed corn—Golden Glow, Wisconsin No. 12, Silver King, Wisconsin No. 7. My Golden Glow has won three Sweepstakes at leading grain shows. Write for prices. JOSEPH A. BRUNKER, Ridgeway, Wis. 14-2

For Sale—Albemarle Prolific Ensilage Seed corn. Wonderfully high producing ensilage, stalks 12 to 18 feet tall, well bladed. 2 to 7 ears of corn to the stalk; 12 to 20 tons of ensilage to the acre. High germination test. Price on request. E. L. GOSS, Somerset, Virginia. 5-spl

AGENTS WANTED

Yes Sir, we have a special opportunity for you during spare time, an opportunity to do some good work in your neighborhood, for the betterment of dairy farming, that will pay you in cash for the effort you put forth. Write for our "Special Opportunity Getting Together" folder. Address HOARD'S DAIRYMAN, Fort Atkinson, Wis. 2-tf

Representatives wanted to write hail and cyclone insurance every township in the Northwestern states. Little experience necessary, good commissions. Write quick. ST. PAUL MUTUAL HAIL AND CYCLONE INSURANCE COMPANY, 805 Pioneer Bldg., St. Paul, Minnesota. 12-12

$200 monthly and commission. Year's contract to men with autos. We start you, equipping cars with Rideezee, the better than air inner tire. A substance cheaper than tubes. RIDEEZEE CO., St. Paul, Minnesota. 12-4

Agents make big money selling our silos. Write today for catalog and big commission proposition. NAPPANEE LUMBER & MANUFACTURING CO., Nappanee, Indiana. 3-spl

Good, reliable agents wanted to sell well-known brand of feeding molasses. Excellent proposition. Liberal compensation. Men with automobiles preferred. Furnish references with application. NATIONAL MOLASSES CORP., 207 Walnut Place, Philadelphia, Pennsylvania. 15-2

MAPLE SUGAR

Vermont maple syrup—$2.25 per gallon. Cash with order. PARKS & PARKS, Jericho, Vt. 14-2

Fancy Maple Syrup $2.50 per gallon. Sugar in 5 and 10-lb. pails, 35c per lb.; 2 oz. cakes 40c per lb. in bulk; in attractive boxes 45c. W. H. WARREN, North Pomfret, Vermont.

LIGHTNING RODS

Lightning Rods—Exclusive agency and quick sales to live dealers selling "Diddie-Blitzen Rods." Our copper tests 99.96 per cent pure. Write for agency. Prices are right. L. A. DIDDIE CO., Marshfield, Wis. 9*

MISCELLANEOUS

Western Red Cedar Poles and split posts at reduced prices delivered your station. A. R. DERR, Clark Fork, Idaho. 10-6

Lumber and shingles at reduced prices. Farmers' trade our specialty. Best quality. ROBERT EMERSON CO., Box 1156, W. Tacoma, Washington. 12-5

Choice, selected, progressive, everbearing strawberry plants. Sent prepaid for $2.50 per 100. F. C. HILL, Albert Lea, Minnesota. 13-4

To the heirs of the estate of John Herman deceased. It will be to the interest of any of the above heirs to communicate with the undersigned. C. F. Johnson, Administrator. Estate of John Herman, deceased. BOX 476, Salida, Colorado.

TOBACCO

Homespun tobacco, 10 pounds $2.50; 20 pounds $4.00. FARMERS' UNION, Mayfield, Ky.

FARMS WANTED

Want large farm highly improved fully equipped. WALTER MILLER, Brumder Bldg., Milwaukee, Wis.

FARMS FOR RENT

Farm to Rent at Wisconsin Rapids, Wisconsin, 3½ miles southwest. 120 acres, good buildings. 25 acres rye growing, good markets. For $100 will let a good man on the place if he has his own equipment and can give good reference. Cash rent, $360. Balance can be paid in installments. Very good opportunity. Address HENRY KIMBALL, Lake Geneva, Wisconsin. Phone No. 704.

FARMS FOR SALE

Farm For Sale—One of the best in Sheboygan County, Wisconsin; 80 acres under plow; 28 head of cattle including 10 registered Holsteins; 3 horses, all machinery; basement barn, two silos, 12 room house, electric light, 2 wells; 2 miles from city, ½ mile to school. LOUIE ARNOLDI, Sheboygan Falls, Wis.

Rose Valley Farm—137 acres; 17 miles macadam roads to City Hall, Philadelphia; owner's residence, electric lights, hot water heat, open fireplaces; beautiful lawn and shade; extended view; large stable and carriage house; modern cow barn, 48 head; tenant houses; purest water in abundance; all necessary buildings; macadam roads each side and through farm; $50,000 less than cost of buildings. FARM 2024 N. 10TH ST., Philadelphia, Pa. 26*

Hardwood cut-over land, silt loam, clay sub-soil. Neither sandy nor gravelly; close to town; good roads; good schools; in the heart of the dairy country. You deal directly with the owners. No agents and no commissions. Easy terms. Also improved farms. Write for map and Booklet No. 4. NORTH WESTERN LUMBER CO., Land Department, Stanley, Wisconsin. 1*

When you buy land buy the best. We have choice hardwood land in one of the very best sections of Central Wisconsin for sale on easy terms. Best of clay loam soil. Good roads, climate, water and markets. No rough, stony or sandy land. Write for information. JOHN S. OWEN LUMBER CO., 112 Mill St., Owen, Wisconsin. 9-8

Price very low if sold immediately. Modern dairy farm on good road in Waukesha County. 200 acres, comfortable brick dwelling, furnace heat, running water, horse barn, two large connected, modern dairy barns, two silos, tile milk house. Complete breeding establishment. Convenient to Waukesha and Milwaukee. R. E. BENSON, Dousman, Wisconsin. 10*

Landology special number just out, containing 1921 facts of clover land in Marinette County, Wisconsin. If for a home or as an investment you are thinking of buying good farm lands where farmers grow rich, send at once for this special number of Landology. It is free on request. Address SKIDMORE-RIEHLE LAND CO., 47 Skidmore-Riehle Bldg., Marinette, Wisconsin. 11-5

Farms near New York City. Dairy, grain, potato, fruit, poultry. 752 pictures sent free. SLOCUM FARM AGENCY, 141-T Broadway, New York City. 12-4

A bargain in a 190-acre blue grass dairy farm 8 miles from Nashville, Tennessee; oiled highways, interurban and railroad service. Two-story brick residence, barns, silos, etc. $160.00 per acre. C. M. ARMISTEAD, Madison, Tennessee. 12*

Cut This Out—Learn today how settlers with farming experience can get new made-to-order dairy farms with buildings, stock, tools, etc. First payment $300, balance 30 years. Location famous Chippewa Valley, heart of Wisconsin. Close neighbors, markets, railroads, schools, creameries, best soil, pure water. Greater opportunity than Homestead. Several farms ready to move on now. Send today for free information. CHIPPEWA VALLEY COLONIZATION CO., BP-201 Plymouth Bldg., Minneapolis, Minnesota. 12-4

For Sale—2,000 acres fine hardwood timberland, birch, white ash, maple, white pine, spruce. Sawyer County, Wisconsin. Logging would pay handsome profit. Land delightfully situated for stock ranch. Two trout streams, six springs. Also 130-acre dairy farm, buildings new, on lake shore in Barron County. W. A. HANCE, Freeport, Illinois. 7*

Clover, alfalfa, sugar beet, prairie. Owners price. Easy terms. Submit trades. GASEL, Thief River Falls, Minnesota. 14-4

Illustrated Booklet on Southern Idaho irrigated lands and Great Dairy Country sent free on application. H. A. CHAPPELL, Caldwell, Idaho. 14-3

Farm for Sale—Partly improved farm for sale. Four miles from railroad town; good school and road; in new growing community. Easy terms. Kennan soil. Owner absent. ROBERT AMUNDSON, Oconto, Wisconsin. 14-2

Modern farm for sale—500 acres in heart of rich and beautiful farm area. Location:—Near Hartford, Wis., Washington County. Equipment:—Cow barns, 80 James stanchions, calf and bull pens. Electric lights, water system, grain elevator, ice house, comfortable farm house, 4 concrete silos. Price and particulars also arrangement for inspection upon application. E. L. PHILIPP, owner, 139 Sycamore St., Milwaukee, Wisconsin. 14-2

Marathon County, Wisconsin, improved and partly improved farms. Send for list. WM. ALBRECHT, JR., Wausau, Wis. 14-3

For sale—89 acres, horses, cows, hens, tools; $3,000, only $1,000 cash, balance $100 yearly. 320 acres, good buildings, $3,500. JOHN FRANTZ, Earlville, New York. 14-2

Big farm bargain in New York. 396 acres. Fine land. Big crops. Good buildings. Forty cows, four horses, machinery, hay, grain, everything goes for $17,000.00, $7,000 gets possession. U. G. DAVIDSON, Route 1, Oneonta, New York. 5-spl

Wealthy western New York acre yields equal west. Farms cheaper, produce higher! Maps, lists free! NEW YORK FARM AGENCY, Westfield. 4-spl

For Sale—Best dairy and stock farm in the county, located about seven miles from Athens, Ohio, a county seat and University City. Consists of 220 acres in high state of cultivation or in blue grass. More than one-third of the farm can be cultivated with a tractor. Has two good residences, good barns and outbuildings of all kinds. Plenty of fruit. Underlaid with three good veins of coal. Coal has been brought up to the farm line. Oil prospects are good. Price $65.00 per acre, or will sell farm and retain mineral rights. I also have 25 head of Holstein cows, 25 head heifers and a full line of farm implements including a 16-20 International Tractor, plows, harrows, etc., which will to be sold either with farm or at public sale. F. W. CONE, Lock Box 532, Athens, Ohio. 15-spl.

For Sale—Farm 550 acres, (400 being rich reclaimed muck land, 150 pine and prairie). This is a wonderfully fine Dairy, stock and truck raising proposition. 400 acres ready for cultivation with drainage into Lake Tohopekaliga 65 feet above sea level at head of Navigation from the gulf. Entire acreage fenced, cross fenced with year-round pasture. Artesian well. This farm is between two brick highways just outside city limits. Price $55,000, half cash balance in five years at 5% interest. J. M. WILLSON, Kissimmee, Florida. 15-spl

Stock Ranch—240 acres 1½ miles from Oil Town. 138 acres Water Right. Deal with owner. $125.00 per acre for Water Right takes all. For full description write BOX 6, Greybull, Wyoming. 15-*

One Half Value—I will sacrifice 513 acres, two good complete sets of buildings, two silos. 200 acres level bottom land, balance upland sandy loam, lays well. Winnebego County, Ill. All stock, feed and machinery. Price $43.00 per acre. $10,000 cash, balance 5½%. Total price $22,000. OWNER 210 Mead Bldg., Rockford, Ill.

Farm for Sale—Will furnish 100 cows, half of everything else and give half. Will sell tools, horses, tractor, car and half of the crops. Will move off now or this fall. Barn for eighty cows, drinking cups; three large silos. 80 acres corn, 50 of oats, 50 of alfalfa. 400 chickens. Have milking machine. Will give terms on all to right man. State particulars and how many in family in first letter. FRANK ROGERS, General Delivery, Leavenworth, Kans. 15-2

FARMS FOR SALE

$1,000 secures 150 acres with horse, 14 cows, 3 heifer calves, bull, hogs, tools, household furniture included; a live wire, money-making farm; on improved road, close village; fertile machine-worked fields; 20-cow pasture watered by trout brook, wood; 50 apple trees, pears, plums, cherries; 900-tree fully equipped sugar bush; good 7-room cottage, big basement barn, silo, stable, etc. Retiring owner's low price, $4,500, takes all, $1,000 down, easy terms. See details page 18 Illustrated Spring Catalog 1,100 Bargains. Free. STROUT FARM AGENCY, 150 Nassau St., New York City.

Free maps of Mississippi, showing views and describing the famous Black Prairie alfalfa, corn, clover, stock and dairy belt in northeastern Mississippi, where Lincoln Harbold of Iowa, largest hog feeder in the world, has located. Good water, schools, hard roads, creameries, cheese factory; healthy climate. Best general farming and stock section in the south. WISHART REALTY CO., Aberdeen, Miss. 15-2

Have buyer for 240-acre farm. Must have productive soil, good buildings and stock. Also 80 to 160 farm. WALTER MILLER, 320 Brumder Building, Milwaukee, Wisconsin.

DAIRY BARN EQUIPMENT

Louden Barn Equipment for Sale—In 1917 I planned to build a dairy barn and purchased the complete barn equipment. Matters transpired which caused me to abandon my building project and I now offer at a very low price, this entire equipment in its original packages just as it was delivered by the manufacturer. If you are interested in dairy barn equipment you cannot do better than to get in communication with me immediately. H. F. JOHNSON, Care S. C. Johnson & Son, Racine, Wis.

HELP WANTED

Men—Boys Wanted—Railway Mail clerks $135 month. Write immediately. FRANKLIN INSTITUTE, Dept. K 115, Rochester, New York. 12-4

Wanted—Honest man, German or Swiss preferred, for dairy work. $40 and board per month. Good position. Write to J. B. LUCHSINGER, Quincy, Florida. 14-2

Wanted—A middle-aged, single man for test barn to milk 5 or 6 Holstein cows on semi-official test and to take care of calves. Must be steady and competent. State experience, wages and reference. JOHN BAZLEY STOCK FARM, Route 5, Ypsilanti, Mich. Phone 705F4. 14-3

Wanted—At once single herdsman and assistant herdsman to take full charge of registered Jersey herd. Twenty-five cows on test the year round. Must understand rationing and raising calves. References required. Best wages to right man. BOX 730, care Hoard's Dairyman. 14-2

Wanted—Married man to work 90-acre farm stocked with pure-bred Holsteins. Good cow man, a little knowledge of A. R. O. work preferred. Also knowledge of general farming. Shares or salary. ARCHIE REID, JR., Janesville, Wis. 14-

Help Wanted—Married Couple to work in dairy and help on farm. Milking machine used. House furnished. H. W. FISCHER, Ethel, La. 14-2

Wanted on sheep ranch. Man, wife and growing boys. Hundred dollars per month, must be hustlers and understand sheep and general farming. Will arrange working interest with right parties. DUNKA RIVER LUMBER CO., Virginia, Minn. 14-2

Wanted at once—Experienced reliable man, no bad habits, for general farm work. Must understand feeding and caring for cows and not be afraid to work. If you are rough with stock or a shirk, don't answer for I want a man to take my place after fall or next spring. State wages and full particulars in first letter. Can offer good proposition. CECIL DOUDNA, Richland Center, Wisconsin.

Wanted good reliable girl or woman for housework on farm. Three in family, aged son and hired man. Must be good housekeeper and steady. State wages and particulars in first letter. Good home for right party. Address OAKWOOD FARM, R-2, Pewaukee, Wisconsin.

Pedigree Writer Wanted—Wanted, young man or women with a fair knowledge of Holstein-Friesians to learn pedigree writing. State age, past experience, typist experience and wage expected in first letter. WESTERN HOLSTEIN PEDIGREE CO., Webster City, Iowa. 15-2

Wanted—Single man for herdsman in dairy of 50 cows now being converted into pure-bred Holstein proposition and later where semi-official work will be done. Want energetic young man of good habits and good education. Good proposition for right man with staying qualities. Give full particulars, references, and salary expected in first letter. H. B. HOWELL, Farm Mgr., Preston Farms, Route 82, Jamestown, N. Y.

Wanted—Herdsman. Married man with small family for Guernsey herd. Must be well experienced handling cows on official test, good calf raiser, capable of producing results, willing to stay long and have unquestionable references. Modern barns and good stock. Modern cottage. State particulars, wages expected and how soon can come. Position open at once, as our herdsman died suddenly. Can use also a steady single man who has some experience with cattle as assistant herdsman. BEECHWOOD FARMS, Sharpsburg, Pennsylvania. 15-2

Wanted—Two single men for teamsters on large farm, capable of caring for and working four or six horses at general farm work. Steady job and good place to work for right party. Give full particulars, references and wages expected in first letter. H. B. HOWELL, Farm Mgr., Preston Farms, Route 82, Jamestown, N. Y.

An experienced machine milker. "Perfection". Must know sanitation. State wages. P. O. BOX 470, Houston, Texas.

POSITIONS WANTED

Situation Wanted—Farm superintendent and dairyman. Thirty years' experience in dairying, stock raising and general farming. Can handle all the requirements of a private or commercial farm. Highest references for ability and character. Wife refined, tactful, good business woman. We can handle help. Prefer place in Ohio. Superintended the O. C. Barber Farms at Barberton for six years. For the past eight years have managed the F. A. Seiberling (President of Goodyear Tire & Rubber Co.) Farms. State salary in first letter. Address A. L. LUMLEY, R-25, Garman Road, Akron, Ohio.

Wanted—Position in a milk condensery. Familiar with Mojonnier tester. Dairy school training. KOKUSHO, 102 West 123rd St., New York, N. Y.

Practical dairyman wants employment. Can test milk and balance a ration. Reference—Regent State Bank. J. W. BRADSHAW, Regent, N. D.

BETTER FENCES FOR LESS MONEY
40 Rods Forty Dollars



CARBO TENTION SYSTEM FENCES
Self-aligning—Keeps Straight
Fences any Weather or Strain—One Man can Build—Portable yet Permanent—No Concrete is Necessary—WRITE—
CARBO STEEL PRODUCTS CO
2607 W. 111th St. CHICAGO, ILL.

When writing advertisers please mention Hoard's Dairyman.

Co-operative Milk Company Organized in Kansas

HOARD'S DAIRYMAN: — Thirty-two leading dairy farmers supplying milk to the 80,000 people of Wichita, recently combined to form the Producers' Dairy Company with a capital stock of $20,000 and elected an experienced dairyman as foreman who with the aid of a small board of directors is sole manager. It is the outgrowth of discontent on the part of dairymen who felt the milk distributing companies were not giving them a fair deal.

The better dairymen objected to the distributors' practice of mixing their milk with that produced by the small and unscrupulous producers who maintained no recognized standards.

The scheme is not merely a co-operative one. It is a from-producer-to-consumer plan. Only producing dairymen can join it. Each member subscribed to the stock in varying amounts, agreeing at the time to sell all his milk to the company and to keep his herd under the supervision of the company's veterinarian employed to make tuberculosis tests of each of the 400 Holstein cows producing milk for the company.

The organization of the company came at a very opportune season, during the time when a local fight between the city dairy department and the milk customers demanding cleanliness was at its height. The first day the plant established by the producers opened for business, ten of the stockholders made a systematic canvass of the city, soliciting for milk customers. They succeeded in getting patrons enough to use all the milk their 400 cows can produce. It is not the desire of the dairymen to undersell any other producer in the territory. It is their aim, according to advertisements appearing in local newspapers, to furnish at competing prices a better quality of milk than has been on the local market.

The Producers' Dairy Company is prepared to supply the trade with both raw and pasteurized milk. At a total cost not to exceed $6,000 a small building was equipped with new machinery and pasteurizing equipment, all of which was new and ample enough to meet the needs. The Producers' Company of Wichita has begun business under the most promising omens. It has the support and good will of the element here that has waged war on unclean dairies throughout the vicinity and is receiving from it a large patronage.

Kansas. D. STALLARD.

Priced For Quick Sale

Two Highly Bred
Holstein Bulls
Born June 1st, 1920. Sired by Pabst Colanthus Champion. Dams by Segis Homestead. Both unusually fine animals. Write for extended pedigrees.
John A. Brown, Gordon, Douglas Co., Wis.

Can You Beat This

For a bargain in a richly bred sire? SIR HENGERVELD ABBEKERK PONTIAC 273934, born Jan. 2, 1919, has a 1231-lb. sister (former world's champion). He has two sisters over 30 lbs.; four over 25 lbs. Four of five nearest dams are over 22-lb. cows. His dam has a 1077-lb. sister. His dam is a granddaugther of King of the Pontiacs. She has a 22-lb. 3-year-old record and is making 1000 lbs. this year on yearly test.
PRICE $250
B. A. NORRIS, Anoka, Minnesota
A Federal Accredited Herd

Hampshire Records Lead All Others

Their type established decades ago have won recognition for them as the
"Packers' Favorite"

Armour & Co. advises to produce a hog with less lard as there is a decreasing market for it; Morris & Co., say,—"When farmers raise more hogs like Hampshires they will have more money in their jeans."



Clay Robinson & Co. sold them--Swift & Co. bought them at $4.50 above the top of the yards--Of all the big type breeds they were the youngest and biggest

This is the 1920 carload of Hampshires, raised by J. M. Ballard, Marion, Ind.—the rest of the story is on the cut itself. In 1918, 1919 and 1920 Hampshires made records at the Chicago International never equalled by any other breed of hogs. They were younger, they were bigger, they sold for more. This is the greatest trio in Swine Husbandry.

A complete dairy farm will be belted with Hampshires. We will find them close to you and will furnish you free information and literature on the best of breeding stock.

E. C. Stone, Secretary, 409 Wisconsin Avenue., Peoria, Ill.
American Hampshire Swine Record Ass'n

Greenbush Stock Farm
Sells At
Fond du Lac, Wis., May 10-11

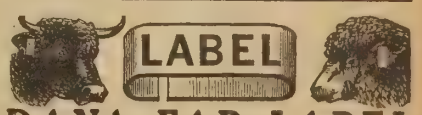
A Production-bred Bull Ready For Service
His sire is from a 1225.67-lb. dam with two records over 1000 lbs.
His dam has 887 lbs. in a year and 24.52 lbs. in 7 days—now well on the way to 1000 lbs.

A 20-lb. Cow bred to a 32-lb. Bull
with two 1000-lb. sisters with 31 lbs. in 7 days.

R. B. Melvin & Son, Glenbeulah, Wis.

MR. CATTLE BUYER
We can supply you with good, healthy registered Holstein cows and heifers, singly or in car lots. We always have some very desirable young bulls for sale. It will pay you to look into our high class listings.
LENAWEE CO. HOLSTEIN BREEDERS' ASS'N, ADRIAN, MICH.
L. W. Harwood, Sales Mgr. R. C. Curtis, Sec.

2 Good Bulls For Sale
King Pontiac Tehee Abbekerk, a 4-year-old grandson of King of the Pontiacs from one of the good A. R. O. daughters of Tidy Abbekerk Prince. He is sound, half white, and a good individual. Price $250.
Also a young son of the above sire from a good producing dam. Straight as a line. More than half white. $100.
S. R. McCOWN, Rich Hill, Mo.



DANA EAR LABEL
Stamped with owner's name or address and serial numbers. Send for free samples.
C. H. Dana Co., 55 Main St., W. Lebanon, N. H.



HOARD'S DAIRYMAN JUNIORS



A DEPARTMENT FOR THE DAIRY FARM BOY

What a Junior Corn Grower Should Know

There are several reasons why we think that this is a good subject to talk about at this time of the year. The time for planting the most wonderful of all American crops will soon be at hand. That in itself is a very good reason. And because many of the juniors will either grow a crop of corn in club contest work or will have much to do helping dad to grow his crop is another good reason. And for those who will attempt to grow the most corn that an acre of land can produce, this talk should be especially valuable.

Know About Good Varieties and Good Seed

While the kind of soil and the way we prepare it to receive the seed is an extremely important subject, it is not more so than the variety of corn we select to grow and the kind of seed we use. There was a time and not so very far back either when one might be excused for taking any variety of corn he could get to grow. That was back in the days of scrub dairy cows and scrub stock of all kinds. And it is not at all out of place to say that just as great an advance has been made in corn improvement during the past twenty years as we all know has been made in stock of all kinds. Today the good farmer knows as much about the varieties of crops that he grows as he does about the breeds of stock that he raises. If he doesn't he is not taking advantage of what has been done for him and he is certainly anything but an up to date farmer. Corn breeders have been very busy men for the past 20 years and their efforts to secure the very best varieties have been rewarded.

By all means, juniors, see to it that the variety of corn you grow this year is recognized as a standard variety for the section in which you happen to be living. If you do not know what would be best, there are several ways that we think of by which you can find out. Your county agent, if you have one, will help you and you can always find out from your agricultural experiment station by dropping a line to it. Perhaps your agricultural teacher will know about this and, best of all, perhaps dad has been growing the leading variety that there is for your section. So you see there will be little excuse for any junior corn grower using a variety that he does not know much about. There is this much that you can bank upon; your chances for winning the contest are very small if you work with any variety other than the ones which have been bred for good production.

But with the best variety that one can get, we are not assured of a big crop. The most fundamental thing about any crop is to have good seed and since it is such an easy matter to find out about the kind of seed you expect to use, we advise you to test each ear in the rag doll tester or by some other equally good way. It is not very long ago that a story appeared on the junior page in which seed corn testing was explained. Perhaps you have already tested your seed. If so, we want to congratulate you at this time. And for those of you who have not, right now is the time. Don't delay, for if you do, the seed is liable to go untested and then you will be taking too big a chance. Start right in the beginning, and then follow up with every other requirement that is necessary to grow a good crop.



IT IS FUN PLANTING CORN ON A SEED BED LIKE THIS

Know the Kind of Soil to Use and How to Prepare It

Some one has said that corn is the hog of the farm plants. I presume he meant by that statement, that corn will do very well on a great many kinds of soils but, no matter where we attempt to grow it, it is a greedy plant and that to make it grow properly there must be plenty of fertility in the soil. The best that can be expected from a poor soil is a poor crop and since we are out to win, it is of the very most importance to start with a fertile soil. One of the greatest corn crops ever raised was produced by a boy named Jerry Moore of South Carolina. He grew 228.7 bushels from one acre and you can just reckon that he could only do this on a very fertile soil. Now you might justly ask when is a soil fertile. This is an easy question to answer when we say that a fertile soil is one that will grow a maximum crop. But that hardly satisfies the question, so we will add a few things that all juniors should know about what a plant must get from the soil.

Plant chemists tell us that there are only ten things that a plant needs to make it grow well. If any one of these is missing in the soil or if any one is not present in large enough amounts the crop cannot grow in the way that it should. Of these ten things above mentioned there are seven that must come from the soil. These are phosphorus, potassium, nitrogen, sulphur, calcium, iron, and magnesium. The other three, carbon, oxygen, and hydrogen come from the air and the water and since there is usually an abundance of these three there need be little worry about them. But for a long time now most of our soils have been giving up these seven things until now in some of them there is not a sufficient amount to make crops grow well.

Acting upon this information, we should get the very best piece of soil that we can for the corn crop. It might make this point stand out better if we tell you that in order to grow a 50-bushel corn crop there must be at least about 80 lbs. of nitrogen, 15 lbs. of phosphorus, and 35 lbs. of potash ready to feed the plants. Now of course you can tell something about the soil by the crops it has been growing for the past few years. If you don't know this, we'll warrant that dad does, so it might be well to consult him on this matter. If you select a good deep sandy loam soil and work into it a good heavy application of stable manure, there will be little danger that your corn crop will starve at any time during the summer. And it will help, too, if you select a piece of land that grew a good crop of clover or alfalfa last year. Corn likes to follow a clover crop, for this crop usually leaves the soil in good mellow condition with a good supply of nitrogen. Corn is truly the hog of the farm crops, and therefore we should see to it that it is never starved at any time during the summer and the only way to attend to this is to select the right piece of ground and then manure it heavily.

Know Some Things About Corn Planting Time

Any one who has ever tried to grow corn will tell you that it is folly to plant corn before the soil is well warmed up. Corn is quite different than the grains in this respect. It is simply because it is the nature of the corn plant not to grow when the soil is cold. For this reason, corn planting always follows the plantings of the other crops. Of course it depends where one is living to quite an extent. In the corn belt and in the states further north, corn planting usually is done during the month of May and it is quite a noticeable fact that the best corn crops come from the plantings that are made in May. This is true for the central and northern parts of the country, while if we go farther south, plantings earlier than this are usually made. It is a good rule to be on the watch-out and have the seed bed all ready to plant as soon as you dare plant.

It is most important also that a good seed bed should be prepared. If the field was plowed last fall, it should be carefully worked up this spring with a harrow until it is fine and mellow. There should be no large lumps left on the surface to be in the way of the planter and the cultivator. And if the land is plowed this spring, it is very necessary to pack the loose plowing down again, either with a roller or a compactor. This is for the purpose of packing the soil next to the sub-soil so that the moisture will rise to the surface where the tiny roots will be. If you don't do this and a dry spell follows the planting it is quite possible that the seeds will not sprout well and, if they do, the little plants may suffer for lack of moisture. It is indeed quite a task to get a piece of land in good condition for planting, but no effort should be spared to make it as good as is possible.

Know Something About Methods of Planting

An examination of several corn fields will disclose the fact that there are two common ways in which corn is planted. In one case the plants are in rows, the rows being about three feet six or three feet eight inches apart and the plants stand about nine to fifteen inches apart in the rows. This is called drilling the corn in. It has its advantages and its disadvantages. Perhaps the greatest disadvantage is that it allows of cultivation only in one direction, and, if the field is weedy, it will be difficult to keep the weeds out. However, if the weather is warm and fair following the planting so that the corn



EVEN IF THE WEEDS ARE FEW, IT IS OFTEN A GOOD PLAN TO CULTIVATE THE CORN SO AS TO ALLOW THE AIR TO ENTER. MOISTURE IS ALSO CONSERVED BY BREAKING UP THE SURFACE OF THE SOIL WHEN THE CORN IS STILL SMALL

comes up quickly, the cultivator may be put to work at once and there may be little trouble in keeping the weeds out. But we never know what the weather is going to be, so there lies the danger of this method of planting.

We think the safer way to plant is in hills. This will allow cultivation in two directions and it is much easier to keep the weeds away from the plants. Some people think that more corn can be grown on an acre by drilling it in. This is only true when more seed is planted, which is very liable to be the case. Experiments carried out by those who have been interested in this prove that when the same amount of corn is planted by either method there is little difference in the yields obtained providing the weeds are kept out equally well in each case.

If corn is planted three feet—six inches apart, there will be 3,555 hills on one acre. And if there are four kernels dropped in each hill, there would be 14,220 plants if every seed grew. And since we can figure from actual count that there are from 700 to 900 kernels on each ear, it is readily seen that it takes about 15 to 20 ears to plant one acre of corn. On a good fertile soil, this should be the average rate of planting. Four and five kernels per hill is plenty if you want the plants to ear well. Five kernels is a maximum number and in most cases, four will give better results. And this is the rule in the corn growing sections of the country.

The sooner corn gets out to the sunlight after it is planted, the better. Corn is a sunshine loving plant and for that reason it should not be held back by too deep a planting. Deep plantings never gain anything. Plantings made at various depths prove that those made at about one to two inches deep give the best yields. It would be very difficult to state any exact rule about the depth of planting, but it is safe to say that we should plant just deep enough to cover the seeds well with fine, moist soil. Deep plantings do not make the plants root deeper as some seem to think, for the roots always come out on the stalk just underneath the surface of the soil.

Understand the Truth About the Values of Cultivation

Every one knows that no matter how well all the details have been looked after about planting corn, a crop cannot be had unless the weeds are kept out. As important as this is and as well as it is known, there are those who attempt to grow a crop of corn with a crop of weeds. It never has been done and it never can be done. A corn grower must understand the principles of cultivation and then apply them. To keep the weeds out after the corn has been planted is the one thing that will make a good yield of corn.

The Illinois Experiment Station did a most excellent piece of work in establishing the principles of corn cultivation. An explanation of these will clearly satisfy our understanding on this point. They represented the yield of corn obtained by growing the crop in the usual way by 100%. All other yields were then figured on this as a basis. In one series of plots, the land was not even plowed before planting. The corn was planted with a hoe and the weeds were kept out by scraping them off at the surface with a sharp hoe. The soil was not disturbed at all. The results were remarkable, I am sure that you will agree when we tell you that the yield obtained under these conditions was 80% of a normal yield. In another series of plots, the soil was plowed and a seed bed prepared in the usual way but the weeds were allowed to grow. The yield of corn from these plots was very small, about 6% to 11% of a normal yield. A comparison of these results proves beyond a doubt the importance of keeping the weeds out. In another series of plots, the soil was prepared in the usual way and the weeds were kept out by scraping off at the surface as they were in the first series. A yield of 114% was obtained. By comparing this with the first results, it is seen that at least 20% must be credited to the preparation of the seed bed. The extra 14% was due to the fact the roots of the corn plants were not disturbed, thereby allowing the plants to feed as close to the surface as was possible. This establishes the very fundamental principle that it is not wise to cultivate very deep so that the roots will be cut off.

Then to explain whether the weeds do their damage by taking the moisture that the corn plants should have, they did the following: In a series of plots the soil was prepared in the usual way, the corn was planted, and the weeds were allowed to grow. The plots were kept watered so that the plants never suffered for lack of water during the entire summer. It was found that this did not increase the yield of corn much beyond that obtained from the plots in which the weeds were allowed to grow, but which were not watered. This brought to light the fact that the weeds do not do their damage by taking the moisture that the corn plants should have but rather that they crowd the young corn plants, shutting out the air and sunlight when the plants are still small. These results apply particularly to those corn growing sections that have plenty of rainfall and not to the drier regions like Kansas and Oklahoma. In regions then that have plenty of rainfall, the prime object of cultivation is to keep out the weeds, and there is little to be gained through cultivating a corn field that is free from weeds. If the soil is heavy and tends to form a crust, it might be necessary to cultivate in order to open the soil to allow the air to enter. When corn has reached the height of two or more feet, there is such a mass of roots in the soil that little moisture can escape at the surface through evaporation. It is absorbed by the roots and thus escapes from the plants by way of the leaves. It is therefore doubtful if very much moisture is preserved in humid regions through cultivation.

Then if we apply the teachings of this valuable piece of work, we will cultivate a sufficient number of times to keep out all weeds and at all times we will cultivate shallow (not more than three inches) in order not to cut off the roots with the shovels of the cultivator.

Junior Letters

Hoard's Dairyman Juniors:—I am eleven years old and in the 4th grade. We live 2 miles from the school; it is a rather long walk. The name of our school is Bee Hive. Our teacher's name is Miss Anne Martin and she is a good teacher. I have one sister and two brothers. I got a calf from my papa and she is fine. Her name is Lily. I feed her and play with her. I have trapped a little bit with my brother. We got 32 rabbits. I like to read the junior page the best of all.

Wishing all the juniors good luck.

Minnesota. Leo Juntilainen.

Hoard's Dairyman Juniors:—This is my first letter to the juniors. I am 11 years old and in the sixth grade. I have three brothers; two of them belong to the junior club. One of my brothers earned an air rifle, a knife, and a compass getting subscriptions for the Hoard's Dairyman. My brother and I have five rabbits. We have 125 hens. My oldest brother and I have a tenth of the eggs for tending them. I have a calf of my own. We have three geese and 25 sheep. This morning some dogs got after them but did not hurt any. We have only one lamb now. We have twelve little pigs. We have 57 head of pure-bred Ayrshire cows. We are milking 32 of them. We have 9 horses. I am going to close, and if any of the juniors want to write me my address is R. 1, Swanton, Vt.

Frederick Collins.

Hoard's Dairyman Juniors:—As I had nothing else to do I thought I would sit down and write to you.

I said before that I was going to get a pig, but I got a calf instead. My father said he would rather let me have a calf. My calf's name is Bessie Prilly Fobes. She is six months old. I feed her silage with ground feed and oil meal twice a day, and also hay twice a day. She was born in September and is just as big as one of my father's that was born in the spring. I am going to join a calf club this year and take her to the fair.

I bought two rabbits this winter.

Wisconsin. Leslie Gilbert.

Hoard's Dairyman Juniors:—I received your very welcome letter and I read it two times. I was glad to hear from you.

Papa is milking two cows and expects another to calve. I am going to have it. I hope it is a heifer. I like to milk.

I sold my goat about a month ago. I bought the goat for three dollars and sold it for five dollars. I made two dollars on the goat. I expect to buy a young lamb this spring.

We are having a week off, so I am fixing my rabbit coops. I expect some bunnies in a little while. I like to take care of animals.

Wishing all the juniors good luck.

Massachusetts. Elwood N. Robert.

Hoard's Dairyman Juniors:—I am twelve years old and in the sixth grade in town school. I live on a farm of 120 acres. We have twenty-four head of Holstein cattle, fourteen of them are milking, five are yearlings, and the remainder are calves. We also have one registered bull. We have six horses and one of them is mine. We have eight pigs and about 120 chickens. I also have four ducks. My father has four calves. I am going to buy one when school is out.

We are going to have our house fixed over and get a furnace and electric lights.

I am going to raise strawberries this year as I think they are a profitable crop.

My father has been taking Hoard's Dairyman for a long time and I enjoy reading the junior letters.

I wish some of the juniors would write to me and tell me what they raise and how they take care of their calves. My address is Blooming Prairie, Minn. Donald McVerey.

Hoard's Dairyman Juniors:—It is a long time since I joined the juniors' club so I thought I would write. We have 160 acres of land, two cows, one of which is just fresh, four calves of which one is mine, two mules which papa is trying to break, and three horses, one of which is a pretty good rider.

I am in the fifth grade at school. We will have to go to school 19 more weeks before school is out. I will have to close because it is near bed time, so good-bye. If any of the juniors want to write to me my address is Route 3, Columbia, Mo. James Bewick.

Hoard's Dairyman Juniors:—I am twelve years old and this is my second letter.

I have one heifer and she is a Jersey. I am milking one cow now, but will soon milk two as we are going to bring another from the farm (I live in a village) and also her calf which is a Jersey. Her mother is a pure-bred and so is the bull.

We have two horses and their names are Sam and Kit and we also have two mules named Kate and Maud.

I have a Collie dog named Ring.

Well, I will close wishing some juniors would write. My address is Box No. 4, Millfield, O.

Stanley Howard.

SALE ANNOUNCEMENTS

May 2—Holsteins. Walworth County Holstein Breeders' Association Eighth Semi-annual Sale at Elkhorn, Wis. Ben Bachhuber, Mgr.
May 3—Holsteins. Clark County Quality Sale at Owen, Wis. J. Wuethrich, Sale Mgr.
May 4—Holsteins. Minnesota Holstein Breeders' Association Third Annual Sale at Faribault, Minn. B. D. Scott, Sec.
May 4—Guernseys. T. C. Norman Dispersal Sale of Registered Guernseys at Lake Crystal, Minn. F. E. Fox, Waukesha, Wis., Sales Mgr.
May 4-5—Holsteins. Ohio Holstein Breeders' Association Second Annual Sale at Columbus, Ohio. H. C. Barker, Sec.
May 5—Guernseys. Waupaca Co. Guernsey Breeders' Assn. Annual Consignment Sale at Waupaca, Wis.
May 5—Holsteins. Lake Mills Holstein Breeders' Consignment Sale. F. H. Everson, Mgr., Lake Mills, Wis.
May 6—Guernseys. Fox River Valley Guernsey Breeders' Association Consignment Sale at Appleton, Wis.
May 6-7—Holsteins. Illinois Holstein-Friesian Ass'n. State Sale at Wheaton, Ill. R. N. Thompson, Sec.
May 9—Holsteins. Brown County Holstein Breeders' Sale at De Pere, Wisconsin.
May 9—Holsteins. West Salem, Wis. F. H. Everson, Sale Mgr., Lake Mills, Wis.
May 10—Guernseys. Dispersal Sale of Emmadine Farm Herd at Hopewell Jct., Dutchess Co., N. Y. Leander F. Herrick, Sale Mgr.
May 10—Guernseys. Berrien County Breeders' First Annual Consignment Sale of Registered and Grade Guernseys at Eau Claire, Mich. F. E. Fox, Waukesha, Wis., Sale Manager.
May 12—Holsteins. Green Co. Holstein Breeders' Ass'n. Semi-annual Consignment Sale at Monroe, Wis. H. D. Schindel, Sale Mgr.
May 12—Guernseys. J. L. Hope's Annual Sale at Florham Farms, Madison, N. J. Leander F. Herrick, Sale Mgr.
May 12—Holsteins. Marathon Co. Holstein Breeders' Association Sale at Wausau, Wis. Francis Darcey, Watertown, Wis., Mgr.
May 12—Jerseys. Wisconsin Jersey Breeders' Ass'n. Sale at Madison, Wis.
May 13—Holsteins. Chippewa Falls, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 13—Holsteins. Consignment Sale at Chippewa Falls, Wis. F. H. Everson, Mgr.
May 13—Eastern Guernsey Breeders' Association Combination Sale at Devon, Pa. Leander F. Herrick, Sale Mgr.
May 17—Holsteins. State Fair Grounds, Milwaukee, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 18—Jerseys. Monroe County Jersey Breeders' Consignment Sale at Tomah, Wis.
May 18-19—Holsteins. Manitowoc County Holstein-Friesian Breeders' Association, Manitowoc, Wis. Chas. Hampke, Manager.
May 18—Holsteins. Livingston Co. Holstein Association Sale at Howell, Mich. F. J. Fishbeck, Sale Manager.
May 20—Holsteins. Sheboygan Co. Holstein Breeders' Sale at Plymouth, Wis. F. H. Everson, Manager.
May 20-21—Holsteins. Wheatfield Farms Consignment Sale at La Salle, N. Y.
May 23-24—Holsteins. Missouri State Holstein Association Show and Sale at Sedalia, Mo.
May 24—Guernseys. Marathon Co. Guernsey Breeders' Ass'n. Second Annual Consignment Sale at Wausau, Wis. F. E. Fox, Waukesha, Wis., Sales Mgr.
May 25—Guernseys. Portage Co. Guernsey Breeders' Association Annual Consignment Sale of Registered Guernseys at Amherst, Wis. R. K. McDonald, Sec'y. F. E. Fox, Waukesha, Wis., Sale Manager.
May 26—Brown Swiss. First National Consignment Sale, Peoria, Ill. Wm. S. Dunn, Mgr., Middleburgh, N. Y.
May 26—Guernseys. Portage Co. Guernsey Breeders' Association Annual Consignment Sale of Registered Guernsey males and grade females at Amherst, Wis. R. K. McDonald, Sec'y. F. E. Fox, Waukesha, Wis., Sales Manager.
May 26—Holsteins. Marshfield, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 26—Jerseys. Greene County, N. Y., Jersey Cattle Club Consignment Sale at Cairo, N. Y.
May 27—Holsteins. Michigan Holstein-Friesian Breeders' Assn. Sale at Grand Rapids, Mich. H. W. Norton, Jr., Secretary, Lansing.
May 27—Holsteins. Outagamie County Holstein Breeders' Ass'n. Sale at Appleton, Wis. Edw. O. Mueller, Sec.
June 1—Holsteins. Dispersion of Fairview Stock Farm's Herd at Anderson, Ind. O. L. Janney, Owner.
June 1, 1921—Holsteins. Central Wisconsin Holstein Breeders' Ass'n. 13th Semi-annual Consignment Sale at Marshfield Sales Pavilion, Marshfield, Wis. R. A. Peterson, Wisconsin Rapids, Wis., Sale Mgr.
June 1—Guernseys. Quality Sale, Chippewa Valley Guernseys, at Eau Claire, Wis. G. R. Ingalls, Sale Mgr.
June 2—Guernseys. Clark County Guernsey Breeders' Annual Consignment Sale at Owen, Wis., C. E. Beck, Manager.
June 3—Guernseys. Fond du Lac Co. Combination Sale. Charles L. Hill, Mgr.
June 4—Guernseys. Folly Farm Guernseys at Fond du Lac, Wis. Chas. L. Hill, Mgr.
June 7—Guernseys. The Southern Wisconsin Guernsey Breeders' Ass'n. Sale, Ft. Atkinson, Wisconsin.
June 8—Guernseys. Complete Dispersal Sale of the Chas. Govin herd of Menominee, Wis., at Waukesha, Wis. F. E. Fox, Sale Mgr.
June 9—Holsteins. First Annual Bred Heifer Sale. Thorp, Wisconsin. W. H. Krause.
June 9—Holsteins. First Annual Sale, Holstein-Friesian Co-operative Association of New Jersey, Trenton, New Jersey. J. W. Bartlett, Secretary, New Brunswick.
June 9—Guernseys. Waukesha County Guernsey Breeders' Ass'n. Eighteenth Semi-Annual Sale of Registered Guernseys at Waukesha, Wis. F. E. Fox, Sec.
June 9—Guernseys. Massachusetts Guernsey Breeders' Sale. Leander F. Herrick, Sale Mgr.
June 14—Guernseys:—Minnesota Guernsey Breeders' Annual Sale. State Fair Grounds, St. Paul. L. V. Wilson, Secretary.
June 15—Guernseys. First Michigan State Sale at Lansing, Mich. F. E. Fox, Waukesha, Wis., Sales Manager.
Oct. 19—Guernseys. Wm. S. Ormston & Son, St. Johns, Mich., Dispersal Sale. F. E. Fox, Waukesha, Wis., Sales Mgr.

Be at Faribault, Minn.
May 3-4-5



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MAY 4—Our State Sale—The Best We have Ever Held and We Predict the Best State Holstein Sale for 1921.

MAY 5—Rice County Breeders' Sale. One It Will Pay You to Attend.



Minnesota Holstein Breeders' Association

406 Market Bank Building, Minneapolis, Minnesota

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Wisconsin Holstein Breeders' State Sales

Milwaukee
May 17
65 Head
OF
Wisconsin Holsteins

HOLSTEIN-FRIESIAN BREEDERS' ASSN Wisconsin

Marshfield
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OF
Wisconsin Holsteins

EVERY ANIMAL INSPECTED BY A COMMITTEE made up of Bill Baird, Fred Southcott, Rudolph Schaefer, Jerry Riordan, Ad Kaye and Frank Everson. You know them. They know Holstein-Friesian cattle.

All Bulls from 30-lb. or yearly record dams. Cows with records up to 34 lbs. in 7 days or nigh 1200 lbs. in the year.
Everything over six months of age.

EVERY ENTRY TUBERCULIN TESTED AND GUARANTEED ON A 60-DAY RETEST PRIVILEGE. SAFETY FIRST.

Now is the buyer's chance **Watch future issues for details.**

Wisconsin Holstein Breeders' Association

L. L. Oldham, Secretary, Washington Bldg., Madison, Wisconsin

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Send For Our Bull Sales List

Three bulls of serviceable age—four others will be old enough for service in a month or two—others three months old and older. Almost all of them sired by SIR ORMSBY BEAUTY PONTIAC SEGIS, the son of a 37-lb., 1112-lb. three-year-old daughter of KING SEGIS PONTIAC COUNT.

If it will be of an accommodation to the purchaser, we will accept a six months' note in payment, WITHOUT INTEREST, or will accept payment on installment plan basis.

Pinehurst Farms Co., Sheboygan Falls, Wis.

Bull Calves
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SIR BESS ORMSBY FOBSE
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Cows with 7-day records now on semi-official; two-year-olds milking as high as 70 lbs. and mature up to 92 lbs.

LINDEN LAWN STOCK FARM
B. W. RABENHORST, Jefferson, Wis.

Cows and Heifer
A Few Good Bulls

Because I am overstocked, I am offering some very good registered females for sale. They either have A. R. O. records or are from A. R. O. dams.

Can also offer some excellent young bulls by a 33-lb. sire and from A. R. O. dams with records up to 28 lbs.

Every animal sold is guaranteed to be as represented.

Write or come and see for yourself.

J. D. McDonald West Salem, Wis.

Serviceable Bulls For Sale

Sired by Pabst Pontiac Hengerveld, a son of King Pontiac Champion from Pabst Hengerveld Colanthus (31.5 lbs. butter in 7 days, 1,057 lbs. in a year.

These are nicely marked, well grown youngsters out of good producing dams. Several are ready for service, others are younger.

Write today.

John Alexander, Baraboo, Wis.

A Few Good Granddaughters
OF
King Segis Pontiac
and from A. R. O. Dams.

Guaranteed right. You Get Your Papers When You Buy.

Rock Valley Stock Farm
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GRANDSONS OF
SIR VEEMAN HENGERVELD

One ready for service. ⅞ white and a show bull. He'll suit you. Six bull calves 2 to 3 months old ½ to ¾ white, most of them from heavy producing daughters of a 34-lb. son of K. K. S. V. All are from very good producing dams. Prices $50 to $65.

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Canary Mercedes Champion II No. 318082 recently made 29 lbs. of butter from 512.5 lbs. of milk in 7 days. Now on yearly work. Her bull calf, sired by a 32-lb. bull is for sale. Write for complete information in regard to this well bred younster to

GREENBUSH FARM
R. Turano, Herdsman, Glenbeulah, Wis.

$100 to $200 Buys A Bull From A Good Record Dam

Am offering several for those prices sired by a 26-lb. bull and from A. R. O. dams with records up to 25.46 lbs.

Write at once. They'll go fast.

H. W. Crawford, R. 5, Campbellsport, Wis.

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Quality Holsteins

GRADES AND PURE-BREDS

Just now we have a splendid lot of grade heifers. Write for our pure-bred bull list.

Jefferson County Holstein-Friesian Breeders' Association,
A. F. Gafke, Secretary, Jefferson, Wis.

I-N-V-E-S-T-I-G-A-T-E—Pure-bred Holstein bulls sired by Wisconsin 3-year-old at National Dairy Show 1920. Herd tuberculin tested. Pure-bred Duroc pigs sired by Great Wonder Sensation.

RIDGEHURST STOCK FARM,
Glen C. Ramsey Ft. Atkinson, Wis.

Minnesota Dairy Courses

Seven different dairy short courses have been offered in the University of Minnesota this season. The total enrollment was more than 700. Two new courses which warrant special notice were those for milk dealers of the Twin Cities and for milk wagon drivers and milk plant employees. Approximately 100 men attended the course for dealers and about 500 the course for milk wagon drivers. It was estimated that those present handle about 80% of the milk distributed in the Twin Cities.

Information was given concerning the relation of milk to the health and welfare of the community; the importance of milk in the diet and of the necessity for extreme care in handling this important food product were emphasized.

E. B. Reid With Farm Bureau

E. B. Reid formerly with the Department of Agriculture has been appointed to the staff of the Washington office of the American Farm Bureau Federation. He will assist in the departments of legislation, education, and publicity. His training fits him admirably for this work.

SWINE

Cedar Crest Farms
have never possessed a finer lot of
BERKSHIRES
than at present. Let us name you prices on fall and spring boars and young gilts.
J. K. Dering, Owner, Lake Villa, Ill.

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BETTY OF LAKE VIEW

Breed Brown Swiss Cattle

They prove their superiority over other breeds when subjected to trying conditions on the farm, by keeping in good flesh and filling the pail while other cows grow thin and reduce their yield. You can prove this to your satisfaction.

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All Females Withdrawn from Sale Until After the
ILLINOIS BROWN SWISS BREEDERS' ASSOCIATION SALE
MORTON, ILL., APRIL 21
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FIRST NATIONAL CONSIGNMENT SALE
PEORIA, ILL., MAY 26
A number of line-bred bulls for sale.

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Stock For Sale
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25 out of 80
OR
31¼ per cent of the highest record cows of the breed, at various ages from yearlings to mature cows
Bred or Their Sires Bred at Hood Farm
These 25 cows and heifers average 14,156.6 lbs. milk, 765.5 lbs. fat. Two out of the eighty Imported cows; seven out of the eighty sired by Imported bulls; 9 or 1⅛ per cent Imported or sired by Imported Bulls.
A Sophie Tormentor Bull
at the head of your herd means increased production and profit. Four-generation pedigree on request.
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BELSWOOD FARM
Financial Bred Jerseys
Six young bulls out of dams with R. of M. records of 500 lbs. butter and better. Good typy individuals.
Also yearling heifers. Let us send you our illustrated catalog.
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Montpelier Jerseys
Three young bulls ready for service. Trace three times to Oxford Lad. Fine typy individuals. Right in every way.
Montpelier Manor Farms, Laurel, Md.

The Elms Jersey Farm
A few young cows, bred heifers and unbred heifers, for sale at from $150 to $250. Write for pedigrees and descriptions.
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JERSEY BULL
14 Months Old
From Register of Merit Dam
With record of 416 lbs. fat, age 3 years, 2 months, carried calf 247 days. 7 nearest dams of this bull are in Register of Merit with good records. Solid dark color and a very good individual. Price $140.00.
P. G. WARMINGTON, Honey Creek, Wis.

Register Merit Jersey Herd
At Head, Mona's Jacoba Premier grandson: Pogis 99th of Hood Farm. Dam, Mona's Jacoba, record 806 lbs. butter: Granddaughter Jacoba Irene, young stock; St. Lambert breeding for sale. R. C. Green & Son, Albion, Wis.

Ten Splendid Jersey Bulls
Good type, 6 to 18 months old. Heifers bred and open. Hood Farm Torono, King Sappho King, Loretta D. Bright Prince, etc. blood lines. Free from abortion. Dams are in the R. of M. or on test. Accredited herd. Address: J. Q. Emery & Son, Edgerton, Wis.

Hillcrest Jerseys
Bull calf born March, 1920. Sired by Imp. grandson of Golden Fern's Noble. Priced right for quick sale. Write
ROLLIE VANDERVORT, TOMAH, WIS.

JERSEYS—DUROCS
Just one bull old enough for service and a few young calves. Hood Farm breeding.
F. R. Constance & Sons, Waupaca, Wis.

HERE'S YOUR OPPORTUNITY
Bull calf born March 4, 1920, sired by a grandson of Majesty's Western King and out of a R. of M. daughter of Ibsen's Chief. For full pedigree and price write
E. E. HILL & SONS, Tomah, Wis.

Valley Farm is Offering
Several bulls, 6 to 12 months old, from R. M. cows. Sired by Golden Maid's Viscount and Kilda's Royal Majesty, two of the best Island bred bulls living. At prices to sell. Write
FRED STUBLEY, Black Earth, Wis.

POLLED JERSEYS
Breeders' names and Spillman's "Inheritance of the Poll Character in Cattle" mailed free.
CHAS. S. HATFIELD, Secy, R4, Box 5, Springfield, Ohio.

When writing advertisers please mention Hoard's Dairyman.

Wisconsin Jersey Breeders' Association
Third Annual Sale
At University Live Stock Pavilion
Madison, Wis., May 12, 1921
The Cream of Wisconsin's Register of Merit Herds
50 "Hand-Picked" Jerseys
The greatest lot of dairy cattle ever assembled in Wisconsin. Register of Merit cows, heifers out of Register of Merit dams and three great young bulls. American and Island breeding, take your choice. Nearly 100 herds were visited in making these selections and we insisted upon and secured for this sale heavy producers, good individuals and blood that breeds on.
Sires represented in this sale are:

Oxford Majesty	Golden Maid's Viscount
Sophie's Emblem	Noble's Fawn Prince
Harbinger's Chief	Pennithorpe's Knight
Kilda's Royal Majesty	Rosebud's Jacoba Lad
Variella's Foxhall	Viola's Combination Prince
Lucy's Golden Tycoon	Oxford Duke O' Dreamwold

And other noted sires.
Catalogs will be mailed on request
Auctioneer—Col. D. L. Perry, Columbus, Ohio.
Chas. A. Peterson, Sale Mgr., Madison, Wis.
Monroe Co. Jersey Sale at Tomah, Wis., May 18.

Jersey Auction
Monroe County Jersey Club
Tomah, Wisconsin
Wednesday, May 18th, 1921
47 Head Highest Quality Jerseys
consisting of 14 cows, 13 bred heifers, 14 heifers not bred and 6 bulls. A Jersey Breeders' Business Sale of surplus stock in a hand selected lot of 47 head.
Catalogs Now Ready
Col. D. L. Perry, Auctioneer
E. E. WYATT, Sale Manager, Tomah, Wis.

INCREASED PRODUCTION GUARANTEED
We guarantee any Jersey bull we sell to increase the average production of any herd
OR MONEY REFUNDED
YOU TAKE NO CHANCES. Our guarantee insures increased production and profit. Bulls for sale, ready for service.
AYREDALE STOCK FARM
F. W. Ayer, P. O. Box 713, Bangor, Maine.
N. B. Write us the size and producing ability of your herd, and we will describe and price a bull guaranteed to increase their production.
By mentioning "Hoard's Dairyman" we will know you are asking for a guaranteed bull.



Heifer Calf For Sale
Dropped Oct. 6, 1920, fawn color, nice type, and in fine condition. Sired by Golden Renown's Majesty, and her dam (Majesty's Brown Bess) is sired by a grandson of Royal Majesty. This heifer is exceptionally well-bred and dam is good producer.
Will sell cheap on account of being crowded for room. Registered, transferred, and crated for $80. Accredited Herd.
W. M. KNIGHT, Oak Grove Jersey Farm, - - - Eagle, Waukesha Co., Wis.

Marathon County Guernseys

52 Registered Males and Females

Offered in Their

2nd Annual Consignment Sale

Wausau, Wisconsin, Tuesday, May 24, 1921

MARATHON COUNTY, the home of the first 1,000-pound cow, Yeksa Sunbeam, is a great Guernsey center, and the offerings in their Second Annual Sale are very high class as to type and breeding.

All consignments were carefully inspected before acceptance and will be sold subject to the sixty-day retest. The Marathon County breeders are anxious to spread the influence of good Guernseys, therefore have made offerings accordingly.

Just a few of the best that are offered:

TWO DAUGHTERS of Ona's May King of West Salem No. 27874, a son of Itchen Daisy's May King of Langwater (A. R.) and out of Ona of the Glen A. R. 415.48 lbs. butterfat at 2 years.

FOUR DAUGHTERS of Skeezicks' Princess No. 40773, who is by Skeezicks A. R. sire of 13 A. R. daughters and out of a daughter of Imp. Financier A. R.

SIX DAUGHTERS of Lone Pine's Star No. 50935, who is a grandson of Imp. Governor's Whimsome (A. R.) and Skeezicks (A. R.).

ELEVEN DAUGHTERS of Star of Lone Pine No. 32452, sired by Imp. Governor's Whimsome A. R. sire of 5 A. R. daughters, by Governor of the Chene (A. R.).

HELENDALE NORTHERNER (male) sired by Step Lively, full brother to Florestine's Triumph A. R., 599.4 lbs. butterfat, 8th Class CC, 681.61 lbs. Class A.

PEARLY GATE NO. 53589, by Penthesilia's Champion A. R. sire of 6 A. R. daughters and out of a daughter of Pearlson A. R.

ERRANT'S NELLETTE 40565, on test, in 304 days has produced 398.36 lbs. butterfat,

Many other fine individuals listed.

Sale Committee—A. J. Plowman, Adolph Thompson, J. S. Alexander, and Wm. Lonsdorf.

Auctioneers:—Love and Benjamin.

Write for catalogue to

F. E. FOX, Sales Manager, Waukesha, Wis.

Registered AND Grade Guernseys

OFFERED IN THE

Second Annual Consignment Sale

Portage County Guernsey Breeders' Ass'n

Amherst, Wisconsin, May 25 and 26, 1921

May 25 — Fifty-Four Registered Guernsey Males and Females

Will be offered by the Portage County Guernsey Breeders, in their Second Annual Consignment Sale. Practically all consignments come from Federal Accredited Herds, and all animals will be sold subject to the sixty-day retest. All males listed are out of tested dams. Many A. R. cows are catalogued, and the offering is one of the best ever made at a public sale.

Some of the Other Consignments are Listed Below:

TELLUS NO. 48966 (A. R.) Milk 13,410.3 lbs., butterfat 638.04 lbs. Class A. She has two daughters on test, making good records.

FERN OF GORDONDALE 6997 (A. R.) Milk 8,382.3 lbs., butterfat 395.34 lbs. at 2 years, on retest; in 175 days has produced 6,347.6 lbs. milk, 297.66 lbs. butterfat.

LADY JESSIE'S NORETTA NO. 81668 (A. R.) Milk 6,928.8 lbs. butterfat 408.9 lbs. at 2 years on retest; in 103 days has produced 3,389.3 lbs. milk, 174.0 lbs. butterfat.

IMP. RASPAIL PETAL NO. 93884, on test; in 108 days has produced 2,632.9 lbs. milk, 132.5 lbs. butterfat in Class GG.

TWO DAUGHTERS OF ROYALETTE'S STANDARD NO. 20141, (A. R.) sire of 4 A. R. daughters.

IMP. MADELON OF JEAN DU LUTH NO. 93892, on test; in 57 days has produced 1,663.2 lbs. milk, 81.79 lbs. butterfat.

IMP. ALEX OF BELLVIEW NO. 4697 (A. R.) milk 7,788.4 lbs., butterfat 368 lbs. at 4 years.

GOLD OLLIE'S SECRET NO. 50996, Dam Gold Ollie (A. R.); milk 10,329.3 lbs., butterfat 551.3 lbs. Dam of 3 A. R. daughters.

SIX DAUGHTERS OF BOB RILMA'S RECORDER NO. 41908, whose dam Alderney Betty (A. R.) milk 10,790.7 lbs., butterfat 483.5 lbs.

FOUR DAUGHTERS OF COUNTRYMAN NO. 18121 (A. R.)

Several daughters and sons of Craigamoor Golden Noble 39325, dam's record, 538.65 lbs. at 3 years.

Several daughters on test.

Skanivans (Male) Grandson of Imp. Itchen May King (A. R.) Dam's record 405 lbs butterfat.

Thursday, May 26

TWENTY-FOUR PURE-BRED GUERNSEY BULLS listed. They are all fine individuals, of good breeding. HEAD YOUR HERD WITH A PURE-BRED SIRE.

TWENTY-FIVE VERY HIGH CLASS GRADE FEMALES offered. Start right. Begin with good producers for foundation stock.

Sale at 1:00 P. M. each day. Auctioneers:—Love and Benjamin.

Send at once for catalogue to

F. E. Fox, Sales Manager, Waukesha, Wis.

Waupaca County Guernseys

More Federal Accredited Herds than any other County in Wisconsin

Grades and Pure-breds
available by the carload

Write for information and prices to

SECRETARY E. A. HOTZ, Scandinavia, Wisconsin

Waupaca County Guernsey Breeders' Ass'n

100 Registered Guernseys 100

Comprising the Choicest Stock From the Best Herds in

Waupaca and Fox River Valley Guernsey Breeders' Associations

will be sold at

Waupaca & Appleton, May 5-6, Respectively

These two Guernsey Communities have been breeding Guernseys for many years and it is their ambition to present such an array of Guernseys at these two sales as will reflect credit upon their breeding operations.

Every animal consigned to these sales has been carefully selected by a competent sale committee. 65% of the total number consigned are from accredited herds or herds under Federal Supervision. It is worth while to know the cattle you buy are clean.

Prize winning and high producing blood is in much evidence throughout the herds represented in these sales. There are consigned, 400-lb. 2-year-olds, young bulls with 500-lb. dams, A. R. cows, and an exceptional fine lot of yearling heifers from A. R. dams.

Free transportation, by auto, will be furnished from the Waupaca sale to the Appleton sale. Send to the sale managers for catalogs and illustrated circulars giving complete information concerning the consignments to these two great sales.

James Dance, Sale Mgr., Waupaca, Wis.

W. G. Jamison, Sale Mgr., Appleton, Wis.

Wisconsin Live Stock Advertising Co. Service

MR. GUERNSEY BREEDER

we are offering bulls of May Rose, Glenwood and Yeksa breeding out of A. R. cows. Our records range from 450 lbs. to 864 lbs. of fat; ages from 2 months up to serviceable age for $100 and up.

Can spare a few fine females.

CORIUM FARM, F. J. Rueping, Owner, Fond du Lac, Wisconsin

Guernsey Bull For Sale

IMP. GOLDEN NOBLE II OF THE BRIQUET 40957. Born June 6, 1914. First prize and special at West United Show 1915. First prize reserve for bull and progeny Guernsey Breeders' Show 1916.

SIRE: PRINCE OF LA CROSSE 3213 P. S. First prize at West United Show 1913. First prize and reserve Champion R. G. A. S. Whit. 1914. First prize, special prize, and Champion Cup West United Show 1915. Reserve for King's Cup 1916.

DAM: FLORA II OF LE BRIQUET 8724 P. S. Second prize, special, and first prize test cow West United Show 1915. A. R. record 11,429.25 lbs. milk, 573.56 lbs. butterfat at 2 years. She calved 30 days after completion of test.

This bull is guaranteed in every way and a sure breeder.

For price and particulars, apply

LISETER FARMS, Newton Square, Pa.

Guernsey Bulls

Special Low Prices

Guernsey bulls by Beauty Eagle's Bonny Boy 42893,* he by Bonny Boy of Riverdale 29070 (noted show bull), and out of Beauty Eagle 18117, 846 lbs. fat, or a son of Glenwood's Champion 15639 (24 A. R. daughters) out of daughter of Langwater Demonstrator 16451. Splendid high producing dams. Send for sale list.

LA BELLE KNOLL FARM, Oconomowoc, Wis.

Guernsey Bulls

GET A BULL, with Langwater, Pencoyd, May Rose or Haye's Cherub breeding. Prices reasonable, quality considered. Grades in limited numbers.

Fox River Valley Guernsey Breeders' Association, Harry Leppla, Secy. Appleton, Wis.

Here's Another One

Also a Son of Anton's King Cecil

He is ready for heavy service and a very good individual. His dam is Bonnie of Koshkonong Place (418.86 lbs. fat Class E), an excellent daughter of Gilt Edge of K. P. His sire is by a double grandson of May Rose King from one of the best daughters of Jardinere's Masher.

Write today is you want him.

A. R. HOARD Fort Atkinson, Wis.

Pleasant Acres Guernsey Farm

Is Offering For Sale

Bull calves of May Rose breeding from 3 to 14 months old. The dams of these calves either have A. R. records or are now on A. R. test.

Clyde E. Fruit, R. 1, Waukesha, Wis

CITY HOME FARM GUERNSEYS

Fine registered Guernsey bulls of serviceable age and younger of most fashionable breeding. Priced right. Can also spare a few fine females.

F. W. MEYER BARRON, WIS.



Economy in Production ← GUERNSEYS → Quality of Products



The Guernsey is a medium sized cow that produces with greatest profits large quantities of milk and butterfat of the highest quality. She is exceptionally gentle and responds promptly to good feed and care. Send for our free literature.

THE AMERICAN GUERNSEY CATTLE CLUB, BOX H46, PETERBORO, N. H.

Guernsey Day in Michigan

Tuesday, May 10 **Eau Claire, Mich.**

First Annual Consignment Sale of Registered and Grade Guernseys

Berrien County Guernsey Breeders' Ass'n

(SALE AT FARM OF GLENN CLARK)

40 Registered Guernsey Males and Females—15 Grade Guernseys

The Berrien County Guernsey Breeders' Association are endeavoring to make their First Consignment Sale a great Success. In order to do this, they have consigned the best stock from their herds.

A feature of the sale will be the selling of the entire herd of Glenn Clark, Eau Claire, Mich. Mr. Clark has one of the finest herds in Southern Michigan, and many Advanced Registry cows are offered, as well as daughters of cows that have large records.

Some of the Selections made for Consignments are:

GLENWOOD'S PRINCESS THELMA A. R. 6270, milk 9,069.1 lbs., butterfat 454.2 lbs. at 5 years. Full sister has record of 590.0 lbs. butterfat.

AMY OF HICKORY GROVE A. R. 5435, milk 7,123.2 lbs., butterfat 389.67 lbs. at 4 years.

FRANCETTA'S BRENDA OF EAU CLAIRE A. R. 6630, milk 7,179.2 lbs., butterfat 357.2 lbs. at 2 years. On retest, in 163 days has made 217.6 lbs. butterfat.

BESS OF WINDEREMERE A. R. 5883, milk 7,072.8 lbs., butterfat 312.06 lbs. at 2 years.

MAGGIE OF HICKORY GROVE A. R. 5436, milk 8,232.5 lbs., butterfat 349.79 lbs. at 4 years.

MELBA OF YELLOWDALE II A. R. 5332, milk 7,748.9 lbs., butterfat 405.85 lbs. at 4 years.

LORNA OF SMALLIDGE FARM NO. 76275, on test, in 183 days has made 4,307.4 lbs. milk, 197.34 lbs. butterfat at 3 years.

NINA OF HICKORY GROVE A. R. 5303, milk 7,670.9 lbs., butterfat 382.51 lbs. at 2 years.

BONNIE MELBA OF BALLARD FARM A. R. 7116, milk 6,656.9 lbs., butterfat 350.0 lbs. at 3 years.

LINDEN LADY OF HICKORY GROVE A. R. 8489, milk 5,413.9 lbs., butterfat 314.0 lbs. at 2 years. On retest, in 120 days has made 203.2 lbs. butterfat at 3 years.

WE WANT YOU WITH US MAY 10TH

Sale at 1:00 P. M. **Auctioneers—Love and Benjamin.**

Write at once for catalogue, to

F. E. FOX, Sales Manager, Waukesha, Wis.

The Eastern Guernsey Breeders' Association

Announce an

AUCTION SALE

AT DEVON, PA., FRIDAY, MAY 13th, '21

The Sale Committee have accepted a splendid lot of cattle, covering a wide range of proven strains, among them Roll of Honor cows and Class Leaders, such as:—

MAY ROSE OF WESTBROOK FARM 56445 (A. R.)
Leading cow in Class BB
15,530.00 lbs. milk, 757.07 lbs. fat

CLOVER OF PENCOYD 3rd 48274 (A. R.)
Second cow in Class D
14,360.30 lbs. milk, 818.04 lbs. fat
She has a re-entry test in Class A of
15,557.70 lbs. milk, 832.56 lbs. fat

WESTBROOK ULTRA ROSE 78820 (A. R.)
Fourth cow in Class GG
13,131.70 lbs. milk, 621.99 lbs. fat

Rose of Pencoyd 3rd 55420 (A. R.) 577.49 lbs. fat (C)
Langwater Empress 47041 (A. R.) 553.22 lbs. fat (AA)
May King's Benton's Omega 62021 (A. R.) 510 lbs. fat (EE)
and many other A. R. cows and cows on test.

For catalogue address:

LEANDER F. HERRICK, Sale Manager
405 Main Street, Worcester, Mass.

Waukesha — The Guernsey County

Nearly two hundred members in our Association. Many of the best sires of the breed are being used. We can supply your wants. Pure-breds or grades, male or female, all ages. Prices will interest you.

Come to the County or Write

Waukesha County Guernsey Breeders' Association

F. E. Fox, Secretary **Waukesha, Wisconsin**

BETHANY COLLEGE FARM

Registered Bull Calves from 3 to 14 months old, sired by Rosetta's Raider of Waddington, out of Imported and A. R. dams. *Price $75.00 to $200.00.* Accredited herd. Write for extended pedigrees and particulars.

BETHANY COLLEGE FARM, Bethany, West Virginia

HONESTY PRIDE OF BIRCHFIELD 44580



Sire — Langwater Warrior 26509
Dam — Langwater Honesty 49479
10,536.9 lbs. milk, 517 lbs. fat, at 2 yrs. and 5 months

We are now offering a few splendid sons of Honesty Pride of Birchfield. From cows with A. R. records or now on test. Everyone is a straight backed, growthy, vigorous youngster. These young bulls will put type and production in your herd. Prices range from $150 to $300.

Quality Guernseys **HIGHLANDS** *Tubercuiin Tested*

NYE H. FREEMAN, Herdsman, Linwood, New York

Thorn Hill Farm Guernseys



Have several well bred young Guernsey bulls for sale at reasonable prices. All my own breeding. May Rose and Glenwoods, out of A. R. cows with records from 500 to 750 lbs. of fat. Write for sales list to

AUGUST ZIESING, Deerfield, Ill.

Do You Want A Guernsey Bull

Closely related to Pergue's Crescent A. R. with a record of 13,316.9 lbs. milk and over 582 lbs. fat in Class EE and dropping two calves within the year, entitling her to second place in her class? Some excellent young bulls closely related to Pergue's Crescent ready to head your herd. Write for descriptive circular, or come and see them.

Ernest W. Sass, Box H, Streator, La Salle County, Illinois

Iowanola Guernseys

We are offering

A Very Fine Son

born July 25, 1920, out of Imp. Kitchener's Express 43925, his dam has 592 lbs. of fat, and out of Franseca of Homa Della who has 12,855.2 lbs. of milk and 640.09 lbs. of fat in Class D. This is a very typy calf and should appeal to any one in need of a bull. Correspondence solicited.

MOUNTAIN BROS.,
Carrier 403, Des Moines, Iowa.

642 Pounds Fat

is the average on the A. R. daughters of Bellfounder, the sire of Countess Prue, the World's Champion Guernsey and My Fancy, eighth in Class A.

We offer bull calves carrying 15%—50% of this consistently high producing blood.

Prices $225.00 to $600.00.

The demand is keen; write today.

FALCON'S FLIGHT FARMS,
Litchfield, Connecticut.

GRASSLAND FARMS GUERNSEYS

Choicely bred males and females for sale. (The natural increase of the herd.)

Herd federal tested for tuberculosis. Send for sales list. Satisfaction guaranteed.

Taconic, Conn., Litchfield Co., (C. N. E. R. R.)

Sons of

Langwater Fisherman

Serviceable Age and Younger

They are from A. R. daughters of Yeoman's King of the May and of Langwater Demonstrator, with records from 500 to 700 lbs. fat. Strongly bred May Rose calves carrying 15% to 20% of the blood of May Rose 2nd. Priced from $150 to $500. Guaranteed to be as represented.

We will answer your inquiry promptly.

MIXTER FARMS,
J. S. Clark, Supt., Hardwick, Mass.
300 Guernsey Females

Hillswold Farm

Shrewbury, Mass.

Registered Guernsey bull calves for sale. Dams in Advanced Registry and tuberculin tested. Prices right, and animals guaranteed to suit. **W. A. Clones, Mgr.**

When writing advertisers please mention Hoard's Dairyman.

Harbor Hill Guernseys

Masher's Galore 8572 A. R.

Increased the Average Production Credit of 12 A. R. daughters out of A. R. dams by 181 lbs. We offer his double grandson out of another daughter also making a better record than her dam.

C. H. Hechler, Superintendent
Box 30, Roslyn New York

Forestdale Farm

3 Bully Baby Bulls 8 Handsome Healthy Heifers — 2 to 18 months

from Superior Standard Sires, also a few A. R. matrons. May Rose Breeding. Tuberculin tested. $250 lowest price.

R. D. DeForest, Amsterdam, N. Y.

STOP GUESSING!

Buy Triple Oaks Guernseys with A. R. records and ancestry. Size, type, uniformity, and health. Results 23 years' selection and breeding. Accredited herd plan 100% clean. Send for illustrated circular.

Lewis A. Toan, Batavia, N. Y.

Guernsey Bulls

Our last 9 official records average over 510 lbs. fat, including all ages. Our herd sire has 8 A. R. daughters, including one with 572 lbs. fat in Class GG. His three nearest dams average 822 lbs. fat. Send for pedigrees and prices on young bulls with this backing.

Folly Farm, Box 587, Libertyville, Ill.

Guernsey Bulls

Sons of our bull, Rexo King, whose dam made 620 lbs. butterfat. Prices $75 to $150. Send for list.

MIDVALE FARM,
F. M. Byers, Moline, Ill.

Guernsey Bulls For Sale

Polly's Anchor No. 42845, born August 24, 1916, and Imp. Bluebird of Lakeside No. 45329, born June 15, 1917. Good, straight bulls, very gentle and sure breeders.

For Sale by

RADISSON FARM, ANOKA, MINN.

Guernseys

Best May Rose breeding. Both sexes and all ages from an Accredited Herd. Write your wants and send for lists.

E. S. Person, Minot, N. D.

Major Oliver S. Johnson



The Dairy Auctioneer

Tipton, Ia.

"Maj. Johnson has conducted twenty-five Sales for me"—Dr. M. B. Wood, Mankato, Minn.

World's Greatest White Collies



They will herd your stock, guard your flock and rid your place of vermin. A playmate for the children and a household companion. Largest breeders of white collies in the world.

SHOMONT KENNELS
Thos. Shover, Prop.
Dept. D, Monticello, Iowa

The AIRDALE



Most Wonderful Dog on Earth

Great watch, stock, rat and hunting dog—does anything any dog can do and does it better. Thoroughbred, pedigreed puppies at moderate prices. Descriptive circular free.

H. D. SPRAGUE, MAYWOOD, ILLINOIS

Teat Cups

A UNIVERSAL cup-massaging action is not equalled by any pipe line milker. If your milker is not a pipe line write us for information regarding our TEAT CUP which produces real massaging. Reasonable prices with money back offer.

Frost Engineering Co., Oak Park, Ill.

DON'T PUT OFF

Seeing your friends and having them join in for a club of subscribers.

GUERNSEYS

Guernsey CATALOG Prices

These prices include compiling the pedigrees from one of the most up-to-date Guernsey files in America.

Our standard size catalog is 7x10 inches and is best adapted for printing four generation pedigrees. We can also make attractive prices on catalogs of larger size containing five and six generation pedigrees.

500 7x10 Catalogs - $3.75 per page
750 7x10 Catalogs - 4.38 per page
1000 7x10 Catalogs - 5.00 per page

Prices on Single Pedigree Orders
4 gen. typed in two colors—1 copy $1.00, 2 copies $1.25
4 gen. Mimeo—one color, 25 copies $2.00
4 gen. Mimeo—two cols. 25 copies $3.00

Prompt efficient service guaranteed

Guernsey Department
of the
Wisconsin Live Stock Advertising Company
Pioneer Bldg., Madison, Wis.

Langwater Traveler

Carries 50 per cent blood of Imp. King of the May, greatest bull of the breed.

His dam is Langwater Lustre, A. R. 806.10 lbs. fat, fifth cow in Class C. She is the second highest testing daughter of King of the May. His sire is Langwater Holliston, sire of Langwater Levity, sold for $6,000.00 and leading cow in Class EE. Traveler's daughters are averaging over 500 lbs. of fat with their first calves. His first daughter to freshen will be a class leader in FF. We offer some excellent bull calves by Traveler out of May Rose cows with fine records. Federal Accredited Herd.

CHICONA FARM GUERNSEYS
A. L. Gile, Prop., Chinook, Washington.

GORDONDALE

Guernsey bulls of serviceable age offered for sale, also younger ones. They carry May Rose breeding, are from A. R. dams and have splendid A. R. backing Ask us about them.

Herd under Federal Supervision.
L. E. GORDON, JR.,
Nelsonville, Portage Co., Wisconsin.

A Real Buy — Serviceable May Rose Bull

Sire: A son of Langwater Steadfast, 19 tested dams average 714 lbs. fat. Dam: A splendid daughter of Gov. of the Chene, with 526 lbs. fat. Class D.

This fellow is a top-notch individual and full of pep. Priced to sell. Don't overlook this bargain.

Federal Accredited Herd.
Norwind Farm, Sheboygan, Wis.

Guernsey Females

bred to an outstanding son of Ne Plus Ultra, one of the greatest sires of the breed. Fifty head from which to select.

MEADOWLAND FARM, Litchfield, Conn.

Tilden Farms Guernseys

FOR SALE: Several typy, May Rose bulls out of A. R. cows and sired by Hope's May Rose of Maple Hill (35903), whose dam is a class leader with 776 pounds of butterfat at 3 years. Also several choice pure-bred females and a few excellent grade cows. Herd on Federal Accredited list.

TILDEN FARMS
James H. Murphy, Mgr. Delavan, Wisconsin

Young Bulls for Sale From A. R. Dams

Sons of Golden Noble of Craiganoor from A. R. dams with records up to 648 lbs. fat. They are from 3 months to a year old. Write for complete information.

MAPLE HEIGHTS GUERNSEY FARM
Frank E. Swan, Wauwatosa, Wis.
Federal Accredited Herd.

Wern Farm Guernseys

I am offering for sale 20 head of choice Grade Guernsey springers coming with first and second calf. Also have two bulls highly bred along May Rose lines just ready for service, that I will sell. For full particulars, write, wire, or come and see the stock.

Wern Farm, Waukesha, Wis.

8 Registered Heifers For Sale

5 of them are from 18 to 20 months old and in calf to a good son of Langwater Cavalier. Of these, 3 are granddaughters of Langwater Hambro and of Bob Rilma's Monogram. They are well grown and good individuals.
The other 3 are from 5 to 8 months old.

Write or come and see them.
Ralph Tratt, Whitewater, Wis.

Fond du Lac County Guernseys

100 choice bull calves, by best sires of the breed out of dams with records up to 850 fat.
20 choice heifers, 6 months to 1 year old.
Grade cows and heifers. Send for sale list.

B. F. SHERIDAN, Secy.,
Fond du Lac, Wisconsin.

Homestead Farm

Offers for sale bulls from 11 to 13 months of age from A. R. dams. Also a few young bull calves of excellent breeding, and three A. R. cows. Write for sale list or come and see them.

JAMISON BROS., Appleton, Wis.

AYRSHIRES

Ashbrook Farm Offers Ten Heifers of this Type and Age For Sale



STRATHGLASS GARDUM SNOWDROP

Also the first prize bull calf at the Eastern States Exposition by Foulton Ambassador. This will make someone a good herd.

L. E. ORTIZ, Prop., Morris Plains, N. J.

BLACKBURN FARM

Home of Addington's Champion

Grandfathers—Nox'emall and Finlayston.
Father—Rena's Champion—17 A. R. daughters
Mother—Addington Queen 3d—Two mature records each over 19,000 lbs.

Fully Accredited Tuberculosis Free Herd.
SEWICKLEY, PENNSYLVANIA

South Farm

250 Registered Ayrshires

Stock of all ages for sale. Write for prices.

George A. Cross, Mgr., Willoughby, Ohio.

Pure-bred Ayrshire Cattle For Sale

Best of breeding. Calves sired by a Grandson of Brown Kate, record 1,080 lbs. butter in year.

Wm. Nisbet & Sons, Richland Center, Wis.

Ayrshires — Registered

Choice show and breeding stock, all ages. Finlayston line. Herd sire for sale, granddam, "Garclaugh Spottie"

S. B. TINSMAN, Goodells, Mich.

MIDDLESEX MEADOWS FARM

OFFERS

Two outstanding AYRSHIRE BULL CALVES for sale for immediate shipment

No. 1—MIDDLESEX WHITE CHANCELLOR 25273, born September 17th, 1920.
Sire—Cavalier's Netherall Chancellor 21216, who sired the winning bull calf at this year's National Dairy Show.
Dam—White Heather of Highland 42752, who stood 2nd in the aged cow class at the same show (this year's National) and who has two good Roll of Honor records.

No. 2—MIDDLESEX MANCHESTER, born March 10th, 1921.
Sire—Auchenbrain Torcador (Imp.) 24761, record priced bull of the breed and Grand Champion at Maryland, New York, Connecticut, and New Jersey State Fairs this year.
Dam—Bida Clinton 31489, who has three A. R. records that average 11,000 lbs. of milk, 453 lbs. of fat, 4.17%; and whose two-year-old daughters will have records of over 10,000 lbs. of better than 4.00%.

Both bulls have excellent individuality, and are fit to go into any show ring and hold their own. They should develop into extra good herd sires. Prices reasonable—we KNOW you can't get as good as these two for any less money elsewhere.

A. Henry Higginson (Owner). W. R. COUTTS, (Supt.)
South Lincoln, Massachusetts

Monstone Farm Ayrshires

"Production — Size — Individuality"

Bull calves out of dams with A. R. records of 10,000 lbs. (and better) of 4% milk—Winners in show ring—Sired by Lessnessock Gem's Good Gift Imp.—Winner in show ring and proven prepotent sire—Weight 2,250 lbs. in breeding condition—Whose dam made 8,930 lbs. milk, 4.05% fat, in *86 weeks* (Scotch record)—Sire's dam 10,342 lbs. milk 365 days (Scotch record)—Prices $100 to $1,000. If you want class and a square deal, correspond with us. We can supply your wants at your prices. Nothing but the best. Herd Federally tested.

MONSTONE FARM, John Chalmers, Manager, IPSWICH, MASSACHUSETTS



We Have For Sale

the well bred Ayrshire bull, Bargenoch "Drexel" (18474) Imported. Bred by John Logan, Bargenoch, Scotland. Born Feb. 2nd, 1919. Color white and red. Sire, Bargenoch Magnificent (9579). Sire of Bargenoch "Royal Champion" sold at Bargenoch sale, 1919, for $7,267.00.

Dam, Bargenoch Victoria (37003). Scotch record: 9,221 lbs. milk, 4.23% fat in 43 weeks; 11,070 lbs. milk, 4.50% fat in 47 weeks.

BARCLAY FARMS, John Cochrane, Manager. ROSEMONT, PENNSYLVANIA

Delchester Farms Ayrshires

Tell us your wants and we can supply them at prices you can afford to pay.

Aged cows, bred to Glenury, an A. R. son of Finlayston.

Aged cows, bred to Rena's Baron of Highland, an outstanding son of Baron's Best of Bargenoch.

Heifers, bred to these two great sires.

Young heifers.

Bull calves.

All the above stock carries sor. of the best producing blood of the breed with A. R. ancestry on both sides.

Herd free from tuberculosis

DELCHESTER FARMS
Edgemont Del. Co., Penn. - Thomas W Clark, Supt.

Weymouth Farms

"Ayrshires of Quality"

All cows on Advanced Registry Test. Herd Tuberculin Tested.

We can supply you a herd sire of choicest breeding.

MARTIN A. TOWLE, Mgr.
NORTH WEYMOUTH, MASS.

Linndale Farm Ayrshires

"Are bred for Production"

Bull calves out of A. R. cows and sired by sons of World Record cows, for sale.

Our { Breeding, Conformation and Prices } are right.

See what we offer before you buy.

JOHN LINN & SONS,
Manhattan, Kansas.

World's Champion Ayrshires

Fully Accredited Tuberculosis Free — 200 Head in Herd



AUCHENBRAIN WHITE BEAUTY 2D

A. R. 14,721 lbs. milk, 4.33%
In 13 years, 112,486 lbs. milk and 13 calves
110 animals in herd are descended from this cow

The 1st, 2nd, 6th and 7th highest records were made here. Four cows average 22,823 lbs. milk, 1,046 lbs butter. 100 A. R. records made here average 13,24(lbs. milk. Choice stock of all ages for sale at pre war prices. Special -- Young bulls line bred t Auchenbrain White Beauty 2d.

PENSHURST FARM, Narberth, Pa
(7 miles from Philadelphia)

AYRSHIRES—

Gold Medal an Silver Cup Win ners in Ad vanced Registry Roll of Honor Divisior Young Bulls ready for service. Bull and Heif er Calves at prices you can afford to pay.

Pure-bred Berkshire Boars and Gilts.

Superintendent, Masonic Homes
Elizabethtown, Pennsylvani

Metropolitan Farm

For Sale—Bull calves from our best A. R. cows. These calves are from one month to one year old. Priced for quick sale.

Write for pedigrees and prices.

METROPOLITAN LIFE INS. CO.,
Neil J. Parker, Farm Supt.,
Wilton, New York.

Ayrshire Stock

of all ages for sale. Satisfaction guaranteed

L. W. McCONNELL, Wellington, Oh

May 12th, 1921

Monroe, Green County, Wis.

At the Fair Grounds — Under Cover

The Green County Holstein Breeders' Ass'n Will Hold Their Semi-Annual

Consignment Sale

70 Foundation Registered Holsteins

54 females from the best herds in the County sired by and bred to high record bulls of popular breeding and most of them will be close springers or fresh at sale time.

17 bulls with good A. R. O. records sired by 30-lb. bulls and ready for service.

Be sure and get our Catalogue

H. D. Schindel, Sec'y, Box 132, Monroe, Wis.

Marathon County Holstein Breeders'

Will Hold Their Second Annual

Consignment Sale

Wausau, Wisconsin

Thursday, May 12, 1921

60 Head of Selected Black and Whites — All Registered

Marathon County plans a real treat for you on the above named date. The promoters predict one of the liveliest and most interesting sales of the season. They have spared no effort, time or expense to realize the fulfillment of their prophecy. Every animal in the sale has been inspected by a committee of competent men who have the future welfare of Marathon County's Holstein industry at heart. They invite you to be with them on May 12th and convince yourself that the foregoing is not the product of an imaginative mind.

You'll find in the sale daughters of DUTCHLAND CREAMELLE SCHULLING BOY —a son of DUTCHLAND CREAMELLE KORNDYKE LAD showing an average yearly production of 27,800 lbs. milk and nearly 1100 lbs. butter. His dam is a 30-lb. daughter of JOHANNA COLANTHA LAD; daughters of KING LONGFIELD PONTIAC DE KOL—1215-lb. bull. This bull will be offered for sale; choice females bred to KING LYONS JOHANNA BURKE DE KOL, 28 lbs.; two daughters of a 34-lb. bull who has a 34-lb. daughter; yearling granddaughters of WINDSOR SWEET BUTTER MAID, 35 lbs., former state champion; cows bred to KING MARVEL, 33 lbs.; daughters of a 27-lb. grandson of KING OF THE PONTIACS; daughters of PIEBE JOE OAK DE KOL FOBES who is from a 27-lb. sister to OLLIE WATSON PRIME MADONNA, 30 lbs., the only cow that has given two National Champion Sires to the black and white breed.

Some of the choice bull offerings will interest you; a 31-lb. yearling whose dam is by a full brother to PIETERTJE MAID ORMSBY—a yearling son of 1112-lb. bull who is a grandson of the famous "COUNT"; a son of a 36-lb. bull and from a 24-lb. cow; a good son of a 31-lb. bull; a 28-lb. bull.

The sale will include the 60-day retest. All papers and transfers in blank will be in the hands of the Sale Co. prior to sale.

In a word Marathon County is offering you everything that it can possibly give you in order to persuade you that they want to satisfy you and make you feel perfectly at ease in patronizing their sale.

Auctioneers—Cook and Krause. Francis Darcey—Pedigrees.

Write Francis Darcey for Catalogs, Watertown, Wis.

Lake Mills Holstein Breeders'

23rd Semi-Annual

Consignment Sale

Lake Mills, Wisconsin

Thursday, May 5, 1921

The Lake Mills Sale Co. has made a Special Effort this spring to put on a sale of Genuinely Good Cattle. All animals consigned have been Selected and Approved. Positively nothing offered unless accompanied by the necessary papers.

Tested for Tuberculosis and sold under the usual 60-day guarantee.

A Large Number of Cows

including some especially fine.

One with 28.92 lbs., fresh at sale time.

A 27-lb. daughter of Uneeda Korndyke Abigail Boy. Has 775 lbs. butter and 19,000 lbs. milk for the year.

A 20-lb. Show Cow, in splendid condition.

A 23.768-lb. granddaughter of King of the Pontiacs, and also a Show Cow. Perfect individual, light colored, and a dandy milker. Due right after the sale to King Segis Pontiac Polkadot.

A 19-lb. 3-year-old, from a 29-lb. sire, and just fresh.

A 17-lb. 3-year-old, from a 29-lb. sire.

A daughter of a 29-lb. cow, in fine condition and due right after the sale.

A Show Cow from a 21-lb. dam.

Daughters of 29-lb. cows.

Cows In Calf

to 30- and 33-lb. sires, to Marathon Aaggie. Crescent Beauty Segis Pontiac, M. M. Ormsby Bess Burke, Sir Korndyke Bess Pietertje, King Prilly Meta, King Segis Clothilde Champion.

A Dozen Heifers

from record dams, sired by a son of King Pontiac Champion, and bred to a son of Carnation King Sylvia, from a daughter of Matador Segis Walker.

A Few Good Herd Sires

A 2-year-old from a 36-lb. sire and a 31-lb. 4-year-old dam. Should make some one a fine sire.

A Yearling from a 34-lb. sire and a 29.36-lb. dam.

An aged bull from a 29-lb. dam.

A Yearling son of Sir Korndyke Bess whose dam is a 1,235-lb. daughter of Sir Pietertje Ormsby Mercedes.

A Yearling son of Sir Korndyke Bess Pietertje whose dam is a yearly record daughter of Sir Piet. and Spring Brook Bess Burke.

A yearling son of Sir Ormsby Johanna De Kol 39th, and from a 22-lb. 4-year-old dam.

If you admire good Holsteins, or are in the market for some, come to Lake Mills the day before the sale and meet the breeders and look over the offering.

Sale will start at 10:30 in the Sale Pavilion at the Station.

Auctioneers—J. E. Mack, W. F. Krause, W. E. Cook

For catalog apply to

F. H. Everson, Sale Mgr., Lake Mills, Wis.

Ohio Holstein Breeders'
State Guaranty Sale
May 4-5, Columbus, Ohio
120 of Ohio's Best Holsteins From 75 Herds

Bear in Mind That:

Ohio has more than 200 fully accredited herds and that over 1000 have successfully passed one test.

Nearly every animal in the sale is from a herd under state and federal supervision and all are sold subject to a 60- to 90-day retest.

Every animal is guaranteed a breeder.

You get your papers when you settle for your purchases.

Ohio has more 1000-lb. cows, more 1100-lb. cows and more 1200-lb. cows than any other state as well as more over 25,000 lbs. milk.

The 120 in this sale are fit representatives of Ohio's best. Most of them were not for sale at any price at private treaty.

You buy at your own price. Every animal up is there to be sold with absolutely no by-bidding.

If You Want Foundation Holsteins that Are Healthy
Be at the State Fair Grounds, May 4-5

Ohio Holstein-Friesian Ass'n, Howard C. Barker, Secretary, Tiffin, Ohio

High Grade Dairy Cows——

We have on hand around 100 HEAD CHOICE HOLSTEIN, JERSEY AND GUERNSEY SPRINGERS.

These cows are selected from the best dairy sections of Ohio and can be offered at a price in accordance with the times. All animals are sold subject to the tuberculin test and ready for inter-state shipments. Sixty-day retest if desired. Every animal guaranteed as represented. Correspondence solicited. Inspection invited.

THE RIECK FARM SALES CO. Rootstown, Ohio

SIR JOHANNA FAYNE



42147

now has 9 daughters 20,000 pounds or over. All of his yearly tested daughters, 3½ years old or over average 21, 465.1 pounds milk and 831.45 pounds butter. 17 daughters average 20,000 pounds. A few young sons left at reasonable prices. Herd under Federal Supervision.

IOWANA FARMS
DAVENPORT, IOWA

LIGHT COLORED 800-lb. BULL

Dam—a 4-year-old daughter of Sir Sadie Cornucopia, finishing a yearly record of over 800 lbs. She made 731 lbs. at 3 years. Sire—Woodcrest Sir Clyde, son of Alma Clyde (33 lbs. and 970 lbs.), and sire of 16 20-lb. 2-year-old daughters and two over 30 lbs. Bull was born May, 1920, is ¾ white and Federally tested. Reasonable terms.

W. B. BARNEY & SONS Chapin, Iowa

Bull of Ormsby Breeding

We offer Chief Segis Lyons Ormsby No. 280751 Born March 8, 1919, a grandson of Sir Pietertje Ormsby Mercedes 41st. His sire a 33-lb. bull; his dam a granddaughter of Sir Pietertje Ormsby Mercedes, who had more 1,000-lb. daughters than any other sire in the world. Also some splendid bull calves ready for service, from A. R. O. dams. Herd tuberculin tested. Write for prices.

Schermerhorn Farms, Mason City, Iowa.

A Son of LIEUTENANT RAG APPLE

from a 7/8ths sister to a 948-lb. junior two-year-old daughter of a 1,281-lb. cow. $100.00. Let us tell you about him. Serviceable.

BLUEBELL FARM, Riceville, Iowa

YOU CAN'T DO BETTER FOR THE MONEY. Bull calf born Aug. 17, 1921. Mostly white, a show bull and well grown. His 3 nearest dams average 28.47 lbs. Sire is a 32.7-lb. grandson of King of the Pontiacs. Send for pedigree and photo. Have only 2 other bull calves besides this one. C. I. REAMER, Prop., Utopia Dairy Farms, North Liberty, Ind.

When Writing to Advertisers, Mention Hoard's Dairyman

Fairhurst Herd

On the Accredited List

We offer young bulls, fine individuals and well grown. Sired by 33-lb. bull and from dams with records up to 30 lbs. Write for pedigree and price.

KITTLE BROS., Holland, Ohio.

U. S. Soldiers' Home
DAIRY
Washington, D. C.

offers for sale, at reasonable prices, from the first accredited herd in the United States, pure-bred Holstein-Friesian bulls from yearly tested dams. Herd free from tuberculosis for more than eight years. Latest combination test completed February 18, 1921, by U. S. Department of Agriculture.

A Grand Yearling Bull

Sired by a son of KING KORNDYKE SADIE VALE from a 32.74-lb. 3-year-old dam. His dam, a 22-lb. 4-year-old, is now on year's test. The second month on test she made 2,450.0 lbs. milk and 100 lbs. butter. Her sire a double grandson of KING SEGIS. She is closely related to the world's wonder cow, BEECHER WYTHE 2D.

A Federal Accredited Herd

Price $250

M. J. SEBERGER, Scheresville, Ind.

Holstein Bull Bargain

Royal Breeding—Splendid Individual

Carries 43¾% blood of Pontiac Korndyke, the greatest of all sires, 25% of blood of King Segis Pontiac and 12½% blood of King Segis. None better. 4 others ready for service. First $250.00 check gets him.

Wm. N. Osborn, Wanatah, Ind.

ORIGIN FARM

HORNLESS HOLSTEINS, Registered and A. R. O. Animals, all ages, for sale. Federally Tested.

GEO. E. STEVENSON, Scranton, Penna.

County Farm Bureau Employs Field Man

Directors of the Jefferson County, Wisconsin, Farm Bureau have decided to employ a county dairy field man. The object of this action is to promote a better understanding of each others' problems between the patrons and the operators of milk factories in and tributary to Jefferson County. The field man will make a special point in investigating the weights and tests of milk at factories in order that patrons may know that they are getting correct weights and tests. It is hoped that this will be the means, eventually, of patrons of each factory hiring their own man to take samples at the factory intake, test the milk, and act as their agent in this and other work. By this means confidence and good will should obtain between buyer and seller, and finally a better raw product delivered to the factory and a better finished product sold to consumers.

A committee has been appointed to employ and direct the work of this field man. They extended an invitation to the operators of all the milk plants in the county to send representatives to meet with them to discuss matters of mutual interest to both the operators and the patrons. Practically every factory in the county was represented at this conference. A spirit of hearty co-operation was manifested, which indicates a good future for dairy industry in Jefferson County.—J. M. COYNER, County Agent.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

M. & P.
Healthy Holsteins

A year ago we sold a bull calf to a Virginia breeder. The dam of that calf has just finished a year's record of 17,600 lbs. of milk, 800 lbs. of butter. Was he pleased? His letter states "The bull is growing nicely, and I am glad his dam made so good a year's record."

We supply this kind at moderate prices. Write

Markham & Puffer
Avon - New York

Yearling Bull—Ready For Service

Here is a show bull whose sire is by a son of KING KORNDYKE HENGERVELD ORMSBY and out of a 37-lb. cow. His dam is backed by many yearly records. He is priced at half his value—$125.

G. G. Burlingame, Cazenovia, N. Y.

Edinboro Lake Farm

Show Type HOLSTEINS Production

Six state yearly record champions 1918-19.

We offer bull calves by Sir Paul Veeman Hengerveld and Sir Ormsby Skylark Fredericka, out of yearly record dams with type.

Edinboro, Pa.

SONS
of Sir Echo Sylvia Johanna —
7/8 Brother to the $106,000 Bull

From high bred fine individual A. R. O. cows up to 30 lbs. Several on test now. All good, straight individuals, backed by lots of milk and butter. Some are ready for service. Priced very low. Write for catalog.

(Herd Under Federal Supervision)

CHESTNUT HILL FARMS,
G. A. Burdick, Mgr., Gibsonia, Pa.

Illinois Holstein Breeders'

Second Annual Guaranty

Consignment Sale



Remember the Dates

May 6-7

125 Head — Wheaton, Ill. — 125 Head

NOTE: Wheaton is located 25 miles west of Chicago. Suburban service on Northwestern R. R. or Aurora, Elgin electric. Make hotel reservations at Chicago, Aurora or Elgin

May 6 — Friday
75 Females



Top-notch Cattle

May 7—Saturday
50 Bulls



Real Herd Sires

Sale Starts at 10 A. M. Each Day

Sales Committee
Illinois Holstein-Friesian Association
608 S. Dearborn St., Chicago

MISSOURI HEALTHY HOLSTEINS

We'll Pay Your Car Fare
to and from the

2d Annual State Sale

OF

"Missouri Healthy Holsteins"

AT STATE FAIR GROUNDS

Sedalia, Mo., May 24th, 1921

1st Annual Show May 23rd
Banquet Night of 23d — you know the kind

For Particulars write

Mo. Holstein-Friesian Ass'n, SEDALIA, MISSOURI



PICKERING FARM

30—HOLSTEINS (5 Bulls, 25 Heifers)—30
From World Record Breeding Stock

This is the chance of your lifetime to buy the best of foundation Holsteins from a reliable breeder who guarantees every animal, the only opportunity you will have this year to purchase Pickering Holsteins at public auction.

Missouri State Holstein Show and Sale, May 23-24

Missouri State Fair Grounds, Sedalia, Missouri

The bulls are all sired by **Finderne Pride Johanna Korndyke** and out of tested dams. Part of the females consigned to this sale are sired by **Finderne Pride Johanna Korndyke,** while others are in calf to this great bull, some will be fresh at the time of sale. As you will remember, **Finderne Pride Johanna Korndyke** is a son of the highest yearly record cow living and he already has 18 ARO daughters, while others are now on test and still others due to be tested as soon as they freshen. All of these offerings can be seen at farm, before sale date. We also have a few young bulls out of high testing dams sired by our great herd bull, for private sale at the farm. Nearly 100 of this famous bulls' cows in our herd.

Special Announcement--Purchase of **King Echo Posch Lyons, Junior,** herd sire--the richest bred May Echo bull.

Write for sale catalog to **Maj. Harlo L. Fiske, Mgr.**

PICKERING FARM, Belton, Mo.
Purely a Breeding Establishment



Send Me Your Note

For a 32-lb. bull. I will take your note for either of these high class bulls. We will give you your choice of the following bulls ready for service under our regular gilt edged guarantee. These bulls have a straight top line and possess every feature of show ring quality. They are from the most popular breeding strains and our prices are lower than ever. Study the breeding carefully and see what you are getting in these bulls. Send us a check today for $100 and we will carry the balance any reasonable length of time.

KING LYONS BOON GERBEN is the sire of the bulls offered. He is a grand individual and promises to make a great bull. He is by a 35-lb. bull. RAG APPLE KORNDYKE BOON who is now recognized as one of the greatest bulls of the Middle West; he is from a 33-lb. dam, 29-lb. grandam who is followed by a 900-lb. cow. Consider what you are getting in this bull. The grandam on the sire's side is a 38-lb. cow.

Dam, JESSIE FOBES MAUD BURKE CANARY 2ND, 4½-year record (28.86). She is daughter of HAMILTON COLANTHA LAD who is a son of COLANTHA JOHANNA LAD, that great bull that has more high records in milk production than any other bull. The dam is from a 27-lb. daughter of HOMESTEAD JR. DE KOL. The price for this bull is $500.00.

OMAHA SEGIS LYONS, 4-year-old record (31.56). She weighs 1,850 lbs. One of her sisters has a 39-lb. record. Her sire is KING SEGIS LYONS who has nine 30-lb. daughters. He is a son of KING HENGERVELD. His sire's dam, CATRINA SEGIS (23.12). Her dam is a sister to NIVA KALMUCK, Nebraska State Champion (45.18), KING SEGIS breeding.

The Price of This Bull is $650.00

Otto F. Schauble, Pilger, Nebraska

The Pontiac Herd

"Where the Champions come from"

Offer Bull Calves sired by sons of *Pontiac Korndyke, Hengerveld De Kol, Pontiac Dutchland, or Admiral Walker Pietertje.*

Do you want a Pontiac in your herd?

PONTIAC STATE HOSPITAL, Pontiac, Mich.

THE TRAVERSE HERD

We have what you want in

BULL CALVES

the large, fine growthy type, guaranteed right in every way. They are from high producing A. R. O. ancestors. Dams' records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.

Traverse City State Hospital, - Traverse City, Michigan

We Offer a Yearling Son

Of King Pietertje Homestead Ormsby No. 221488, out of the State record Junior 2-year-old with a record of 17,860.2 lbs. of milk and 716.16 lbs. of butter. His name is Prince Korndyke Ormsby Fayne No. 323802 and he took 5th premium at the last Dairy Show as a Junior calf. Write for pedigree and price. Herd under Federal Supervision.

BUFFALO CREEK FARM,
H. L. BINGHAM, Supt., Arlington Heights, Ill.

For Immediate Acceptance—

Three young bulls ready for service—Holsteins.
No. 1—Sire a 30-lb. bull. Dam a 27.5-lb. cow. Price $300.00.
No. 2—Sire 30-lb. bull. Dam 23-lb. 3-year-old. Price $250.00.
No. 3—Sire 30-lb. bull. Dam 16-lb. cow. Price $100.00.
King of the Pontiacs breeding, well grown and good individuals. Send for extended pedigree.

R. F. JOHNSON, Assumption, Ill.

BULL CALF

Sire's dam, butter, 1 yr., 848 lbs.; her daughter, 1,055 lbs. Grandsire's dam, 987 lbs. at 11 yrs.; her full sister, 1,344 lbs.; another, same dam, 1,322 lbs. Dam, Miss Pietertje Alexina 3d, sister to Miss Pietertje Alexina 2d, 1,290.91 lbs. A dandy calf, priced right. Write quick to

McKAY BROS., - - CADDOA, COL.

Whitehurst Farms

BULLS FOR SALE FROM SEMI-OFFICIAL DAMS. Priced Right.

A. F. Randolph, Prop., Canton, Ill.

La Crosse County Holstein Breeders' Sale

West Salem, - Wisconsin

Monday, May 9th, 1921

65 Head — 65 Head

Show Quality Cattle Combined With Good Breeding

Splendid Heifers from a 30-lb. bull, and from record dams. Show Heifers from a 29-lb. sire.

Young Cows in calf to a 37-lb. bull, 1,395.6 lbs. for the year.

A large consignment of females sired by a 30-lb. grandson of Pontiac Korndyke.

A Show Cow with a 22.84-lb. record due about sale time.

A Very Good 26.96-lb. cow and two of her sons, one a yearling, the other 2 years old, both sired by a 30-lb. grandson of Pontiac Korndyke.

For catalog write

F. H. Everson, Sale Mgr., Lake Mills, Wis.

Brown County Holstein Ass'n On Parade

Monday, May 9, 1921

De Pere, Wisconsin

84 Head

A Sale That Will be Eclipsed by None —

In point of merit of the offerings—in point of the guarantees accompanying the cattle. and in point of the calibre of the men promoting the sale. In a word you have as safe and attractive a proposition at De Pere on May 9th as you may hope to have presented to you this season. To convince you that the foregoing is based on fact allow us to call your attention to a few outstanding features. There are 20 A. R. O. cows catalogued with records up to 28 lbs.—a 28-lb. 4-year-old record at that—second dam 29 lbs. and bred to a 37-lb. bull. There will be 35 daughters of A. R. O. cows lead onto the shavings on the above named date at De Pere. There will be 45 cows sold that are bred to 30-lb. bulls—one of them in calf to a sire whose dam and sire's dam average for yearly butter production 1329 lbs. The bull offerings are splendid; a son of a good 37-lb. cow; a son of King Segis Pontiac Superior from a granddaughter of "Count." Five other good bulls will be disposed of whose dams have records above 24 lbs. Remember that Brown County is noted for its clean cattle; that Brown County conducted one of the most brilliant and successful sales both from a buyer's and seller's standpoint, held last year; that she has spared no effort to make this sale surpass last year's event.

All Cattle Tuberculin Tested — 60-day Retest also Included

Haeger, Kelly—Auctioneers. Francis Darcey in the Box

Jos. Hoskins, Manager

For Catalogs

Write Francis Darcey, Watertown, Wisconsin

The Son of This 32-lb. 1000-lb. Cow Ready For Service



MARY SEGIS BEETS

He is just past a year old, nearly white, and a splendid individual. His dam, Mary Segis Beets, has twice made over 31 lbs. and has just finished a 1000-lb. yearly record. His sire is King Pontiac Artis Sadie Vale, a 34-lb. son of the great K. K. S. V. Several of his daughters are doing very well on yearly test in our herd. He'll suit you for a herd sire. We guarantee him to be right. Write us about him today or come and see him.

Gustave Pabst's Hollyhock Farms

Fred J. Southcott, Manager Dousman, Wisconsin

BUY DIRECT

Reasons for Buying Holstein Cattle in Waukesha County:

1. You can buy direct from the breeder through the breeders' association, organized by the breeders to promote the breeding of more and better Holstein cattle and to assist in a fair marketing of the same.
2. There are over 50 pure-bred Holstein sires in service in Waukesha County whose dams have records of over 30 lbs. butter in 7 days or 1,000 lbs. butter in a year.
3. There were 1,307 long-distance tests made on Holsteins in Waukesha County during the past year, which is more than the total in the next four leading counties in the state.
4. There are more tuberculin tested cattle in Waukesha than in any other county in the world.
5. The breeders' organization is in a position to put you in touch with "bred-for-production-stock" at reasonable prices.
6. When buying through the Association, you obtain the services of men who devote their entire time to the Holstein industry. It saves you time. You get more for your money.

Write or Wire for information

Waukesha County Holstein-Friesian Breeders' Association

254 Broadway, Waukesha, Wisconsin

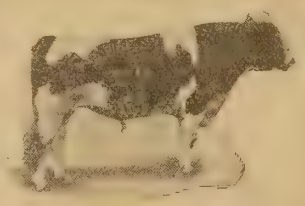
One-half Interest Serviceable Son

of the 1235-lb. Sire

Sir Korndyke Bess

DAM—World's Record 3-year-old for Butter in 305 days
Also 2 young yearly tested male calves.

R. E. BENSON, Dousman, Wisconsin



Colantha Changeling Lad



Whose dam made 30 lbs. at 4 years, has daughters making up to 32 lbs. at 3 years old. On them a 30-lb. son of 37th whose daughters are now making 23 and 24 lbs. as 2-year-olds. On them we are using, a 30-lb. son of 41st. We are clearing our stables at bargain prices on bulls up to serviceable age. Also a bunch of females for immediate sale. Bulls $150 up.

Badger Stock Farms, Hartford, Wis. Lawrence F. Murphy



Yearly Records

Choice Young Bulls

from one to fourteen months old for sale. Sired by Cloverlawn Johanna Piebe whose five nearest dams average 1,070 lbs. of butter, 23,809 lbs. of milk a year. Herd numbers 140 head, forty cows with yearly records. State exactly what you want.

JOHN PULS, - HARTFORD, WISCONSIN

RELIABILITY BANKER ★ FARMER QUALITY of WISCONSIN BANKERS' ASSOCIATION ★ EXCHANGE ★

HOLSTEINS FOR SALE

SPECIAL—Prize winning yearling Holstein bull. 30-lb. sire; 19.58-lb. dam. Splendid individual.

PURE-BREDS		GRADES	
161	Cows	93	Heifer Calves
134	Heifers	127	Heifers
19	Heifer Calves	418	Cows
290	Young Bulls		

Some good carloads at reasonable prices. Listed for sale through Wisconsin banks. Other Live Stock: Breeders are listing with us other dairy cattle, beef cattle, horses, sheep, and swine. Write us if you want stock. We will answer promptly.

BANKER FARMER EXCHANGE

D. H. Otis. Director, 1822 Chadbourne Ave., Madison, Wis.

HOLSTEIN COWS

We offer for sale a number of cows, heifers, bulls and calves of all ages. Some sired by King Korndyke Veeman whose two nearest dams average over

WISCONSIN STAR STOCK FARM,

HEIFERS and BULLS

37 lbs. butter in 7 days and bred to King Sadie Vale Walker who is a son of the youngest 29-lb. cow in the world. Come and see them or write to

ED. M. SCHULTZ, Hartford, Wis.

Wayside Lawn Farms

offer

Young Bulls Ready for Service

sired by 31-lb. bull, Hengerveld Banostine Gudultje, whose two nearest dams average 30.65 lbs. butter in 7 days and 848 lbs. butter in one year. The bulls are from tested and untested dams. They are well grown and right in every way. Price $100.00 to $200.00. Herd Federally Accredited.

WALTER SORGE, Reedsburg, Wis.

OLD DEERFIELD HERD

For Sale—Holstein Bulls 4 to 7 months old. Sired by King Piebe Korndyke Johanna No. 210876. Prices $50 to $60.

Young cows due in April, $200 to $300. Some $175 and up. Reg., transferred f. o. b. cars my station.

CARL FOLL, R. F. D., Deerfield, Wis.

ORMSBY BULL - Born Feb. 28, 1919

Sire, King Ormsby Pontiac De Nijlander, whose two nearest dams average over 30 lbs.

Dam, Aaltje Hengerveld Tritomia Segis. A. R. O. 17 lbs. at 3 yrs., next dam 29.68 in 7 days. Color light, fine individual. Ready for service. Price $300.

Fairview Stock Farm Whitewater, Wis., W. G. Marshall, Prop.

Grade Heifer Calves—$20

Good grade Holstein heifer calves by pure-bred sires $20 f. o. b. cars. Pure-bred bull calves $40 and up. Good, registered heifer calves at reasonable prices.

J. C. BOLGER, Waterloo, Wis.

When writing advertisers please mention Hoard's Dairyman.

The Holstein Breeders' Sale Co.

2nd Spring Sale

Fond du Lac, Wis., May 10-11, 1921

This is Strictly A Breeders Sale

150 Head
Pure-bred
Holstein Cattle
will be Sold



150 Head
Pure-bred
Holstein Cattle
will be Sold

This Includes the Dispersal of the H. L. Pieper Herd

This herd has type as well as A. R. O. work back of it. The cows have records up to 24 lbs. and are bred to a 27-lb. son of Joe Oak De Kol Fobes. Two daughters of 24-lb. cows and 4 granddaughters of Joe Oak De Kol Fobes. One son of a 24-lb. cow. She milked up to 102 lbs. in a day.

All animals in the sale Tuberculin tested and a 60-day guarantee given. Our offering consists of 50 cows, many of them close springers; 25 bred yearlings, out of dams with records up to 27 lbs.; 50 yearling and heifer calves. Here is a great opportunity for parties looking for calf club calves. They are a fine lot of calves with type and breeding, many of them with tested dams with records up to 25 lbs.

We will sell 25 bulls, most of them ready for service and out of dams with records up to 26 lbs. and with sires up to 37 lbs.

We will sell 6 daughters of King Netherland Korndyke Segis, a 32-lb. sire, and 2 cows bred to him, due sale time. A daughter of Joe Oak De Kol Fobes, the bull John Bell, Jr., bought at our March sale. 4 granddaughters of Joe. 3 daughters of King Korndyke Veeman from dams up to 27 lbs. bred to King Sadie Vale Walker, a son of the youngest 29-lb. cow in the world. 5 cows with records up to 21 lbs. due right after the sale to a 28-lb. bull whose sire's dam is a 37-lb. cow. 1 granddaughter of King Segis Pontiac Polkadot, out of Johanna Bonheur 2nd, with 20 lbs. butter in 7 days. 8 daughters of a 25-lb. son of Spring Farm Butter Boy, out of A. R. O. dams. Twin heifer calves out of a 32-lb. sire. 4 heifers sired by a 26-lb. Bluebird bull, and 3 Bluebird heifer calves out of 18-lb. dams and a 30-lb. sire. Also 2 heifers bred to a 29-lb. son of King Segis Pontiac Count. 3 cows bred to Meadowholm Ona Button Hartog, a 30-lb. 7-day and 1200-lb. yearly bull.

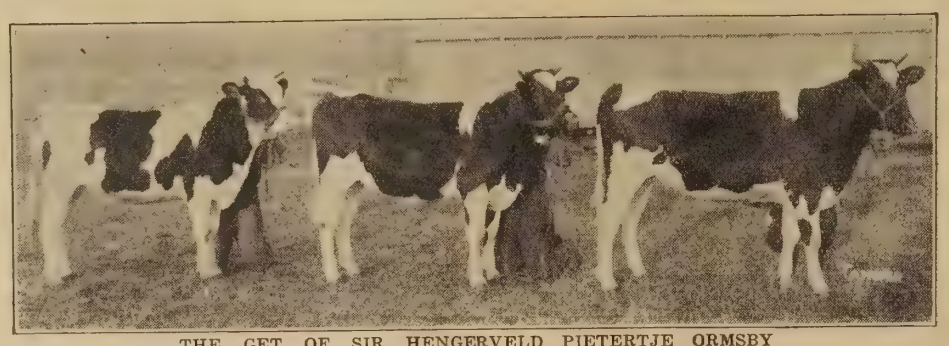
Catalogue ready May 1st.

Auctioneers — Kelly, Mack and Pohlman. Frank Everson in the Box

Sale Commences at 10 A. M. Each Day in Our New Sale Pavilion

S. H. Bird, Sales Mgr., South Byron, Wis.

What You Can Expect to Raise From Our Consignment to the State Sale

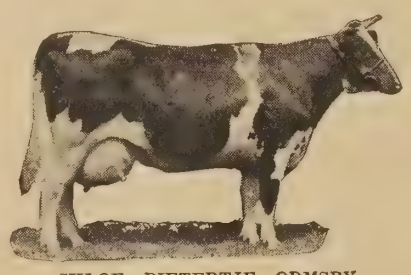


THE GET OF SIR HENGERVELD PIETERTJE ORMSBY
From left to right they are—from a daughter of Cedar Lawn Canary Paul; a daughter of Miss Netherland Piebe; from a daughter of Cedar Lawn Champion.



SIR HENGERVELD PIETERTJE ORMSBY
First at Minnesota and Waterloo, 1920.

Miss Netherland Piebe, one of our consignment, has to her credit 652.8 lbs. milk and 31.35 lbs. butter in 7 days as a junior 4-year-old, 2746.5 lbs. milk and 131.05 lbs. butter in March, and 6.773 lbs. fat for semi in April. She will be bred to Sir Hengerveld Pietertje Ormsby.



CHLOE PIETERTJE ORMSBY
Dam of Sir Hengerveld Pietertje Ormsby. She has 3 heifer records above 1000 lbs. and is now making 1200 lbs. for the year.

Piebe Ormsby Glen Johanna, her daughter and also consigned, is sired by a full brother to Queen Ormsby Glen, a 22.37-lb. junior two-year-old daughter of Sir Korndyke Glen. She is safe in calf from a Jan. 4th, 1921, service.

Our herd is under State and Federal Supervision and has just passed the triple test.

If you are looking for Breeding, Individuality and Production combined, buy this young mother and daughter at Faribault, May 4th.



SIR PIETERTJE ORMSBY MERCEDES,
HIS DOUBLE GRANDSIRE
He has 14 1000-lb. daughters.

Minn-Otonna Holstein Farm
H. W. Schroeder, Owner, Owatonna, Minn.

Chloe Pietertje Ormsby is owned jointly by Minn-Otonna Holstein Farm, Owatonna, Minn., and Cedar Lawn Farms, West Bend, Wis.

A LINE-BRED "41st"
BULL CALF FOR SALE



SIR PIETERTJE ORMSBY BESS BURKE
Born Dec. 20, 1920

A real showy calf, straight as a line and of ORMSBY type

His dam and sire's dam are both daughters of SIR PIETERTJE ORMSBY MERCEDES 41ST, the only son of Spring Brook Bess Burke. His dam is on yearly test as a junior two-year-old and bids fair to go 800 lbs. The sire's dam made 28.93 as a 3-year-old and 26.82 as a 2-year-old.

THIS CALF WILL GROW INTO MONEY —SEND FOR PHOTOS, PEDIGREE AND FULL PARTICULARS.

E. C. Schroeder Farms
(*Under Federal Supervision*)
MOORHEAD, Minnesota

"DUKE"
The only place you can buy sons of se
icable age sired by
DUKE PIETERTJE KORNDYKE ORMSBY

The bull selling at the last Minnesota state sale f
$33,000.00 is from the herd where he stood for thr
years prior to the sale. "Duke's" dam now has thr
records above 1,000 pounds, the last one was 1,1
pounds.
Now is the opportune time to buy one of these bulls
their sisters will be given every opportunity. Get
son now and be in line. Clean bulls from a cle
herd. Prices reasonable. Write
EDW. H. ULRICH, Biscay, Min

A BULL BARGAI

Bull calf born July 19, 1920.
Sire's nine dams average over 1,000 lbs. butter in ye
Dam has over 500 lbs. butter in 263 days.
This calf is an excellent individual.
Straight top line. Price $500.

MANKATO HOLSTEIN FARMS
Marlow & Randall, Mankato, Minneso

HOLSTEIN FEMALES

Females of all ages for sale, priced very reasona
Mostly all bred to our 34-lb. sire, he a grandson
Count, from a sister of Piebe. One or a carlo
Under State and Federal supervision.
BLACK & WHITE STOCK FARM, R. 3, Melrose, Minne

COME TO BISCA

for your next purchase of pure-bred or grade Hols
cattle, mature or young stock. Large selection, al
few select male calves to offer. Located near stat
BISCAY SALES CO., BISCAY, MI

Registered Cows and Heifers

We have on hand more females than we usually carry so are able to offer some good ones for sale. A number have A. R. O. records and most of them are from tested dams. Bred to a yearly record sire and themselves backed by yearly producers.

Address correspondence to Axel Hansen, formerly with John B. Irwin.

MINERAL SPRINGS STOCK FARM, - - SAVAGE, MINNESOTA
Stuart—McIntyre—Hansen, Owners.

Address correspondence to Axel Hansen, formerly with John B. Irwin.



LORD BOBS KORNDYKE PONTIAC

Echoland Farms
Offer For Sale
Lord Bobs Korndyke Pontiac

He is a show bull and a good sire.

His Sire—Roberts Abbekerk Pontiac is an excellent individual and a bull that has won first at many of the leading shows, and by a good son of King of the Pontiacs. His dam is a 29.37-lb. cow from the 33.79-lb. sire, Sir Gerben Pauline. This bull will make a real herd header for some small breeder and we know he will please as an individual. For price and description write

EGIL BOECKMANN, White Bear, Minn



Lola Segis Pontiac Homestead

the highest record bull in southern Minnesota, heads our herd. His sire, Piebe Laura Ollie Homestead King, has more daughters that as 2-yr.-olds have produced 20,000 lbs. milk in a year than any other. His dam, a 34-lb. 4-year-old daughter of King Segis Pontiac Count, has 3 records averaging 33 lbs. and has made over 1,000 lbs. in 1 year. We have a few serviceable bulls and younger from A. R. O. dams for sale.

Clover Lea Farm, W. W. Walker, Owner. Austin, Minnesota



Sir Walker Segis Homestea

The best show bull and son of the great bull, PIEBE LAURA OL HOMESTEAD, out of a "COUNT" daughter, BEAUTY BEETS WALK SEGIS, world's greatest heifer, with two yearly records over 25,000 milk and 1,000 lbs. butter in heifer form, and a seven-day record of 3 lbs. butter from 730 lbs. milk.

We offer several choice bulls, one month to a year old, out of yearly record and A. R. O. cows, at very reasonable present day pr Pedigrees and photos will be sent.

A. J. LASHBROOK, - - Northfield, Minne

The Count-Piebe Combination



KING SEGIS PONTIAC COUNT
"The Marvel of All Sires"
Whose daughters have broken more World's Records than the daughters of any other sire.



PIEBE LAURA OLLIE HOMESTEAD KING
"The Present Day Sensation"
The only bull in the world with five 20,000-lb. two-year-old daughters.

Will Triple Your Milk Check Because It Will Put Production Into Your Herd

And more than triple the price you are getting for your calves. Because it combines individuality with production, it has given us thirty cows at Arden Farms that have **each produced $1,000 worth of milk per year. Do you want that kind?**

We Offer
Sons of "Count" from Daughters of "Piebe"
Sons of "Piebe" from Daughters of "Count"

We have the finest line of young bulls we have ever raised at ARDEN FARMS, priced in accordance with present financial conditions. LIBERAL TERMS GIVEN IF DESIRED.

J. M. Hackney, 602 Merchants Bank Building, St. Paul, Minnesota

Holstein Bulls

At Farmers' Prices

We are not in the game to get rich but to help promote the breed by offering pure-bred bulls at the lowest prices, enough to cover raising. Write for prices and descriptive list. The Ormsby kind.

RAMSEY COUNTY HOME,
J. E. McMahon, Supt., North St. Paul, Minn.

Grandsons of Sir Pietertje Ormsby Mercedes

The sire is Sir Pietertje Ormsby Mercedes 22d, a son of Minnesota's first 1000-lb. cow. These bulls are all nicely marked, straight top lines. Very good individuals from good A. R. O. dams. For pedigrees and prices, write
O. J. GROVER, - GLYNDON, MINN.

Grandsons of
Duchess Skylark Ormsby and of S. P. O. M. 38th.
for sale. These youngsters are from A. R. O. dams that are now making good yearly records. Write today for further information.
POPLAR HOLLOW STOCK FARM,
Bertram D. Scott, Prop., Richfield Station
Minneapolis, Minn.

Bull Calf

advertised last week is sold. Here is another good one ready for light service. Sired by a 30-lb. bull. Dam a 14-lb. 2-year-old who will be tested again next spring. Priced so reasonable that you can't afford to be without him. $150.00 for immediate sale.
V. R. Holmes. Anoka, Minn.

Get A Calf

We have a grand bunch of youngsters on hand. Come and pick out a calf while you have a big choice. Grow him to suit you. Saves you money and we are selling them as cheaply as we can. Show calves that are backed by generations of official testing and careful breeding. Sons of DUTCHLAND CREAMELLE COLANTHA LAD No. 165049. His yearly daughters all average over 834 lbs. of butter at 26 months of age.
GRAHAMHOLM FARMS,
H. R. Searles, Mgr., Rochester, Minn.

REGISTERED BULLS

FROM TESTED DAMS
Sired by a 30-lb. son of Colantha Johanna Lad and a 26½-lb. son of Laura Piebe Ollie Homestead King. Well marked, straight individuals from two months to 2 years old. Priced to suit present conditions.
GEO. H. ELWELL,
Minneapolis, Minnesota.

RICHLY BRED
HOLSTEIN BULL CALVES

out of A. R. dams and sired by our two richly bred herd sires — **King Piebe Ormsby Mercedes**, a 35-lb. son of Sir Korndyke Bess and every dam in pedigree over 22 lbs. and **King Pietertje Mercedes Ormsby**, a son of Sir Pietertje Ormsby Mercedes and out of a 19-lb. senior two-year-old dam.
Herd tuberculin tested. Write for information or visit herd.
P. FROST SPAULDING FARM CO.
C. L. Spaulding, Mgr., Warren, Minn.

Serviceable Sons of Dutchland Aaggie Tidy Prince

I have three of these youngsters for sale, all ready for service and from A. R. O. granddaughters of S. P. O. M. Their sire is from a sister to Tidy Abbekerk Prince and already has a good list of tested daughters, including one above 36 lbs.
Write today for complete information.
E. J. BROSIOUS, - - Stillwater, Minn.

REGISTERED HOLSTEINS



FEDERALLY tested herd of 800 selected Holstein cows headed by world's record sires. Young bulls, for sale. Satisfaction guaranteed.
Write for Sales List No. 105
411 Consumers Bldg., Chicago, Ill.
411 Stuart Bldg., Seattle, Wash.
Carnation Stock Farms

We Are Not

Giving anything away but our sons of King Segis Pontiac Fayne Star are marked down to where any progressive dairyman can afford to own one.
FLECKS FARM,
FARIBAULT, MINNESOTA.



Oak Dale Consigns Eureka Lady Segis to the Faribault Sale

Eureka Lady Segis is an exceptionally well-bred heifer. As a three-year-old, she has a seven-day record of 21.64 lbs. butter from 390.04 lbs. milk. Her thirty-day record is 72.04 lbs. for butter and 1,544.05 lbs. for milk.

Sired by King Segis Pontiac Superior, a full brother to King Segis Pontiac Count whose daughters have exceeded the daughters of all other sires.

The Dam, Eureka Pontiac Lady, has a seven-day record of 25 lbs. of butter. She is by King Pontiac Royal, the most illustrious son of the King of the Pontiacs.

Volumes could be written about the breeding of this heifer but enough has been told here to show you the sterling qualities of Oak Dale's consignment.

Go to Faribault, Minn., via the new "Oak Dale Trail". Oak Dale Farms are on this trail. Stop off at Austin and see us.

OAK DALE FARMS
INCORPORATED
BREEDERS of HOLSTEIN FRIESIANS
Austin Minnesota

Any One Knows the difference between **BLACK AND WHITE**

But it takes a good judge of cows to tell the difference between a 5000-lb. cow and a 6000-lb. producer. Yet there is 18% difference in the profit yielded by these two cows. If you do not have the most profitable kind you can always buy them from us at the right prices. Write for information. **400 Head always on hand. Grade Holstein Cows and heifer calves. Pure-bred Holstein Cows, heifer calves and Bulls of all ages.**
RIVER MEADOW FARMS, Portlandville, N. Y.

Five Heifer Calves

All show animals by a 31-lb. sire out of A. R. O. cows of good individuality. Will sell one or the bunch at bargain prices as we are overstocked.
Also bulls for sale.
G. G. BURLINGAME,
Cazenovia, N. Y.

Choice at $100—Bulls Valued Up to $250.
Ready for service. T. B. tested by all three tests. Every one goes, to clean them out at once. A. R. O. dams and grandams. Sire's 15 nearest dams average over 30 lbs. Don't delay. Write now. Herd Federally tested.
HENRY J. KARPINSKI, Route 7, Oswego, N. Y.



HOLSTEIN CATTLE

Mr. Datus Clark, Member Farm & Market Council, Albany, N. Y., writes:

"Twelve years ago, my Holstein start cost $1,100. The thinking farmer can decide as to the financial end. I now have eighty head and have sold as many dollars worth of cattle as I have bought and have made much more in milk than I would have with scrub or grade cattle."

Send for Free Booklets

The Holstein-Friesian Association of America
101 American Building, Brattleboro, Vermont

Holstein Bulls For Sale

LISETER MODEL ANNIE BUTTER GIRL 327070. Born Feb. 16, '20.
Sire:—Model Annie King Segis 164697.
Dam:—Model Annie Glista 327047. 23.29 lbs. butter as a 3-year-old.

LISETER MODEL KING AAGGIE 327069. Born July 13, '20.
Sire:—Model Annie King Segis 164697.
Dam:—Rollingdale Model Pontiac Aaggie 227457. Record at 2 years 17.53 lbs. butter, at 7 years 25.50 lbs.

The dam of Model Annie King Segis and the dam of his sire both had world's butter records for their ages for years. His dam has three times made over 30 lbs. butter and one of her daughters has twice made over 30 lbs. His sire was one of the greatest show bulls of the breed, having been a winner for 6 years at the New York State Fair, including champion and grand champion.

These bulls are guaranteed in every way and priced to sell.

LISETER FARMS, Newton Square, Pa.

2 Daughters of S. P. O. M. 38th

both over 20 lbs. as 3-year-olds and from high record daughters of Colantha Johanna Champion.

A Daughter of S. P. O. M. 41st

with 17.23 lbs. as a 2-year-old and bred to Sir Ormsby Akkrummer Hengerveld, 39-lb. bull.

To Be Sold at The State Sale May 4
Look For Them. They Will Please You.

Woodlake and Clover Farms,
JOHN B. IRWIN, Sta. F. -:- Minneapolis, Minn.



Lakeside Farm Herd

The records of his dam, dam of sire, and dam of grandsire, average 31.33 butter 7 days, milk 548.84. This bull was 2nd prize winner in New York State Fair in class of thirty. His dam was also prize winner in same show. Send for pedigree. Herd under State and Federal supervision.
E. A. POWELL, Syracuse, N. Y.

Pure Air Prevents Disease

How Much Fresh Air Does a Cow Need?

THIS IS THE ANSWER: A cow needs twice the weight of pure air that she needs of feed and water combined

Many a cow with all the ear marks of a heavy producer has been a failure in the hands of one man and a success in the herd of another, simply because the man who succeeded realized that air is ⅔ of the ration.

Fresh air plays such an important part in the health and production of live stock that it demands our most serious and careful consideration.

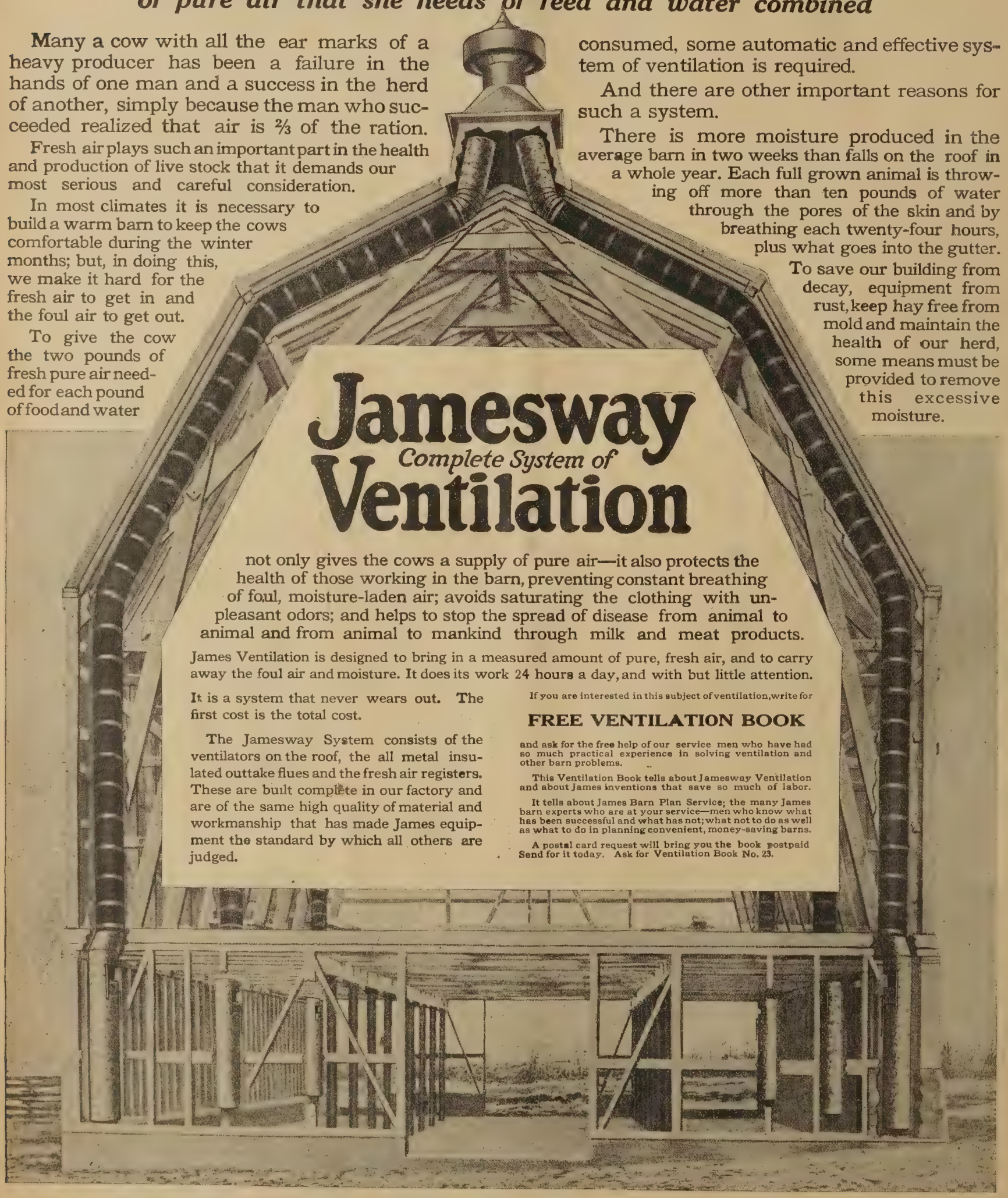
In most climates it is necessary to build a warm barn to keep the cows comfortable during the winter months; but, in doing this, we make it hard for the fresh air to get in and the foul air to get out.

To give the cow the two pounds of fresh pure air needed for each pound of food and water consumed, some automatic and effective system of ventilation is required.

And there are other important reasons for such a system.

There is more moisture produced in the average barn in two weeks than falls on the roof in a whole year. Each full grown animal is throwing off more than ten pounds of water through the pores of the skin and by breathing each twenty-four hours, plus what goes into the gutter.

To save our building from decay, equipment from rust, keep hay free from mold and maintain the health of our herd, some means must be provided to remove this excessive moisture.



Jamesway
Complete System of Ventilation

not only gives the cows a supply of pure air—it also protects the health of those working in the barn, preventing constant breathing of foul, moisture-laden air; avoids saturating the clothing with unpleasant odors; and helps to stop the spread of disease from animal to animal and from animal to mankind through milk and meat products.

James Ventilation is designed to bring in a measured amount of pure, fresh air, and to carry away the foul air and moisture. It does its work 24 hours a day, and with but little attention.

It is a system that never wears out. The first cost is the total cost.

The Jamesway System consists of the ventilators on the roof, the all metal insulated outtake flues and the fresh air registers. These are built complete in our factory and are of the same high quality of material and workmanship that has made James equipment the standard by which all others are judged.

If you are interested in this subject of ventilation, write for

FREE VENTILATION BOOK

and ask for the free help of our service men who have had so much practical experience in solving ventilation and other barn problems.

This Ventilation Book tells about Jamesway Ventilation and about James inventions that save so much of labor.

It tells about James Barn Plan Service; the many James barn experts who are at your service—men who know what has been successful and what has not; what not to do as well as what to do in planning convenient, money-saving barns.

A postal card request will bring you the book postpaid Send for it today. Ask for Ventilation Book No. 23.

James Mfg. Co., Fort Atkinson, Wisconsin

Collier Co Agric.
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HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING



Fort Atkinson, Wisconsin Volume LXI, No. 16 May 6, 1921



Contented Cows

Creonoid keeps cows contented. Spraying your cattle drives away the insect pests that hold down farm profits. Creonoid is safe, lasting, and does not gum the hair.

Increase Your Milk Profits

"I SAVE from $30 to $50 per month by the use of Creonoid," writes a farmer from Alta Loma, Texas. "By its use night and morning, my cows have practically 24 hours of peace and comfort . . . I have used Creonoid for more than a year in my dairy, and I find it so superior to all other 'fly dope' that there is no comparison."

That is but one instance among thousands, where Creonoid has increased the milk yield. Experts say that cows give 25% more milk, when freed from the fly nuisance. The lactation period is also materially increased.

CREONOID
FLY SPRAY AND LICE DESTROYER



CREONOID is a very inexpensive and wonderfully effective fly-spray for horses and all live stock. It is easy to apply. After its use cows will stand still at milking time, and should show an increase in weight and milk yield.

Creonoid will pay for itself many times over through increased farm profits. You will find what thousands of other farmers already know—that Creonoid means more milk per cow, more eggs per hen, more pounds per hog.

Creonoid comes in 1 gal. and 5 gal. cans, and in 50 gal. barrels. If your dealer doesn't carry Creonoid, write to us and we will see that you are supplied.

Illustrated booklet, describing uses and methods of application, sent to any address upon request.

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The League Plant at Newark

H. H. LYON, N. Y.

NOT long since I visited the Dairymen's League plant in Newark, N. J. It is very conveniently arranged, is a particularly substantial building, and is attractive in appearance. It is three stories above the basement and a very roomy affair. At the left of the building, as seen in the accompanying illustration, there is a house and stables belonging to the League association. Something like a dozen horses were purchased with the building. These will be disposed of and motor trucks used as no house to house delivery of milk is contemplated. It will be possible, in case more room should be required some time, to remove the house and enlarge the milk plant considerably. It looks to me like a very enterprising move on the part of the League.

It is understood by many that other plants will be yet operated, perhaps mostly in New York City so far as others next to be acquired are concerned. The New York City trade can hardly be handled from Newark. Mr. C. A. Weiant is in charge of the city plants. I had heard much about Mr. Weiant and was very much in his favor before I saw him. He has had the best training that a man can have for such an important department, having been a moving force in all the recent developments of the Borden Dairy Products Company and for some time the president of the company. Mr. Weiant is a real human dynamo, a man of energy, and acquainted with every detail of the business. Not once did he hesitate for an instant in going through the plant to explain all about conditions. Most managers have occasionally to turn to subordinates for details.

Let us remember that this is now simply a beginning and that all the things desired to be done cannot be accomplished in a day. That a fine start is made in getting milk direct to where families can have it in splendid shape for use at reasonable prices is indeed worth while. Not only will milk in bottles and cans be supplied but other products, including ice cream, will be handled. Since the League has up-state plants they are in position to deliver what is wanted as fast as wanted, and no more. There are problems connected with this enterprise that will require time to solve. Conditions are favorable for solving them. It has long been held by many that there is need of milk in stores all about the cities where any person can go for the best milk whenever they want it and get it at a fair price. This need once filled makes the first step in the solution of the milk question, and it looks reasonable.

The milk stores in the large cities handle a big lot of milk at retail. Moreover, the turn is quickly made. If the station in the city can get milk to the stores at eight cents a quart and the store sells to the customer who calls at 9 cents and makes even 24 turns a month on the eight cent investment, there is three hundred per cent a month on the money invested. The man who brings it in puts it where wanted and the customer takes it away so the labor charge where several hundred dollars' worth is handled in a day is quite moderate. The retail dealer, Mr. Weiant says, hardly realizes the profit on the money invested. It is a part of his job, as he sees it, to make the retailer see the advantage to himself of increasing his business.

This step made by the League executive committee has added considerable to their prestige as to management, for farmers have long been anxious to see cheap milk in the city to the extent of economical handling. More than that the selection of Mr. Weiant to manage the business has further added to the confidence of the farming public. It has also put some stop to the small business men in towns who deride the ability of our officials to handle a business of consequence. Somehow it is almost impossible for our town folks to see that our farmers have good abilities and enterprise enough to employ experience in working out details. They have to admit it now and then and will do it faster if we as farmers stand squarely for it. We have the right to and should. Our management is honest and capable, and the special men for special duties are the best to be had or are changed. Mr. Weiant is in for building a business that shall serve that group of cities near the mouth of the Hudson, the biggest in the world, with milk at moderate prices. So will the League prosper.



THE LEAGUE PLANT AT NEWARK, N. J.

The same kind of vegetables should not be grown twice in succession in the same part of the garden, if this can be avoided. If a radically different kind is grown disease spores and insects, though present in the soil, are not so liable to attack the second crop.

Every member of the family requires nearly 1,100 meals annually. How many of these are coming from the home garden this year?

HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING

Volume LXI | FORT ATKINSON, WIS., MAY 6, 1921 | Number 16

Milking With A Bull

OSCAR TRETSVEN and H. E. MURDOCK, MONTANA

KEEPING the dairy bull tractable and in good physical condition without great expense and trouble has always been a very difficult problem. In order to control and record the time of breeding the cows and to avoid trouble with the neighbors, most dairymen keep the bull confined to a box stall or a small paddock. Under these conditions the bull takes but limited exercise and becomes restless, vicious, and frequently impotent at an early age. For these reasons many high priced bulls are sent to the butcher before their offspring have had an opportunity to prove their merit and before the real value of the bull as a breeder has been determined.

Many schemes to solve the problem of managing the bull have been devised. Exercising him by hanging a block of wood on a chain for him to bunt, picketing him on an overhead wire, or leading him out for a walk of a mile or more daily are common methods though not entirely satisfactory. Our experience at the Montana Experiment Station farm for the past three years in working a dairy bull in a treadmill and the results of recent tests to determine the mechanical horsepower thus generated have been so satisfactory that we hope the facts may be of value to dairymen in managing their bulls as well as in solving the problem of power for operating mechanical milkers and other light-running machinery on the farm.

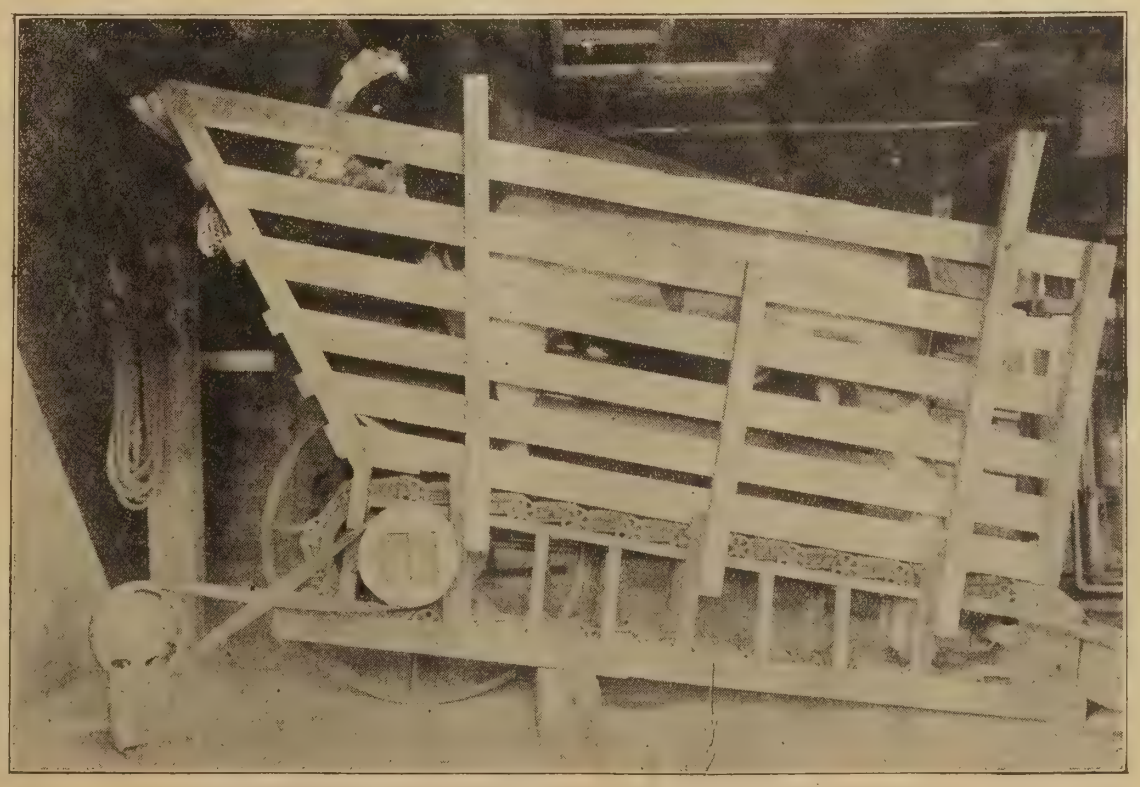
During the summer and fall of 1917 a valuable two-year-old Holstein bull on the Station farm became quite unruly. To keep the animal tractable and in good physical condition it was decided to work him in a treadmill. A one-horse machine of the flat-treadle type was obtained on which an extra strong rack was built for holding the bull. At first he objected to entering the rack on the mill; but, learning that he could not get away, he took his place and since then has not offered any resistance. By starting the mill slowly at first he soon learned to work. As the treadmill was originally made for a horse, it was governed at a speed too fast for the bull. This necessitated making a governor effective at low speed. A governor of an old self-feed threshing machine was reconstructed and proved quite satisfactory. After the bull learned to work, the treadmill was belted to a line-shaft to which other machines were attached.

During the first fall and winter the bull was worked a few minutes almost every day at running a feed cutter and a root slicer.

In the fall of 1918 a mechanical milker was installed and the bull was given a trial at running the vacuum pump. Having been idle during the early part of the season he was not able to stand the work for the entire milking period. A gasoline engine was used to relieve him toward the end of each period until he became accustomed to the task. For a time some trouble was experienced in keeping him working while the men were operating the milkers. He found that if he placed his toes in the cracks between the boards in the rack the machine would stop. To prevent his doing this the cracks were filled, making the inside of the rack smooth. He also learned that by backing against the cross-bar which kept him in the rack he could stop the machine. For fear he would tear out his ring if his lead rope was tied fast, a light rope, snapped to his ring, was run through a pulley to a weight which rested upon the floor when he was in position, but this scheme failed to keep him from stopping. Then an automatic slapper was made. This device is set across the rack behind the bull and is so arranged that when he stops walking his thighs bring pressure upon the mechanism which recoils and releases a spring which gives him a sharp slap on the rump. As the bull hastens forward from the punishment received the slapper automatically cocks itself and is ready for the next offense. After trying to stop the machine a few times the bull learned the consequences and since then no trouble has been experienced.

For the past two years the bull has furnished the power twice each day for operating a vacuum pump for three single units. Three times during this period it was necessary to resort to a gasoline engine for power for short intervals because the bull became lame. The time required to milk the herd, which has averaged about twenty-five cows, has ranged from an hour to an hour and thirty minutes for each period. With the tread of the mill on a slope of 22.4 feet rise in 100 feet, and the bull traveling at the rate of about one mile an hour, sufficient power has been generated to maintain the required vacuum for operating the three units. At the time the bull began running the milking machines he weighed 1,835 pounds. After twenty months of service in the treadmill he weighed 2060 pounds, a gain of 225 pounds. While no experiments were conducted to determine just how much more feed was required to grow and maintain the bull while working, it would seem from our observation that the amount was very slight. The exercise and daily handling have kept the bull tractable and in the very best physical condition.

The time required to oil, start, operate, and stop the treadmill was found to be no greater than that for a gasoline engine when the time required to keep the engine in condition was considered. The treadmill is so simple in its construction and so easy to operate with a well-trained bull that the men doing the work have no desire to use the gasoline engine for power.



HOLSTEIN BULL FURNISHING POWER FOR A MECHANICAL MILKER

Experiments to Determine the Power

To determine the power developed by the bulls in a treadmill a series of experiments was conducted, using a Holstein bull weighing 2,060 pounds and a Jersey bull weighing 1,250 pounds. Experiments were made with the angle of the tread varied to cover all those most likely to be used in practice as well as with various specds of the bull.

For the equipment at hand a speed of 60 revolutions per minute, which gives the walking speed of the bull as one mile per hour, seemed to be about the best. The average horsepower developed by the 2,060-pound bull at that speed varied from 0.75 to 1.02 for the slopes varying from 20 per cent to 25.1 per cent and that developed by the 1250-pound bull varied from 0.42 to 0.62. For example, the power developed by the heavier bull on a rise of 22 feet per 100 was 0.8. The mechanical efficiency increased slightly also as the slope was increased and was a little higher for the heavier animal.

Conclusions

1. Working the herd bull in a treadmill tends to keep him tractable.
2. Daily exercise in a treadmill keeps the bull in good physical condition and consequently prolongs his usefulness.
3. The size of the bull, the rate of travel, and the slope of the tread are the factors which determine the power obtained.
4. The power is well suited for operating cream separators, water pumps, mechanical milkers of a size within the capacity of the bull, and other light-running machines.
5. A treadmill is simple in its construction and easy to operate.
6. Not much time is required to teach a bull to work.
7. An automatic slapper may be necessary to keep the bull from stopping. It can be made by a blacksmith.
8. The cost of working the bull a few hours each day is nominal.
9. Treadmills with flat treads are preferable as they prevent slipping.
10. Treadmills will give better satisfaction where the temperature does not fall much below freezing.
11. A concrete floor with a drain under the treadmill will facilitate cleaning.
12. When a bull is used in operating a mechanical milker a large horse should be trained as a substitute if no other power is available.

—From Circular 93 of the Montana Experiment Station.

NEW ENGLAND'S MILK MARKET

TWO farmers on a local train in Vermont a few weeks ago fell into an argument concerning the marketing of milk. Though their discussion, like the train on which it occurred, was anything but smooth running and was equally uncertain as to when or where it would stop, it would have gained attention among milk producers anywhere in New England. For the subject of fluid milk selling is timely, from the south coast of the Nutmeg State to the milk shipping districts of Maine.

The argument centered about the New England Milk Producers' Association and its influence on New England dairying. One farmer was a member of that organization; the other wasn't; one was whole heartedly for it, while his companion was unreservedly "agin it" and its whole system of operation. One claimed it had saved the business of the milk farmer; the other charged that it collects $100,000 annually and returns the farmer nothing. It was credited with selling milk to the distinct advantage of the farmer and, in the next instant, accused of not really selling at all but merely setting the price. The association's defender argued that it has gotten cost of production plus a profit for milk and was told that it not only does not know what the cost of production is but that it couldn't sell on that basis if it did. One of the debaters declared that "milk's milk and that's the way to sell it"; the other, "that butter and cheese are manufactured from milk and will enter its market to set the price", and "in spite of cost plus figgers", when fluid milk sells disproportionately high.

As the writer left the train the "pros" of the subject were about evenly matched with the "cons". So far as an agreement on the matter goes, the argument may still be on. It is in many sections of the Boston milk territory.

The "N. E. M. P. A."

The New England Milk Producers' Association was organized in 1916 and began business in February, 1917. It was formed when many held that it was impossible to bring the widely scattered individualistic milk producing communities of New England together under a co-operative selling plan. That the period following its beginning was distinctly favorable to its growth, detracts nothing from the strength it has attained. Its present membership exceeds 21,000 and its annual income $100,000 from the membership dues of $1 and a charge of .5 per cent of the gross receipts, collected chiefly by distributors. It is organized in 350 local associations and 50 county organizations, covering all of New England and part of New York.

Its Purposes

In the by-laws and regulations of the "N. E. M. P. A." its purposes are specified as follows: "The purpose of this association shall be to enable its members to secure the full market value of their dairy products; to improve the methods of milk production, distribution, manufacture, and use; to encourage the breeding and raising of better dairy stock; to promote the more economical feeding of dairy stock; to promote the legislative interests of the dairy industry; to foster co-operation in agriculture, and especially in dairying; and, in general, to improve agricultural conditions and bring about a better understanding between the producers of dairy products and the consumers thereof."

In the member's agreement with the association, the text of which appears on this page, the obligation of the association is stated as follows: "The association agrees to do everything in its power to procure for the member the full market value of his dairy products and to protect and promote his interests in every possible legitimate way." No mention is specifically made of improving production through association effort.

Its Service to Members

Testimony of the N. E. M. P. A.'s service to its members may be found in the fact that from its organization to the beginning of 1921 there has been but one month when the price was not higher than for the corresponding month of the previous year.

If the critics of the association choose to credit this steady increase to the general climb of prices, it will yet be found that Boston milk prices have ranged very high when compared with those in other sections. The March, 1921, schedule is an example. When New York producers sold milk for 6¾ cents, members of the N. E. M. P. A. received 8¼ cents. While market milk the country over failed in 1920 to maintain its 1919 average, the quart price paid the producer in the Boston district in 1920 averaged .719 cents above that in the previous year. This increase totaled $889,314 in the milk handled by the five largest dealers in Boston in 1920, according to the report of Richard Pattee, managing director of the association. He estimates that the gain to the farmer for the year in all the New England markets, through the increased price brought about by the N. E. M. P. A., totalled not less than $5,000,000. This being true, the farmers' $100,000 is a fair investment, however it is spent. At least there is evidence that the association has been a powerful factor in maintaining high prices on fluid milk.

The N. E. M. P. A. recognizes its first duty as service to its members. It seeks the best price for their milk. While those who desire to build the dairy industry of New England have not, as a rule, sanctioned its methods of operation, they have not doubted it has profited those of its members who ship milk. It is charged, however, that the association has organized producers patronizing co-operative buttermaking creameries in order to secure revenue—that it collects dues from members for whom it does not sell milk and "holds the milk of such members out of the market unless it is sold for N. E. M. P. A. prices, which results in such milk taking a much lower price when manufactured, especially when the present differential is maintained between manufactured milk and market milk." This charge is parried with the claim that the products of creameries sell for more because of the high price of fluid milk which therefore benefits the members who do not ship milk, that the only effect of letting extra milk on the fluid market would be to reduce the price to all, and, finally, that no compulsion is used in securing members among producers who are not milk shippers.

Cost of Production Plus

A consideration given much emphasis in establishing a price for milk is the data of the N. E. M. P. A. on the cost of production. The figures on costs are based on the quantity figures used by the Regional Milk Commission, with new costs for feed applied. The labor charges are those shown by a mail survey in October, 1920. Grain costs are based on returns from a questionnaire sent to retail feed dealers. The latest data obtained show the cost on Massachusetts farms to be $.1092 per quart, the highest of the five states; Maine and New Hampshire costs tied at $.0896 per quart; Connecticut came next with a cost of $.0867; and Vermont made the lowest figure, $.0756. The weighted average for the five is $.0832. March costs are calculated to be 106.1 per cent of the average for the year. 106.1% of $.0832 is $.0883. To this is added the station, can, and freight charge of $.0178 per quart, making the total F. O. B. Boston cost $.1061. The charges for grain are quite uniform throughout the territory, being lowest in Connecticut. After Connecticut comes Maine and New Hampshire in order of cheapness, Vermont and Massachusetts having the highest feed costs.

Vermont makes the lowest charge for labor, Maine ranking next, and the other three in this order: Connecticut, New Hampshire, and Massachusetts. Boston's milk supply comes from six states and Canada; 43.9 per cent from Vermont; 16.8 per cent from Maine; 14.7 per cent from New Hampshire; 11.6 per cent from New York; 8.77 per cent from Massachusetts; 2.7 per cent from Connecticut; and 1.6 per cent from Canada.

The Fallacy of "Cost Plus"

The N. E. M. P. A. furnishes a striking example of the fallacy of the "cost plus" theory of marketing. Its statistics indicate that the March cost of a quart of milk delivered to New England's chief milk market, Boston, was $.1061. At the same time the association boasts, as well it may, when other markets are considered, that it sold that same quart F. O. B. Boston for $.0825. Irrespective of such figures farmers have month after month steadily increased their production of milk until the surplus is the greatest in the history of New England. Apparently the loss on each quart of milk, as shown by N. E. M. P. A. statisticians, only serves to encourage the farmer's desire to suffer more of that loss.

Does the consuming public interest itself in the production cost of its milk? Do N. E. M. P. A. figures showing the farmer's loss encourage the housewife to increase the daily milk order? Data on the total of retail milk in Boston answer, "No". Clearly the consumer's appetite for milk is not whetted by cost statistics.

Leaks in the Price Dyke

For a long time the N. E. M. P. A has successfully maintained its price dykes about Boston and its other milk markets, keeping out the surplus

(Continued on page 689)

Member's Agreement With N. E. M. P. A.

The association agrees to do everything in its power to procure for the member the full market value of his dairy products and to protect and promote his interests in every possible legitimate way.

The member pays herewith one dollar membership fee and agrees to be bound by the by-laws and regulations of the association.

The member hereby subscribes for The New England Dairyman for one year, and twenty-five cents of the amount paid with this application is to be devoted to such subscription. (This paragraph is optional. Strike out of the paper is not desired and 25c will be refunded.)

The member appoints the association as his agent for the sale of all dairy products produced upon farms controlled by him, except such as are used for home or farm consumption, and his agent for the collection of the purchase money; and authorizes the association to retain therefrom one-half of one per cent, as his dues of membership in the association, remitting the balance to him.

The association may, at its option, authorize the purchaser of such products to transmit direct to the member all of the purchase money except the amount retained for membership dues.

The member agrees to deliver such dairy products pure and unadulterated, in condition suitable for sale, to such shipping station or plant as may be designated by the association.

If the association should be unable to find a market for such dairy products, or any part thereof at any time, it may notify the member, and thereupon the agency shall be suspended until the association gives notice that the agency is to be resumed.

This contract shall remain in force until terminated by the death of the member or on December 31st of any year by notice in writing by either party to the other mailed during the month of November of that year.

For breach of this contract the party in default shall pay to the other party the sum of five dollars per cow for the number of cows stated on the reverse, as liquidated damages and not as a penalty.

⚜

(Editors Note: On the reverse side of this agreement blank appears the following "order" addressed to the dealer to whom milk is shipped).

The undersigned member of the New England Milk Producers' Association hereby authorizes and directs you to deduct one-half of one per cent from the moneys due or to become due to him for all dairy products sold by him to you, and to pay over the amount so deducted by check to the said Association, at the time of each payment to him of the balance of said moneys. This order is to continue in force until revoked by him in writing.

Signature.....

Address.....

Shipping Station.....



TYPICAL FRIESIAN HOME



PLOWING IN FRIESLAND



CO-OPERATIVE CREAMERY AT MARRUM

DAIRY PROSPERITY IN FRIESLAND

E. T. LEAVITT, IOWA

A LAND flowing with milk and honey might have been written to describe the prosperity of Friesland, the province of Holland north of the Zuider Zee. It is here that dairying has been developed to the highest degree. Since the ninth century this country has been noted for its production of dairy products and for its black and white cattle. With an area a little less than that of Rhode Island, the milk from its 200,000 cows produce for export an amount equal to nearly one-third of the whole milk cheese and much more than one-third of the creamery butter made in Wisconsin.

England is on a butter ration and a traveler must learn to be content with oleo most of the time. In France butter is served but once each day in dainty little rolls; but in Friesland, not once each day, but for every meal (and in the country there are four of them) it is offered by the plateful and not in little rolls or squares. Cheese is served two or three times each day to each person and in amounts that would supply an ordinary American family for a week.

Along the fine country roads are comfortable appearing brick houses with great barns attached, every place radiating contentment and prosperity. Lively youngsters were clattering around in wooden shoes, vigorous women were to be seen with the ever present scrub brush hard at work on the brick stoop in front of the home and the men in the fields showed no lack of vitamines in their diet. These people are a different nationality than the Dutch, although a part of the Netherlands has a separate language, a cross between English and German. They have their own literature and cling to a number of their ancient customs. The ladies have kept their national headdress and their highly polished brass plates.

Clean Stables and Clean Cows

My host arose at four in the morning to milk the cows that were in the pasture about two miles away and near the North Sea, so that the milk would be ready for the driver who calls twice each day to deliver it to the co-operative creamery in the village less than a mile away. From May until November the cows are given no supplement for the pastures are luxurious. During the other six months they are quartered in the barn which adjoins the house and are fed cotton and oil cake or perhaps soybean meal with the grass hay. I had always been curious to see lace curtains in a cow barn and while they did not have them here my longing was satisfied at a number of farms. It was October then, but I could hardly believe that cows had ever been in the barn. Even the ceilings were scrubbed until they were as smooth as if they had been sand papered.

Our main meal came at 10 o'clock and while it was somewhat the same as a farmer's dinner in this country, that which seemed to be a favorite dessert was made from buttermilk and wheat cooked together at a high temperature at the creamery. This was eaten with molasses or sugar. During the evening we sipped buttermilk which was warmed up with some kind of a seed which gave it a decided flavor.

As we cycled through the country we could see the men plowing in the fields, most of them using three horses to the plow with one man guiding and the other taking care of the horses. Every few feet a special furrow is plowed to carry the surplus water to the ditches. From the ditches the windmills pump the water into the canals, which are higher than the surrounding country, and carry this surplus water to the sea. The country (two-thirds of which is in grass), the spacious barns, the windmills, and the canals, all seem to make a perfect background for the big black and white cattle we saw everywhere.

In respect to color and general appearance the Friesian cattle, like those of northern Germany and Jutland in Denmark, are the same as our Holstein-Friesians, but there are a number of red and white cattle which are very common in other parts of Holland. These are called the M. R. Y. breed after the three great rivers of Holland, the Maas, Rhine, and the Yeel, in whose valleys they are largely found. In Gronigen, a province east of Friesland, the cattle are entirely black except for their heads which are white. Besides the cattle, every farmer seemed to have a few milk sheep which are said to give from two to four pounds of milk daily from April to December. This tests from five to ten per cent fat and makes a delicious cheese. Five thousand of these were sent recently to Austria.

The First Exporter

A visit was made to Sirtema State, the home of K. N. Kuperus, and from which so many cattle were imported to this country forty to fifty years ago. It was from this herd that Mercedes came, which at Iowa City in 1883 made the breed famous with her record of nearly 100 lbs. of butter in 130 days. During the following year more than 800 head were brought over here through the medium of Mr. Kuperus. At the present time he and his sons are the foremost exporters of cattle, most of them going to South Africa, Australia, and South America. That day he had left for Amsterdam to meet his son who had just returned from Argentine where he had taken a consignment which had won prizes at the shows and was said to have been sold for a very good price. On the two farms, with a total area of 187 acres, 65 cows and about 60 sheep are kept in milk.

At Jelsum we saw some of the finest show cattle of Friesland at the three herds of the Wassenaar Bros. My respect for one cow was increased when I was told that her last three calves, all bulls, had sold as yearlings at an average of $1,500 at the present rate of exchange. From a standpoint of individuality, the Holstein-Friesian of the New World has gone a long ways from the type which her cousin of the Old exhibits. The Friesian breeder does not desire the refinement in the head or neck or throughout the body which is demanded in the show rings of this country. While the main function desired is the production of milk, the breeders still pay considerable attention to fleshing qualities. A square rump and full and extended quarters are called for in the score card. Only 20 points are given to cover the entire mammary system while eighteen points are reserved for general impressions as the animal is seen while still and at a walk.

It has been only a few years, comparatively, that attention has been paid to the improvement of conformation and records by systematic breeding. The herd book was not established until 1887, while the Holstein herd book in the United States was begun in 1872. Of the 200,000 in Friesland about 10 per cent are registered while a very few outside this province are registered. All of the herd book cows are tested each year on somewhat the same basis of our cow testing associations. In 1916 the average production of those over three years old was 10,560 lbs. of milk with 3.3 per cent butterfat or 348.48 lbs. The highest record made last year was 22,000 lbs. of milk with a 3.5 per cent test giving 770 lbs. of butterfat.

Requirements for Registration

"We believe that our cows have gone far enough in milk production and that it is our business to encourage improvement of conformation and type," declared the secretary at the Herd Book office. For this purpose the inspection feature was introduced into the society in 1901. We have a calf book where the animals are temporarily registered. The heifers are inspected when they are a year old and later when they have their first calf. If found satisfactory by a committee after the second scoring their names are placed in a permanent register with their score and yearly records. The young bulls are inspected when a year old and then at the age of 18 months before they may serve as registered sires.

"Records of the registered progeny of a sire are kept and those which have 80 or more are called preferred sires. We believe that these form our most valuable records for from these we can determine what blood is the most valuable. Close linebreeding and inbreeding are being followed to a considerable extent. Considering the present rate of exchange good pedigree cows are selling around $700 and ordinary nonpedigree at $200."

With all of its agricultural prosperity, co-operation has developed to a wonderful extent since its beginning here 30 years ago. Nearly 70 per cent

(Continued on page 672)



PRIZE FRIESIANS OWNED BY J. WASSENAAR



FRIESIANS OWNED BY K. N. KUPERUS



BARN OWNED BY J. WASSENAAR

SAVES TIME AND LABOR

West Bend BARN EQUIPMENT

Automatic Swinging Stanchions
Individually Operated Stanchions
Cow, Calf and Bull Pens
Barn Supporting Posts
Manger Divisions and Complete Mangers
Litter and Feed Carriers
Litter Carrier Track Systems
Swinging Booms or Cranes
Automatic Water Bowls
Gravity Water Systems
Feed Trucks, Milk Stools, etc.
Farm Concrete Mixers

50 Cows Locked in as One

One pull of the lever locks in or releases as many as 50 cows just as easily as one. Swinging stanchions set at exactly the right angle; cow cannot get her head in wrong. Comfortable and secure. The only perfect locking system invented. None other like this one. Any boy can operate it. Saves thousands of steps.



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Bull Club in Washington

The first work undertaken by Stanley V. Butchart as secretary of the Washington State Holstein-Friesian Association was the organization of a community bull club in the Chimacum Valley. Many breeders there have excellent foundation cows but because of their small herds have not afforded as good bulls as the cows should be bred to. This situation made the co-operative use of good sires essential to progress. When the matter of owning good sires together was presented to these breeders, they immediately saw the advantages of the bull club. Fourteen signed up 145 pure-bred Holstein cows, adopted a constitution and by-laws, elected officers, and set out to purchase their first co-operatively owned sire.



STANLEY V. BUTCHART



OFFICERS OF THE WASHINGTON STATE HOLSTEIN-FRIESIAN ASSOCIATION FOR 1921

From left to right, the men in the front line are Mr. John L. Smith, director; Thos. G. Lockhart, director; H. C. Davis, vice-president; F. S. Stimson, president; R. L. Rutter, Jr., treasurer; Wm. Bishop, director; and from the left, those in the second line are Thos. J. Owens, Alex Todd, Dr. H. K. Stockwell, and H. R. Schultes, directors.

Wadhams Tempered Tractor Oil



Unbroken by excess heat in refining.

Withstands heat and kerosene.

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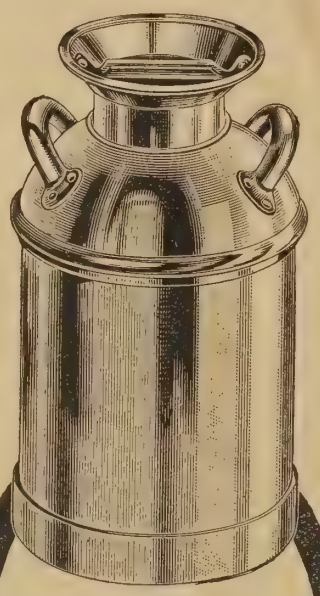
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Virginia Dairy Show and Creamerymen's Convention

The dairymen and creamerymen of Virginia held their annual conventions for 1921 in a joint meeting, at which time was staged the Virginia Dairy Show. The first day was given over to the Seventh Annual Convention of the State Creamerymen's Association. At the opening session there were seventy-five of the state's best creamerymen and milk distributors present to exchange views, discuss individual and state-wide problems, and to learn from the able speakers better methods of creamery operation for the betterment of one of Virginia's largest industries.

W. B. Liverance of New York delivered a most excellent address on the subject, "Co-operative Marketing". Everyone in the audience found a new idea and saw a larger vision of co-operative marketing after this address by Mr. Liverance. Other speakers on this program were, Miss Jessie Hoover, Specialist in the Utilization of Dairy Products, from the Dairy Division. She told of the value of city milk campaigns for increasing milk consumption. J. H. Meek, Director of the Virginia Bureau of Markets, lead in a discussion of marketing problems. C. W. Holdaway of the Virginia Polytechnic Institute lead in a discussion on buttermaking.

The Dairymen's Convention

The convention of the Virginia State Dairymen's Association began its first day's program with an address of welcome by John Wood. He was followed by President F. C Baldwin of the Dairymen's Association. He outlined the need for a change in the functions of the organization and gave specific plans for the proposed organization in the future.

"Feeding for Economical Production", was a subject presented by one of Virginia's foremost dairymen, F. S. Walker, a practical feeder, with many years of experience. Every one who heard this address found new ideas for improving their methods of feeding.

Governor Westmorland Davis briefly told the dairymen assembled of the importance of the convention, and of the need of more unity of action and co-operation in the industry.

Other important speakers for the first session of the convention were: T. B. Hutcheson, agronomist at the Virginia Polytechnic Institute, who made a very interesting address on the subject, "Crop Rotations for Dairymen". C W. Holdaway, Professor of Dairy Husbandry, Virginia Polytechnic Institute, addressed the dairymen on the subject, "Virginia's Experimental Dairy". Hon. A. B. Thornhill, commissioner of the State Dairy and Food Division, told of the accomplishments of this department and of its value to Virginia's dairy interests. Mr. J. A. Turner of Hollins College spoke upon the highly important subject, "What May Be Accomplished by Breed Associations". The first day's session was ended with a round table discussion, which was lead by R. H. L. Chichester.

The second day began with an address by R. E. Hunt, Professor of Animal Husbandry, Virginia Polytechnic Institute, on the subject, "The Selection of a Dairy Sire". Professor Hunt emphasized the necessity of "careful selection of the sire, because the sire is more than half of the herd." J. G. Ferneyhough told of the advancement in Virginia of the eradication of tuberculosis in cattle.

One of the features of the convention was a paper presented by R. H. L. Chichester, entitled, "The Building of a Pure-bred Dairy Herd". Judge Chichester began several years ago

to build the foundation of a pure-bred Guernsey herd. The results he has obtained in making great foundation cows are known throughout the dairy world and have added much to the importance of the Guernsey breed. "The Jersey Cow in America" was the subject of an address by Mr. MacMonnies, Eastern Editor of the Jersey Bulletin. He told of the past records of the Jersey breed, of the unfailing popularity of the breed and inspired every Jersey breeder to push toward the goal of higher production.

J. R. Hutcheson of the Virginia Polytechnic Institute told of the necessity for organization, the time to organize, and how organization may be perfected. T. E. McLaughlin, manager of the Maryland—Virginia Milk Producers' Association, explained in detail the actual working of a real live organization. At this time the Association is developing plans for operating a plant in the city of Washington, D. C., to take care of the surplus milk of members. "The Value of Farmers' Co-operative Organizations", was presented by W. N. Cease, president of the Producers' Exchange of Richmond. Mr. Cease told the audience of the accomplishments and value to the farmers in his county of the producers' organization which he represented.

Dairy Contests

In connection with the dairy show there were held three important state-wide dairy contests. A milk production contest was held while the conventions were in session. This was a 72-hour butterfat production contest. Five Holstein and two Jersey cows competed. The results were as follows: first, Summerdean Susanna, a Holstein cow owned by Dr. H. H. Trout, butterfat, 7.9687 lbs.; second, V. P. I. Dione Korndyke, a Holstein cow owned by Virginia Polytechnic Institute, butterfat, 7.0962 lbs.; and third, Netherland Hartog Queen, a Holstein cow owned by T. F. West, butterfat, 6.5123 lbs.

In the state-wide market milk contest, there were thirty-five contestants in the three classes. The winners were as follows: Class I, Fairmont Dairy, score, 95.0; Class II, E. V. Southall, score 97.9; and Class III, Blue Grass Creamery, score 90.0.

There were seventy-three contestants in the State Farm Butter Contest. The winners were as follows: first, Mrs. E. M. Beck, score, 90.5; second, Mrs. C. W. Bowles, score, 90; and third, F. C. Baldwin, score, 89.5.

The following officers were elected for 1921: president, F. S. Walker; vice-president, F. C. Baldwin; secretary-treasurer, F. A. Buchanan.

Virginia. F. A. BUCHANAN.

Complete County Organization

Marathon, the largest county in Wisconsin, claims the distinction of being the first county in the country completely served with a series of local breeders' clubs federated into a county organization. Sixteen different local clubs serving two leading breeds in the county, Guernsey and Holstein, have been organized and federated.

At Colby, early in April, 22 breeders met and formed an organization with as much strength as in the total membership in the old county organization plan. The present system is to organize a club so that every breeder is accessible to his local organization. Through frequent local meetings, interest in better cattle is stimulated, as well as interest in testing associations and advanced registry work. More high class sires have been brought into the country during the past fifteen months than at any other equal period. At present Marathon County's 6,100 farmers own 54,500 dairy cows. The present average production is 4,800 lbs. milk per cow. It is expected that the present improvement undertaking will increase this average.

Tuberculosis Eradication Conference

Plans are under way for the holding of a Tuberculosis Eradication Conference of state and federal veterinarians engaged in co-operative work in the New England States. This will be held with veterinary practitioners and representatives of the live stock industry in the Auditorium, State House, Boston, Mass., June 22, 23, 24. The program includes the names of prominent men in the United States and Canada who are interested in this project. Moving pictures and practical demonstrations will form a part of the program.



Ring Heather of South Farm, an Ayrshire cow owned by Glen Foerd Farm, Pennsylvania, has recently broken the breed's record for fat production in the junior two-year-old class and is the living champion for both milk and fat production in this class with a production of 15,093 lbs. milk, 700.64 lbs. fat.

She was bred by South Farm of Ohio. She was sired by Howie's Ringmaster, a son of Howie's Sir Hugh and grandson of Brae Rising Star—sires of outstanding individual merit, both having won the Scottish Ayrshire Society's champion cup for the best male at Ayr a number of times each. She is the daughter of Bonnie Heather of South Farm with a Class G record of 10,030 pounds milk, 428.43 pounds of fat, and a granddaughter of Bargenoch Bonnie Scotland with seventeen Advanced Registry daughters with official records that average 9,098 pounds milk, 365.09 pounds of fat as two-year-olds.

William T. Tonner, owner of Glen Foerd Farm, purchased this champion at the first National Ayrshire Sale in 1919 as a yearling to go with his select foundation herd, which consisted of the grand champion at the previous National Dairy Show, Canadian champions, and top quality imported and home-bred animals.



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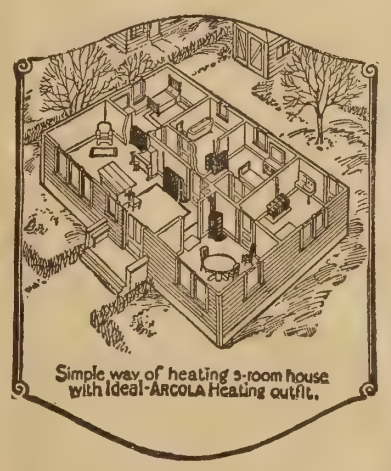
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EDITORIAL COMMENT



WITH NO EXCUSES

A refreshing bit of humor comes from Island Farm, Minnesota. In reporting the records of three new class leaders in that splendid Guernsey herd, Mr. Hartley pokes a bit of fun at the many excuses breeders are so prone to make in explaining why the records reported for their cows are not "world beaters". He says:

"We are going to let the records of these three cows stand without excuse or any prediction as to what they might have done had they not been severely bitten by vicious flies several times during the year; stood in rough hewn granite stanchions or fallen down a well, one on top of the other, during their seventh month on test, the most critical period. It is only fair to state that they were milked every once in a while and fed every week during their entire milking period. Captained by Hathaway, their milkers were four regular fellows, Bright, Hughes, Bemis, and Hill, who never severely beat them except when the boss was away."

ELIMINATING TUBERCULOSIS

Hinds County, Mississippi, is the second county in the United States to complete a county-wide test in a campaign for the purpose of eliminating tuberculosis from its herds. All of its cattle have been tested once and only 49 reactors, or about one animal in every 700, reacted to the tuberculin test. This shows a very small percentage of tuberculosis among the cattle of this county, making it comparatively easy to eliminate tuberculosis. Those in charge of this work should inaugurate rules making it impossible to ship anything but clean cattle into this county. Their problem is not one of eliminating tuberculosis but rather of keeping tuberculosis from coming into their county through purchased animals.

Some authorities have doubted the wisdom of attempting to eliminate tuberculosis from areas as large as counties. They question the final results. It is their opinion that the use of the intradermal test, and applying it to many animals at one time, gives opportunity for many errors and that, unless extreme care is taken in handling the work upon so large a scale, disappointing results are likley to follow. If those who have this work in charge believe a single test will locate all reacting animals and that their elimination from the county cleans up tuberculosis, disappointment is sure to follow. Eradicating tuberculosis is not a simple process; sometimes it takes years to wipe it out of a herd that is carefully handled, especially if a considerable percentage of the animals is found to be suffering from this disease. The work of cleaning a county of tuberculous animals will require constant effort, well laid plans carried out by constant and reliable men and in co-operation with the owners of the cattle.

FARM MACHINERY DROPS

In addition to the reduction in prices of certain classes of farm machinery announced several weeks ago, manufacturers are again announcing a further reduction. One concern makes a cut of ten per cent on all machinery not previously covered in their reduction, while another makes a cut of ten per cent on plows, cultivators, spreaders, disc harrows, corn planters, hay loaders, binders, mowers, sulky rakes, and other implements.

This last reduction is due to the lower prices recently announced for steel, which furnishes a new basis of replacement costs. The manufacturers assert that the present machinery is made from the higher priced steel and the new prices will represent a tremendous loss to them, but they are ready to take this present loss in the hope that the farmer may be better able to buy and so give employment to factory workers in manufacturing machinery of the lower priced steel.

The farmer will appreciate these reductions and his purchases will only be restricted by his lack of ability to buy due to the low prices he has received for his products and the difficulty of borrowing money. The dairy farmer has not been so badly hit as other farmers, and he may well consider the advisability of buying now both because he needs the machinery to lower his costs of production and because it gives work to the labor of the city that makes the large market for his products. We realize today, more than ever before, the interdependence of the farmer and the large body of food consumers in the city represented by the factory worker. Both need to be successful that either may profit.

SHOW CATTLE MUST BE TESTED

The action of a number of the larger state fairs and stock shows in providing regulations to prevent the spread of tuberculosis among cattle exhibited at their shows is to be highly commended. Breeders have been forced to take unreasonable chances with their tuberculosis-free herds in exhibiting at fairs and shows where diseased animals were permitted to be exhibited. This season the sentiment is so strong for strict regulation of this matter that it appears certain to be but a short time until the only cattle which can be entered at the major shows are those which are known to be free from this insidious disease.

Following the recent regulations of the Iowa Dairy Cattle Congress, comes a statement from the Wisconsin State Fair Board specifying what cattle may be shown at the Wisconsin State Fair and giving the following provisions under which cattle shall be cared for during the fair in order to further insure against the spread of tuberculosis:

Cattle from accredited herds may be shown. Those from herds which have passed an entire herd test within one year and which have not been with cattle not known to be free from tuberculosis may be entered. Cattle from herds having reactors in the first test but where the whole herd has passed subsequent test within six months of the removal of the reactors from the herd may be shown.

Owners of cattle, whose herds have not been tested in their entirety, must furnish tuberculin test charts of each animal, the date of test not to exceed 90 days prior to exhibition. Such cattle must not have been with untested cattle following the testing date. All charts submitted must be approved by state or federal officials and must be furnished to the secretary of the fair not less than 20 days previous to the opening of the fair. Animals entering the state fair grounds must be identified on tuberculin test charts by name and registry number or ear tag number. Common water troughs will not be used at the fair. Each exhibitor must provide water buckets for the use of his own herd only.

We trust that all exhibitors of cattle will appreciate the wisdom of these rules and will co-operate with the managers of fairs and dairy shows in carrying them into effect. Tuberculosis is so infectious and insidious that exhibitors of cattle cannot be too careful about exposing their herds to this disease.

PENNSYLVANIA BUTTER BILL

A bill has been introduced in the legislature of Pennsylvania to prevent fraud by prohibiting the maufacture and sale of adulterated butter. The bill requires that butter contain not more than 16% of water or less than 80% of fat. If butter contains more than 16% of water or less than 80% of fat, it is held to be adulterated and penalties are inflicted on those who violated this standard. The bill also provides that no foreign fat or starchy matter or other substances which affect the quality and purity of butter be added to it. The butter standard provided in this bill is in keeping with the ruling of the Internal Revenue Department which holds butter to be adulterated if it contains sixteen per cent or more of water. It differs in that the ruling of the Internal Revenue Department does not provide for a minimum amount of butterfat. We rather favor the double standard although there is little difference between that and the standard which requires butter to contain not less than 80 per cent fat.

The expensive and important part of butter is butterfat and if butter contains 80 per cent butterfat, there is little or no danger of its being adulterated. We rather like the bill introduced in the Wisconsin Assembly which provides for an 82.5 per cent fat standard, but permits a tolerance of 2½ per cent. No prosecution will be made unless the butter falls below 80 per cent fat. A law of this character is easier to enforce. A jury dislikes to convict a butter manufacturer if his product nearly reaches the standard set by law. It is likely to take the position that since butter varies in composition, some tolerance must be provided. It is better to provide the tolerance in the law and when butter falls below 80 per cent fat no plausible excuse can be offered to the court.

It is desirable that all dairy states have laws providing for uniform standards for butter. Any state that requires more than 80 per cent fat as a standard for butter handicaps its butter interests. It is important that we have standards to protect the quality of all products, to extend justice to the consumer, and to protect our dairy interests.

THE EMERGENCY TARIFF

The Emergency Tariff Bill, vetoed by President Wilson at the close of the last session of Congress, has repassed the House, is now before the Senate, and will probably be enacted into law within a few weeks. It is too late to be of great value to agriculture as a whole, as the 1920 crop has been largely marketed. Nevertheless it will benefit the dairy industry. We have one objection to this bill because it does not provide a sufficient tariff on vegetable oils. Last year vegetable oils replaced about 7,000,000 lbs. of fat in condensed milk and about 200 million pounds were used in the making of oleomargarine. It is unfair to ask the dairy farmers of this country to compete with the cocoanut cow of the South Sea Islands. Cocoanut oil does not contain the nutritious properties of milk fat and people who buy it are not receiving as valuable a food product as they are led to think.

We believe the 23,000,000 dairy cows in this country are of far more importance to the development of agriculture and the welfare of the people than the few thousand cocoanut cows of the South Sea Islands. The value of the cow to this nation can not be measured wholly by the returns of her product nor to the high nutritive value and importance of it in the human diet. Her returns are far greater than this as she makes it possible to build up agriculture and to follow diversified farming which in this time of readjustment has proven the most stable form of farming. She utilizes products of the farm and mills which would be wasted without her. Considering her relationship to permanent agriculture and the importance of her product as a food, we believe dairy farmers are entitled to a substantial protection from the vegetable oils of foreign countries. It is our desire to see the tariff on vegetable fats materially increased when the Tariff Commission reports its final tariff bill.

President Harding said in his address to Congress: "Today American agriculture is menaced, and its products are down to pre-war normals, yet we are endangering our fundamental industry through the high cost of transportation from farm to market and through the influx of foreign farm products, because we offer, essentially unprotected, the best market in the world. It would be better to err in protecting our basic food industry than paralyze our farm activities in the world struggle for restored exchanges."

President Harding is right in the attitude he takes toward protecting the agriculture of this nation.

Culture and Feeding Mangels

Please give me some information regarding the sowing, thinning, and feeding of mangels and sugar beets to dairy cattle. Should the green tops be fed and in what quantity? Should the whole beets and tops be fed during thinning out process?
Fowler, Ind. W. T. C.

Before planting sugar beets or mangels, see to it that cornstalks, roots, or stones, if any, and other foreign matter on the field are removed. The work of cultivation will be very much facilitated during the early summer months. Plant beets just as soon as the soil is warm and dry—about corn planting time. The earlier the beets are planted the more vigorous will be their growth. It is best to use the regular beet drill, but if that is not available, use a grain drill with spouts closed so that rows are planted from 22 to 24 inches apart. Mangels may be planted at the rate of eight pounds and sugar beets at the rate of 15 lbs. to the acre. Where only a small area is to be planted the hand drill may be used to advantage.

It is usually best to cultivate at least once before blocking and thinning. This can be done just as soon as the rows can be plainly seen across the field. Cultivate shallow and be careful that the plantlets are not covered with dirt. After the plants are up from two to three inches high, take a hoe about seven inches wide and block out the beets, leaving two or three inches of beets in each block. Then thin out to one vigorous plant in each block, leaving a plant every 8 or 10 inches apart in the row. This is the most important work in raising beets and should be done with care and on time. The condition of the beets and the evenness of the stand will, later in the season, show the care the beets have received and will also determine the success or failure of the crop.

After thinning, keep the field clean of weeds by frequent cultivation. This will hasten the early rapid growth of the plants so that the tops will cover the ground between the rows before the usual hot dry weather begins. The leaves keep in the soil moisture which promotes the healthy growth of the root.

From 30 to 40 lbs. of sliced mangels or sugar beets are satisfactorily fed to a cow daily. Roots furnish succulence and stand in the same relation when fed in the winter as grass does in the summer to live stock. As a tonic to the system and the aid they give in digesting other foods, roots cannot be overestimated.

Green tops of beets should be fed to dairy cattle in limited quantities and with care—say from 8 to 10 lbs. daily per animal. Good results follow when fed with a liberal supply of concentrates, such as wheat bran middlings or ground oats. It is not advisable to allow the cattle to gouge themselves on green beet leaves,—they get off feed. Beet leaves contain a large percentage of the mineral matter found in the plant and if fed too generously, an undue amount of labor is apt to be thrown on the action of kidneys of the animal and may cause injury.

We would not recommend the feeding of whole beets and leaves to dairy cattle at time of thinning. There is scarcely enough substance there to make it worth while. The plantlets, when left on the field, will easily decompose and make plant food wrapped up in them easily available for the plants left to grow later in the summer. J. F. WOJTA.
Wisconsin College of Agriculture.

Silo With Pit

I intend to erect a silo this year. It will be on the upper side of my barn and I intend to dig down a little below level of basement floor and build of cement to ground line, making a pit six feet deep, and then putting a stave silo on this wall. A salesman of a popular make of stave silo says the pit idea is wrong. Corn will not make No. 1 silage in cement. Is he right?
Edinboro, Pa. N. L. K.

A very large number, if not a majority of the farmers who erect stave silos, put them on top of pits anywhere from 2 to 8 feet deep. We see no objection to this practice except where the pit may extend blow the stable floor and cause additional work in taking out the silage. In many cases, however, the dairy barn is situated on something of a side hill and the pit of the silo is merely extended into the ground sometimes to 2 or 3 feet below the stable floor. It is not difficult to lift out silage to this height. The silage in the pit will be of like quality to that in the upper part.

This system of construction is very desirable because of its economy. There is no good foundation for the statement that silage will not keep well in such a pit. The stave silo salesman who tried to sell a silo upon such a basis as this is making a serious mistake. Silage acids will not destroy the cement providing it is given proper care and has been properly erected. All that is necessary is to whitewash the cement once in 3 to 5 years with Portland cement mixed with water to the consistency of cream.

Egg Contract

Can you supply a copy of a contract covering eggs between creamery and its patrons?
Belle Meade, Va. S. B. E.

The following is a contract that was in use by a Minnesota creamery some years ago and worked out successfully there:

"For the privilege of selling eggs to the creamery company and getting a market established for guaranteed fresh eggs, I hereby pledge myself to comply in every way with the following rules:

"I agree to deliver eggs at the creamery that will not be to exceed 8 days old and to be gathered twice every day. Eggs to be of uniform size, to be clean, and to be kept in a cool, dry cellar. Brown eggs to be put in one carton and white in another, and so marked. Each egg to be stamped on the side, and carton to be stamped on the top.

"I agree not to sell any eggs that I have marked with the creamery company's trade-mark to anyone else but the creamery company, and to return stamps and other supplies that have been furnished, in case I should decide to discontinue to sell eggs to the creamery company."

It might also be well to incorporate the following:

1. Patrons to deliver all eggs produced by their hens except those used in the home and those from stolen nests of unknown age.

2. All eggs shall be infertile eggs except during spring breeding season.

3. The creamery maintains the privilege of refusing dirty eggs and those which do not come up to the standard.

We would suggest that those interested in this subject write the U. S. Department of Agriculture, Washington, D. C., for copies of Farmers' Bulletin 445 entitled, "Marketing Eggs Through the Creamery", and Farmers' Bulletin 656 entitled "The Community Egg Circle".

Millet Hay for Cows

I want to sow some millet this spring and would like to know of its value for milk cows against other hay. Is it better than timothy or wild hay? What would be the best time to seed it?
Gibbon, Minn. R. V.

Millet hay does not make a very desirable feed for milch cows. It is probably not equal to timothy hay but if fine stemmed, it is probably superior to marsh hay or wild hay. It is a better crop for dairy cows when ensiled than when cured as hay, particularly if the stems are rather coarse.

The particular adaptability of millet is the fact that it can be sown as an emergency hay crop after corn has failed or some early crop has been taken from the field. The common Foxtail millet is usually regarded as the best variety for hay, although the German, Hungarian, and Japanese varieties may be used. The Foxtail millet is finer stemmed and earlier, both of which are advantages in a hay crop. From 3 to 4 pecks of seed are used per acre. The seed is either broadcasted or drilled in, but care should be exercised not to bury it more than an inch deep and less than this is preferable in a stiff soil.

Like sudan grass, millet requires a warm soil and is not planted, as a rule, until late in June or early in July. If allowed to mature, the plants rapidly grow woody and strawy. It should be cut when the heads are well out but before they reach maturity.

Clarifying Milk

I use a wet muck pasture in the summer and after taking all the precaution possible and using the so much advertised Clark strainer I cannot make clean milk. Will a clarifier remove all this sediment and muck without affecting the keeping quality of the milk?
Wauregan, Conn. P. J. C.

The best protection against dirty milk is to carefully wash and dry the udder of the cows before milking. It is much to be preferred to keep dirt out of milk rather than to attempt to take it out.

The clarifier will be of great assistance in removing sediment which may get into milk, but it is doubtful whether it will remove all of the fine particles, such as come from milking cows whose udders are covered with mud. Clarified milk will keep quite as well, if not better, than milk which has not been passed through such a machine. The clarifier itself is not essentially different from the separator except that it does not separate the cream from the milk.

Soy Bean Meal

What can you say about soy bean meal for cows on test?
Staatsburg, N. Y. H. E. S.

Soy bean meal made from the residue after the oil has been extracted carries as much digestible protein as choice cottonseed meal and slightly less carbohydrates and fat. Although high in price, soy bean meal is greatly esteemed by western dairymen and is often fed in relatively large amounts to cows on official test. In certain feeding experiments, it has been found slightly superior to cottonseed meal while others have found it practically equal to the better classes of linseed oil meal.

It is not a meal, however, that has been used to any considerable extent in the United States and is more often used, perhaps, in the form of ground soy beans than in meal made from the residue left after the oil is extracted. As the ground soy beans contain a considerable amount of oil, the meal should not be stored in very large quantities for it is inclined to turn rancid. We have comparatively few reports of its use and are unable to advise from our own experience concerning its particular value in official test work.

Variations in Test

It would be very interesting to me if you would let me know if the butterfat in the milk of the same herd of cows can drop from 5% to 4% and then after awhile go up again to 4.8%.
De Lancy, N. Y. A. P.

It is possible for the average fat test of a herd to decline from 5 per cent to 4 per cent and return again to 4.8 per cent. Such a fluctuation is very unusual and must be explained by some marked change in the feeding or management of the herd. For example, we have seen a herd decline in fat test even more than this when turned from a heavy grain ration in winter feeding to a succulent, watery green crop, without permitting the herd to become used to the feed by gradually increasing the quantity day by day.

Especially would the fat percentage be apt to decline markedly if a herd has suddenly become chilled through standing in a cold rain or through some other circumstances which will throw it out of its usual condition. If no such factors as these have come into this herd to affect the test, we would give immediate attention to the matter of the testing of the milk to make certain that some error has not occurred there.

Powder Milk Process

Kindly give some information about powdered milk by the economic process. Is it a success and is the market good for the product? What is cost of installing a plant to handle, say, 40,000 lbs. daily? Are there any other processes besides the above?
Calgary. INTERESTED PARTY.

Professor O. F. Hunziker gives us the following reply to the above inquiry:

"I am not aware of the existence of a process of making milk powder called the Economic Process. There are only three systems whereby milk powder is made, namely, the Dough Process, the Film or Roller Process, and the Spraying-drying Process. These processes are explained in detail in the Third Edition of my book on Condensed Milk and Milk Powder.

"It is quite possible, of course, that any one manufacturer or patentor may have given the name Economic Process to his particular process or patent would not differ in any essential from one of the systems mentioned above.

"The cost of a plant to handle 40,000 lbs. of milk daily would vary very greatly with the system of drying used. In the case of the film or roller process, where it is usually not necessary to condense the milk before drying, the cost of installation might be considerably lower than in the case of the spray-drying process where, in most cases, condensing equipment has to be installed as well as the drying equipment. I would say that you would have to figure on about $75,000 to $125,000. These figures are exceedingly approximate. I merely mention them to give somewhat of an idea of the possible expense."

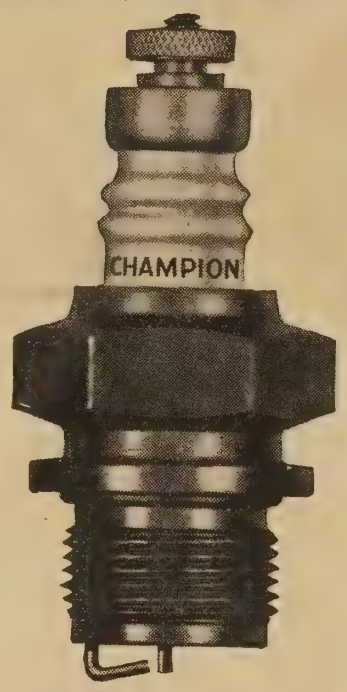
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Breeders Discuss Tuberculosis

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A QUESTIONNAIRE, supplemented by a letter emphasizing the benefits derived from the accredited herd plan in the suppression of animal tuberculosis, distributed by the U. S. Bureau of Animal Industry to 15,000 live stock owners, has brought 5,000 responses. The object of the searching inquiry was to consult opinions of veteran cattlemen as to the value of tuberculin testing and assemble their individual experiences into collective form as a fund of ready information for others in the tuberculosis eradication campaign.

The inquiry sought data on nine particular points, the outstanding queries being: "In your judgment, what is the most common method of spreading tuberculosis in your community?" "Do you think it would be a wise provision to have separate sections at live stock shows, so that accredited herds and herds in the process of accreditation may not be exposed to cattle that are not in such classes?" "Are there any creameries, condenseries, or skimming stations in your community which return to farmers by-products to be fed to swine and calves; if so, are the by-products pasteurized properly?" "Is the sentiment among the live stock owners in your community favorable for the eradication of tuberculosis?" and "if you have any criticisms of the tuberculosis eradication campaign to make, or suggestions to offer, for improving it, the Bureau of Animal Industry will appreciate the receipt of such advice."

To Dr. J. A. Kiernan, chief of tuberculosis eradication division, the outstanding conclusion of the sweeping answers to the questionnaire is to this effect: That while owners of accredited herds desire to maintain cattle free from tuberculosis, they do not think it fair for other herd owners to be permitted to maintain animals, the health conditions of which are unknown, but in some instances it is known that tuberculosis exists in these herds. Likewise many owners of accredited herds take serious objection to the privilege extended to untested cattle of being exhibited at live stock expositions, and stabled in immediate contact with animals free from disease. Doctor Kiernan thus summarized the unmistakable sentiment of dairymen and cattlemen the country over as they voiced their expressions on written forms that are banked high in the office of the chief of tuberculosis eradication division. His comment is illuminating, and the writer delved into the replies for additional interesting details and specific criticisms.

Expressions favoring compulsory tuberculin testing were numerous, a condition which is discouraged by the Bureau of Animal Industry. Educational methods rather than arbitrary rules seem to be the policy of the federal authorities. Farm auction sales, the mingling of cattle at expositions and county fairs, feeding whey and skimmilk from the factory and creamery, and contaminated water in stock tanks, are among the common causes ascribed for the dissemination of tuberculosis. Wisconsin and Michigan, foremost in pledging support to the accredited herd plan, were more generous than other states in responding to the questionnaire, each of which filled out approximately 500 of the form blanks. The batch of replies from Wisconsin was especially liberal in supplying the requested information, many letters being appended to the returned questionnaire. Many individual comments are of such interest as to permit of brief reference thereto:

George C. Humphrey, of the University of Wisconsin, declares that the most common method of spreading tuberculosis is "the exchange of dairy cattle". By way of comment he says, "Undoubtedly, it will be a better plan to eliminate cattle that cannot show clean bills of health." S. M. Krippner, of Barron County, blames the method of "selling tubercular cattle to your neighbors," as being responsible for the unchecked evils of tuberculosis. A Holstein-Friesian breeder in Winnebago County is critical of the practice of feeding whey and skimmilk from factory and creamery, while a Waupaca County breeder ascribes the reason for the spread of the disease to "pasturing cattle where they can lick other cattle across fences." Julius Haag, Fond du Lac County, writes, "I do not know whether there is any tuberculosis in my neighborhood as I am the only one that had the cattle tested."

A Shorthorn breeder recommends the barring of all doubtful animals from show grounds. "I believe a law should be passed and enforced prohibiting a farmer from having a public sale unless he had his herd tuberculin tested within thirty days," writes an official of the La Crosse Guernsey Breeders' Association. And, finally, from the symposium of replies how refreshing is this one from Eau Claire County: "Tuberculosis is the least of our troubles."

The chief of the tuberculosis eradication division of the Federal Bureau of Animal Industry appraises as of far-reaching significance the recent action of the executive committee of the American Jersey Cattle Club to the effect that after 1924 its organization will not award prizes save to animals in accredited herds. The Holstein-Friesian Association is said to be entertaining the advisability of taking similar steps. Pertinent to the strengthening of the methods of combating animal tuberculosis, the Bureau of Animal Industry recounts that for the present fiscal year the States will have an aggregate of $4,000,000 for controlling the disease. Congress has appropriated $2,000,000 for disbursement by the federal government, $1,000,000 for idemnity, and a similar sum for operating expenses.

The Bureau of Animal Industry reiterates with emphasis the economic losses sustained by this animal disease: "The animal losses in meat products caused by tuberculosis are enormous, and every effort must be made to diminish the constant drain upon the industry. During the fiscal year terminating June 30, 1920, there were retained for tuberculosis at the federal meat inspection establishments 4,260,720 swine and 201,461 cattle. All of these carcasses were not condemned as unfit for food, because the lesions in many of them were very slight; but the fact that more than ten per cent of the total swine slaughtered under federal supervision showed tuberculous lesions is sufficient to cause a great deal of apprehension on the part of the leaders of the live stock industry of the country. This condition cannot be improved by worrying over it or talking about it. It will have to be remedied by eradicating the disease. If we are on the right track, we should pursue our efforts vigorously, with the hope of eventually eradicating tuberculosis.

"At the outset of the campaign there was very little said about the effect of live stock tuberculosis on public health. Emphasis was placed upon the economic importance of

eradicating the disease, but as the work was expanded in the field, it was found that the public was interested in learning the extent to which tuberculosis of cattle was transmissible to human beings. The Bureau has received reports from many states, advising of cases of tuberculosis among children on farms where the cattle were found to be extensively affected with tuberculosis. This subject has been carefully investigated by various commissions in different parts of the world, and uniform conclusions indicate that children under five years of age are quite susceptible to tuberculosis of bovine origin, the infection being carried in the milk from tuberculous animals. The percentage of tuberculosis of bovine origin among children over five years of age and adults is smaller. The outstanding fact is that where milk from tuberculous cattle is being fed to children, there is great danger of their contracting tuberculosis; therefore, the program for the extermination of tuberculosis of live stock must take into consideration its effect upon the public health, as well as the monetary losses sustained from the disease."

Hinds County, Miss., Tests All Cattle for Tuberculosis

The cattle of Hinds County, Miss., are practically free from tuberculosis. Following a vote of citizens in the county to eradicate the disease, the project of testing the cattle for tuberculosis was recently completed. The tests required approximately 65 days. During this time 3,992 herds containing 35,752 cattle were tested by veterinarians in the employ of the state and the United States Department of Agriculture, Bureau of Animal Industry.

The tests disclosed the fact that the cattle of Hinds County are comparatively free from the disease. Only 49 reactors were found, which is equivalent to slightly more than one animal in each 700. However, in addition to the 49 tuberculous cattle disclosed by the test, 53 had been removed several months before as a result of accredited-herd testing.

Cost of Campaign 21 Cents Per Head

Owners of cattle in Hinds County have the satisfaction of not only knowing that their cattle are free from tuberculosis, but also that this fact was ascertained at a cost for the entire campaign of 21 cents per animal. This includes salaries, expenses, and cost of transportation of veterinarians engaged in the work. Since the total cost of testing was borne by the Federal Government and the State, the live stock owners were put to no expense except the cost of disclosing of reactors.

All of the cattle which reacted to the tuberculin test were either slaughtered locally or shipped to New Orleans, La., where they were slaughtered under federal inspection.

Combination of Tests Used

The intradermic test which was used in combination with the ophthalmic accounts largely for the relatively small cost of testing. It enabled one veterinarian to test as many animals as the time required for observation would permit. Eleven veterinarians handled the entire work, and at times during the testing nine veterinarians were enough. Local sentiment, which resulted in the county-wide testing, was largely the result of educational work and suitable publicity. The superintendent of the state tuberculosis sanitarium, the secretary of the State Anti-Tuberculosis Association, and the local press assisted materially in the work.

The cattle of the city of Jackson were injected in one day. This was possible by having them assembled at five different places and, of course, returned for observation at a later date. When the testing had been completed in Jackson the veterinarians were stationed at points throughout the county. A form furnished by the Live Stock Sanitary Board was used for notifying cattle owners of the time and place they were to assemble their animals for the test. Very seldom was it necessary to drive any cattle more than 1 mile. That the test was generally appreciated was shown by numerous inquiries by owners who wished to find the location of the veterinarian in order to get their cattle tested as quickly as possible, not desiring to wait their turn.

Herds Containing Reactors Will Be Retested

The few herds in which reactors were found will be tested again in about six months. In this way every reasonable assurance will be given that the county is free from tuberculous cattle. Tuberculin testing on a county-wide scale is known as "area work," and is considered to be an unusually effective manner of eradicating tuberculosis permanently. Hinds County, Miss., is the third county in the United States to have completed such work, the others being Clay County, Miss., and Barron County, Wis. In all cases a large majority of voters were in favor of making the county-wide tests. Since most cattle owners and residents of counties where complete tests have been made realize the importance of tuberculosis-free herds, little trouble is anticipated in keeping animals affected with the disease out of the areas.—U. S. Department of Agriculture.

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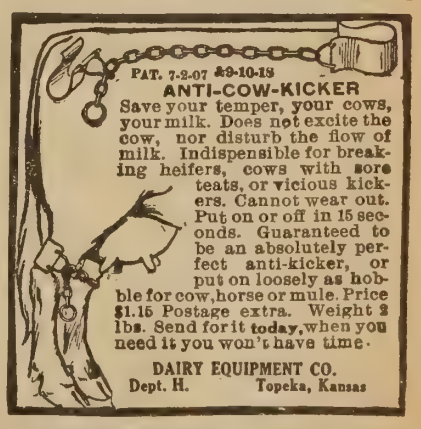
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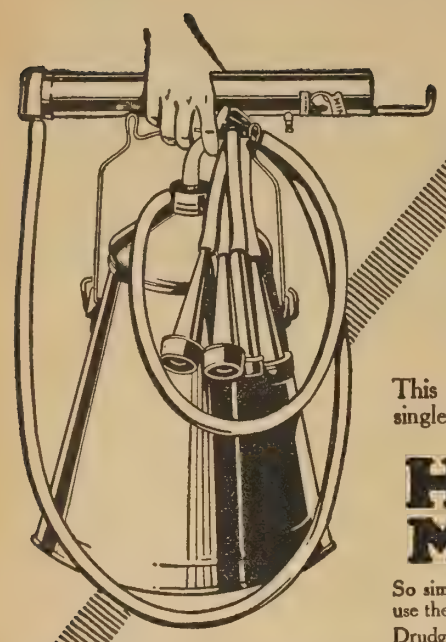
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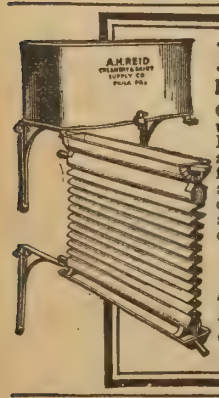
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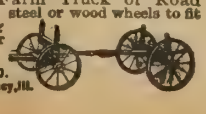
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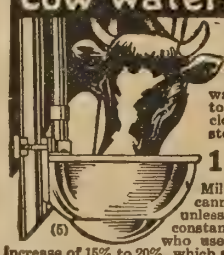


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Cow Testing Associations

RECORDS, PRICES OF FEEDS, FAT, AND MILK

Following is the summary of reports received during the week and up to the time of going to press of this issue:

State	Association	Tester	Month	No. of cows tested	No. of cows producing over 40 lbs. fat	Fat production of high cow	Owner
Wis.	Luck—Milltown	C. M. Johnson	March	645	152	77.3	Peter Jensen
Minn.	No. Hennipen Co.	W. M. Knuth	"	291	45	68.7	Steven Wadsworth
Ohio	Allen Putnam	Lowell W. Lee	"	164	30	57.7	Orlin Schumacher
Kans.	Bourbon Co-op.	T. A. Trull	"	359	24	74.3	L. C. Lakin
Penn.	No. Branch	F. J. Holt	"	288	25	55.6	A. M. Northrup
Ohio	Ohio Valley	D. W. Harpley	"	230	31	63.6	Komer & Son
Iowa	Delaware Co.		"	327	25	60.8	D. J. Schnittzer
Penn.	Clinton, Wayne Co.	K. S. Bailey	"	333	59	73.0	F. S. Wildenstein
"	Calkins	L. H. Shadduck	"	290	33	49.1	A. E. Sheard
"	So. Franklin Co.	H. M. Graff	"	268	28	70.0	E. S. Grim
Wis.	Wilton	E. V. Doemming	"	479	42	54.1	Wm. Brandau
"	Richfield	A. R. House	"	437	106	83.5	Fred Wittenberger
"	Arkansas	Leo M. Harder	"	308	11	53.4	Wild Bros.
N. Y.	Livonia	L. P. Zumstein	"	289	114	74.1	Roy W. Reed
Wis.	Racine & Kenosha Co.	H. F. Rockwell	"	378	69	73.6	Alb. Minton
Ore.	Coos Bay	Walter Reiman	"	192	28	58.9	Geo. Ross
Ida.	Ada County	A. C. Reck	"	161	32	68.1	Elmer Yates
Ohio	Tri County	C. G. Henry	"	249	57	75.5	McClain & Sons
Penn.	West Branch	Hiram Savidge	"	202	22	79.9	H. L. Shuman
N. J.	Ringoes	S. L. Douglass	"	267	17	63.	J. F. Lambert
Ohio	Butler Road	F. L. Rostocil	"	230	72	98.9	A. A. McDonald
Ore.	Columbia County	O. T. Johnson	"	212	26	71.	Jake Dowling
Wis.	Whitehall	C. L. Ouweneel	"	373		57.5	Anderson Bros.
"	W. Shawano Co. Breeders' Ass'n.	Thos. R. King	"	342	39	72.7	L. R. Shauger

Association Notes

North Hennipen County, Minnesota:—This association has been organized for nearly two years. In that time we have succeeded in placing pure-bred sires on all farms with the exception of three who are now thinking of purchasing pure-bred sires. Practically all the milk produced is sold through the Twin City Milk Producers' Association. The prevailing price is $2.40 for 3.5 per cent milk and 5 cents per point for milk testing more. Feed prices: Silage, $6 per ton; alfalfa, $20; clover, $18; mixed hay, $12; oil meal, $43; cottonseed meal, $40; bran, $22; corn and cob meal, $23; oats, $24; barley, $26. All of our members except four have silos and all except two have water systems installed. At present the members of the association are lining up to have their cows tuberculin tested.

Allen Putman, Ohio:—This association has just started. Everything looks good for a very profitable and prosperous year. During March, market milk testing 4 per cent sold for $2.30 per cwt. The condensery paid 50 cents per pound for fat and the creamery 50c. Milk retails for 12 cents per quart, butter for 50 cents per pound, and cheese for 40c per pound. Oats sold for 32c per bushel, corn, 45c; barley, 50c; middlings, $2 per cwt.; cottonseed meal, $2.20; oil meal, $2.50; bran, $2; silage, $8 per ton; good hay, $15.

Bourbon Co-operative, Kansas:—Four cows have been weeded out, three were unprofitable and one was a reactor. One member sold all his grade cows and heifers, consisting of about 26 head. Cows have shown up better in March than any month since the association started, due to the nice weather and an abundance of feed. During March, market milk testing 4 per cent sold for $2.55 per cwt. The condensery paid 56¼c per pound for fat and the creamery 40c per pound. Milk retails for 12c per quart, butter for 50c per pound, and cheese 35c per pound. Bran sells for $23 per ton; corn cob meal, $16; ground oats, $25; cottonseed meal, $30.50; alfalfa, $12; silage, $5.

North Branch, Pennsylvania:—Two Guernseys with good A. R. records found a home in one member's barn. Another member, who has made several good A. R. short time records and last year had the high milk cow in the association, purchased a bull calf whose dam as a junior two-year-old made 17.6 lbs. fat in 7 days and 14,000 lbs. of milk in a year. During March market milk testing 3 per cent sold for $3.38 per cwt. Milk retails for 13c per quart, butter 52c a pound, and cheese 31c. Hay sold for $24 per ton; corn stover, $8; corn silage, $7.50; root crops, $8; corn and cob meal, $24; ground oats, $32; linseed meal, $55; cottonseed meal, $42.50; wheat bran, $38.

Ohio Valley, Ohio:—Seven unprofitable cows have been sold and undoubtedly several more will be sold in the near future. During March, market milk testing 4 per cent sold for $2.70 per cwt. The condensery paid 49c for fat. Milk retailed for 13c per quart and butter for 55c per pound.

Clinton—Wayne County, Pennsylvania:—At a recent meeting of the association, ten members signed the agreement to have their herds tested for tuberculosis under the accredited herd plan. Four cows were sold as unprofitable and two registered Jersey heifer calves were bought. During March market milk testing 3 per cent sold for $2.10 per cwt. The creamery paid 48c per pound for fat. Butter sold for 48c per pound. Gluten cost $50 per ton; bran, $37; cottonseed meal, $48; oil meal, $48; oats and corn, $38; hay, $18—$20.

Calkins, Pennsylvania:—Seven boarder cows were sold. Six members signed up for testing their herds for tuberculosis on the accredited herd plan. During March, market milk testing 3 per cent sold for $2.17 per cwt. Feed cost: Gluten, $47 per ton; cottonseed meal, $45; bran, $38; corn meal, $34; oats, $40; oil meal, $53; hay, $15.

Southern Franklin County, Pennsylvania:—During the month, five unprofitable cows were sold. Only one grade bull is used in the association. Market milk testing 3.6 per cent sold for $2.25 per cwt. and 4c were paid for each point above. The condensery paid 40c per pound, and in addition 50c per cwt. for milk; the creamery paid 43c per pound for fat; and the cheese factory 38c. Milk retailed for 10c—11c per quart, butter 43c—45c per pound, and cheese 30c per pound. Larro sold for $53 per ton; Unicorn, $52; bran, $40; oats, $40; corn and cob meal, $20; hay, $15—$18; silage, $8.

Milton, Wisconsin:—One member started doing A. R. O. work. Five pure-bred cows and one pure-bred bull were purchased. The creamery paid 54c per pound for fat. Milk re-

tailed for 10c per quart. Feed prices: Bran, $24 per ton; middlings, $24; oil meal, $45; alfalfa hay, $30; clover and mixed hay, $20; shelled corn, $1.20 per cwt.; oats, 40c per bushel; barley, 65c.

Richfield, Wisconsin:—Our local buyers bought the second carload of gluten feed for our members. It retailed at $41. Ten cows were sold to the butcher. During March, market milk testing 4 per cent sold for $2.10 per cwt. The condensery paid 52c per pound for fat, the creamery 52c, and the cheese factory 53c. Milk retailed for 11c per quart, butter 51c per pound. Italian cheese retailed for 46c per pound and Brick cheese for 30c.

Racine and Kenosha Counties, Wisconsin:—All members but two own pure-bred bulls. During March, market milk testing 3.5 per cent sold for $2.35 per cwt. Alfalfa hay sold for $29 per ton; clover hay, $20; mixed hay, $16—$18; oats and barley, $35; bran, $27.50; oil meal, $47; cottonseed meal, $43; corn and cob meal, $20; Unicorn, $53.

Coos Bay, Oregon:—In March market milk sold for $3.84 per cwt. The creamery paid 38c—42c per pound fat. Milk retailed for 42c per gallon. Pasture cost $1.00; hill pasture, 50c; cereal hay, $20 per ton; grass hay, $25; clover hay, $30; corn silage, $10; potatoes, $10; alfalfa hay, $29—$30; cocoanut meal, $30—$40; rolled barley, $50.

West Branch, Pennsylvania:—Three unprofitable cows were sold and one herd was tuberculin tested. Another member purchased a pure-bred herd sire. The association purchased a carload of cottonseed for $48.50. During March, market milk testing 4 per cent sold for $2.20 per cwt. The creamery paid 43c per pound for fat. Milk retailed for 10c per quart and butter for 50c per pound. Cottonseed meal cost $2.42 per cwt.; linseed oil meal, $2.50; wheat bran, $2.20; corn and cob meal, $1.10; ground oats, $1.54; mixed hay, $18.50 per ton; silage, $6.

Ringoes, New Jersey:—During March, market milk testing 4 per cent sold for $3.08 per cwt. Milk sold for 15c per quart and butter for 40c per pound. Corn sold for $25 per ton; oats, $40; wheat bran, $35; gluten, $50; oil meal, $50; cottonseed meal, $41.

Butler Road, Ohio:—This association is one hundred per cent in pure-bred sires. A calf club is being organized. During the past month six cows were weeded out. Market milk testing 3.5 per cent sold for $3.20 per cwt. Five cents were paid for each point above. Corn sold for $20 per ton; bran, $24; oil meal, $42; mixed feed, $32—42; oats, $2.25 per cwt.

Whitehall, Wisconsin:—During March, 6 unprofitable cows were sold and one pure-bred Holstein bull was purchased. The creamery paid 51c per pound for fat. Prices of feeds: bran, $26 per ton; shorts, $26; mixed hay, $15; oil meal, $45.

Western Shawano County, Wisconsin:—L. R. Shauger of Marion is running 6 cows on seven-day test. Three more herds have been tested for tuberculosis. The Senaca Brown Swiss Farm purchased the junior champion sire at last year's National Dairy Show to head the herd. Market milk sold for $2.20 per cwt. The cheese factory paid 60c per pound for fat. Butter sold for 50c per pound and cheese for 25c. Hay sold for $15 per ton; bran, $32; oats, $40; gluten, $42.

Eureka, Wisconsin:—Twenty-one cows are in the quality list for March, producing an average of 51.8 lbs. butterfat. Mr. H. L. Ellis' herd of six cows has been working hard this month, milking every six hours most of the month. This herd averaged 1,525 lbs. of milk and 53.97 lbs. of fat for last month.



The *No. 2C Autographic*
KODAK, Junior

equipped with
Kodak Anastigmat
f.7.7 lens and Kodak
Ball Bearing shutter

$25.00

This Camera fits into a niche, all its own. The size of the picture it makes, 2⅞ x 4⅞ inches, is particularly pleasing; is almost up to the full post card size—and yet the camera itself is small, light, convenient.

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All Dealers'

EASTMAN KODAK COMPANY, ROCHESTER, N. Y., *The Kodak City*

A Year Ago and Now

About a year ago I was approached on the subject of joining the Bear Creek, Wisconsin, Cow Testing Association. After some talk I said, "Go ahead. If you can shoot in forty or fifty dollars, I can too." We organized in April, 1920, and they elected me secretary. I did not think much more about it until the tester came to my place the first time, but when I saw him at work I commenced to wake up. I had two cows that had freshened about three weeks before that and both of them had heifer calves which I intended to sell for veal. After the test was made I saw that those two cows were making more butterfat for the month than any of my other cows, so I decided to keep the calves and took interest enough to weigh the milk from each cow in my herd. Those two cows are at the top of the pile for the whole association. You may ask what about those two calves. Well, if you have $300 you might get them, but not for less, even though they are grades.

Does testing pay well? I say yes.

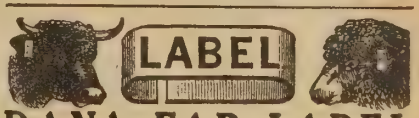
Wisconsin. ALBERT SCHOELKOPF.

Official Testing in Oregon

One hundred nine dairy herds are on official test in the state of Oregon. Sixty-seven of these are Jerseys, 14 Guernseys, 13 Holsteins, 6 Ayrshires, and 2 Shorthorns. A total of 464 cows are being tested.

In my opinion, the greatest contribution which this generation can make to the progress of dairying will be to place the industry by co-operation upon a sound business basis, so that the producer will have greater control of the market for dairy products.—E. S. BRIGHAM.

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1½ H-P Pulls 2½ H-P, NOW ONLY $38.50
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Humane Stanchion
is the handiest, strongest, and most practical Stanchion on the market. Write to Humane satnchion Works, Baraboo, Wis., for literature on a complete line of barn equipment.

Hoard's Dairyman

Fort Atkinson, Wisconsin
Founded 1885 by W. D. HOARD

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FOREIGN SUBSCRIPTIONS may be sent through news dealers and book sellers in all foreign countries.

All foreign countries in the Postal Union $2.50 a year; not in the Postal Union $3.00, including postage.

Correspondents must not expect us to acknowledge the receipt of letters containing remittance for subscription. The receipt of Hoard's Dairyman is sufficient notification that money has been received. The label on the paper will show date to which subscription is paid. In case of renewals, if date on label is not changed within two weeks after remittance is sent, inform us at once.

We solicit advertisements of meritorious articles needed by the farmer. We try to keep our advertising columns clean and wholesome, that they may merit the patronage and confidence of our readers. Unwholesome, immoral, and quack medical advertising are excluded. A sincere effort is made to exclude frauds, irresponsible and unscrupulous firms. We will always take it as a favor to be notified whenever any advertiser's dealings with a subscriber are in bad faith or evidence a lack of business honor. Advertisers generally recognize the readers of Hoard's Dairyman as an up-to-date class of farmers, who farm with business-like methods, and we hold our columns for the patronage of only those with whom our readers can deal with profit and satisfaction.

ADVERTISING COPY must be received eight days previous to the date of publication. Advertising to be classified or changes in advertising must reach us twelve days previous to date of publication.

Entered at Fort Atkinson, Wis., as second class matter.

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Coming Events

May 11—American Guernsey Cattle Club, annual meeting, New York City.

May 23—Missouri State Holstein Association first Annual Show of Sale Cattle at Sedalia, Mo.

June 1—American Jersey Cattle Club, annual meeting, New York City.

June 1—Holstein-Friesian Association of America, annual meeting, Syracuse, New York.

June 9—Ayrshire Breeders' Association meets in Springfield, Mass. Secretary, J. G. Watson, Brandon, Vt.

June 22-25—Tuberculosis Eradication Conference, State House, Boston.

Unique Milk Advertising

At the third annual Waukesha County, Wisconsin, Dairy and Agricultural show in March, 1921, a committee was appointed to handle the advertising of dairy products in the county. Arrangements were made for exhibits of dairy products in the windows of a number of stores in Waukesha. This gave the people of the city an opportunity to know something concerning the relative food value of dairy products, especially milk. Motion picture films have been exhibited to show the different phases of dairying which are educational to city people.

For two years the Holstein and Guernsey breeders have been giving milk away at their display booths at the county dairy show. At all breed association picnics and banquets, an abundance is served to guests. This year a new advertising idea is being tried out. At the show in March, a booth was made attractive with dairy posters and charts and those coming to the booth were asked to sign the "Roll of Honor" which was, in substance, a dairy pledge. A card was given each, on which was printed, "No Dairy Substitutes Used in this Home". This is made so that it can be hung in the window of the home as were the Red Cross and Liberty Loan posters. Over a thousand names were secured—no one refusing to sign the pledge or refusing to take the card. Now these cards are being displayed in the farm homes in Waukesha County.

President Harding to Recognize Agriculture

President Warren G. Harding on April 20 received a committee from the American Farm Bureau Federation. The president told the committee that he was already committed in favor of recognizing agriculture in appointments to important federal boards and commissions. The Farm Bureau leaders asked specifically that a farmer be appointed to the Interstate Commerce Commission and the President replied that the appointment would be entirely satisfactory to the Federation. The President also stated that he would consider with favor the appointment of farmer-minds on the Federal Reserve Board, the U. S. Shipping Board, and other boards and commissions.

Another Tuberculosis Ruling

The legislature of Washington has recently enacted legislation providing that all cattle over one year of age must be tested for tuberculosis and receive a certificate of health at least six months before being exhibited at fairs in the state. No entry for showing can be accepted by any fair or exhibition unless it is accompanied by a certificate of health. A penalty clause provides for a fine of not less than $50 or more than $200 for exhibiting animals in violation of this provision.

$106,000 Bull Dead

Carnation King Sylvia, the Holstein bull for which the Carnation Stock Farm paid A. C. Hardy of Canada $106,000 at the National Holstein Sale in 1918, is dead. This famous sire was but three and a half years of age when pneumonia caused his death. Insurance totalling $50,000 was carried.

Carnation King Sylvia had been used on the daughters of Matador Segis Walker and had sired 91 calves. Forty-nine are retained on the Carnation Stock Farm, the others having been sold into fourteen states and two foreign countries.

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The Trustworthy Car

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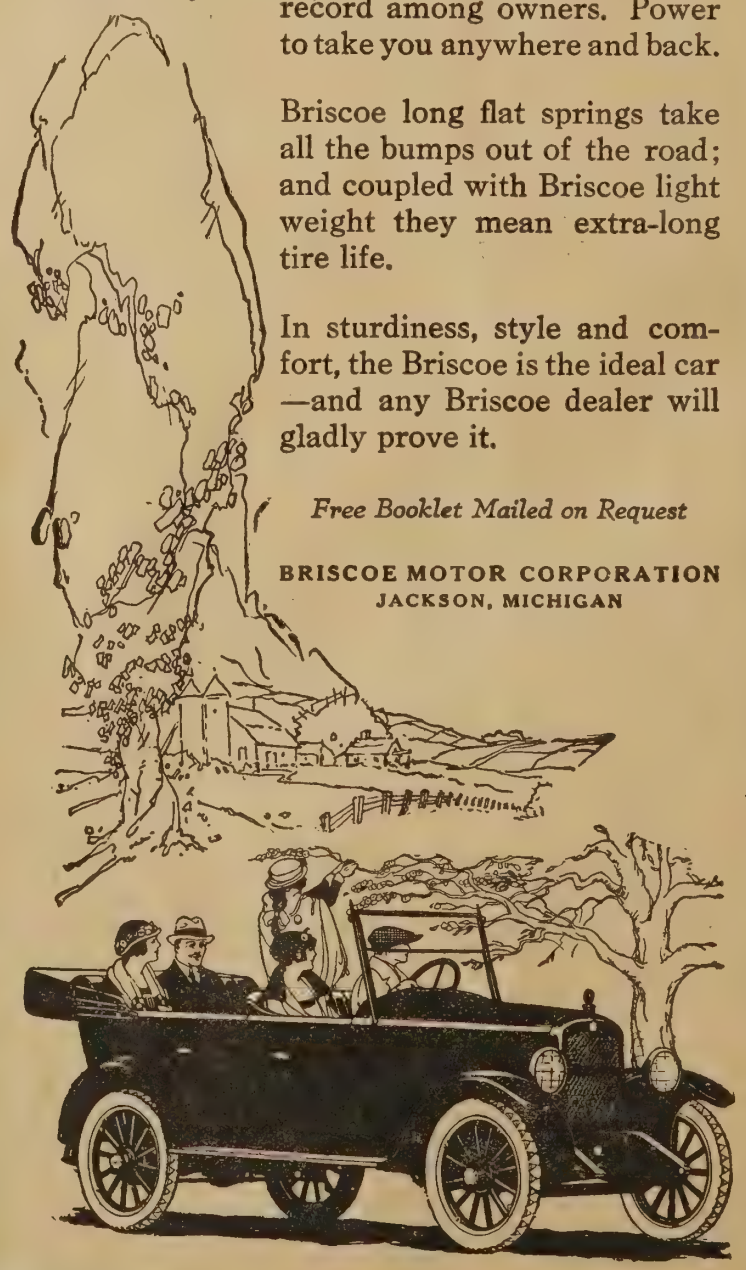
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Compartment Roadster
$1285
f. o. b. Factory

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$1500
f. o. b. Factory

Coupe
Sedan
$1885
f. o. b. Factory

Speedwagon
(With thief-proof open body)
$1285
f. o. b. Factory

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$1360
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"The 1921 Briscoe Is the Best Car Built Today"

Thousands of farmers have welcomed the Briscoe statement and challenge to any car for a comparative test. It says something and means something—it gives the buyer a chance to get down to hard facts.

You'll find the Briscoe motor stretches a gallon of gasoline further than you would have thought possible. 20-25 miles, and even better is a common record among owners. Power to take you anywhere and back.

Briscoe long flat springs take all the bumps out of the road; and coupled with Briscoe light weight they mean extra-long tire life.

In sturdiness, style and comfort, the Briscoe is the ideal car—and any Briscoe dealer will gladly prove it.

Free Booklet Mailed on Request

BRISCOE MOTOR CORPORATION
JACKSON, MICHIGAN

"Filled Milk" a Health Menace

Cocoanut Oil Cannot Substitute Milk Fat

SPEAKING before the Wisconsin Assembly Committee April 21, Dr. E. B. Hart of the Wisconsin Experiment Station declared "filled milk" to be a health menace and that the substitution of cocoanut oil for butterfat in milk "is a thing that the public should not tolerate". He stated that the skimmilk going into the imitation product has less than one-tenth of the vitamine content of whole milk and that the cocoanut oil added is almost altogether lacking in this growth essential.

The following is Dr. Hart's testimony as presented:

The traffic in substitutes in the animal and human dietary became prominent during the war. This substitution, however, only extended to the cereal grains, and, on the advice of nutrition experts, barley or corn was substituted for wheat. This advice never extended to milk products, and to substitute a vegetable oil such as cocoanut oil for butterfat has never met with the approval of those who understand nutrition problems. Today there is considerable traffic in the manufacture and sale of a filled milk, that is, a milk from which the butterfat has been extracted by centrifugal processes and in which a cheaper fat, mainly cocoanut oil, has been substituted. One of the prominent brands of filled milk on the market is "Hebe". The buying public is just as likely to buy a can of this condensed filled milk as it is a can of condensed whole milk, unconsciously expecting that it is buying materials of equal nutritive value. On this latter point—equal nutritive value—science has gone far enough to give us undisputable facts and these facts I want to present in this short discussion.

The main difference between the two products, evaporated filled milk and evaporated whole milk, is the content of fat soluble vitamine. This vitamine is recognized as just as essential for growth and maintenance of an individual as is protein or a balance of mineral salts. In its absence in the dietary, the animal's growth is suspended with the manifestation of a diseased condition of the eyes. The ultimate effect is blindness with sudden death, often complicated with respiratory troubles. A few years ago, before we knew much about the distribution of this vitamine and before our methods of experimentation were as well perfected as they are today, the statement went forward from this laboratory that separator skimmed milk contained about one-half or fifty per cent of the fat soluble vitamine originally contained in the whole milk. In other words, that about fifty per cent had been removed with the removal of the fat. Today we know that this figure is too high for the content of this vitamine in skimmed milk. With refinement in our experimental procedure Dr. Steenbock has shown that the fat soluble vitamine content of skimmed milk is less than one-tenth of that which was originally present in the whole milk. In other words, probably over ninety per cent of the fat soluble vitamine in whole milk has been removed in the skimming processes. This fact makes skimmed milk a poor source for the fat soluble vitamine. When rats are fed a ration which is practically free from fat soluble vitamine, ten c. c. of skimmed milk will not induce normal growth, while one-half to one c. c. of whole milk will induce a normal rate of growth. The basis then for objection to a traffic in filled milk rests upon the scientific fact that skimmed milk, which is the basis of this product, has been robbed very largely of one of its great essentials of nutrition.

The next outstanding fact derogatory to a filled milk as being of equal value to a whole milk in this: the cocoanut fat or oil which is added is in itself practically free from the fat soluble vitamine. It, like practically all other vegetable oils, is so free from this nutritive factor that it is difficult to establish whether it contains any fat soluble vitamine.

These two facts—low content of fat soluble vitamine in the skimmed milk and the addition of an oil practically free from this nutritive factor—must make it clear that filled milk is no substitute for whole milk in the nutrition of infants or of children. It may be argued that there are a number of foodstuffs that do not contain vitamines, such as polished rice, lard, bacon fat, etc., but none of these products enter into the dietary in competition with whole milk. Whole milk in the nutrition of the young stands in a class by itself as a great protective food, and any attempt to substitute something inferior, such as filled milk, is to traffic in human lives for monetary gain. Further, it may be argued that filled milk is a wholesome food product. That, we do not dispute; but we do most emphatically insist that it is not the equivalent of whole milk—the thing with which it competes on the market. Further, it may be argued that cocoanut oil is just as digestible as butterfat; that cocoanut oil has just as many heat units in it per gram as butterfat. These statements again we do not deny; but is a long exploded theory that heat units and protein are the sole factors in making up human diets and animal rations.

There is a bill before the Wisconsin legislature which if passed aims to prohibit the manufacture and sale of filled milk in the state of Wisconsin. This bill should pass if for no better reason than that an uninformed public is just as likely to buy the substitute as it is to buy the genuine article, namely, the evaporated whole milk. The nutrition of the American people should always be liberal. *For direct consumption we should never allow as valuable a product as whole milk to be in any way tampered with.* The condition into which the people in Middle Europe sank during the war in respect to their nutrition ought to make us emphatically insistent upon the use of a liberal dietary for ourselves and our children. The substitution of the inferior cocoanut oil for the superior butterfat in a product like milk is a thing that the public should not tolerate for one moment.

Youngstown Milk Campaign

The National Dairy Council reports that another milk and dairy products campaign is under way at Youngstown, Ohio, this being put on by the co-operation of the following local organizations of Youngstown: Federation of Women's Clubs, Public Schools, Community Corporation, Chamber of Commerce, Red Cross Organization, Boy Scouts, Allied Council of Social Agencies, Youngstown Board of Health, and Federation of Churches.

Seed time is again with us, and we all know that if we do well our part kind Nature will never fail us in our needs.



8 Gallons of Pure Lead and Oil Paint

will paint this house—22x28 with 18 ft. posts—two coats with probably enough paint left over to touch up anything else that needs it.

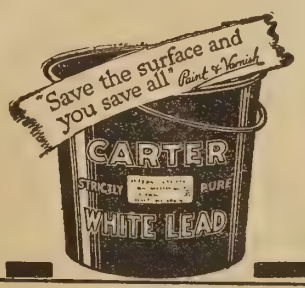
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100 lbs. CARTER WHITE LEAD
5 gal. Linseed Oil
1 qt. Drier (if raw oil is used)

Usually some turpentine is used in the paint for the first coat and colored paint is made by adding tinting colors ground in oil.

CARTER WHITE LEAD and these other ingredients of pure paint may be purchased nearly everywhere paint is sold at retail and the dealer will cheerfully help you to figure out how much paint will be required for any painting you wish to do and what it will cost ***at this year's reduced prices.***

You will find everywhere that the cost of this pure paint is so reasonable that you cannot afford to postpone any needed painting. You will also find **CARTER WHITE LEAD** so easy to thin and spread, to cover so well and to wear so long that you will always be glad you read and acted on this advertisement.



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For Men and Boys who want Underwear Satisfaction

Made by Troy's Master Craftsmen

Price of Men's Union Suits $1.25 and up
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Hall, Hartwell & Co., Troy, N. Y., *Makers of* Slidewell Collars and Hallmark Shirts



FILTER YOUR MILK

THE CHAPMAN STRAINER AND FILTER COMBINED

will remove dirt, hair, bacteria, blood corpuscles and other substances which a strainer only cannot catch. This will greatly improve the quality and flavor of the milk and prevent it from souring quickly. It can be quickly taken apart for cleaning. Price each $2.50. Postage 30c extra. Cotton and gauze at extra prices here given. Dairy Special Sterilized Cotton 50c a lb.; in lots 25 lbs. or more, 45c.
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The Creamery Package Mfg. Company
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RIDEEZEE CO., ST PAUL, MINN.

BETTER FENCES FOR LESS MONEY
40 Rods Forty Dollars

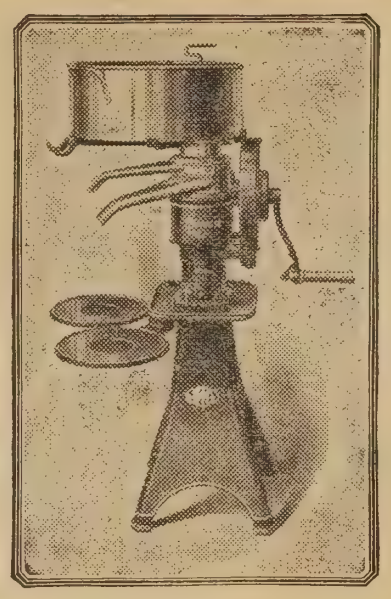
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OF AMERICA (INCORPORATED)
CHICAGO U S A

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THE AUTO-OILED AERMOTOR
A Real Self-Oiling Windmill

Oil an Aermotor once a year and it is always oiled. Every moving part is completely and fully oiled. A constant stream of oil flows on every bearing. The shafts run in oil. The double gears run in oil in a tightly enclosed gear case. Friction and wear are practically eliminated.

Any windmill which does not have the gears running in oil is only half oiled. A modern windmill, like a modern automobile, must have its gears enclosed and run in oil. Dry gears, exposed to dust, wear rapidly. Dry bearings and dry gears cause friction and loss of power. The Aermotor pumps in the lightest breeze because it is correctly designed and well oiled. To get everlasting windmill satisfaction, buy the Aermotor.

A year's supply of oil is sent with every Aermotor



Aermotor Towers are Towers of Strength

Write today for Circular. **AERMOTOR CO.** Chicago Des Moines Kansas City Minneapolis Oakland

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Stanley's CROW REPELLENT

Dairy Prosperity in Friesland

(Continued from page 661)

of the butter and cheese is made in the 88 co-operative creameries with over 14,000 members. From May, 1917, to May, 1918, 440,000 tons of milk were delivered from which the farmers received 17½ million dollars, the working expenses amounting to about four million dollars. The value of butter made was slightly above that of the cheese made.

The Creamery System

The creamery at Marrum built in 1916 at a cost of $24,000, equipped with modern machinery, was a model of system and cleanliness. This organization had been going on for 30 years, having 200 co-operators with 1,600 cows at the present time, although they had 2,000 before the war. Each member was held equally responsible for the debt assumed to begin business, but the votes are in proportion to the number of cows until a certain limit is reached. Ten per cent of the buttermilk and 17 per



COMING HOME FROM MARKET

cent of the whey is returned free to the farmer by the driver who brings the farmers' milk twice each day. As soon as the milk reaches the creamery that which is to be used for making butter is pasteurized by the flash method, while most of the remaining part goes into the cheese vat, a part going to Amsterdam after being pasteurized to be sold as market milk in certain seasons of the year. About 40 of the creameries have established a factory at Leeuwarden where whole and skimmilk are condensed and made into milk powder when there is a surplus of these other products.

Butter is made the second day and is of excellent quality. It contains but 14 per cent moisture. For export trade it is packed in 100 lb. casks like the Danish butter and the most of it goes to England. Cheese is made full cream and partial skim. The percentages of fat content used were 10, 20, 30, and 40. All of these products bear the government stamp and are subject to careful inspection. In the co-operative dairy at Leeuwarden, a market milk plant was being operated. Pasteurized and bottled milk was selling at about seven cents per quart, but most of the milk was sold raw by the bulk at little more than four cents. To the rear of the building were kennels for the eight or more pairs of dogs which draw the milk carts about the city.

Here was also a rennet and butter color factory owned by the co-operative creameries, thus insuring good quality products for their own use and commanding an outside sale at a profitable price. The enterprise which was shown with the greatest pride was the co-operative cheese warehouse which handles the products of the creameries and is said to be the largest in the world, having a capacity of two million. Fifty thousand are brought in each day, some coming by rail but most of them by the canal boats which unload at its door. Here the cheese is graded, some of them painted and allowed to finish the curing process. The humidity and temperature may be regulated according to the style of cheese and where it is to be sold. Agents are kept in all cheese buying countries to dispose of their product. Here are round red Edams, Cheddars, Goudas with their bulging sides and Friesland, the shape of Cheddar but flavored with cloves.

There was cold storage space for butter, about 44,000 lbs. being brought in daily. Most of the butter is sent out in a few weeks and considerable is tinned here to be sent to the tropics. It was said that the wholesale cost of handling the cheese and butter was about one per cent of the wholesale price.

Co-operative Banking

For seven years the creameries have maintained a co-operative bank, starting with 40 members and now having 76 with an increase of 12 times of the business transacted. Interest paid on yearly deposits is 4¼ per cent and on other deposits 3½ per cent. Money is loaned at 5½ per cent. All sorts of banking business are conducted here. There is no capital, the creameries being jointly responsible. Of quite another sort are the 89 rural co-operative banks which together number nearly 8,000 members. These are savings banks and loan money only for farm operations.

While dairying is the main interest of the country, co-operative activities extend to all lines. There are a number of slaughter houses, one having 2,000 members; a sugar beet factory and a number of potato starch factories; a distributing plant for feeds and fertilizers and one for the marketing eggs and poultry. This latter has about 10,000 members and before the war did a business amounting to three-quarters of a million dollars annually. During the war the poultry business suffered a severe setback here as in all of the countries of Europe and this year the business will hardly be half of the prewar average. Eggs are brought here within a week after they are laid and then marked with the member's stamp. Here they are candled, the society mark placed upon them, then graded according to size, and then placed on the market within a short time.

Poultry is placed in cold storage until the best market is secured. Eggs are never placed in cold storage but every year 200,000 are pickled in water glass. A pickled egg sells for about one cent less than a fresh one. No eggs have been exported since 1914, as has been the case with bacon. This association, which has been organized for 17 years, during the last five years has sold mixed poultry feed to its members. Up on the top floor were bins holding barley, cracked corn, peas, and wheat. Chutes led to an automatic mixing machine with a daily capacity of six tons. The society was helping their members restock their roosts by the hatching of



HOME OF J. WASSENAAR WHO OWNS SOME OF THE FINEST SHOW CATTLE IN FRIESLAND

several thousand chicks in electric incubators at the plant.

The Friesland Agricultural Society, with a membership of nearly two-thirds of the farmers in the province, has looked out for their interests during the last 70 years and at the present time have a building in Leeuwarden where their headquarters are located. "I believe the ten-hour day for agricultural laborers is coming here in Friesland," said N. H. Blank, the secretary of the information service. "With the control of the government exercises on food products influencing the prices combined with a governmental fixed ten-hour day, the farmers will ask that the rates of rent be fixed by law. Altogether the farmers have been very well off the last few years. Prosperity has not injured cooperation but, on the other hand, has strengthened it. Our farmers are well informed on agricultural questions. There are 80 to 90 short courses held in the province each year and our agricultural high school supplies many leaders for our enterprise."

Tuberculosis Eradication in Kansas

HOARD'S DAIRYMAN:—For the first time in the history of Kansas, tuberculosis among cattle will be fought with county-wide concerted action here, beginning May 1, when the breeders of Sedgwick County will undertake the task of doing away with tuberculosis in the county. The project was decided upon and mapped out April 17 when more than 100 farmers and stockmen gathered in Wichita to talk over an anti-tuberculosis drive.

The fight began May 1, and will continue until Sedgwick County livestock is free from tuberculosis and then the county's boundaries will be a quarantine line against possible incoming tuberculous cattle, according to the general sentiment of the breeders present.

The outside speakers who addressed the gathering were J. H. Mercer, State Live Stock Commissioner and H. M. Graefe, federal examiner in charge of tuberculosis eradication in Kansas.

It was the sentiment of the farmers that a county-wide clean-up this year followed by rigid and regular inspections would be cheaper for the county and for the breeders in the long run than the former policy in which the anti-tuberculosis fight was left to the choice of each breeder.

Those breeders who have had their herds under government supervision for some time are enthusiastically in favor of the project and will give it solid support. Others have expressed themselves in like manner.

Kansas. D. STALLARD.

An Old Granny Remedy for Garget

Mr. C. A. Handley of Maine sends us the following remedy for garget which he has tried out and has never known it to fail. He calls it an old granny remedy, and says, "This remedy looks so simple that I presume it would be hard to make any of your readers test it".

The remedy proposed by Mr. Handley is as follows: take one quart of beans, boil until soft and mash them up in the water in which boiled. To this add bran to make a mash, adding a little salt to increase its palatability. If the first feeding does not overcome the trouble, repeat in 12 hours." He states that he has never failed in securing a complete cure in 24 hours.

Give the neighbors a real treat and make the backyard as attractive as the front.



"The milker saves two hired men. We are saving $150 a month now." —ED. GRIESEMER.

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Best of all, cows like the Perfection and users will tell you it has increased the milk flow in their herds. Cows can't distinguish the natural and gentle actions of the Perfection from that of the calf.

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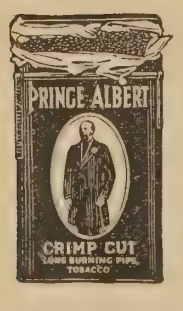


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DAIRY MARKET NEWS

Spring Slump Starts in Butter Markets

[Report by U. S. Bureau of Markets.]

For several weeks now butter markets have been nervous and jumpy in anticipation of the usual spring break which comes at the opening of the season of flush production. Consumption of butter has been exceptionally heavy this year even at high prices, but sentiment on the part of the wholesale and jobbing trade has been weaker of late than the supply and the good consumptive demand have warranted. There has been some question as to when the flush of production may be expected, but at the close of the week ending April 23 the consensus of opinion was that the real increase had started.

The report of the Association of American Creamery Butter Manufacturers shows an increase for the week ending April 16th of 3.7 per cent as compared with the previous week, and of 25.6 per cent as compared with the same week last year. This report covers the output of 81 factories. Present stocks of Danish butter at New York are said to be down to about 5,000 casks. Offerings of Danish for shipment on the Frederick VIII, which sailed Friday, were made at 41c c. i. f., but this price was not attractive to importers.

A few lots of butter now on the market show onion and garlic flavors. Body is also defective on some lots due to part grass feed. Some mold is beginning to make its appearance and shippers might well take special precautions against this fault from now on as losses from this cause can be easily avoided. A circular on mold prevention may be had upon request to the U. S. Bureau of Markets, Washington, D. C.

The average wholesale prices on 92-score butter at five of the principal markets for the week ending April 23, 1921, and the corresponding week a year ago were as follows:

	Week ending April 23 1921	1920
	Cents	Cents
New York	44.8	75.5
Chicago	44.2	64.6
Philadelphia	46.3	74.8
Boston	45.6	69.8
San Francisco	34.0	56.5

The receipts of butter at these markets were 8,988,900 lbs. as compared with 6,696,371 lbs. a year ago and 8,730,577 lbs. a week ago.

Depression Features Cheese Markets

[Report by U. S. Bureau of Markets.]

Prices in cheese markets continued their downward tendency during the week ending April 23, but in spite of this fact, trading was dull and listless and market conditions at the close were more critical for wholesale dealers at primary markets than at almost any time this year. Many dealers characterize the market as demoralized, and can see no signs of relief until prices hit the very lowest point.

Some complaint is heard that retail prices have been kept too high with the result that consumptive demand has been lacking at the time when it was most needed. Reductions in retail prices have been made in some markets, but it is too soon to notice any reaction.

There was an export demand at New York during the week, and several thousand boxes were moved. Further export shipments were also made on consignment. Large styles of New York and Wisconsin cheese were practically cleaned up by Canadian buyers, presumably for export to England, but none of this business served to strengthen the weak markets.

The average wholesale prices on American cheese (style Twins) for the week ending April 23, 1921, and for the corresponding week a year ago, were as follows:

	Week ending April 23 1921	1920
	Cents	Cents
New York	28.0	29.5
Chicago	17.6	28.2
Boston	21.3	30.5
San Francisco	16.6	24.0
Wisconsin	17.1	28.3

The receipts of cheese at these markets were 3,137,862 lbs. as compared with 1,974,556 lbs. last year and 3,077,403 lbs. a week ago.

New York Butter Market

New York City, April 26:—With the market weak and yielding, it is difficult to realize that one year ago today, the quotation on extras was 71c. Of course, that high quotation was the result of the strike on the railroads which was in full force at that time. However, butter values are lower than was expected at this date. It now seems that normal prices so far as butter is concerned will obtain during the storage season. Extras at present are quoted at 39½@40c. As the storage season is as yet several weeks off there is ample time for prices to yield before speculators begin to put their usual supplies away for winter.

There are no indications that further shipments of Danish butter will be forthcoming for some time. There continues to be a strong demand for Danish butter on the part of England and France. Recent reports from England state that a price equivalent to 50@51c is being paid for Danish butter in wholesale lots in that country.

While conservative dealers fully expect to see a constant downward trend to butter prices during the next few weeks, it is undoubtedly true that the Jewish holidays, which are now being celebrated, are responsible to a great degree for the marked downward tendency at present. In the city of New York there are nearly two million Hebrews. During the Jewish holidays, the buying of food products is greatly curtailed by that race for the time being. With the Jews out of the trade, and a high percentage of butter jobbers and retailers belong to that race, the effect is immediately apparent. However, it is not expected that there will be any revival of interest in the

Carload Prices of Hay and Feed at Important Markets April 23

(In dollars per ton)

Commodity	New York*	Philadelphia*	Baltimore*	Richmond	Jacksonville	Atlanta	Cincinnati*	Buffalo	Pittsburgh	Chicago*	Minneapolis*	Kansas City*	St. Louis*	Omaha*	Los Angeles
HAY															
Timothy and clover:															
No. 1 Timothy	30 50	24.00	.....	25.00	29.00	30.00	22.50	22.50	22.50	20.00	19.50	19.25	26.00	.....	....
No. 1 Clover, mixed	26.50	....	18.50	23.50	27.00	29.00	18.50	.....	18.00	18.00	17.00	14.75	20.00	.....	....
No. 1 Clover	22.50	.....	15.50	23.50	27.00	.....	14.00	.....	17.00	17.00	16.00	13.75	20.00	.....	.....
Alfalfa:															
No. 1 Alfalfa	.....	.....	.....	.....	32.00	30 00	23.00	.....	.....	23.00	19.00	22 25	25 00	20.00	18.00
Standard Alfalfa	.....	.....	.....	.....	30.00	28.00	22.00	.....	.....	21.00	16.00	18.00	23.00	17.50	.....
No. 2 Alfalfa	.....	.....	.....	.....	.....	26.50	15.00	.....	.....	17.00	14.00	14.50	19.00	11.00	.....
FEED—Bagged															
Wheat Bran:															
Spring	25 50	25 00	26 00	25.00	27.00	27.50	22.00	21.50	22.25	20.00	.....	.....	.....	.....	.....
Soft Winter	.....	28 00	27 50	28.00	27.50	27.50	22.50	.....	24.50	.....	.....	.....	19.00	.....	.....
Hard Winter	.....	25 00	.....	.....	.....	27.00	22.00	.....	23.00	.....	.....	15.00	18.50	14.00	.....
Wheat Middlings:															
Spring (Standard)	24 50	24 00	25.00	24.00	23.50	29.00	22.50	19.50	22.00	19.00	.....	.....	.....	.....	.....
Soft Winter	.....	29 00	26.50	30 00	31.00	30 00	25.00	.....	26.50	.....	.....	.....	23.00	.....	.....
Hard Winter	.....	26.00	.....	.....	.....	29.00	23.50	.....	26.50	.....	.....	19.00	22.00	.....	.....
Rye Middlings	.....	22.00	.....	22.00	.....	.....	19.00	.....	19.50	19.50	.....	.....	.....	.....	.....
High protein meals:															
Linseed	37.75	35 50	.....	.....	.....	.....	38.00	37.00	34.00	33.50	.....	37.50	34.50	34.00	.....
Cottonseed (41 per ct)	.....	37 00	.....	.....	.....	.....	.....	.....	32 50	32.50	.....	30.00	31 00	.....	.....
Cottonseed (36 per ct)	34.50	34.00	.....	.....	27.50	26.00	29 25	.....	30.00	31.50	.....	.....	28.00	.....	.....
No. 1 Alfalfa me'l (med)	.....	.....	30 00	.....	30.00	.....	25.00	.....	.....	23.00	.....	18.00	21.00	19.50	.....
Gluten feed	.....	38.70	42.50	.....	.....	.....	34.30	.....	.....	31.50	.....	.....	34 50	.....	.....
Hominy feed (white)	28.00	28 00	28.75	27.00	.....	30.00	23 00	.....	.....	22.00	.....	.....	20.50	16.50	.....
Ground barley	.....	.....	.....	.....	.....	.....	36.00	.....	.....	28.00	.....	23.50	.....	.....	†28.00
Beet pulp	34 25	27 00	30.50	30.00	38.00	.....	28.00	.....	25.80	.....	.....	.....	.....	.....	30.00

*Hay quotations represent average of cash sales at these markets. †Rolled.

Straw:—A fair demand for straw at steady prices continues at Baltimore. Due to the light receipts at Chicago there is a moderate demand. New York reports straw as extremely scarce. Because of the opening of the Latonia, Ky., racing season Cincinnati expects an urgent demand for rye straw. Quoted prices are: Wheat straw—$11 Chicago, $12 Cincinnati, $8 Omaha, $18 Philadelphia, $15 Pittsburgh, $14-$14.50 Baltimore, $16 Buffalo, $17 Chattanooga, $8 Oklahoma City; oat straw—$12.50 Chicago, $12 Cincinnati, $9 Omaha, $18 Philadelphia $15 Pittsburgh, $8 to $8.50 Kansas City, $15.50 to $16 Baltimore, $16 Buffalo, $17 Chattanooga, $9 Oklahoma City; rye straw—$13.50 Chicago, $18 Cincinnati, $19 Philadelphia, $15.50 Pittsburgh, $19-$20 New York, $17 Baltimore, $16 Buffalo, $17 Chattanooga.

market with the revival of the Jewish trade as the season is now too far along to expect any upward trend to prices.

The aggregate decline in butter prices during the past week has been 5½c. On Wednesday of last week, prices advanced ½c, extras being quoted at 46c. A marked weakness in the market became apparent on Thursday and from that day prices have constantly declined. The decline on Thursday was ½@1c, on Friday 1c on Saturday 3½c, on Monday ½c, and today ½c. While there was a considerable strength in the market this morning the report from Chicago stating that the quotation in that city had declined practically 5c caused dealers to be wary with the result that there was little action in the market. The market closes weak and inactive and with indications that values will be still lower tomorrow. Established quotations today are: Extras (92 score), 39½@40c; higher scoring than extras (93 score or higher), 40¼@41c; firsts (90—91 score), 38½@39c; firsts (88—89 score), 36@38c; and seconds (83—87 score), 30@34c.

W. B. LIVERANCE.

Dairy Markets

CHICAGO, April 29—Butter—Creamery, extras, 35c; dairy, firsts, 26@33½c; seconds, 20@25c.

Eggs—Ordinary, 18@19c; firsts, 21½@22c.

Cheese—Twins, 18@19c; Young Americas, 21c.

MILWAUKEE, Wis., April 29—Butter—Creamery tubs, 36c; prints, 37c; extra firsts, 33@35c, firsts, 30@32c.

Eggs—Miscellaneous receipts, country candled, cases included, 22½@23c; cases returned, 21½@22c; seconds, 19@20c; checks, 18@19c.

Cheese—Twins, 15@15½c; Daisies, 15½@16c; Young Americas, 14½@15c; Longhorns, 14@14½c; Brick, 17½@18c; Limburger, 27@28c; Swiss, loaf, 48@50c; block, 30@31c.

SHEBOYGAN FALLS, Wis., April 26—On the Wisconsin cheese exchange at Plymouth on Monday 21 factories offered 3,276 boxes of cheese. All except 1,200 Daisies sold as follows: 1,500 boxes Daisies at 15c; 350 boxes double Daisies at 14c; 100 boxes at 14⅝c; 35 cases Young Americas at 14c; 325 cases Longhorns at 13½c; 100 cases at 13⅝c; and 116 boxes square prints at 15⅛c. The prices show another sharp decline from a week ago of 1¾c on Daisies, 2¼c on double Daisies, 2¾c on Young Americas, 2½c on Longhorns, and 2⅛c on squares.

NEW YORK, April 29—Cheese—Easier; state milk, common to specials, 15@29c; skims, common to specials, 5@18c.

Butter—Weaker; receipts, 15,667 lbs. (two days); creamery extras, 38c; state dairy, tubs, 24@37c

Eggs—Irregular; receipts, 74,002 cases; nearby white fancy, 35@36c; nearby mixed fancy, 24@33c: fresh firsts, 26@31½c.

PHILADELPHIA, April 29—Butter, lower; western creamery, extra, 41c; nearby prints, fancy, 51@53c.

Cheese—Weaker; Longhorn held and fresh, 19@21c.

Oregon Dairy Notes

HOARD'S DAIRYMAN:—After considerable discussion the milk men of Portland who provide milk to be sold in the public schools have agreed to provide milk that shall test 4 per cent butterfat. A campaign in favor of this action was started by W. F. Woodward, a member of the school board who objected to poor milk or milk of low butterfat content being served.

The resolution which was finally adopted follows: "That it is the sense of this meeting that fresh milk offered for sale and intended for consumption in our public schools should carry a butterfat minimum of not less than 4 per cent."

The milk stations of Portland were started in the schools last year and are proving a popular feature. Several districts by giving entertainments have raised substantial sums to carry on the work. Chi Omega, a national women's sorority, gave a ball and raised over $200 which is being used to supply milk to undernourished children. The girls weighed every child in the school before starting the milk station. The teachers all state that serving of milk greatly increases the efficiency of the children. The general plan was instituted by Edith Knight Hill when she was secretary of the Oregon Dairy Council. The present management is carrying on the work.

⚜

Portland, Ore., has another merry milk war. The Oregon Dairymen's League is selling milk to the grocers at a figure that allows them to sell it to customers at 11 cents per quart. The movement is very popular among the housewives. Mrs. Alexander Thompson, president of the Portland Federation of Women's Organizations, is out speaking for the economy crusade. J. D. Mickle, former dairy and food commissioner, is helping the league in its efforts to reduce the price to the consumer by encouraging the housewives to get the milk at the grocery stores, saving delivery costs.

⚜

The Oregon Dairy Council under the new mangement with J. E. Dunne, president, and F. W. Merrill, secretary-manager, has taken new and larger quarters in the Morgan building, Portland. It is branching out, putting on a larger force, and has a big program outlined.

⚜

The Oregon Dairymen's League now has 20 cheese factories. One of the most recently opened is the Lewis and Clark in Clatsop County. This is at the mouth of the Columbia River. Coos and Curry Counties further down the coast are improving and enlarging and are turning out a high grade of cheese.

Oregon. E. K. HILL.

Dairying Thirty Years Ago

The Iowa Homestead reports a scarcity of hay in that state. It states farmers have paid as high as ten dollars a ton for good tame hay. The spring is quite late in the Northwest. Scarcely any plowing has been done in Wisconsin at the date of this writing, April 10th.

⚜

The Union Brook cheese factory, Otsego County, New York, will apportion dividends the coming season on the relative value plan. It is encouraging to see so many cheese factories grappling with this question. Even if it does not work just right at first it is well to commence and find out where the obstacles lie in the road. It is evident that quality must be the basis of division in cheese making hereafter, and the sooner we understand what to do and how to do it, the better.

⚜

Now that the prices for meat are good, and prospect for the future better than it has been for some years, is the time for farmers to get themselves well grounded in the truth that well-saved skimmilk and whey have more feeding value than for some years back, and far more than farmers have usually given them credit for. This slaughtering of so-called "veals" that are "ten days less than two weeks old" is not only an outrage on the consumers—if there are such—but it is a financial blunder. With meat at present prices, every healthy, thrifty calf should be grown to from four weeks to three months old, and older, by feeding skimmilk or whey reinforced with oil meal and shorts, instead of using the valuable natural fat in the new milk. Do this while there is young stock plenty on the farm, and after such young things are gone, or grown up, feed the rations so compounded to the cows that give the milk—and make money by so doing.

⚜

It is just the right kind of a spring so far—as it rains every day or oftener—for us to expect, later on, a drouthy time, just when we need moisture most to give us good pasturage and a big hay crop. In view of such possibilities, and because it is a good thing to do any way, it will behoove the provident dairy farmer to make sure the growing of some soiling crops, so that he may not be stranded for cow feed, if he should be thrown upon the dry sands of an early or a late drouth. Blessed is the dairy farmer who has a few acres of winter rye as a kind of insurance policy against an early drought, and to tide him to the time he can have green oats or millet, and use them on to the time when early maturing corn will give him all he needs in the way of green cow-food.

The beauty of the whole thing in making such provisions to avert possible calamities, if the farmer don't really need them, they are all good crops to grow, to put in silo, or in dry store. So there is gain, whether the coming season is to be wet or dry. Have plenty—then you need not fret.

Milch Cow Statistics

The number of milch cows per 100 acres of crop and pasture land in England and Wales today is 7.8; Ireland, 10.2; Scotland, 8.2; Holland, 21.3; Belgium, 20.3; Denmark, 18.3; Switzerland, 15.4; Sweden, 14.9; Germany, 13.3; Austria, 11.1; France, 9.3; Italy, 7.1; Hungary, 4.8; U. S. A., 4.8; Canada, 3.0; New Zealand, 1.9; Argentine, 0.5.—Milk Industry, London.

FEED UP!

EVERY dairyman knows that he must feed proportionately for the light summer period, as well as in the heavy winter months, if he wants a large flow of milk from his herd when he can sell it at a good price.

Here is the way it works out:

Suppose your price for milk is $1.90—with an almost certain prospect of being lower when grass comes, and pastures are good.

Now, if you feed Buffalo Corn Gluten Feed mixture at a cost of about $30.00, you can produce at least $130.00 worth of milk from your good milkers.

If your milk price goes down—say to $1.20—you can still get $84.00 from the same cows and the same amount of feed.

It has been proven that if you do not feed in the summer your cows will shrink after the first flush of grass. You will not only lose the profit you might have had from them by proper feeding, but, on account of their poorer condition, your herd will not produce as much milk, when you start heavy feeding again.

These are facts that should make every dairyman consider seriously his feeding problem, on a basis of cost and return, during the grass months now coming in. And then order Buffalo Corn Gluten Feed for your herd.

Corn Products Refining Co.
New York Chicago



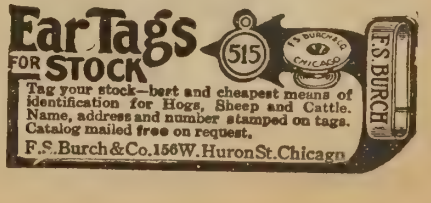
FREE Write for full information giving the correct mixture for feeding Buffalo Corn Gluten Feed. If your dealer cannot supply you with Buffalo Corn Gluten Feed tell us who and where he is. Write today to Corn Products Refining Company, Feed Department, 17 Battery Place, New York.



Every dairy man needs this outfit. Points out the "boarder cow". Enables him to buy cows with his eyes open and to check up his creamery, etc. Tells him how to regulate feed to increase production. Highly recommended by U. S. Department of Agriculture, County Agents, etc.
Free with each testing machine: 4 test bottles, 1 acid measure, 1 pipette, 2 brushes, 1 bottle acid and Instruction Sheet giving complete information about testing milk and cream.

Milk Dealers and Dairymen
Write for big, free catalogue.

The Creamery Package Mfg. Company
68 W. Kinzie St., Chicago.



Holstein Sales Classic of '21

Wisconsin Bree

Milwaukee, State Fair Gro

Annual Convention State Association, All Day — May 16, Republican House



A 31-LB. DAUGTER OF "PIEBE" MAKING 850 LBS. OF BUTTER AND 21,000 LBS. OF MILK AS A JUNIOR 4. TO BE SOLD TUESDAY

We wish space allowed 130 photos. You would agree that in Wisconsin State Sales you can buy animals breeders won't price in their barns; it was ever thus. State Association pride accounts for this opportunity.



JOHANNA ORMSBY JULIET DE KOL
WISCONSIN'S STATE RECORD JUNIOR 3-YEAR-OLD (34.11 LBS. OF BUTTER, 578 LBS. OF MILK) NOW ON YEARLY TEST GOING 1000-LB. CLIP. HER SON IN THE MILWAUKEE SALE

FACTS!

Each animal from a State or Federal test and sold subject to 60-day retest.

Every animal guaranteed a breeder.

Papers accompany cattle to sale. You get them soon after settlement.

Wisconsin has a reputation to uphold.

All other State Sales have passed by. This is the last and best opportunity to buy at a Breeders' State Sale this spring. You know it is the truth.

Now is the time to buy. You won't regret.

To Be Sold:

Six beautiful daughters of Pietertje Ormsby Mercedes Della, (whose only 2 tested daughters to date made over 500 lbs. of milk and 22 and 24 lbs. of butter as Junior 2's), one of the very good sons of 37th and out of excellent daughters of Colantha Changeling Lad whose get have made up to 32 lbs. as three-year-olds.

Four splendid daughters of Iowana Sir Ollie out of high record dams.

A very nice yearling daughter of a 27.66-lb. cow who milked over 85 lbs. on two milkings a day. She is **bred to Pietertje Grahamholm Segis**—2nd prize winner at Hamlin and one of the good young bulls of Minnesota.

A 2-year-old granddaughter of Windsor Sweet Butter Maid (Wisconsin State record Cow) and out of a 25.83-lb. junior 4-year-old. **This heifer is in calf to Harvest Farms Matador Segis Bull.**

A wonderful young cow whose 2-year-old record is 20,266 of milk and 787 of butter due soon after sale time and in **calf to the 42-lb. bull King Bess Burke Ormsby.** Why not gamble on prospects for a herd sire?

A show ring winning son of Ollie. A real individual you will like him.

A splendid 2-year-old sired by a 30-lb. grandson of Pontiac Korndyke and out of a 31-lb. daughter of Terracelawn Hengerveld Segis. She **is in calf to King Bess Johanna Ormsby,** sire of the Junior Champion heifer at the recent National Dairy Show.

A 1,113.7-lb. butter daughter of Sir Johanna Piebe and Caroline Princess Pontiac. She has a two-year-old record also of 865 lbs. butter and 17,000 lbs. of milk. She is **in calf to Sir Ormsby Piebe Champion a real son** of Old Sir Piet out of a 610-lb. junior two-year-old. A real cow through and through.

A yearling son of the near 26-lb. 4-year-old daughter of Windsor Sweet Butter Maid—a real cow and one of the former Wisconsin Record Holsteins.

A show ring winning daughter of Sir Vickery Vale De Kol. She was third in that class of 81 at Milwaukee last fall. Also placed at the National.

A 5-year-old cow whose record at 3 years is 876 lbs. of butter and 18,292 lbs. of milk. Due right after sale and should make 30 lbs. Her sisters did with 611 lbs. milk.

A 26.45-lb. butter and 628-lb. milk record daughter of Oak Inland Jess and bred to Pinehurst's Sir Ormsby Beauty Pontiac Segis.

A very nice light heifer out of a 35.15-lb. cow and sired by King Agatha Pontiac Lass whose 4 nearest dams average 36.54 lbs. The dam has three records averaging 32 lbs. in 7 days.

A yearling son of Mary Segis Beets who just finished the year with 985 lbs. of butter and 22,904 lbs. of milk. He is sired by King Pontiac Artis Sadie Vale. We cannot say too much about this youngster. You will like him, too.

A dandy 4-year-old heifer who has just finished 7-day record of 23.8 lbs. of butter and 445 lbs. of milk. She is very good individually, is being continued on yearly work and is **bred to Sir Pietertje Mercedes 41st.** A good buy.

A very pleasing 25-lb. cow with plenty Colantha Breeding.

A high record 2-year-old daughter of Cedar Lawn Canary Paul—Grand Champion.

MARSHFI

A splendid 25-lb. daughter of King Johanna Korndyke Segis. She is a real show cow and will have a good start on yearly work and is bred to Pabst Piebe De Kol King. The Foundation kind.

A yearling daughter of Pabst Pontiac De Kol King from a 24-lb. dam. She is bred to a sire whose dam has over 800 lbs. as a three-year-old.

A 29.99-lb. 5-year-old cow that milked 690 lbs. of milk—nearly an average of 100 lbs. a day the entire test period. **Also her two-year-old son.**

A 25-lb. daughter of Sir Fobes Ormsby Pietertje. You know what the Fobes-Ormsby combination is doing in the Holstein World these days.

A fine individual yearling son of Sir Ormsby Banostine Champion—only son of **Duchess Skylark Ormsby,** the World's record butter cow. **His dam at 9 years of age made 700 lbs. in the ten-month division.** His two nearest dams average over 1,075 lbs. butter in the year.

A 24-lb. daughter of Canary Pearl of the Dairy. She is a large cow with well developed udder and a persistent producer having milked over 100 lbs. a day on official test.

AUCTIONEERS:
Haeger, Kelly, Mack and Krause

Cook in the Ring

Wisconsin Hols

L. L. Oldham, Sec'y, 241 W

ers' State Sales

ls — West Allis May 17th

130 Head

of choice individuals with highest records and popular breeding selected by special committee from 60 of Wisconsin's very best herds.

Remember the Holstein Breeders' Banquet, 7 P. M. May 16, Republican House

To Be Sold:

An excellent type high producing 30.29-lb. cow. She is a daughter of Sir Hengerveld De Kol Abbekerk and a sister to Milanhurst America De Kol, World's Champion 4-year-old.

A very handsome granddaughter of "Old Sir Pietertje." Her dam a 25-lb. three-year-old—the best of Dodge County breeding.

A very nice 24-lb. good producing daughter of a 30-lb. son of Pontiac Korndyke. This is one of the best things in the sale.

A 5-year-old proven son of 37th. He will weigh 2600 lbs. and is a splendid individual. Four of his daughters just finishing test are making over 600 lbs. butter with first calf. He is out of Daisy Queen De Kol who made 17,809 lbs. of milk and 871 lbs. of butter as Barney Kelly says "under the old system when it was hard to make 'em." Here is a real feature of the sale and a bull for someone who can use the proven blood of 37th. He comes from a small herd where new blood must be used.

A 2-year-old show heifer—the daughter of a 31-lb. cow and sired by a wonderful producing 30-lb. Albrecht bull and bred to a son of a 35-lb. cow.

A light colored straight toplined daughter of King Pontiac of Brothertown from a daughter of Colantha Changeling Lad.

A dandy granddaughter of King Pontiac of Brothertown bred to a fine grandson of May Echo Sylvia. This heifer was in the money in that fine Holstein show at Milwaukee last fall.

A choice 27-lb. five-year-old cow. Her dam has 830 lbs. of butter and 20,315 lbs. of milk in 337 days. She is due soon after sale to Pabst Pontiac Adonis, one of the best sons of King Pontiac Champion.

A splendid 2-year-old daughter of a wonderful old cow who has 3 consecutive times produced over 600 lbs. of milk in 7 days on three milkings a day. She made 18,295 lbs. milk in the 305-day division. This 2-year-old is **bred to a son of "Ollie" out of a 834-lb. 2-year-old who has just made** 29.40 lbs. as a three-year-old.

A very typy 5-year-old cow who has just made 25.47 lbs. and now on yearly test is going at a 1000-lb. clip.

A 33-lb. cow that will weigh a ton. She is the 4th over 30-lb. daughter of Sir Alban Pontiac Korndyke. **She is a sister to Hazel Pontiac,** last year's sale topper. Also to **Lady P Pontiac, a 31-lb. three-year-old.**

The yearling son of Wisconsin's new junior three-year-old State Record Cow. The dam of this calf just made 34.11 lbs. of butter and 578 lbs. of milk. She is being carried on yearly test and now going at 1000-lb. clip.

A real show cow that has milked 100 lbs. in a day.

A splendid individual young cow just completed 30.28 lbs. of butter and 565 lbs. of milk. She comes from a herd of all A. R. O. cows.

An outstanding yearling son of a young cow whose two-year-old record is 901 lbs. butter and 19,847 lbs. of milk. The dam of this young fellow has a sister also that made 31 lbs. in 7 days and 917 lbs. in the year as a 4-year-old.



ALICE PONTIAC PET 273129
A 33-LB. COW WEIGHING A TON. SHE HAS 4 ABOVE 30-LB. SISTERS. SHE IS TO BE SOLD TUESDAY AT MILWAUKEE

Bill Baird, Fred Southcott, Ad. Kaye, Rudolph Schaefer, Jerry Riordan, Frank Everson—all good Holstein Judges selected the 130 head. You may know the kind they would pick for our State Association Sales.



MILDRED SEGIS OF MOUNTAIN VIEW 276492
A 28.57-LB. DAUGHTER OF TERRACELAWN HENGERVELD SEGIS—SIRE OF THE SENSATIONAL GET OF SIRE AND DAIRY HERD AT THE LAST NATIONAL. TO BE SOLD.

LD, MAY 26

A daughter of Homestead Junior De Kol whose dam is a maternal sister to Miss Colantha Pietertje (27.35 lbs. at 4 years of age).
A 3-year-old proven 30-lb. bull of good type and a quick sure breeder from a cow that weighs 1,800 lbs.
The Sale Sensation—a wonderful 30-lb. granddaughter of "Old Sir Piet." They are hard to find and harder to pry loose and you know it.
A beautiful daughter of Pontiac Hengerveld Sir Korndyke claimed by some to be the greatest show cow in Northern Wisconsin.
A very sweet individual daughter of Juliana King of Rock (son of that famous old cow Queen Juliana Dirkje) now on test and making approximately 800 lbs. for the year.
Some splendid daughters and a son of Sir Bess Pietertje Fobes—a brother to Wisconsin Fobes Ormsby and carrying 75% same breeding of Bess Burke Ormsby the 42-lb. cow.
3 daughters of Roberts Pontiac De Fries. 3 daughters of Bluebird Canary Butter Boy. 1 daughter of Sir Ormsby Beauty Segis of Pinehurst fame.

FACTS!

The Wisconsin Breeders' Northern State Sale grew out of the desire to populate the vast dairy empire in the north of our state with a class of foundation animals which could only be secured by the State Association officials. Breeders do not care to and can ill afford to sell their best—yet they will part with one occasionally to keep up pride in the State Association and to boost good old Wisconsin Holsteins.

ein Association

hington Bldg., Madison, Wis.

BOX MEN:
John G. Voss, Frank Everson

Harvest Farms Company

Consignment to the
Wisconsin State Sale
At Milwaukee, Wisconsin
May 17th, 1921

NO. 1—HARVEST LAKEVIEW LASS NO. 598049. In pursuance of our policy of supporting the State Sale, we are consigning the best animal in our herd. She is at the wrong age to bring what she is worth, but we believe that whoever buys her will long remember favorably the Wisconsin State Sale. The dam of this heifer is Lakeview Hamlin De Kol with a record of 140 lbs. of butter and 2700 lbs. milk in thirty days. The last two of the thirty days she milked over a hundred pounds. She has three A. R. O. daughters, two of which are in our herd. All three we believe will be 30-lb. cows. Lakeview Hamlin De Kol has three consecutive seven-day records averaging 31.60 lbs. Her last record was 35.20 lbs. We intended to run her on yearly work this year and expect another 30-lb. record and a good yearly record. She was chosen by Bob Lueger from our herd to be used in our little show string while she was running on test. The sire of Harvest Lakeview Lass is our Junior herd sire, King Agatha Pontiac Lass whose four nearest dams average 36.64 lbs Two of them are former world's champions. He is a good individual, having stood fourth at the State Fair two years ago and we expect to take him on the circuit of our little show this year. He has a nice list of A. R. O. daughters, although they are quite young and we have been twice second with his get as a young herd at the Wisconsin State Fair. A sister topped the last dairy show, going to Mr. Stewart at the Carnation Farms. This heifer is nearly white, a year old and was placed sixth by Mr. Moscript in the large and hard fought junior calf class at Milwaukee last year. We would like to keep her as foundation stuff because we can't buy better, but wherever she goes, she will do our herd much good.

NO. 2—MAYFLOWER HENGERVELD DE KOL NO. 289850, born 1915. Record at four years, 30.20 lbs. One of the nicest cows we have. We bought her last spring after she had been considered good enough to appear in the exclusive St. Paul National Sale. When we bought her she had a nice start on semi-official work, but she went off feed and we were unable to get her back on her stride. She was not tested this spring as we wanted her to be in nice shape for the sale. She is not a large cow but is an excellent producer and a good doer. Her sister, Milanhurst America De Kol, was world's champion as a junior four-year-old with 1200 lbs. butter in a year and 34 lbs. in seven days. This cow was bought with the purpose of putting her in this State Sale and we think will do us credit.

Harvest Farms Company
J. P. Riordan, Manager **Mayville, Wisconsin**

Quality Consignment
TO THE
Wisconsin State Sale
May 17, Milwaukee, Wisconsin

Sir Bess Ormsby Mercedes, a wonderfully good 5-year-old son of **S. P. O. M. 37th** from Daisy Queen De Kol. Her record of 871 lbs. butter from nearly 18,000 lbs. milk was made nearly 10 years ago.

Sir Bess Ormsby Mercedes now has 8 A. R. O. daughters, 2 that will have finished semi-official test at sale time.

He has been owned and is consigned by W. S. Comings, O. E. Gibson and Anton Hoesley of Eau Claire.

A 20-lb. 2-year-old daughter now making over 70 lbs. fat in her fifth month on "semi" will also be sold. You'll like her. She is bred to King Pietertje Ormsby Piebe 16th, the 32-lb., 1300-lb. son of K. P. O. P.

A 6-year-old cow just finishing a good 305-day record. She is bred to Sir Bess Ormsby Mercedes and if fresh at sale time, her calf will also be sold.

They are consigned by W. S. Comings.

A very good 4-year-old now on 7-day test and doing well is consigned by O. E. Gibson. She is a daughter of Milford Meadows Oak De Kol, a 34-lb. bull, and will be bred to "Sir Bess."

Look Them Up in Your Catalog and Look for Them at Milwaukee We are Sure They'll Please You

Dodge County Holsteins
TO
Wisconsin's Two State Sales
Milwaukee, May 17 — 23 OF OUR BEST FROM 9 DIFFERENT HERDS — Marshfield, May 26

At Milwaukee:

FROM SPRING BROOK FARM, BURNETT:

A choice unbred heifer, born Feb. 18, 1920. Sired by a son of Sir Pietertje Ormsby Mercedes. Her dam a 24.98-lb. 3-year-old granddaughter of Canary Paul Fobes Homestead.

FROM HARVEST FARMS, MAYVILLE:

Mayflower Hengerveld De Kol, a splendid 6-year-old cow. As a 2-year-old she made 18 lbs. butter in 7 days and as a 4-year-old 30.29 lbs. She is a beautiful individual in excellent condition.

Harvest Lakeview Lass, born March 4, 1920. Her dam, Lakeview Hamlin De Kol, has 3 records that average 31.60 lbs. Her last record was 35.2 lbs. in 7 days, 140 lbs. in 30 days.

S. M. RANDALL & SON, WAUPUN, CONSIGN:

Alice Pontiac Pet, a wonderfully good granddaughter of Pontiac Korndyke. She has just made 33.5 lbs. butter from 647.08 lbs. milk in 7 days. She is a splendid individual weighing 2000 lbs. in good condition.

Eleanor Fobes Mooie, a very good 2-year-old daughter of Joe Oak De Kol Fobes from a 28-lb. dam.

JOHN PULS, HARTFORD, CONSIGNS:

Colantha Cloverlawn 2d, a 25-lb. 4-year-old granddaughter of Sarcastic Lad. She is just fresh and doing very well on test. Will be continued on yearly test up to time of sale. Her dam is a 746-lb. 2-year-old and her 4 nearest dams average over 800 lbs. for a year.

O. H. ERDMAN, JUNEAU, CONSIGNS:

Bell Mutual Canary Homestead, a 27-lb. junior 4-year-old granddaughter of Canary Paul Fobes Homestead. Her dam is a 21-lb. junior 4-year-old sister to Oak De Kol Ollie Homestead. She is a splendid show heifer, now on semi-official test.

King Jess Evergreen De Kol, a son of Jess Evergreen De Kol 2d, 31.23 lbs. butter from 731 lbs. milk as a 4-year-old and twice over 31 lbs. His sire is a 33-lb. son of King of the Sadie Vales.

F. G. LEHMANN, WATERTOWN, SENDS:

Colantha Gladi Parana 2d, a splendid daughter of Colantha Gladi Parana (31.86 lbs. butter, over 600 lbs. milk) and by King Canary Oak De Kol, 34-lb. sire. She is in calf to a good 35-lb. bull. Look for her.

E. F. KUEHN, HORICON, CONSIGNS:

A 23-lb. 6-year-old cow, a top notch individual backed by the very best of breeding. Her record made as a 3-year-old does not indicate her ability. She will be one of the very best individuals in the sale.

At Marshfield:

FROM O. H. ERDMAN:

A 19-lb. 2-year-old daughter of a twice 27-lb. cow, one 27-lb. record made as a heifer, she from a 31-lb. cow that produced 721.5 lbs. milk. She is a granddaughter of Canary Paul Fobes Homestead.

A yearling son of Piebe Estata Blanche De Kol, 27-lb. cow with 612.8 lbs. milk. He is sired by a 33-lb. son of King of the Sadie Vales.

FROM HARVEST FARMS:

A splendid, big, 7-year-old cow whose 19-lb. record is no indication of her ability. She was bred October 4 to Spring Farm King Agatha Pontiac and should make an excellent record when she freshens.

Two excellent daughters of Spring Farm King Agatha Pontiac, whose 2 nearest dams average 37.10 lbs. His daughters now include a 32.54-lb. 3-year-old. One of these heifers is from a 24-lb. foundation cow, the other by a son of Paul Beets De Kol.

FROM SPRING BROOK FARM:

An excellent yearling heifer sired by a 30-lb. grandson of S. P. O. M. from a 16-lb. granddaughter of King Lyons. She is not bred.

A yearling son of Sir Pietertje Ormsby Korndyke from Princess Colantha Jewell 6th, 24-lb. daughter of a 25-lb. cow and dam of a 36-lb. daughter of S. P. O. M. 37th. He is a real bull.

They Are All Good Ones — They Come From a County Where Good Ones are Bred and Developed — Dodge County

Washington, D. C., Weekly News

[SPECIAL TO HOARD'S DAIRYMAN]

Washington, April 25—The neutralizer butter ruling was again postponed on April 22, by the Acting Commissioner of Internal Revenue, M. F. West, by a new treasury order issued with the approval of Secretary of the Treasury Mellon to take effect June 1 unless otherwise ordered. Although the new Internal Revenue Commissioner has been named, D. H. Blair, of North Carolina, his confirmation has not taken place.

The new ruling, although very brief, contains the definite assurance that "further study is to be given to the whole case before the ruling date again is reached."

Secretary of Agriculture Wallace has interested himself in the case to the extent of making representations to Secretary of the Treasury Mellon calling his attention officially to the situation which existed when the latter took the portfolio, that is a strongly contested ruling which had been postponed to admit of a full hearing, and then the office of revenue commissioner vacated before the facts presented by both sides at the hearing had ever been analyzed or formally passed on. In view of this position taken by the secretary of agriculture it seems reasonably certain that the secretary of the treasury will take some action within the ensuing month to either cause the Internal Revenue Commissioner to review the facts, or to refer the entire neutralizer controversy back to the Attorney General for a review of the law in the case.

It is no secret that the opponents of the ruling wish the matter to go back to the new attorney general for a review of the law. The attorney general is understood to have taken informal notice of the pendency of this controversy, and to have characterized it as "another of the problems" left over by his predecessor.

The senate finance committee has been holding hearings on the emergency tariff bill, but careful inspection of the record as printed fails to reveal any effort or evidence of an effort to interfere with the schedules as contained in the original draft of the measure, including six cents tariff on butter, and the other dairy items just as passed by the last Congress. The work of the committee has been directed toward the two sections added in the present congress relative to the so-called American valorization and the anti-dumping clauses, and both of these are to be modified in a number of details by committee amendments. It will take carefui scrutiny to determine what effect, if any, these amendments will have on the general effectiveness of the bill.

The Ways and Means Committee continues in daily "executive" session, considering the general tariff measure. There is a story that a strong effort has been made to add fertilizer materials to the free list, but that the agricultural sub-committee has been denied control over these items, which have been taken over by the sub-committee on manufactures, of which Congressman Longworth is chairman, and that this sub-committee intends to put a duty of twenty per cent on these items. This, if done, will increase mixed fertilizer costs two or three dollars per ton to the final purchaser.

Representative King of Illinois has introduced a butter standardization bill but the committee on agriculture to which it was already referred has already scheduled its time until the second week in May with grain futures and packer control legislation. It is quite certain that this bill will not be urged, should the neutralizer controversy be settled by the attorney general or the treasury department.

W. P. Warber, who for more than a year past has been manager and Washington representative of the National Milk Producers' Federation, closes his work with this organization at the end of April, and will engage in college work for the ensuing year. C. W. Holman, heretofore connected with the building and finance committee of the National Board of Farm Organizations, with which the Milk Producers' Federation is affiliated, will assume the work carried on by Mr. Warber. Mr. Warber was formerly in the Bureau of Markets, as a dairy marketing expert, and has a long record of splendid service for the dairy industry, which he is sure to continue in whatever work he takes up.

D. G. Harry, president of the Maryland State Dairymen's Association which supplies the fluid milk sold in Baltimore, has been spending some days on business in Washington. His association, along with a number of other milk producer organizations, is about ready to enter into the con struction and operation of its own surplus milk plant. Unlike some of the others it is planning to increase its cash surplus sufficiently to have the money in hand to go into this branch of the business, before making special plans for the plant, and with this end in view it has already put up to its membership, and secured approval for an increase in its brokerage charges sufficient to accumulate several thousand dollars per month in a reserve fund. The situation, according to President Harry, is sufficiently well in hand in the Baltimore area so they are able to care for this summer's expected surplus without needing this plant, unless some emergency arises, and by another season they will be ready to finance anything they may need.

President Harry speaks very enthusiastically over two other features of their organization work; one, their relationship with the distributors, and the other, their effort to put milk into every public school in Baltimore. This latter project is now completely successful. With the co-operation of the school board and the assistance of the distributors and several local agencies such as the Parent-Teacher Associations and the Board of Health, they have milk in pint bottles delivered to every public school, so every pupil who wants it can purchase it at cost, four cents a bottle. This, with a provision so that ten per cent of the entire supply is delivered free of cost to be given to deserving pupils who can not pay for it, rounds out their plan.

Health Officer W. C. Fowler of the District of Columbia, with the approval of District Commissioner James F. Oyster, himself one of the big dairymen and distributors of the city of Washington, has prepared and submitted to be introduced in Congress a new milk law for the District of Columbia. In this it is proposed to grade all milk which comes into Washington as Grade A and Grade B, the latter to be labeled "for cooking and manufacturing purposes only". There is no let down of the tuberculin test now strictly enforced in Washington milk supply, but Grade A milk is to be based on a triple scoring proposition, the farm to rate above 70, the dairy to rate above 85, and the cows above 90 on the score cards used for this purpose by the District of Columbia Board of Health. The milk must also be cooled immediately to 45 degrees or lower and kept at that temperature until delivered if sold "raw" or pasteurized, and then recooled if sold as Grade A Pasteurized. No

(Continued on page 683)

ABSOLUTE DISPERSAL SALE

Forty-four Registered Guernseys

GEO. W. BROWNE, Owner, Waukesha, Wis.

(LIVE STOCK PAVILION)

THURSDAY, MAY 19th, 1921

A very uniform lot of splendid individuals will be offered in the sale, all backed by the very best breeding. Fourteen A. R. cows and cows now on official test are offered.

Practically all females are bred to Rex of Broad Ripple No. 61960, whose dam is Marietta of Maple Hill A. R. 4946, milk 15,071.1 lbs., butterfat 797.7 lbs. Animals will all be sold without reserve. Positively no by-bidding permitted. Females are guaranteed breeders.

Such splendid individuals as the following are offered:

REX OF BROAD RIPPLE NO. 61960, whose dam has record of 797.70 lbs. butterfat.

MAY KING'S DOLLY OF INGLESIDE A. R. milk 13955.0 lbs., butterfat 644.86 lbs., Class A.

CRITERION'S MILKMAID NO. 83347, A. R., butterfat 535 lbs. at 2 years.

SUNNYBROOK MIGNONETTE 64437, winner of many prizes. Sired by Florham Autocrat A. R.

CREAMLAND BLANCH NO. 82472 (A. R.) milk 7380.9 lbs., butterfat 466.3 lbs. at 2 years.

FRAU OF MERIDIAN 2D NO. 38978 (A. R.) milk 10,669.7 lbs., butterfat 571.62 lbs.

BESSIE'S YEKSA STARLIGHT (A. R.) milk 8285.8 lbs., butterfat 454.04 lbs. at 4 years.

DUCHESS OF MAPLE HILL A. R. 5769, milk 10,621.1 lbs., butterfat 535.92 lbs. at 1 year, 10 months.

LILY ROSE OF MAPLE HILL, on test, in 31 days has made 1174.1 lbs. milk, 48.96 lbs. butterfat at 3 years.

LAKE SHORE COUNTESS, on test, in 59 days has made 1738.9 lbs. milk, 72.7 lbs. butterfat at 4 years.

MAY BIRD OF EDGEMOOR, on test, in 115 days has made 3510.9 lbs. milk, 144.9 lbs. butterfat.

DAIRYMAID'S GIFT OF FOX VALLEY, on test, in 105 days has made 3053.3 lbs. milk, 139.71 lbs. butterfat at 2 years.

Auctioneers:—Love, Benjamin

Send in your name at once for catalog.

F. E. FOX, Sales Mgr., Waukesha, Wis.

RUNDELL'S IMPORTED GUERNSEYS

40—Excellent Yearling Heifers—40

Will arrive on the "Menomonie" about May 20. They were the first yearlings to be selected on the Isle of Guernsey this year and are without question a wonderful bunch. Will make an attractive price on 20 head. Write for information and prices to

Village Farm BRIAN L. RUNDELL Livingston, Wis

JUBILEE FARM

Box 747, Peoria, Illinois.

All Females Withdrawn from Sale Until After the

ILLINOIS BROWN SWISS BREEDERS' ASSOCIATION SALE

MORTON, ILL., APRIL 21

and

FIRST NATIONAL CONSIGNMENT SALE

PEORIA, ILL., MAY 26

A number of line-bred bulls for sale.

14 GUERNSEY BULLS

10 Heifers or A. R. Cows

your choice out of 75 head. All born and raised in our own barns. Herds accredited and guaranteed free from abortion, non-breeders and calf scours.

11 years of State and Federal testing without ever finding a single reactor or having a single case of abortion or a single non-breeder. $10,000 reward to anyone who can disprove the above statements.

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Breed Brown Swiss Cattle

They prove their superiority over other breeds when subjected to trying conditions on the farm, by keeping in good flesh and filling the pail while other cows grow thin and reduce their yield. You can prove this to your satisfaction.

BROWN SWISS CATTLE BREEDERS' ASS'N

IRA INMAN, Secretary, Beloit, Wis.

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HOARD'S DAIRYMAN JUNIORS



A DEPARTMENT FOR THE DAIRY FARM BOY

Some Things a Junior Should Know About Pigs

We know that many of Hoard's Dairyman juniors are interested in raising pigs because they have said so in their letters to us. This is a very splendid piece of work to engage in and, for those who are doing it, the attempt should justify itself in a product that shows the experience was worth while. Too many pigs are just allowed to grow up without much attention paid as to how long it takes for them to do so or what they will be like when they have. This, you will all agree, is not the kind of pig raising that we want our juniors to engage in. Unless you know more about the job of raising pigs when your pig is grown up than you did when you started out, you surely cannot be considered a success. It is a real job to raise a pig and the fellow who is not willing to do his best should never attempt it.

He Should Know About the Leading Breeds

Every junior hog man should know that no one breed is best. Any of the standard breeds are good and will respond to your efforts if you treat them the way you should. There are the Poland-Chinas, the Berkshires, the Durocs, the Hampshires, and the Chester Whites. All are good breeds and it would be difficult and also unfair to attempt to say which one is the best for you. If your community is largely interested in a certain breed, then undoubtedly it is good policy for you to select one of that breed. But there is another element to be considered in making a choice and that is the matter of personal preference. The breed that appeals to you the most is the one to select providing it is one of the leading popular breeds. If you have talked with hog men, you have found out that the breed that each is raising is the one he likes the best and he has tried to tell you of all the good things about his breed. This is a perfectly natural trait, but it does not follow that you should raise a pig of the breed that he thinks is the best. One must satisfy his own fancy when he makes the final choice.

He Should Know the Kind of Individual to Select

Of course you will also agree that the pig you are raising is of greater interest to you than the breed he represents. No matter what the breed, a junior pig man should know the best type to raise. There are some fundamental things to be considered about the individual regardless of the breed. He should be good looking first of all and, in order to possess this quality, he should be a pure-bred. If he is, he is much more likely to please the eye of the judge with good looks. We don't believe it is good policy for a junior to be spending his time on scrub pigs. The job is too important and life is too short to spend time on scrubs. There's no fun it either and when it comes to marketing your pig, the scrub doesn't stand very much chance of bringing the top-notch price.

He should be vigorous and compact in body, should stand squarely on all four feet, should have strong pasterns and his back should be well arched and the belly line should be straight. With all these qualities, he will have a symmetrical body. But this isn't all that should be looked for. His face should show signs of intelligence. There should be good breadth between the eyes and the skin of the face should be smooth, rather than wrinkled. The throat should be neat and free from excess flabbiness. The neck should be short and smooth and should blend smoothly and neatly into the shoulders. The width of his body should carry out uniformly from head to rump. The back should be wide and uniform and the ribs should be springy. The body, shoulders, and hams should all show good depth and the flesh should be firm and free from wrinkles. The tail should set at good height and the rump should be wide and level with sufficient length to carry out the body well. With all these characteristics, there should be present fine clean bones and a silky coat of hair, both of which a judge pays much attention to in determining quality.

And it is also very important that your pig should conform to the breed type. If he is a Poland-China, then he should present the type features for this breed in a very pronounced manner. For those juniors who have already selected their pigs it might be interesting for them to make a study along these lines.

He Should Know About Weaning Pigs

Some juniors that we know of are raising a whole litter of pigs. This means more work for them as they are starting with the pigs from the very beginning and they have more of them. One of the important things to look out for is not to allow them to suffer too much of a set-back when they are taken from the mother. This can be accomplished with a little forethought. Pigs should be weaned from six to ten weeks old. Nine weeks would represent a good average length of time for them to run with the sow, providing she is giving plenty of milk. But weaning time must come and it is safe to say that it is the most critical period that a pig must go through. Many fine litters are ruined at this time through improper feeds and feeding methods or through mere shiftlessness. If the weaning is properly done, the pigs soon become contented without the mother and no serious consequences follow. But, and this is where the rub comes in, do you know how to proceed? From this time on, you will have to proceed intelligently if you are to expect good results. Quite contrary to what some seem to think, weaning does not consist of shutting the pigs away from the mother so that they are deprived of the accustomed feed, to be forced to live on a substitute of corn and other grains. If you proceed in this manner, failure will be inevitable and you might just as well throw up the job before you get thoroughly disgusted.



YOUR PIG WILL DO BETTER IF HE HAS THE FREEDOM OF A PASTURE
(What breed is this young gilt?)

There is a right way and we want you all to know it. Pigs should be taught to eat at least three weeks before they are weaned. It is an easy matter to make a creep for them which they will soon learn to use. The creep should not admit the sow, but should be close to the place where she is being fed daily. If the feeding is done in a pen so much the better. The creep should have a clean trough and it is very important to keep it clean. A slop made of skimmed milk in which has been stirred some wheat shorts or middlings makes an ideal ration and they soon learn to look for it at feeding time. It not only teaches them to eat, but it supplements the mother's milk in addition and keeps them growing and contented. Feed only as much as will be nicely cleaned up at each meal. A little corn scattered in the bedding will aid in giving them exercise if they are confined. If this has been done, weaning will be an easy matter for you and for the pigs. They have learned to eat and they will soon be satisfied without the mother.

Skimmilk and middlings make about the best feed for young pigs after they are weaned. It is better not to be in too much of a hurry to feed grain of any kind, and it should be introduced very sparingly at first. At no time should they be fed exclusively upon grains for such feeds are not muscle formers and the pigs will soon cease to grow. At the age of two months a good pig that has been properly cared for should weigh about 30 lbs. to 40 lbs. and it will not be long after that before he weighs 50 lbs. At this time he should be fed something like this: A grain mixture made of 32 lbs. of corn meal, 32 lbs. of middlings, 32 lbs. of ground oats, and 4 lbs. of oil meal will be found very good. A pound of this mixture for a daily grain ration will be sufficient for each pig in the litter. Now, if skimmilk is available, the grain mixture can be mixed with about five pounds of it per pig for a daily feed. This will form an ideal ration for the first three or four weeks and after that the amount of the grain ration may be increased. Usually for the first eight weeks after weaning, it is best not to feed corn in greater amounts than to form more than one-third of the grain ration. There is nothing that will take the place of skimmilk, and those who have it are very fortunate indeed.

Another good growing ration is ground barley, 4 lbs.; shorts, 4 lbs.; gluten feed, 2 lbs., and skimmilk, 3 to 4 lbs. The fundamental principal at this time of the pig's life is to feed a ration that will build muscle and bone so that he will receive his proper growth preparatory to the fattening period. It is a good plan to feed them at least four times a day at first and to feed in small amounts. Gradually this can be changed to three feeds daily as they grow older and have made a good start. If skimmilk is not available, then we must substitute something that will be bone and muscle building. Tankage is a good thing and then we might have a ration something like this: corn, 5 to 6 lbs.; shorts, 3 lbs.; and tankage, 1 lb.

He Should Know That Hogs Like to Graze

The hog is quite naturally an animal that feeds upon concentrates like the grains. But we must not forget that hogs like to graze in pastures. It is a well established fact that a hog will make greater gains from a grain ration when it is supplemented with good pasture. In addition to the more economical gains made, pasturing furnishes exercise for pigs. This is absolutely necessary if one expects the best development in his pigs. Exercise encourages growth and tends to build an animal of strong vitality, which is the type we all want to grow.

But we should not make the serious mistake that some have made in the past, thinking that just because their pigs were feeding upon good pasture there was little need for grain of any kind. This is a great mistake and we do not want you to make it. As we have already said, the pig is better adapted to feeding on concentrates than he is upon roughages. It is the combination of the two that offers the best results, and since he has grazing tendencies, we should take advantage of them in producing pork as cheaply as possible. So don't take away the grain ration when pasturing your pigs. But you may cut down. Some hog men say that when hogs are grazing on good productive pasture, it is a good plan to feed about two pounds daily of a well balanced grain ration to each hog for every 100 lbs. of live weight that he can show. This should be fed regularly twice a day and at all times there should be free access to good fresh water.

He Should Know What Forages are Good for Pastures and How to Produce Them

We may speak of two kinds of pastures upon which hogs may be grazed, permanent and temporary. Naturally the first kind must be made of fairly long lived plants, such as alfalfa and blue grass. If convenient, either of these pastures furnish excellent pasturage for hogs and they also have another decided advantage. One may pasture on these, starting very early in the spring simply because these crops make an exceedingly early growth. You are very fortunate if you have hog pastures made of alfalfa, blue grass, or any of the clovers. They are usually there each year and thus they do not have to be so frequently reseeded, excepting in the case of the clovers which usually are looked after at least every second year.

But it is not always possible for one to have permanent pasture and, furthermore, that which he does have may have to be supplemented with something else in order to furnish a good supply during the summer

months. For this purpose, we must resort to the shorter lived crops such as rape, peas, oats. soy beans, and the like. These are all annual crops and must be seeded each year. Hence, pastures made from them are only temporary, that is, they are good for the same season in which they were planted.

Perhaps foremost among these stands rape, a plant that looks very much like the turnip. In fact, it belongs to the same family of plants. Hogs are very fond of this pasture when once they become accustomed to it. It grows rapidly and furnishes very large amounts of feed. In addition, it is very nourishing and hogs will make good gains on it. If seeded alone, the best way to proceed is to seed in rows about 18 inches to 24 inches apart. It makes a better growth this way and there will not be so much waste when the hogs are pasturing, because they will follow the rows while feeding. It may be seeded in May and June and about six to eight weeks after that it may be pastured. If it has been seeded on a good, fertile, clean soil, it will furnish pasture for the remainder of the summer and during the fall months as well. Owing to the fact that there is more than one kind of rape seed on the market, one should always be careful when buying the seed to call for the Dwarf Essex rape.

Because there is some time after planting before one can pasture rape, he might use a combination of oats, peas, and rape. The oats and peas will furnish pasture earlier in the season and by the time they become too old to be readily eaten by the hogs, the rape will be ready. If this combination is used, a bushel and a half of peas and oats each together with about four pounds of rape will be sufficient for one acre. The peas and oats can be seeded together while the rape can be seeded alone, following the other two. This combination has the advantage of providing pasture throughout the entire season and the hogs like it. When rape is seeded alone four to five pounds of seed per acre should be sufficient. We think that it would not be out of place at all for you juniors who are raising pigs this summer to also raise at least a patch of rape, and you will find that if you are keeping your pig shut up, he will greatly relish the rape that you can cut from your patch. Try a small amount any way, and the next year you will be so enthusiastic about its value for hogs that you will want more of it. And by all means if you have to raise your pig shut up in a pen or in a yard, see to it that he gets plenty of green feed along with the grain you are feeding. Remember the test of you as a junior hog man will be largely determined by how well your pig progresses and what he finally turns out to be, and the right kind of feeding is the one big problem for you to look after.

He Should Know About Some of the Common Ailments of Hogs and How to Treat Them

One should always be on the watchout for diseases and troubles of all kinds that stock is subject to. We should keep an open eye to all of them. Although a hog is usually a rugged animal, it does not follow that he is without his ailments.

Do you know, juniors, that hogs can have lice? Many of us have never suspected that, but nevertheless they are frequently infested with them. Lice may attack them at any age and, when the infestation is severe, they suffer a great deal. The lice feed from the blood of the animal and in order to do this, they puncture the skin which causes an itching. When the case becomes very bad, the constant irritation made by the lice feeding causes the hog to rub himself against anything that he can find. This rubs off the hair in patches and often breaks the skin open into sores. This is very bad indeed and you couldn't expect a pig to grow very fast if infested to this extent, so we should all be on the lookout for these pests.

When they are once discovered treatment should begin at once. Crude petroleum is a very effective remedy and may be applied by hand. One-half pint of kerosene mixed with one pound of lard is also advised as an excellent and efficient remedy. Either of these treatments is also good for the prevention of hog mange, another serious trouble that hogs are sometimes liable to have.

He Should Provide Some Kind of Shelter

If you are raising your pig confined to a pen, it is of extreme importance that it be kept clean. He should not be forced to live in filth and dark. They like the sunlight and, for this reason, it is best to have a yard of some kind in which he may move about. In case you are keeping him in the pasture, all that will be necessary is to provide some kind of shelter there for him. If you don't happen to have a portable hog house to move out to the pasture, a dry goods box large enough so that he can comfortably enter, will provide a satisfactory shelter.

Raising a pig is just like any other enterprise. It takes a close study to do a good job. And the junior who studies his pig from every angle while he is raising him is the fellow who will finally win out.

Junior Letters

Hoard's Dairyman Juniors:—We are milking three cows and will have a fresh cow in about two weeks. We have four heifers and one registered bull and four horses and two colts. We have four brood sows and fourteen pigs. I have a sow and belong to the pig club.

Mamma has about 250 chickens. She has one hen setting. She gets about five dozen eggs a day. We have eight little rabbits and two old ones. I have a little dog of which I think very much. His name is Zip.

Oh yes, I forgot to mention my cow and calf. They are both getting along fine.

Indiana. Wayne Austin.

Hoard's Dairyman Juniors:—I have been reading the junior letters and stories for some time and I like them very much. I got my creed, button, and fob, and like them too.

I like to go to school. I have about a mile to walk morning and night. I live on a farm of 70 acres. We also rent ground.

Dad keeps Guernsey cows. We have 5 registered and 4 grade cows and 5 Guernsey calves. One is mine. We also keep Poland-China hogs. I have half interest in a sow and 5 pigs. Brother and I have a horse that sure is fine to ride.

I have a girl friend who lives half a mile away from where I live. She has a riding horse, too, and we have lots of fun riding horseback in the summer.

We are not going to have any help this summer so dad, brother, and I will have to work hard. We have some of our plowing done and will be ready to plant oats if it gets dry.

My letter is getting long so will close wishing the juniors good luck. Wish some of the juniors would write to me. I will answer any of the letters I get. My address is R. 3, Marysville, Ohio. Mildred Snyder.

Hoard's Dairyman Juniors:—I am 12 years old now and in the 6th grade at school

I have a few hens and a Collie dog which is named Rover. My father has about 30 cows. Our barn floor is of cement and we have a milking machine and three silos. We have a horse barn and two working horses. We have 4 automobiles and I have a bicycle that I ride to school.

The name of the farm that I live on is Lone Pine Farm. My father has a milk route in Mystic, seven miles from our house. He delivers the milk in a ton truck.

If any of the juniors wish to write to me my address is R. 1, Mystic, Conn.

Frederic B. Allyn.

Hoard's Dairyman Juniors:—We live in a small place 80 miles away from our farm. We left the farm for a while so I could get my schooling. I am sorry to be away from the farm because I like farm life best.

I am going to have some rabbits soon.

I get quite a few horses to ride and am glad I can for I don't know what I would do if I did not have a horse to ride.

Well, spring is coming and I am glad. I am near a lake so in the summer I can go swimming.

British Columbia. Eleanor Bower.

Hoard's Dairyman Juniors:—We had a mild winter here. Some days in March were as warm as a day in summer.

We are milking seven cows now. My brother and I have a Durham cow and a heifer calf. We bought the cow when it was three days old. The calf is a daughter of this cow.

We expect to keep some ensilage till next fall as we have about nine feet left. My father sold a load of hay about a week ago for $17. There will be a large amount of hay left if the warm weather continues.

Our chickens have been laying almost all winter. They are laying from eighty to ninety eggs per day now. I expect to get a small flock of Barred Rocks this summer.

We had nine little pigs but the mother killed five so there are but four left.

I will close now, wishing all the juniors good luck.

Michigan. Harold Boer.

Hoard's Dairyman Juniors:—I have been reading the junior letters every week and am becoming more interested.

We are having fine weather here.

I go to school every day. Our school starts at nine o'clock and closes at four. When I get home at night I eat supper and then do chores. One of our calves weighed 325 lbs. the other day and is only three months old. We have two more close to seven months that weigh 400 lbs. They are all registered bulls.

I wish the juniors good luck. If any of them want to write to me my address is Rocky Ridge, Ohio. Hazel Biehler.

Hoard's Dairyman Juniors:—The first thing I will tell you about is the fair that I attended last year and at which I had some exhibits. I had my heifer calf there and won first prize on her which amounted to five dollars. I also had some oxhart carrots and won second prize. The festival we had in our own community this winter turned out to be a success. I had some triump potatoes there and won first prize. I also took some of our silage and got second prize and second on barley. On our program was a debate which the people were very much interested in. Well, it is nearly seeding me; we are now doing some plowing which we could not do last fall because my father broke his arm the sixth of November and by the time he could use his arm the ground was frozen.

Wisconsin. Geo. Stodola, Jr.

Hoard's Dairyman Juniors:—I will let you know that I did not go out of the club. I have a pure-bred Holstein calf. She was a year old the 4th of April. She is almost as tall as I am. I am going to take her down to the county fair. I feed her silage, clover hay, and mixed feed. I have four rabbits; one of them is a Belgian hare. The others are brown and white. We have seven Chester White pigs and one dog and twelve cats. The dog's name is Rover. We have 67 head of cattle; 19 of them are pure-breds. I go to a public school. I am 11 years old and in the sixth grade. I always read the juniors' letters and enjoy reading them. Wishing the juniors good luck.

Wisconsin. Aloysius Kornely.

Hoard's Dairyman Juniors:—My father has taken Hoard's Dairyman for a long time, and I am interested in the junior letters. I am ten years old and in the fourth grade at school. We had an examination two weeks ago and my average was 96%. We live on a 160-acre farm. We have 27 Holstein cattle; 6 are yearling heifers. We have a Collie dog and his name is Rex. We have electric lights and a two-horse power motor. I milk three cows every night and morning. I live one mile from town and I go to school every day. I hope some of the juniors will write to me. My address is R. F. D. 5, Bloomer, Wis.

Eldon Krenz.

SALE ANNOUNCEMENTS

May 9—Holsteins. Brown County Holstein Breeders' Sale at De Pere, Wisconsin.
May 9—Holsteins. West Salem, Wis. F. H. Everson, Sale Mgr., Lake Mills, Wis.
May 10—Guernseys. Dispersal Sale of Emmadine Farm Herd at Hopewell Jct., Dutchess Co., N. Y. Leander F. Herrick, Sale Mgr.
May 10—Guernseys. Berrien County Breeders' First Annual Consignment Sale of Registered and Grade Guernseys at Eau Claire, Mich. F. E. Fox, Waukesha, Wis., Sale Manager.
May 12—Holsteins. Green Co. Holstein Breeders' Ass'n. Semi-annual Consignment Sale at Monroe, Wis. H. D. Schindel, Sale Mgr.
May 12—Guernseys. J. L. Hope's Annual Sale at Florham Farms, Madison, N. J. Leander F. Herrick, Sale Mgr.
May 12—Holsteins. Marathon Co. Holstein Breeders' Association Sale at Wausau, Wis. Francis Darcey, Watertown, Wis., Mgr.
May 12—Jerseys. Wisconsin Jersey Breeders' Ass'n. Sale at Madison, Wis.
May 13—Holsteins. Chippewa Falls, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 13—Holsteins. Consignment Sale at Chippewa Falls, Wis. F. H. Everson, Mgr.
May 13—Eastern Guernsey Breeders' Association Combination Sale at Devon, Pa. Leander F. Herrick, Sale Mgr.
May 14—Holstein Dispersion Sale, Maple Lawn Farm, Harvard, Ill. L. M. Wakeley.
May 17—Holsteins. State Fair Grounds, Milwaukee, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 18—Jerseys. Monroe County Jersey Breeders' Consignment Sale at Tomah, Wis.
May 18-19—Holsteins. Manitowoc County Holstein-Friesian Breeders' Association, Manitowoc, Wis. Chas. Hampke, Manager.
May 18—Holsteins. Livingston Co. Holstein Association Sale at Howell, Mich. F. J. Fishbeck, Sale Manager.
May 20—Holsteins. Sheboygan Co. Holstein Breeders' Sale at Plymouth, Wis. F. H. Everson, Manager.
May 20-21—Holsteins. Wheatfield Farms Consignment Sale at La Salle, N. Y.
May 23-24—Holsteins. Missouri State Holstein Association Show and Sale at Sedalia, Mo.
May 24—Guernseys. Marathon Co. Guernsey Breeders' Ass'n. Second Annual Consignment Sale at Wausau, Wis. F. E. Fox, Waukesha, Wis., Sales Mgr.
May 25—Holsteins. Salem—Cumberland 2d Breeders' Consignment Sale.
May 25—Guernseys. Portage Co. Guernsey Breeders' Association Annual Consignment Sale of Registered Guernseys at Amherst, Wis. R. K. McDonald, Sec'y. F. E. Fox, Waukesha, Wis., Sale Manager.
May 26—Brown Swiss. First National Consignment Sale, Peoria, Ill. Wm. S. Dunn, Mgr., Middleburgh, N. Y.
May 26—Guernseys. Portage Co. Guernsey Breeders' Association Annual Consignment Sale of Registered Guernsey males and grade females at Amherst, Wis. R. K. McDonald, Sec'y. F. E. Fox, Waukesha, Wis., Sales Manager.
May 26—Holsteins. Marshfield, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 26—Jerseys. Greene County, N. Y., Jersey Cattle Club Consignment Sale at Cairo, N. Y.
May 27—Holsteins. Michigan Holstein-Friesian Breeders' Assn. Sale at Grand Rapids, Mich. H. W. Norton, Jr., Secretary, Lansing.
May 27—Holsteins. Outagamie County Holstein Breeders' Ass'n. Sale at Appleton, Wis. Edw. O. Mueller, Sec.
May 28—Holsteins. Sullivan Bros., Marengo, Ill.
May 28—Holsteins. Unity Breeders' First Annual Consignment Sale at Unity, Ohio.
June 1—Holsteins. Dispersion of Fairview Stock Farm's Herd at Anderson, Ind. O. L. Janney, Owner.
June 1, 1921—Holsteins. Central Wisconsin Holstein Breeders' Ass'n. 13th Semi-annual Consignment Sale at Marshfield Sales Pavilion, Marshfield, Wis. R. A. Peterson, Wisconsin Rapids, Wis., Sale Mgr.
June 1—Guernseys. Quality Sale, Chippewa Valley Guernseys, at Eau Claire, Wis. G. R. Ingalls, Sale Mgr.
June 2—Guernseys. Clark County Guernsey Breeders' Annual Consignment Sale at Owen, Wis., C. E. Beck, Manager.
June 2-3-4—Holsteins. Second Co-operative National Sale at Syracuse, N. Y.
June 3—Guernseys. Fond du Lac Co. Combination Sale. Charles L. Hill, Mgr.
June 4—Guernseys. Folly Farm Guernseys at Fond du Lac, Wis. Chas. L. Hill, Mgr.
June 7—Guernseys. The Southern Wisconsin Guernsey Breeders' Ass'n. Sale, Ft. Atkinson, Wisconsin.
June 8—Guernseys. Complete Dispersal Sale of the Chas. Govin herd of Menominee, Wis., at Waukesha, Wis. F. E. Fox, Sale Mgr.
June 9—Holsteins. First Annual Bred Heifer Sale, Thorp, Wisconsin. W. H. Krause.
June 9—Holsteins. First Annual Sale, Holstein-Friesian Co-operative Association of New Jersey, Trenton, New Jersey. J. W. Bartlett, Secretary, New Brunswick.
June 9—Guernseys. Waukesha County Guernsey Breeders' Ass'n. Eighteenth Semi-Annual Sale of Registered Guernseys at Waukesha, Wis. F. E. Fox, Sec.
June 9—Guernseys. Massachusetts Guernsey Breeders' Sale. Leander F. Herrick, Sale Mgr.
June 14—Guernseys:—Minnesota Guernsey Breeders' Annual Sale. State Fair Grounds, St. Paul. L. V. Wilson, Secretary.
June 15—Guernseys. First Michigan State Sale at Lansing, Mich. F. E. Fox, Waukesha, Wis., Sales Manager.
Oct. 19—Guernseys. Wm. S. Ormston & Son, St. Johns, Mich., Dispersal Sale. F. E. Fox, Waukesha, Wis., Sales Mgr.
Feb. 21-22, 1922—Holsteins. Iowa Holstein-Friesian Association's Annual Sale.



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STOCK FOR SALE

Holstein heifer and bull calves. Pure-bred, registered and high grade. Splendid individuals and breedings. Delivered to you, $25 and up. Your inquiry will be given our best attention. BROWNCROFT FARMS, McGraw, N. Y. 5*

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Serviceable grandsons of Lola Segis Pontiac Homestead for sale, he a 34-lb., 1,000 lb. son of Piebe Laura Ollie Homestead King. Their dams are daughters of Joe Oak De Kol Fobes. Well grown, good individuals. Your choice, $150. R. W. MEAD, Stillwater, Minnesota. 10*

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For Sale—My entire herd of choice high grade Holsteins, mostly bred to and sired by thirty-pound bull. There is one full load of the best large heifers in southern Wisconsin, uniformly marked, about three-fourths white. C. L. SIMMONS, Belmont, Wis. 1*

Baby Bulls—Registered Holstein-Friesian by high class sires and heavy producing dams. Price is right. C. S. MULKS & SON, Whitewater, Wisconsin. 3-*

Holsteins—37-lb. herd sire, young bulls, cows, heifer calves. PHILIP LEHNER, Princeton, Wisconsin. 6*

If you want the very best Holstein heifer calves delivered promptly, order from me. Will ship C. O. D. express prepaid at $25 each or $18 F. O. B. Oconomowoc. Also a fancy load of cows and a number of heifers priced to sell. E. F. THOMAS, Oconomowoc, Wis. 9-8

For Sale—Registered Holstein and Guernsey calves. 25 Holsteins and 20 Guernseys. BURR OAK FARM, Whitewater, Wisconsin. 11-6

Holstein bull, ready for service, 2 dams averaged 106 lbs. milk 1 day, 40.67 lbs. butter 7 days, $200. Terms. ROY HARRIMAN, Appleton, Wisconsin. 11-6

For Sale—Carload of high grade cows. Ten head of registered cows, bred to a 32-lb. sire. TWIN PINE STOCK FARM, Oxford, Wisconsin. 13-4

Listen! Your last chance to get some of those beautifully marked extra high grade Holstein heifer calves at greatly reduced prices. Registered bull calves $35.00 C. O. D. Look them over and if they don't suit don't pay for them. J. M. MCFARLAND, Watertown, Wisconsin. 14-4

Twenty registered Holstein cows and heifers bred for yearly production. FRANCIS CREANE, New Douglas, Illinois. 14-3

Lake Shore Holsteins—Fifty fine, big, fat, pure-bred yearling heifers. One or all, priced to move them at once. Come. E. J. OPPLIGER, Forest Lake, Minn. 14-4

Holstein heifer calves, high grade and well marked, three to six weeks old for $16.00 crated. Registered bull calves $35.00 each. RUDOLPH KUNDERT, New Glarus, Wis. 14-*

30 Registered Holsteins—Entire herd, prime condition. Bargain. All or part. DR. HAINES, Three Rivers, Mich. 15-3

For Sale—Registered Holstein-Friesian bulls and 15 heifers, A. R. O. Ready for service—$100.00 to $200.00 each. A. R. O. cows $300.00 to $400.00. Baby bulls—$50.00 FRANK STAFFEN, Howard City, Michigan. 15-2

For Sale—Good Holstein bull calf. Would take good typewriter. A. BACON, Pittsford, Mich.

Will book few cows to our 32.41 sire. His sire's dam made 46.33. BACON BROS., Pittsford, Mich.

My entire herd of grade Guernseys for sale. Also a few choice heifer calves at $30.00 delivered. SHADY HILL FARM, Whitewater, Wis. 23*

Guernsey heifer calves. Can ship you 10 at once about 4 weeks old. Calves out of my own herd, so know what I am shipping. $30 each crated. F. O. B. Waukesha. WERN FARMS, Waukesha, Wis. 18*

Guernseys—High grade Guernsey calves, either sex, four to six weeks old, bred for production of milk and butter. Thirty dollars apiece delivered to any station, express charges paid here. Send orders or write. LAKE VIEW GUERNSEY PLACE, Whitewater, Wisconsin. 26-tf

For bargains on May Rose bulls with type and production, write KUHTZ BROS., Waukesha, Wis. 21*

Guernsey calves six weeks old, $20. F. O. B. Knapp. THOMAS HAGERTY, Knapp, Wisconsin. 2*

Guernseys—Registered males and females, all ages. Breeding and type unexcelled. Grade cows, yearling heifers, heifer calves. No better quality anywhere. Tuberculin tested. Prices reasonable. Why not buy through an association and from breeders in the business to stay? Write your wants today. F. E. FOX, Secretary Waukesha County Guernsey Breeders' Association, Waukesha, Wisconsin. 6*

High grade Guernseys—Twenty young cows and heifers to freshen. Some with records. Almost pure-bred. Tuberculin tested. OAKLAND GUERNSEY FARM, Mukwonago, Wisconsin. 9*

Young bulls for sale. Sons, grandsons and double-grandsons by Bell Buoy of Linda Vista 19430 with 20 A. R. daughters, who has six daughters that average 524.55 lbs. fat at two years. O. R. SCHWALEN, Roberts, Wisconsin. 11*

May Rose Guernsey bulls for sale. Sire, Langwater Frenchman. Dam's A. R. records 500 to 660 lbs. fat. Federal Accredited herd. HOMER RUNDELL, Livingston, Wisconsin. 12*

Guernsey Bulls—Two to fourteen months old, grandsons of Ne Plus Ultra out of A. R. dams; priced to sell. Federal Accredited herd. WM. F. FRETZ, Pipersville, Pa. 14-4

Guernseys—Registered bulls of Advanced Registry breeding—$100.00 and up. Herd Federally inspected. Write for list. HELENDALE FARM, Athens, Wisconsin. 14-spl.

For Sale—Guernsey bulls, old enough for light service. L. J. BYERS, Coldwater, Mich. 16-*

Grade Guernseys for sale. Milkers and springers, also heifers and calves. Best of breeding. Prices reasonable. WILBUR D. AUSTIN, R-6, Janesville, Wisconsin. 16-2

STOCK FOR SALE

For Sale—Registered Guernsey bull. Colonel Secret of Elmwood, son of Royal Golden Secret of Elmwood. Dam, Gold Flossie of Elmwood, born Feb. 26, 1918, fine individual and sure breeder. S. C. GROSSMYER, R-2, Hartville, Ohio.

Grade Guernsey heifer, seven weeks old, for sale. Grandam made 723 lbs. fat. Price $30.00. U. G. SASS, Streator, Ill.

For Sale—Yearling bulls ready for service. France, May Rose strain. A. R. dams. Typy individuals. E. E. TSCHUMY, New Milford, Ohio.

Brown Swiss bulls. A. W. WILLMANN, Hawkeye, Iowa. 15-4

For Sale—Jersey bull calves from 1 month to 4 months old, out of cows which have made from 36 to 69.4 lbs. fat in 30 days, and by a bull that is a grandson of Sophia 19th and his dam made 555 lbs. as a two-year-old. From $50.00 to $150.00. Also 6 months' old heel driving collie female, sable and white, $15.00. OTIS M. TREVEN, R-2, Moundsville, W. Va. 15-3

Four Jersey bulls, Sophie's Tormentor breeding, $40 to $75, three of serviceable age. Also several females. F. W. AXLEY, Seymour, Wis.

Ayrshire bull calves sired by a grandson of Beuchan Peter Pan. Priced reasonable. CHARLES DUNBAR, Elkhorn, Wisconsin. 16-2

Ayrshires—For sale, all ages, both sex, best breeding, colors and type. SPRINGCASTLE FARMS, Charlestown, Indiana. 16-3

For Sale—Registered Ayrshires, all ages. FRANK CAULKINS, Mohawk, N. Y.

STOCK WANTED

Wanted—Registered Holstein calves under six months, one male and some heifers, whose dams and sire have good records. Must be from accredited herds. State price f. o. b. first letter. BOX 533, Caldwell, Idaho.

Wanted—Good blooded registered Holsteins; one baby bull and 10 Holstein heifers or calves. A. A. CANNADAY, 16½ W. Campbell Ave., Roanoke, Va.

Wanted—Carload grade springing Guernsey heifers. State price. R. S. JECK, Atlantic, Iowa.

Wanted—About carload of Guernsey or grade stock. Address W. H. BUSH, 38 S. Dearborn St., Chicago, Illinois. 16-2

STOCK BUYER

Registered dairy cattle bought and sold. EDWARD A. WALTER, 111 Monroe St., Chicago. 18*

Will buy for you, dairy cattle of any breed, grades or pure-bred. DAVID W. WILLIAMS, Lake Forest, Illinois. 6*

Commission basis—One hundred and fifty head in our own herd for sale, Holstein and Guernsey, registered and grade. Large barns for centralizing and testing shipments of any size. Private yards for shipment. Every herd near here known by us. Write your demands. EDGEWATER STOCK FARM, Fort Atkinson, Wisconsin. Breeders and commission buyers. 10*

Save 30 per cent by buying your cattle through J. D. POWERS, Fort Atkinson, Wis. 12*

DOGS

German Shepherd, airedales, collies, and old English Shepherd dogs. Brood matrons, puppies, farm helpers. 10 cents for instructive list. W. R. WATSON, Box 520, Oakland, Iowa. 20*

Pups For Sale—Collie and English Shepherd; male $8.00, female $4.00. Natural heel drivers. FRED HELVEY, Bellevue, Ia.

POULTRY

Highest prices paid for live and dressed poultry, pigeons, veal, hides, etc. Quick returns, fair treatment. C. E. McNEILL & CO., 325 W. So. Water Street, Chicago. 24*

Eggs $1 setting. Parcel post paid. Thoroughbreds. Barred Rocks, White Rocks, Buff Rocks, Anconas, White Wyandottes, Brown Leghorns, White Leghorns, Rhode Island Reds, Buff Orpingtons. PHILIP CONDON, West Chester, Ohio. 5-15

Baby chicks $11.00 per 100 up. Postpaid. Catalogue free. FARROW-HIRSH CO., Peoria, Illinois. 9-16

Baby chicks $10.00—100 up postpaid. Catalog free. UNIVERSAL BABY CHICK CO., Peoria, Ill. 14-4

Baby chicks, quality first. Pure-bred, bred-to-lay from free range flocks. White Leghorns, Buff Leghorns. Barred Rocks, White Wyandottes. Send for catalog. WANDSCHNEIDER'S HATCHERIES, Box 1, Fort Atkinson, Wisconsin. 16-4

SWINE

Duroc-bred gilts and boar. Prize winners. Spring pigs. PHILLIP LEHNER, Princeton, Wisconsin. 5*

For Sale—Duroc Jersey boar superb breeding. Imported Guernseys, finest strains. Splendid young bulls ready service. Reasonable prices. CRAB TREE FARM, Lake Bluff, Illinois.

Pedigreed Chester White sows, March farrow. GEORGE ROWELLS, Ogema, Wis. 15-2

For Sale—Registered Chester White service boars, cheap. ARTHUR ROBERTS, West Bend, Wis.

Chester Whites—Better pigs for less money. Send for descriptions. LLOYD NESBIT, Barron, Wis. 16-3

HAY

Alfalfa and prairie hay for sale. Prompt shipments. Personally inspected loading. Wire or write GUNN HAY CO., Lexington, Nebr. Reference Lexington State Bank. 11*

Alfalfa Hay for Sale—Write or wire for delivered prices. ALBERT MILLER & COMPANY, 192 North Clark St., Chicago. 17*

Good Alfalfa hay for sale—JOHN MICHELS, Peebles, Wisconsin.

FEED BAGS

We buy second-hand bags, pay one-half freight on 200 or more. LINCOLN BAG CO., Springfield, Illinois. 10-spl

FEEDS

Dried Beet Pulp—the wonderful dairy feed. Now reduced prices. Ask your dealer or write THE LARROWE MILLING COMPANY, Detroit, Michigan or Los Angeles, California. 12*

AGENTS WANTED

Representatives wanted to write hail and cyclone insurance every township in the Northwestern states. Little experience necessary, good commissions. Write quick. ST. PAUL MUTUAL HAIL AND CYCLONE INSURANCE COMPANY, 805 Pioneer Bldg., St. Paul, Minnesota. 12-12

Good, reliable agents wanted to sell well-known brand of feeding molasses. Excellent proposition, liberal compensation. Men with automobiles preferred. Furnish references with application. NATIONAL MOLASSES CORP., 207 Walnut Place, Philadelphia, Pennsylvania. 15-2

Agents Wanted—Mason sold 18 sprayers and auto washers one Saturday. Profits $3.00 each. Square deal. Write RUSTLER COMPANY, Johnstown, Ohio. 11-spl

$10 a day easily made selling our high grade soaps, toilet creams, flavoring extracts, spices, puddings, 3 and 7 bar assorted soaps in fancy boxes. Big sellers. Goods well known. Nationally advertised. 100 per cent profit. Men and women make big money. Write for free catalog. CROFTS & REED CO., Dept. 31, Chicago, Illinois.

Yes Sir, we have a special opportunity for you during spare time, an opportunity to do some good work in your neighborhood, for the betterment of dairy farming, that will pay you in cash for the effort you put forth. Write for our "Special Opportunity Getting Together" folder. Address HOARD'S DAIRYMAN, Fort Atkinson, Wis. 2-tf

MACHINERY

For Sale Cheap—A small lot of standard make Swedish Cream Separators, 400 pounds capacity, $29.00, 500 pounds capacity, $34.00, 700 pounds capacity, $39.00. These are all new machines, wonderful bargains. THOMAS TAFFEE, Box 355, Lansing, Mich. 18*

One Waterloo Boy 12-20 tractor good as new. One Grand Detour Jr. 3-bottom plow, new. Two 16-inch pulverizers new. H. C. KARSTEN, Huntley, Illinois. 10*

One double unit Empire Milker, outfit complete, perfect condition, new rubbers. First $150.00 check gets it. W. MORCK, 2531 Grand Ave., Minneapolis, Minn.

For Sale—Two double-unit Empire milking machines, complete; also 5 horse-power steam boiler, twenty-one new flues. For further information write WARREN HAWLEY, Batavia, New York.

For Sale—New three unit Hinman Milker, outfit complete for twenty cows. J. H. KARNEY, Waterloo, Iowa.

For Sale—Perfection Butter Churn No. 8. Complete with all machinery, first class condition. $100 F. O. B. cars. C. M. KINGERY, Chadwick, Ill.

Perfection, one double unit complete with pump tank and pipe line for 16 cows. Check for $200 takes it. All in good condition. JOHN BURCKHARDT, 46 South Main St., Fond du Lac, Wis.

SEEDS

Farmers, ranchmen and dairymen. Order your Grimm and Cossack alfalfa seed direct from the grower. All seed recleaned and guaranteed. Ask for samples. WM. H. K. WILLIAMS, Triangle Ranch, Cottonwood, South Dakota. 26*

Send for attractive price list of our select home-grown seed corn. Finest quality, several varieties. Fully guaranteed. Largest trade in Northwest. JOHNSON & ARNESON, Dassel, Meeker County, Minnesota. 3*

Seed Corn—Eureka ensilage, ninety-day Silvermine, Riley's White 52-day, Johnson, Reid's, $3.50 bushel; five bushels, $3.00 per bushel. HAMMOND SONS, Rockport, Indiana. 16-*

DAIRY BARN EQUIPMENT

Loudon Barn Equipment for Sale—In 1917 I planned to build a dairy barn and purchased the complete barn equipment. Matters transpired which caused me to abandon my building project and I now offer, at a very low price, this entire equipment in its original packages just as it was delivered by the manufacturer. If you are interested in dairy barn equipment you cannot do better than to get in communication with me immediately. H. F. JOHNSON, care S. C. Johnson & Son, Racine, Wis.

PRINTING

Hoard's Dairyman Art Department designs your letter head free. Just tell us your breeds of stock. Book of 5,000 Farm, Ranch and Cottage names 25 cents. Ask for samples of letter heads, envelopes, shipping tags, cards, milk tickets, etc. Poor stationery is more of a damage than a help. Be sure and give correct post office address, including state. Address HOARD'S DAIRYMAN, Art Dept., Fort Atkinson, Wisconsin. 8-tf

AUTOMOBILES

For Sale—1918 Paige touring car, or will trade for some good milch cows or heifers. PAUL GAVIN, Walworth, Wis.

SILOS

12x24 brand new Kalamazoo stave silo. D. UTTER, Lake Beulah, Wis. 16-2

STANCHIONS

Crumb's Stanchions are guaranteed to please the purchaser. They are shipped subject to trial in the buyer's stable. They are right. Send for booklet. WALLACE B. CRUMB, Box H, Forestville, Conn. 15-10

TANNING

Let us tan your hide. Cow and horse hides for fur coats and robes. Cow and steer hides into harness or sole leather. Catalog on request. THE CROSBY FRISIAN FUR CO., Rochester, New York. 10-17

LIGHTNING RODS

Lightning Rods—Exclusive agency and quick sales to live dealers selling "Diddie-Blitzen Rods." Our copper tests 99.96 per cent pure. Write for agency. Prices are right. L. A. DIDDIE CO., Marshfield, Wis. 9*

MISCELLANEOUS

Lumber and shingles at reduced prices. Farmers' trade our specialty. Best quality. ROBERT EMERSON CO., Box 1156, W. Tacoma, Washington. 12-5

Choice, selected, progressive, everbearing strawberry plants. Sent prepaid for $2.50 per 100. F. C. HILL, Albert Lea, Minnesota. 13-4

Developing and Printing—For a trial order send 25 cents with any size six exposure roll for six glossy prints. ALVA CARTER, Appleton, Wis.

FARMS FOR SALE

Rose Valley Farm—137 acres; 17 miles macadam roads to City Hall, Philadelphia; owner's residence, electric lights, hot water heat, open fireplaces; beautiful lawn and shade; extended view; large stable and carriage house; modern cow barn, 48 head; tenant houses; purest water in abundance; all necessary buildings; macadam roads each side and through farm; $50,000 less than cost of buildings. FARM 2024 N. 10TH ST., Philadelphia, Pa. 26*

Hardwood cut-over land, silt loam, clay sub-soil. Neither sandy nor gravelly; close to town; good roads; good schools; in the heart of the dairy country. You deal directly with the owners. No agents and no commissions. Easy terms. Also improved farms. Write for map and Booklet No. 4. NORTH WESTERN LUMBER CO., Land Department, Stanley, Wisconsin. 1*

When you buy land buy the best. We have choice hardwood land in one of the very best sections of Central Wisconsin for sale on easy terms. Best of clay loam soil. Good roads, climate, water and markets. No rough, stony or sandy land. Write for information. JOHN S. OWEN LUMBER CO., 112 Mill St., Owen, Wisconsin. 9-8

FARMS FOR SALE

Dairy Farms—Clark and Taylor Counties, Wisconsin. Good soil. Send for list of farm bargains. OWEN REALTY CO., Owen, Wis. 16-5

A bargain in a 190-acre blue grass dairy farm 8 miles from Nashville, Tennessee; oiled highways, interurban and railroad service. Two-story brick residence, barns, silos, etc. $160.00 per acre. C. M. ARMISTEAD, Madison, Tennessee. 12*

For Sale—2,000 acres fine hardwood timberland, birch, white ash, maple, white pine, spruce. Sawyer County, Wisconsin. Logging would pay handsome profit. Land delightfully situated for stock ranch. Two trout streams, six springs. Also 130-acre dairy farm, buildings new, on lake shore in Barron County. W. A. HANCE, Freeport, Illinois. 7*

Clover, alfalfa, sugar beet, prairie. Owners price. Easy terms. Submit trades. GASEL, Thief River Falls, Minnesota. 14-4

Illustrated Booklet on Southern Idaho irrigated lands and Great Dairy Country sent free on application. H. A. CHAPPELL, Caldwell, Idaho. 14-3

Marathon County, Wisconsin, improved and partly improved farms. Send for list. WM. ALBRECHT, JR., Wausau, Wis. 14-3

Stock Ranch—240 acres 1½ miles from Oil Town. 138 acres Water Right. Deal with owner. $125.00 per acre for Water Right takes all. For full description write BOX 6, Greybull, Wyoming. 15-*

Farm for Sale—Will furnish 100 cows, half of everything else and give half. Will sell tools, horses, tractor, car and half of the crops. Will move off now or this fall. Barn for eighty cows, drinking cups; three large silos. 80 acres corn, 50 of oats, 50 of alfalfa. 400 chickens. Have milking machine. Will give terms on all to right man. State particulars and how many in family in first letter. FRANK ROGERS, General Delivery, Leavenworth, Kans. 15-2

Death and taxes come slow and easy in wealthy Western New York. Good farms cheap. NEW YORK FARM AGENCY, Westfield. 1-spl

Alfalfa, corn, grain and live stock farms. Best in famous prarie belt for the money. Write me what you want. H. H. HANSEN, Macon, Miss. 21-spl

Free maps of Mississippi, showing views and describing the famous Black Prairie alfalfa, corn, clover, stock and dairy belt in northeastern Mississippi, where Lincoln Harbold of Iowa, largest hog feeder in the world, has located. Good water, schools, hard roads, creameries, cheese factory; healthy climate. Best general farming and stock section in the south. WISHART REALTY CO., Aberdeen, Miss. 15-2

I have a few choice improved and partly improved farms in the famous potato and dairy region of upper Michigan, 40 to 160 acres. Low prices and easy terms. JOHN MAJOR, P. O. Box 198, Marinette, Wisconsin. 16-13

$600 secures 145 acres with cows, poultry and machinery, tools, hay, etc. thrown in; good money here from dairying and general crops; convenient town, creamery, etc.; fertile machine-worked fields; spring-watered pasture; wood, and timber to more than pay for farm; 6-room house with delightful view, stock barn, poultry house; to settle now $1,200 gets all, half down, easy terms. Details page 18 Illustrated Catalog 1100 Bargains. Free. STROUT FARM AGENCY, 150 DL Nassau St., New York City.

We have three quarter-sections of land in Bottineau County, North Dakota and two quarters in Renville County, North Dakota. We are in the market to exchange a quarter or more of this land for some registered Holstein cows or heifers. We would want them to be of good quality, and we would price the land right. We have a 1,200-acre stock farm close to our place of business here in Illinois and could use these cattle to better advantage than we can the land in North Dakota. If you have anything to offer, kindly let us hear from you stating the age of your cattle, the number, the price, and whether or not they are tuberculin tested. BANTA BROS. & CO., Lowpoint, Illinois. 16-3

66 tillable acres, 10 acres developed muckland, 450 pear trees. House, fifteen rooms, steam heat, bath, electricity, telephone. Barn 40x60, wing 26x36, water and concrete floor in basement. Several other buildings, splendid condition. One-fourth mile city limits. Six cows, team, tools. $15,000, $5,000 down. BOX 36, Oswego, New York.

Register and secure a Farm—Our colonization plan offers the man who wants a farm a greater opportunity than a U. S. Homestead. Good man can register and get good land, and we furnish him 4-room house, barn, cows, and tools. To show good faith settler deposits $500 on buildings and stock—that's all. After 3 years, settler pays for farm at $100 a year. Over 100 registered, got farms and started last year. Many from Wisconsin. Good places on new road ready right now, so write for free books, maps and registration blank, or come at once to look. NATIONAL LAND COLONIZING CO., Box A15, Ladysmith, Wisconsin. 16-3

Look! For sale, 120 acres, fair buildings. Price $1,200, only $400 cash. JOHN FRANTZ, Earlville, New York.

Dairy Farm For Sale—480 acres alfalfa land near Woodland, Yolo County, California. Full information address WESTERN YOLO VINEYARD & DEVELOPMENT CO., Esparto, Calif.

For Sale—154-acre magnificent farm, first class modern buildings; 1 mile R. R. station, stores, churches, 12 miles city Oneonta; all improvements in residence. This great bargain only $9,500, cash $1,500. CAMPBELL BROS., Oneonta, N. Y.

Near Washington, D. C. very best milk market Virginia dairy farms on pikes and electric lines. Send for 60-page catalogue. BUELL FARM AGENCY, Herndon, Va. 16-2

FARMS WANTED

Wanted to hear from owner of a farm or good land for sale for fall delivery. L. JONES, Box 125, Olney, Illinois.

EXCHANGE

Wanted To Exchange—160 acres virgin prairie land near Winnipeg for cows, heifers and farm stock. Write for particulars. F. H. BEILHARZ, Janesville, Wisconsin. 16-4

For trade a good 160 acres, all fenced, for registered Holstein cows and heifers. EMIL WOLLENBURG, Donnelly, Minn. 16-2



Advertising in this department is 7c per word. Remit in advance.

HELP WANTED

Wanted—A middle-aged, single man for test barn to milk 5 or 6 Holstein cows on semi-official test and to take care of calves. Must be steady and competent. State experience, wages and reference. JOHN BAZLEY STOCK FARM, Route 5, Ypsilanti, Mich. Phone 705F4. 14-3

Wanted—Married man to work 90-acre farm stocked with pure-bred Holsteins. Good cow man, a little knowledge of A. R. O. work preferred. Also knowledge of general farming. Shares or salary. ARCHIE REID, JR., Janesville, Wis. 14-*

Pedigree Writer Wanted—Wanted, young man or women with a fair knowledge of Holstein-Friesians to learn pedigree writing. State age, past experience, typist experience and wage expected in first letter. WESTERN HOLSTEIN PEDIGREE CO., Webster City, Iowa. 15-2

HELP WANTED

Wanted—Herdsman. Married man with small family for Guernsey herd. Must be well experienced handling cows on official test, good calf raiser, capable of producing results, willing to stay long and have unquestionable references. Modern barns and good stock. Modern cottage. State particulars, wages expected and how soon can come. Position open at once, as our herdsman died suddenly. Can use also a steady single man who has some experience with cattle as assistant herdsman. BEECHWOOD FARMS, Sharpsburg, Pennsylvania. 15-2

Wanted—Railway mail clerks. $135 month. Write for list positions. FRANKLIN INSTITUTE, Dept. L115, Rochester, New York. 16-4

Wanted—A good single man on pure-bred Holstein farm. Must be good dry hand milker, and willing worker. State experience and wages in first letter. ARTHUR BLUM, R-1, Watertown, Wis.

Wanted—Test cow milker, single. Must be first class milker. No other need apply. JOHN ERICKSON & SONS, Waupaca, Wis.

Wanted—Man with money to establish cheese factory. 600 good dairy cows within a radius of four miles. Write MIAMI COMMERCIAL CLUB, Miami, New Mexico. 16-2

Capable and experienced herdsman, to take charge of 300 pure-bred and high-grade Holsteins. Must be qualified in practical feeding, sanitation, production of certified milk, calf raising, veterinary work covering all minor ailments, capable of handling men with economical efficiency. Furnish references, experience, salary expected, and date available for duty. Six-room house, bath, heat and light, and other allowances furnished. Address COMMANDER T. DeF. HARRIS, In Charge Naval Academy Dairy, Gambrills, Md. 16-2

Wanted—Experienced dairyman under forty years of age and single to take charge of a herd of seventy-five registered Holsteins. Must be competent to do A. R. work and furnish best of references. Give full particulars including wages wanted, in first letter. R. R. BAIN, care Bainridge Farm, Lisle, Ill.

Wanted—A housekeeper on a dairy farm, age between thirty and thirty-five. Give reference in first letter. Address BOX 741 care Hoard's Dairyman.

Wanted—June 1st, an experienced dairyman, married, could use father and son. Both seven-day and yearly test work. Salary and bonus on records made. Registered Holsteins, good cows. Modern barn, pleasant surroundings. E. DICKINSON, Bellefont Farms, Bellefontaine, Ohio. 16-2

Wanted—Married man for general farm work, wife to assist with housework. PAUL GAVIN, Walworth, Wisconsin.

Wanted at once—Good, reliable, single man or boy who can and is willing to do anything about farm. $30.00 per month and board. CRYSTAL SPRING STOCK FARM, Littlestown, Pa. 16-3

Wanted—Good all round single man on dairy farm. State wages. WILLIAM DAVIDSON, Kipton, Ohio.

Wanted—Single herdsman, A. R. O. experience preferred, to have entire charge of 35 head of milch cows. State age, wages and references. FUHREMANN CANNING COMPANY, De Forest, Wis.

Help Wanted—Working farm manager for 300-acre farm fifty miles from Chicago. Farm to be run on business basis. Manager must be familiar with machinery, tractors, and all things pertaining to successful farm, and able to farm economically. Must have good references. Address BOX 743, care Hoard's Dairyman. 16-3

POSITIONS WANTED

Cook—Former employer wishes to secure position for middle aged widow woman as cook for large farm. Fully capable of taking charge of boarding house and running it in an economical, orderly manner. Can furnish best of references besides our own unqualified recommendation. Address BOX 735, care Hoard's Dairyman.

Farm Manager—Scientific, practical, energetic, is now available for position. Lifetime experience in constructive dairy-farming, A. R. O. records, feeding and breeding of pure-bred livestock, production of certified milk, etc. College graduate and at present teaching Dairy Husbandry and engaged in Dairy Research work in State College of Agriculture but desire to get back on the farm. Only large proposition where results are appreciated will be considered. Address BOX 738, care Hoard's Dairyman. 16-2

Position wanted as working farm manager. Have two boys 14 and 15. Address BOX 737, care Hoard's Dairyman.

Position wanted by American cheesemaker, long experience, married. Prefer good factory that runs the year round. Address BOX 736, care Hoard's Dairyman. 16-2

Wanted—Job on modern dairy by young man, age 21. Experienced and good worker. Holsteins preferred. HARLEY SHAW, 6 E. High St., Marshalltown, Iowa.

Wanted—Positions together, by two single young men, on modern dairy. Either party can milk a string of cows by hand or run milking machines. Experienced buttermakers and creamery men. Can furnish best of references. Kindly state wages. Any locality. D. R. CLARK, 71½ E. 28th St., Portland, Oregon.

Young man of good education now connected with one of the leading Holstein herds, wishes charge of small herd where yearly work is carried on. Years of of experience in rations, herd records, etc. Recommendations the best. State salary in first letter. Address BOX 739, care Hoard's Dairyman.

Lady, age 35, with school child, desires a position. Farm boarding house and private house experience. Please state full particulars, wages, etc. MRS. M. WEIFENBACH, 3239 North Oakley Ave., Chicago, Ill.

College student desires position in large modern dairy for summer. Address BOX 740, care Hoard's Dairyman.

Young single man wants position with Holstein or Guernsey herd, doing A. R. work. College graduate, best of reference. State terms in first letter. HECTOR L. HANSON, Rice Lake, Wis.

Farm Manager—Scientific and practical, executive ability, loyal, economical, reliable. References. Address BOX 742, care Hoard's Dairyman.

MOORE'S SPRAFLY

Protects cattle and horses from flies. Allows them to feed in peace. Is easily applied with a sprayer. Saves double its cost in extra milk. An oily liquid, it spreads quickly, sticks fast, and goes far. Absolutely harmless, and satisfaction guaranteed.

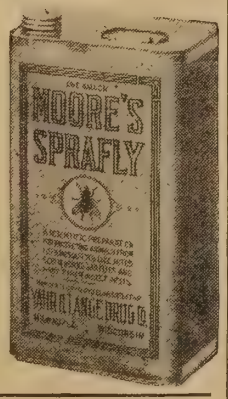
Ask your dealer for MOORE'S SPRAFLY

Put up in 1-gal. cans only.

Manufactured by

Yahr & Lange Drug Co.

Milwaukee, Wisconsin



Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

Washington, D. C., Weekly News

(Continued from page 679)

mention is made in the proposed law of a bacteriological count as part of the test to determine the classification of milk between the two grades.

There are two reasons for pressing this measure at this time; the attack in the courts on the sufficiency of the Board of Health rules requiring tuberculin tested cattle as the source of all milk permitted to be sold here, and the difficulty of enforcing cooling standards.

Dr. C. W. Larson, Chief of the Dairy Division, has been spending the past week in Oklahoma. Appropriations have been made for the necessary equipment and men to carry out co-operative work in dairy extension and research in that state, and his trip there had to do with final approval of building and other plans.

Helmer Rabild has definitely accepted the offer of the Michigan Milk Producers' organization to take charge of their proposed surplus milk plant. He will leave the Department of Agriculture, where he is now in charge of dairy extension work in the Dairy Division, within a few weeks to take his new position. He will be located in or near Detroit. Mr. Rabild was in Michigan for a time before joining the Department of Agriculture staff thirteen years ago.

Ohio's Guernsey Field Man

James E. Harper of Otsego County, New York, has been employed as field man by the Ohio Guernsey Breeders'



JAMES HARPER

Association. He will devote his entire efforts to breed promotion work in the state, with headquarters temporarily at Chagrin Falls.

Ohio's field man was born and reared on a farm in Connecticut. He graduated from the Massachusetts Agricultural College in 1915. In the year 1915-16 he took a graduate course at the Iowa State College and received his Master's Degree.

During the following year and until he entered service he was at the Texas Experiment Station in charge of the dairy husbandry section.

After leaving the service Mr. Harper was placed in charge of the Java Dairy Improvement Association, Java, New York. Under his management this organization became one of the most successful in the state.

In 1920 he was called to the Otsego County, New York, Farm Bureau, and there has produced excellent results in organization projects and breed club work, and has given valuable assistance in consignment sales, tuberculosis eradication, and in developing methods of handling milk commercially when the normal market had been closed.

James E. Harper has entered upon a man sized job. His past achievements speak highly for his capabilities and the Ohio Guernsey Breeders' Association was fortunate to find available a man with his splendid qualifications.—AMERICAN GUERNSEY CATTLE CLUB.

New Champion on Guernsey

Primrose of Courtil Du Ray has established a new record of butterfat production for cows on the Island of Guernsey, by producing in one year, at six years of age, 14,420.5 lbs. milk, 899.48 lbs. fat. This production exceeds the record of the previous champion, Valentine III, by more than 116 lbs.

The new champion is owned by John Gilroy. She has a previous record of 8,853 lbs. of milk, 516.18 lbs. fat begun at the age of 2 years, 122 days. During this test she was fed ordinary feeds and was milked three times a day for two months only, after which she was milked twice a day. She calved within sixteen months after the record was commenced.

The new champion established her record by persistent work throughout the entire year. On the first day of her test she gave 43 lbs. of milk, going up gradually to 57 lbs. and then dropping down slowly to 38 and 40 lbs. of milk a day. Her production on the last day of the test was 29 lbs.

Primrose of Courtil Du Ray is descended from non-registered stock. Her sire was a young bull of Masher Sequel blood lines that is out of a cow reported to have given 60 lbs. daily. The dam of the champion was a high producing cow when still advanced in age, and when 16 and 17 years old she still continued to give a good flow.

SWINE

Cedar Crest Farms

have never possessed a finer lot of **BERKSHIRES** than at present. Let us name you yrices on fall and spring boars and poung gilts.

J. K. Dering, Owner, Lake Villa, Ill.

Duroc-Jerseys Are Prolific and Profitable



They raise *big* families. Hardy, easy-feeding, quick maturing. That is why Duroc-Jerseys today outnumber any other breed in the United States. Out of *all* the hogs marketed in 1918, 51 per cent were Durco-Jerseys.

WRITE FOR BOOKLET—"DUROC-JERSEY HOGS ARE PROFITABLE" published and mailed free by the largest swine record association in the world (over 10,000 members) for the benefit of hog raisers everywhere.

THE NATIONAL DUROC-JERSEY RECORD ASSOCIATION
Dept. 300—PEORIA, ILLINOIS

Hampshire Records Lead All Others

Their type established decades ago have won recognition for them as the

"Packers' Favorite"

Armour & Co. advises to produce a hog with less lard as there is a decreasing market for it; Morris & Co. say,—"When farmers raise more hogs like Hampshires they will have more money in their jeans."



Clay Robinson & Co. sold them--Swift & Co. bought them at $4.50 above the top of the yards--Of all the big type breeds they were the youngest and biggest

This is the 1920 carload of Hampshires, raised by J. M. Ballard, Marion, Ind.,—the rest of the story is on the cut itself. In 1918, 1919 and 1920 Hampshires made records at the Chicago International never equalled by any other breed of hogs. They were younger, they were bigger, they sold for more. This is the greatest trio in Swine Husbandry.

A complete dairy farm will be belted with Hampshires.

We will find them close to you and will furnish you free information and literature on the best of breeding stock.

E. C. Stone, Secretary, 409 Wisconsin Avenue., Peoria, Ill.

American Hampshire Swine Record Ass'n

BICKMORE'S GALL CURE

ON HORSES

For sore shoulders, sore necks, cuts, etc., rub into the skin about the sore. Use sparingly. Only what the skin absorbs does good. A smooth paddle makes application easy. Write for circular.



The Bickmore Co.
Box 85
Old Town, Me.



ABSORBINE STOPS LAMENESS

from a Bone Spavin, Ring Bone, Splint, Curb, Side Bone, or similar troubles and gets horse going sound. It acts mildly but quickly and good results are lasting. **Does not blister or remove the hair** and horse can be worked. Page 17 in pamphlet with each bottle tells how. $2.50 a bottle delivered. **Horse Book 9 R free.**

ABSORBINE, JR., the antiseptic liniment for mankind, reduces Painful Swellings, Enlarged Glands, Wens, Bruises, Varicose Veins; heals Sores. Allays Pain. Will tell you more if you write. **$1.25 a bottle at dealers** or delivered. Liberal trial bottle for 10c stamps.

W. F. YOUNG, INC., 254 Temple St., Springfield, Mass.

Lump Jaw Fleming's Actinoform, for 30 years the standard Lump Jaw remedy. $2.60 a bottle postpaid. Money back if it fails. Send for FREE Vest Pocket Veterinary Adviser. Describes Lump Jaw and 200 other Cattle and Horse diseases.
FLEMING BROTHERS, 265 Union Stock Yards, Chicago

STARTLING STATEMENTS of Interest to EVERY FARMER

A. C. Palmer, one of the leading dairymen of Indiana, in an article in a recent issue of Hoard's Dairyman said:

"I believe the fault of pasturing all summer without supplementing feeds is one of the greatest sins of the dairyman and the thing more than all others responsible for decreased milk and butterfat production. I speak from an experience of my own.

"Nine-tenths of the dairymen are at fault in that their cows are underfed, and no small percentage have cows on their farms that are actually starving. To a large extent, this is due to an ignorance of food properties and values as, for instance, a feeling that corn fodder, or corn silage even, and bran make a balanced ration.

"What is grass anyway? What sort of a magic food is it that it should be considered a perfect feed for dairy cows? The answer is that grass is practically hay with water in it, and what farmer that even pretends to keep cows would think of feeding his stock on moist hay all winter. Yet that is all the feed the poor cow usually gets throughout the summer.

"I have heard the argument raised that since grass is the natural food for cows, then, when there is plenty of it, that is all she needs. The answer is that since the production of milk in larger quantity than is necessary for her young is an unnatural function of the cow, unnatural methods must be adopted to produce it. Green grass will furnish the nutrition for a cow's body maintenance, and its appetizing and stimulating qualities will encourage milk production. But all too often the stimulating quality reacts, and by encouraging greater milk production when she does not receive a greater supply of food, her body makes up the difference, so that by the end of grass season her body is weaker than in the spring. Then the dairyman must build her up during the winter months and receive a greatly reduced milk flow while doing it.

"In 1917 I fed my cows until June 10, and, like my neighbors, gave them pasture alone until September 15, when their steadily decreasing milk flow made me hurry feed shipments. But even then the damage was done, and the decrease continued until time to dry them. This year I continued the grain feed throughout the summer, and the same cows, having calved at nearly the same time last year, are giving now over 40 per cent more milk than the season before. Some credit must be given to the improved pasturage conditions this year, but to my mind the biggest reason is the feed they got the past summer is now giving results. And this extra 40 per cent is more than making good the feed the cows ate.

"Feed short in quantity is no worse than feed short in quality. The man who thinks he can winter a herd of dairy cows on a ration of corn fodder or hay and bran, is lacking in the knowledge necessary for his success. This is a business that calls for brains and study as much as any business a man may enter. The problem of percentage of protein, carbohydrates, and fat needed to produce a certain quantity of milk in a cow of a determined weight must be solved if the dairyman is to produce milk at a profit.

"One can't start today with even a perfect ration and expect a big increase next week, or next month. Many cows are run-down; they have been underfed and their systems are deranged. It takes time to get them straightened out and nature working right. It takes from six months to a year to notice the real results that will come from proper feeding of a cow that has been under nourished for years. These things can't be done in days."

And again pointing to the one great mistake made by dairymen, Mr. Palmer says: "And, strange though it sounds, it is a fact that the greater part of the under-feeding on the part of the farmer with pasture comes during the summer months."

The best feed to use during Spring and Summer is

International Special Dairy Feed

This feed is now selling at just about one-half price as compared to last season. See your dealer today. If dealer cannot supply you, write us.

International Sugar Feed Co.
Minneapolis, Minn.
Mills at both Minneapolis and Memphis
Live Agents Wanted

For Barrenness in Cows, Mares and Sows, Use Hood Farm Breeding Powder

Astonishing Success in Making Barren Animals Breed — Indispensable After Abortion — Invaluable Where Cows do not Clean — Profitable to use on Every Cow After Calving.

Read what they say:
Hood Farm Breeding Powder is great and has been a God-send to me. I cannot be without it.
SULZER BROTHERS,
R. F. D. No. 2, Box 42, Hillsdale, Ore.

I have been using your Breeding Powder for eight years, when needed, and am well pleased with it.
HENRY C. STRIEKER,
R. F. D. No. 1, Germantown, Ill.

Prices of Hood Farm Breeding Powder prepaid, $1.15, $2.75 and $5.00. Price of Hood Farm Flexible Injection Tube by mail, 90c., or with a $5.00 order 75c. Please mention this paper.

C. I. HOOD CO., Lowell, Mass.

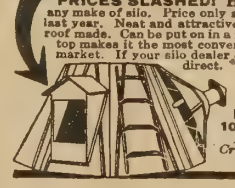


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DOG DISEASES And How to Feed
Mailed free to any address by the Author
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PRICES SLASHED! Here is a roof that will fit any make of silo. Price only a little over half what it was last year. Neat and attractive in appearance. Strongest roof made. Can be put on in a few hours time. The sliding top makes it the most convenient roof for filling, on the market. If your silo dealer does not handle it, write us direct. Do not buy until you have seen our description and prices. Write today if you wish to save money.



PIONEER MFG. CO.
101 S. Main, Middlebury, Ind.
Makers of Roofs, Chutes, Cribs, Bins, Tanks, Troughs, Feeders and Fountains.

World's Greatest White Collies



They will herd your stock, guard your flock and rid your place of vermin. A playmate for the children and a household companion. Largest breeders of white collies in the world.

SHOMONT KENNELS
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For Kids Wash Clothes
RENFREW
DEVONSHIRE
CLOTH



OUTWEARS GALATEA

This cotton dress fabric is woven to outwear any other at the price.

Specially suited to the making of boys' and girls' school clothes that must be both attractive and serviceable.

Over one-hundred neat checks, plaids, stripes, plain shades, also white.

Ask your dealer to show you this cloth — identify it by the name — RENFREW DEVONSHIRE CLOTH — stamped every yard on the selvage. Write for samples.

RENFREW MFG. CO.
Established 1867
Adams Mass.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

VETERINARY

Advice is given free in this department. Inquires must be signed by the writer, and should pertain to veterinary Matters only. Where an immediate reply and prescription are desired by mail, the inquiry must be accompanied by a fee of one dollar. In every instance it will be necessary to give a full description of the symptoms present.

Ringworm of Cattle

White scab or mange of cattle is comparatively common in the range country. Wisconsin cows are remarkably free from the disease. To be sure the ailment is sometimes suspected by owners or even veterinarians, but in a majority of instances ringworm or some form of eczema is found to be the actual condition present. Scab is an extremely contagious disease, caused by a parasitic mite, and when found has to be reported to the state veterinarian. The United States Bureau of Animal Industry also takes a hand in maintaining quarantines and eradicating the disease. Treatment consists in dipping affected cattle in an approved solution of which lime and sulphur dip is one of the most popular.

In domesticated herds ringworm is the most common and troublesome disease of the skin. It is caused by a vegetable parasite known as tricophyton tonsurans which lives on damp walls and woodwork as well as the skin of animals and man. In modern cattle stables, kept in sanitary condition by scrupulous cleanliness, proper ventilation, and free admission of sunlight, ringworm is becoming less common than it was some 25 years ago. Always it has been most prevalent in dark, dirty, damp, hot, badly ventilated basement stables during winter, and calves are most commonly attacked. In some instances, however, adult cattle are more or less affected, especially upon the withers and region of the croup. Spots may also occur around the vulva.

In calves the disease causes characteristic grey-white, hairless, thick scab or crust-covered spots chiefly upon the face, but in bad cases the body and legs may also be invaded. It commonly starts around the eyes and is particularly obstinate when the upper eyelids are attacked. The spots tend to enlarge gradually, and remain sorest at their borders. Not infrequently the person who treats such cases contracts the disease upon his hands and refers to the ailment as "tetter" or "barn itch". Farm children also frequently have ringworm spots on their faces and sometimes an even worse disease called impetigo, which is a chronic eczema also affecting cattle. Unclean brushes and currycombs tend to spread ringworm from animal to animal in any stable. Rubbing places are also sources of the disease.

To prevent ringworm cattle stables should be put in a perfectly sanitary state in autumn, to do away with the contributory conditions we have mentioned. A thorough application of a mixture of 1 part of compound cresol solution in 30 parts of water, or 5 ounces of formaldehyde or 4 ounces of bluestone to the gallon of water, followed by spraying of walls, fixtures, and ceilings with fresh made lime wash, is also necessary. All rubbing places should also be treated. Paint containing white lead should not be used. It may be licked off and cause fatal poisoning, as cattle are fond of its sweet taste.

Local treatment consists in saturating the bark-like crusts with sweet oil or cottonseed oil daily until they can be readily removed. Tincture of iodin applied twice daily then usually proves remedial in about a week; but this tincture is prohibitively expensive for use on many cattle. Full strength hypochlorite of soda solution may be applied daily to spots on the face or body, and even about the eyes of calves. Iodoform powder should be rubbed into spots on the upper eyelids. We have found a solution of 4 ounces of sulphate of copper (bluestone) to the pint of hot water effective for application to spots and scurfy places on the body. It need only be used once or twice a week.

Advice on Goiter

HOARD'S DAIRYMAN:—In reading the article on "goiter" by H. T. of Castle Rock, Wash., in Hoard's Dairyman of April 8, I desire to pass on some advice which I hope may prove helpful.

Several calves have been born in my herd during winter and early spring months with goiter such as described without variation. We were at first puzzled about the cause or a remedy but, as the calves always seemed thrifty and vigorous, we just left them alone, except to notice that the fleshy bunch did not grow. When they were turned out to pasture the goiters disappeared altogether and in no instance returned. So I would advise H. T. to keep the calf, as she is from a good cow.

Republic, Wash. B. M. D.

Bent Legs

A fine heifer calf was born with her front legs bent. We can straighten them out but she cannot. We can hold them straight with splints, but she cannot get up. Our veterinarian suggested we cut the cords in the back of her legs. I don't see how that could be done.

I have been keeping young stock separated from herd for two years. This young stock has all just passed the tubercluin test with no reaction. I am taking those reactors of the old cows to another farm. When a reactor shows any physical sign of disease I sell her to the shipper. How great is the danger of feeding skimmilk from reacting cows to calves? These that passed the test have all been raised on skimmilk from reactors.

Illinois. F. M. B.

Tenotomy should only be done when a fetlock joint is permanently "knuckled" or "cocked" and cannot be forced into place. It would not, in our opinion, be indicated in the case described, neither is there any certain remedy in such a congenital weakness. Massage the muscles very thoroughly and flex the joints frequently; then apply boots or splints and support calf several times daily with slings. At night, rub compound soap liniment into the muscles. Give emulsion of cod liver oil twice daily; in addition, milk and oat meal and flaxseed gruel. The calf may have rickets.

Such milk should on no account be fed unless sterilized. Under the Bang system of raising calves of tuberculous cows, the calf should be kept absolutely isolated and should not have milk from tuberculous cows. We should not advise depending upon a laboratory test of the milk. Better not use the milk if the test is negative.

Butter Class at Wisconsin Fair

The Wisconsin Buttermakers' Association announces a cold storage butter class for competition at the 1921 Wisconsin State Fair. All exhibits scoring 90 or above will receive a premium, the highest award being $15 and the award for second place is $10. Butter must be received at the cold storage plant in Milwaukee during the week of May 23—28, or it will not be accepted.

Further particulars concerning this competition can be secured from H. C. Larson, secretary of the association, whose office is at Madison.

Jersey Cattle Notes

For week ending April 15:

Number of animals registered: bulls, 283; cows, 641; total, 924. Number of transfers recorded: bulls, 132; cows, 570; total, 702.

A Kansas Ayrshire Leader

HOARD'S DAIRYMAN:—Melrose Canary Bell 2d, owned by Kansas College of Agriculture, now stands as the leading junior two-year-old Ayrshire in the Roll of Honor division, having completed a record of 11,633 pounds of milk and 392.93 pounds of butterfat in 300 days, and carried a living calf for 216 days during this time. While making this record, Melrose Canary Bell 2d was fed largely on silage, alfalfa hay, and mixed grain, as but little pasture is available for the College dairy herd. She stood in a narrow stall, and was milked four times daily during the 300 days of her record.

Melrose Canary Bell 2d comes from ancestry noted for its production. Her dam, Canary Bell, was winner of the French Cup in 1918, and the highest producing cow of any breed in Kansas for several years. Her highest production was 19,863 pounds of milk containing 744.51 pounds of butterfat. In seven lactation periods from time of first calving, Canary Bell produced 95,844.5 pounds of milk and 3,595.47 pounds of butterfat, or an average of 13,692 pounds of milk and 513.64 pounds of butterfat. Six of these seven records are recorded in the Ayrshire Advanced Registry. Three are under mature age. During this time she dropped seven calves, four of which are heifers, and are in the College herd. One daughter that is a full sister to Melrose Canary Bell 2d, won the French Cup in 1917 as a junior two-year-old with 13,785 lbs. of milk and 502.91 lbs. of butterfat.



A TWO-YEAR-OLD CLASS LEADER
Melrose Canary Bell 2nd ranks first in Junior 2-year-old Ayrshire Roll of Honor in the United States. She was bred and developed by Kansas State Agricultural College.

The sire of Melrose Canary Bell 2d is Melrose Good Gift 14612. His eleven Advanced Registry record daughters have averaged 11,113 lbs. of milk and 431.49 lbs. of fat in nineteen lactation periods of 365 days or less, all but five of these records being made at less than four years of age. These include one class leader and two winners of the French Cup, as well as four state record cows in Kansas.

Melrose Canary Bell 2d is an excellent individual from the standpoint of show ring type, showing the rugged constitution and good middle, along with an evenly balanced udder of good capacity. The state of Kansas can well afford to be proud of the Ayrshire herd which has made Kansas one of the leading Ayrshire states of the West.

Kansas. R. B. BECKER.

Health Requirements at Cattle Congress

The 1921 Dairy Cattle Congress, which will be held in its permanent home at Waterloo, Iowa, September 26th to October 2nd, has adopted stringent regulations in regard to the health requirements of the cattle exhibits.

All cattle brought on to the show grounds shall either be from tuberculosis free accredited herds or they shall have passed a satisfactory tuberculin test and found to be free from tuberculosis not more than 90 days prior to the opening date, September 26th. Only tests made by veterinarians approved by both the federal bureau of animal industry and the state veterinary departments will be accepted.

Before the cattle are placed in the barns, each exhibitor will be required to present to the cattle superintendent a health certificate and tuberculin temperature chart showing the results of the last test.

As a further precaution, all exhibition cattle coming from federally accredited herds will be assigned to a certain portion of the barn. The construction and arrangement of the cattle pavilions are such that this can easily be done and still have all the cattle of one breed in the same division, thus in no way detracting from the appearance of the show.

The barns will all be thoroughly disinfected previous to the opening of the show which practice has been followed for the past five years.

Iowa. E. S. ESTEL.

Paint is a preservative as well as a beautifier.



The two inch pipe represents the protein and minerals a cow gets when fed grass only. The four inch pipe represents the protein and minerals in the milk that a good cow gives on green grass only.

How long will the milk flow?

DON'T rob the cows. When stimulated by green grass, good cows give more than they receive, by drawing upon their their own bodies for protein and minerals. But when hot weather comes and the pastures get dry, the cows become exhausted and milk production slumps. The lactation period is shortened, and cows go into winter in bad shape.

Cow Chow will keep the milk flowing

Ask for "ABC's of Milk Making," free.

Make up that shortage of protein and minerals by feeding Purina Cow Chow along with your pasture. It will not only give you more milk now, but it will prevent that sudden falling off of milk in midsummer. In the fall your cows will be in fine condition, prepared for a good winter record.

Look for the nearest Purina dealer. Write us if you don't know his name.

RALSTON PURINA COMPANY, ST. LOUIS, MO.

Ft. Worth, Tex. Nashville, Tenn. Buffalo, N. Y.

Feed from the Checkerboard Bag

"Here's Real Tobacco"

says the Good Judge



That gives a man more genuine chewing satisfaction than he ever got out of the ordinary kind.

Smaller chew, lasts longer—so it costs less to chew this class of tobacco.

And the good, rich tobacco taste gives a world of satisfaction.

Any man who uses the Real Tobacco Chew will tell you that.

Put up in two styles

W-B CUT is a long fine-cut tobacco
RIGHT CUT is a short-cut tobacco

Weyman-Bruton Company, 1107 Broadway, New York City

When Writing to Advertisers, Mention Hoard's Dairyman

B.-K. for Ringworm

HOARD'S DAIRYMAN:—I notice a cure for ringworm in an issue of your paper. I don't doubt this disease can be cured by your method, but it is slow and costly. We tried it six months and new cases came up as fast as we got rid of the old ones. We bought a gallon of the B.-K. and took a chunk of gunny sack and went after it with the B.-K. In three weeks there was not a sign of it left and has not been a case of it since. Tell your readers to forget that iodine stuff. You have been printing that ever since I have read your paper. It is as far behind the times as wintering cattle on oat straw.

Oso, Wash. F. J. J.

A Progressive Bull Club

HOARD'S DAIRYMAN:—The Tolland County Jersey Breeders, Inc. was incorporated under the laws of Connecticut about the first of August, 1920. They sell shares at $100 per share. The authorized capitalization is $10,000 and they are using the one vote per herd system.

The object is to breed a higher producing and better typed animal than is now owned in the association.

The requirements for membership are:

1. Testing all cows by Registry of Merit or cow testing association methods.

2. All herds must be tuberculin tested under the U. S. D. A.

3. To use the association bulls.

To gain the object of this association the members have started by buying three Owl-Interest bulls to improve their herds. These bulls were chosen because of their high production, good type, constitutional vigor, and uniformity which are prepotent characters in this family. These bulls are kept on the various members' farms and are controlled by a committee who stipulates the ration and fees and the keep cost of the bulls.

Below is a report of the cow testing association work during the month of February: 105 cows tested; 11 cows producing over 40 lbs. fat; 3 cows producing over 1,000 lbs. milk; 10 cows netted over $25 above feed costs.

The highest producer is owned by Samuel Johnson with 1,193 lbs. milk and 58.45 lbs. fat, making $51.47 above feed costs.

Connecticut. CHESTER C. ALLEN.

INCREASED PRODUCTION GUARANTEED

We guarantee any Jersey bull we sell to increase the average production of any herd

OR MONEY REFUNDED

YOU TAKE NO CHANCES. Our guarantee insures increased production and profit. Bulls for sale, ready for service.

AYREDALE STOCK FARM

F. W. Ayer, P. O. Box 713, Bangor, Maine.

N. B. Write us the size and producing ability of your herd, and we will describe and price a bull guaranteed to increase their production.
By mentioning "Hoard's Dairyman" we will know you are asking for a guaranteed bull.

25 out of 80

OR

31¼ per cent of the highest record cows of the breed, at various ages from yearlings to mature cows

Bred or Their Sires Bred at Hood Farm

These 25 cows and heifers average 14,156.6 lbs. milk, 765.5 lbs. fat. Two out of the eighty Imported cows; seven out of the eighty sired by Imported bulls; 9 or 1⅛ per cent Imported or sired by Imported Bulls.

A Sophie Tormentor Bull

at the head of your herd means increased production and profit. Four-generation pedigree on request.

HOOD FARMS, Inc.

Lowell - - Mass.

Montpelier Jerseys

Three young bulls ready for service. Trace three times to Oxford Lad. Fine typy individuals. Right in every way.

Montpelier Manor Farms, Laurel, Md.

The Elms Jersey Farm

A few young cows, bred heifers and unbred heifers, for sale at from $150 to $250. Write for pedigrees and descriptions.

Thos. T. Bacheller, Jr., Mgr.

Forest Lake, Minn.

JERSEYS—DUROCS

Just one bull old enough for service and a few young calves. Hood Farm breeding.

F. R. Constance & Sons, Waupaca, Wis.

POLLED JERSEYS

Breeders' names and Spillman's "Inheritance of the Poll Character in Cattle" mailed free.

CHAS. S. HATFIELD, Secy, R4, Box 5, Springfield, Ohio.

Register Merit Jersey Herd

At Head, Mona's Jacoba Premier grandson: Pogis 99th of Hood Farm. Dam, Mona's Jacoba, record 806 lbs. butter: Granddaughter Jacoba Irene, young stock; St. Lambert breeding for sale. R. C. Green & Son, Albion, Wis.

Ten Splendid Jersey Bulls

Good type, 6 to 18 months old. Heifers bred and open. Hood Farm Torono, King Sappho King, Loretta D. Bright Prince, etc. blood lines. Free from abortion. Dams are in the R. of M. or on test. Accredited herd.

Address: J. Q. Emery & Son, Edgerton, Wis.

2 Excellent Bulls

AND

a R. of M. Cow For Sale

No. 1—Sophie Tormentor Bull, born Feb. 9, 1919, by Sophie 19th's Tormentor and from Figgis 78th, 545.4 lbs. butter as a yearling. Well developed and a sire of good type calves. Cost $500 at Hood Farm. Because I'm selling out he goes for $300.

A son of Interested Prince 2nd and from Hamley's Maid of Meridale, 743 lbs. butter. 17 months old, and well grown. He's worth $1000, but offered at $200.

Hamley's Maid of Meridale 262000, born Dec. 27, 1909. In good condition and bred to Tormentor bull, see No. 1. Her last calf a heifer born Nov. 20, by the same bull and a beauty. Remember her R. of M. record is 743 lbs. butter. Price $300.

E. J. Lansing, Oshkosh, Wis.

JERSEY BULL

14 Months Old

From Register of Merit Dam

With record of 416 lbs. fat, age 3 years, 2 months, carried calf 247 days. 7 nearest dams of this bull are in Register of Merit with good records. Solid dark color and a very good individual. Price $140.00.

P. G. WARMINGTON, Honey Creek, Wis.

HERE'S YOUR OPPORTUNITY

Bull calf born March 4, 1920, sired by a grandson of Majesty's Western King and out of a R. of M. daughter of Ibsen's Chief. For full pedigree and price write

E. E. HILL & SONS, Tomah, Wis.

Valley Farm is Offering

Several bulls, 6 to 12 months old, from R. M. cows. Sired by Golden Maid's Viscount and Kilda's Royal Majesty, two of the best Island bred bulls living. At prices to sell. Write

FRED STUBLEY, Black Earth, Wis.

Hillcrest Jerseys

Bull calf born March, 1920. Sired by Imp. grandson of Golden Fern's Noble. Priced right for quick sale. Write

ROLLIE VANDERVORT, TOMAH, WIS.

Wisconsin Jersey Breeders' Association

Third Annual Sale

At University Live Stock Pavilion

Madison, Wis., May 12, 1921

The Cream of Wisconsin's Register of Merit Herds

50 "Hand-Picked" Jerseys

The greatest lot of dairy cattle ever assembled in Wisconsin. Register of Merit cows, heifers out of Register of Merit dams and three great young bulls. American and Island breeding, take your choice. Nearly 100 herds were visited in making these selections and we insisted upon and secured for this sale heavy producers, good individuals and blood that breeds on.

Sires represented in this sale are:

Oxford Majesty	Golden Maid's Viscount
Sophie's Emblem	Noble's Fawn Prince
Harbinger's Chief	Pennithorpe's Knight
Kilda's Royal Majesty	Rosebud's Jacoba Lad
Variella's Foxhall	Viola's Combination Prince
Lucy's Golden Tycoon	Oxford Duke O' Dreamwold

And other noted sires.

Catalogs will be mailed on request

Auctioneer—Col. D. L. Perry, Columbus, Ohio.

Chas. A. Peterson, Sale Mgr., Madison, Wis.

Monroe Co. Jersey Sale at Tomah, Wis., May 18.

Monroe Co. Jersey Sale

Tomah, Wis., May 18

Selling 47 High Class Jerseys

A Hand Selected Lot of the Best of the Best

Including 14 cows with breeding and production good enough for any herd. 13 bred heifers of the best of breeding and bred to the best of bulls and 14 heifers of equally as good breeding but not bred. Six first class young bulls mostly ready for service.

All stock tuberculin tested and 60-day retest privilege will be given.

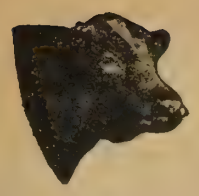
Leading families Represented:	Consignors:
Noble of Oakland	R. E. Roberts, Ft. Atkinson.
Eminent	M. C. Vosberg, Ft. Atkinson.
Hood Farm Torono	W. B. and W. R. Coales Baraboo.
Majesty's Western King	Ed. A. McGilvra, Baraboo.
King Sappho King	E. E. Hill & Son, Tomah.
Golden Fern's Noble	R. Vandervort, Tomah.
St. Lambert	A. J. Guthrie, Oakdale.
Golden Lad	A. L. Butts, Tomah.
Raleigh	H. M. Wallace, Norwalk.
	E. E. Wyatt, Tomah.

This is a healthy sale of surplus stock. Do not forget this sale. The place to do Jersey business is in the heart of the Jersey business and for Wisconsin that is at Tomah.

The catalogs will tell the story better. Now ready get on our mailing list and then be at the sale.

Auctioneer—Col. D. L. Perry, Columbus, Ohio.

E. E. Wyatt, Sale Manager



Economy in Production ← GUERNSEYS → Quality of Products



The Guernsey is a medium sized cow that produces with greatest profits large quantities of milk and butterfat of the highest quality. She is exceptionally gentle and responds promptly to good feed and care. Send for our free literature.

THE AMERICAN GUERNSEY CATTLE CLUB, BOX H46, PETERBORO, N. H.

Twelve Great Guernsey Sales

In the 1921 Wisconsin State Guernsey Sale Circuit

Note the Date — Place. **Follow the Circuit**

MAY 19th—Guernseys. Dispersion of Geo. W. Browne's Herd of Miami Beach, Fla., at Waukesha, Wis. F. E. Fox, Sale Mgr.

MAY 24th—Registered Guernseys. Marathon County Guernsey Breeders' Association. 2d Annual Consignment Sale. Wausau, Wis. F. E. Fox, Sales Manager, Waukesha, Wis.

MAY 25th—Registered Guernseys. Portage County Guernsey Breeders' Association. 2d Annual Consignment Sale. Amherst, Wis. F. E. Fox, Sales Manager, Waukesha, Wis.

MAY 26th—Registered Guernsey Bulls and Grade Females. Portage County Guernsey Breeders' Association. Amherst, Wis. F. E. Fox, Sales Manager.

MAY 31st—Registered Guernseys. Barron County Guernsey Breeders' Association. 3d Annual Consingment Sale. Barron, Wisconsin.

JUNE 1st—Registered Guernseys. Chippewa Valley Guernsey Breeders' Association. 3d Annual Consignment Sale. Eau Claire, Wisconsin.

JUNE 2nd—Registered Guernseys. Clark County Guernsey Breeders' Association. 3d Annual Consignment Sale. Owen, Wis.

JUNE 3rd—Registered Guernseys. Fond du Lac and Winnebago County Guernsey Breeders' Associations. 3d Annual Consignment Sale. Fond du Lac, Wis. C. L. Hill, Sales Manager, Rosendale, Wisconsin.

JUNE 4th—Absolute Dispersal sale of Folly Farm Registered Guernseys. Owner—R. H. Donnelly. Sale at Fond du Lac, Wis. C. L. Hill, Sales Manager, Rosendale, Wisconsin.

JUNE 7th—Registered Guernseys. Southern Wisconsin Guernsey Breeders' Association. 2d Annual Consignment Sale. Fort Atkinson, Wis. James H. Murphy, Sales Manager, Delavan, Wisconsin.

JUNE 8th—Absolute Dispersal Sale of Registered Guernseys. Owner—Chas. O. Govin, Menomonie, Wis. Sale at Waukesha, Wis. F. E. Fox, Sales Manager, Waukesha, Wis.

JUNE 9th—Registered Guernseys. Waukesha County Guernsey Breeders' Association. 18th and Semi-Annual Consignment Sale. Waukesha, Wis. F. E. Fox, Secretary, Waukesha, Wis.

Send for Catalogs. **Attend the Circuit**

For Sale—A Bull Calf of Real Merit

Dropped Aug. 28, 1920, and Sired by **Langwater Cavalier 21012**, whose daughters have put him to the front as one of the great bulls of the breed. His highest record daughter made 734 lbs. fat in F.

The dam of the **Bull Calf** is Georgette of Edgemoor, who is on test and is a daughter of Mildred II of Les Godaincs (55120), who was the **Grand Champion** Cow at the **National**. Her record is 14,890.9 lbs. milk, 702 lbs. fat. Her daughter **Century Girl** was first prize two-year-old.

The **Bull Calf** is a fine individual and splendidly marked. Send for extended pedigree and full description.

A few choice females to offer.

Upland Farms, Inc., Ipswich, Mass.

F. P. Frazier & Son, Proprietors, W. K. Hepburn, Manager

HONESTY PRIDE OF BIRCHFIELD 44580



Sire — Langwater Warrior 26509
Dam — Langwater Honesty 49479
10,536.9 lbs. milk, 517 lbs. fat, at 2 yrs. and 5 months

We are now offering a few splendid sons of Honesty Pride of Birchfield. From cows with A. R. records or now on test. Everyone is a straight backed, growthy, vigorous youngster. These young bulls will put type and production in your herd. Prices range from $150 to $300.

Quality Guernseys **HIGHLANDS** *Tuberculin Tested*

NYE H. FREEMAN, Herdsman, **Linwood, New York**

GUERNSEYS FOR SALE

Pure-breds { 70 Cows; 61 Heifers and Heifer Calves; 162 Young Bulls and Bull Calves
Grades — { 116 Cows; 115 Heifers and Heifer Calves

Other Live Stock: Breeders are listing with us other dairy cattle, beef cattle, horses, sheep, and swine. Write us if you want stock. We will answer promptly.

BANKER FARMER EXCHANGE,
D. H. Otis, Director. 1822 Chadbourne Ave., Madison, Wis.

FLORHAM FARMS

Sixth Annual Guernsey Sale

Madison, N. J., Thursday, May 12th, 1921

The day following the annual meeting of the American Guernsey Cattle Club

A SELECT offering of sixty head comprising many excellent A. R. cows of outstanding dairy quality and breeding. A feature of our sale will be the May Rose heifers, bred to our herd bulls. They are as fine a lot of young things as could be desired both for show and breeding purposes.

There are also included Eight young bulls and bull calves deep in May Rose blood and which combine such high individual quality as to merit inspection by exacting breeders.

Many animals that have passed through former Florham Sales have made history, notably Bellfounder who sold for $220, Pallotta's Beauty of Barrington with A. R. record of 950.97 lbs. fat, Itchen's Golden Daisy of Chilmark, first place in Class DD with record of 669.64 lbs. fat. The present offering includes similar material.

Eighty-one Florham-bred sires have Advanced Registry Progeny

J. L. HOPE, Owner - **Madison, N. J.**
L. F. HERRICK, Sale Manager **Worcester, Mass.**

Thorn Hill Farm Guernseys



Have several well bred young Guernsey bulls for sale at reasonable prices. All my own breeding. May Rose and Glenwoods, out of A. R. cows with records from 500 to 750 lbs. of fat. Write for sales list to

AUGUST ZIESING, **Deerfield, Ill.**

Harbor Hill Guernseys

Masher's Galore 8572 A. R.

Increased the Average Production Credit of 12 A. R. daughters out of A. R. dams by 181 lbs. We offer his double grandson out of another daughter also making a better record than her dam.

C. H. Hechler, Superintendent
Box 30, Roslyn New York

Do You Want A Guernsey Bull

Closely related to Pergue's Crescent A. R. with a record of 13,316.9 lbs. milk and over 582 lbs. fat in Class EE and dropping two calves within the year, entitling her to second place in her class? Some excellent young bulls closely related to Pergue's Crescent ready to head your herd. Write for descriptive circular, or come and see them.

Ernest W. Sass, Box H, Streator, La Salle County, Illinois

Forestdale Farm

3 Bully Baby Bulls 8 Handsome Healthy Heifers — 2 to 18 months

from Superior Standard Sires, also a few A. R. matrons. May Rose Breeding. Tuberculin tested. $250 lowest price.

R. D. DeForest, **Amsterdam, N. Y.**

Iowanola Guernseys

We are offering

A Very Fine Son

born July 25, 1920, out of Imp. Kitchener's Express 43925, his dam has 592 lbs. of fat, and out of Franseca of Homa Della who has 12,855.2 lbs. of milk and 640.09 lbs. of fat in Class D. This is a very typy calf and should appeal to any one in need of a bull. Correspondence solicited.

MOUNTAIN BROS.,
Carrier 403, Des Moines, Iowa.

Guernsey Bulls

Our last 9 official records average over 510 lbs. fat, including all ages. Our herd sire has 8 A. R. daughters, including one with 572 lbs. fat in Class GG. His three nearest dams average 822 lbs. fat. Send for pedigrees and prices on young bulls with this backing.

Folly Farm, Box 587, **Libertyville, Ill.**

GRASSLAND FARMS GUERNSEYS

Choicely bred males and females for sale. (The natural increase of the herd.)

Herd federal tested for tuberculosis. Send for sales list. Satisfaction guaranteed.

Taconic, Conn., Litchfield Co., (C. N. E. R. R.)

642 Pounds Fat

is the average on the A. R. daughters of Bellfounder, the sire of Countess Prue, the World's Champion Guernsey and My Fancy, eighth in Class A.

We offer bull calves carrying 15%—50% of this consistently high producing blood.

Prices $225.00 to $600.00.

The demand is keen; write today.

FALCON'S FLIGHT FARMS,
Litchfield, Connecticut.

Major Oliver S. Johnson



The Dairy Auctioneer

Tipton, Ia.

"Maj. Johnson has conducted twenty-five Sales for me"—. Dr. M. B. Wood, Mankato, Minn.

Guernsey Bulls For Sale

Polly's Anchor No. 42845, born August 24, 1916, and Imp. Bluebird of Lakeside No. 45329, born June 15, 1917. Good, straight bulls, very gentle and sure breeders.

For Sale by
RADISSON FARM, ANOKA, MINN.

Guernseys

Best May Rose breeding. Both sexes and all ages from an Accredited Herd. Write your wants and send for lists.

E. S. Person, **Minot, N. D.**

Hillswold Farm

Shrewbury, Mass.

Registered Guernsey bull calves for sale. Dams in Advanced Registry and tuberculin tested. Prices right, and animals guaranteed to suit. **W. A. Cloues, Mgr.**

When writing advertisers please mention Hoard's Dairyman.

Marathon County Guernseys

52 Registered Guernseys 52

Offered in the

Annual Consignment Sale

Wausau, Wis., Fair Grounds May 24

The Marathon Co. Guernsey Breeders' Ass'n

offers a very high class lot of REGISTERED GUERNSEYS in their Second Annual Sale. Marathon is one of the leading Guernsey centers of Wisconsin, and the consignments made in this sale are representative of the many fine herds.

A feature of the Sale will be the consignment of the entire herd of Guernseys owned by Paul Kiskbusch, Wausau, Wis.

Consignors offer the following:

TWO DAUGHTERS of Ona's May King of West Salem 27874, by Itchen Daisy's May King of Langwater (A. R.) and out of Ona of the Glen A. R. Butterfat 415.48 lbs. at 2 years.

HELENDALE NORTHERNER, sired by Step Lively, full brother to Florestine's Triumph A. R., 599.4 lbs. butterfat, 8th Class CC, 681.61 lbs. Class A.

PEARLY GATE 53589, by Penthesilia's Champion A. R. sire of 6 A. R. daughters, and out of a daughter of Pearlson A. R.

ELEVEN DAUGHTERS of Star of Lone Pine No. 32452, sired by Imp. Governor's Whimsome A. R., sire of 5 A. R. daughters and by Governor of the Chene A. R.

SIX DAUGHTERS of Lone Pine's Star 50935, who is a grandson of Imp. Governor's Whimsome A. R. and Skeezicks A. R.

MERRIDY OF HAWTHORN FARMS 100362, by Imp. Forest of the Chene A. R. who is a son of Governor of the Chene (A. R.) sire of 102 A. R. daughters.

FOUR DAUGHTERS of Skeezicks Princess 40773, who is by Skeezicks A. R., sire of 13 A. R. daughters, and out of a daughter of Imp. Financier A. R.

ERRANT'S NELLETTE 40565, on test, in 304 days has produced 398.36 lbs. butterfat. Half sister to Nancy of Sharon, A. R., 706 lbs. butterfat, Class AA.

PENCOYD'S HERO OF ELDERON, sired by Pencoyd Autocrat, whose dam and grandams' records average 680.13 lbs. butterfat.

Many others equally as good. Attend the sale.

Sale Committee—A. J. Plowman, Adolph Thompson, J. S. Alexander, Wm. Lonsdorf.

Auctioneers—Love—Benjamin.

Send for catalogue to

F. E. Fox, Sales Manager, Waukesha, Wis.

MR. GUERNSEY BREEDER

we are offering bulls of May Rose, Glenwood and Yeksa breeding out of A. R. cows. Our records range from 450 lbs. to 864 lbs. of fat; ages from 2 months up to serviceable age for $100 and up.

Can spare a few fine females.

CORIUM FARM, F. J. Rueping, Owner, Fond du Lac, Wisconsin

Mound City Farm Guernseys For Sale

May King's Reputation of Mound City (63800) born Dec. 3, 1919.

Sire—May King's Vrangue of Ingleside (15430). Dam—Alma Ethel, three records namely 495 class G, 621 lbs. class AA and 704 lbs. class A. Alma's King of Mound City (63801) born Dec. 23, 1919. Sire—Cinderella's King of Mound City (40476). Dam—Alma Lehigh (43704). 340 lbs. fat class G. 648 lbs. fat class A. Rose's May King of Mound City (63802). Born March 19, 1920. Sire—May King's Vrangue of Ingleside (15430). Dam—Rose of Little Platt (55717) record of 667 lbs. fat in class AA now fourth in her class. Some younger bulls of equal breeding.

Chas. A. Wilkins, Platteville, Wisconsin

Tilden Farms Guernseys

FOR SALE: Several typy, May Rose bulls out of A. R. cows and sired by Hope's May Rose of Maple Hill (35903), whose dam is a class leader with 776 pounds of butterfat at 3 years. Also several choice pure-bred females and a few excellent grade cows. Herd on Federal Accredited list.

TILDEN FARMS

James H. Murphy, Mgr. Delavan, Wisconsin

Young Bulls for Sale

From A. R. Dams

Sons of Golden Noble of Craigamoor from A. R. dams with records up to 648 lbs. fat. They are from 3 months to a year old. Write for complete information.

MAPLE HEIGHTS GUERNSEY FARM

Frank E. Swan, Wauwatosa, Wis.

Federal Accredited Herd.

Wern Farm Guernseys

I am offering for sale 20 head of choice Grade Guernsey springers coming with first and second calf. Also have two bulls highly bred along May Rose lines just ready for service, that I will sell. For full particulars, write, wire, or come and see the stock.

Wern Farm, Waukesha, Wis.

A May Rose Bull

He Will Suit You

He is Gumption of Koshkonong Place, ready for heavy service and as straight as a line. His sire is Anton's King Cecil, one of the best May Rose bulls in the state. His dam is Gladness of K. P. (414.68 lbs. fat Class G), a daughter of Gilt Edge of K. P. (15 A. R. daughters).

Write me today about him.

A. R. HOARD, Fort Atkinson, Wisconsin

The Mixter Farms

For Sale at farmers' prices,—bull calves sired by May Rose bulls and out of May Rose dams with records of 500 to 700 lbs. fat. Also a number of producing females—animals that will be a credit to any herd and prove profitable in dollars and cents.

Write us before purchasing elsewhere. Mixter Farms have bred over 3,000 pure-bred Guernseys. **J. S. Clark, Supt., Hardwick, Mass.**

300 Guernsey Females.

SARNIA FARM GUERNSEYS

We are offering several very high class bull calves, 1 to 10 months old, nearly all out of A. R. cows. Send for sale list and circular giving pedigrees and pictures of the herd sires. Place your order now for bred heifers from 1920 importations.

Charles L. Hill & Son, - Rosendale, Wis.

Guernsey Bulls

Special Low Prices

Guernsey bulls by Beauty Eagle's Bonny Boy 42893, he by Bonny Boy of Riverdale 29070 (noted show bull), and out of Beauty Eagle 18117, 846 lbs. fat, or a son of Glenwood's Champion 15639 (24 A. R. daughters) out of daughter of Langwater Demonstrator 16451. Splendid high producing dams. Send for sale list.

LA BELLE KNOLL FARM, Oconomowoc, Wis.

Portage County Guernsey Breeders' Ass'n

2d Annual Consignment Sale

Registered Guernseys and Grade

May 25-26—Amherst, Wis.

WEDNESDAY MAY 25th, 1921.

In the first day offering, Portage County Guernsey Breeders are consigning an exceptionally high class lot of Guernseys. Practically all the consignments are from Federal Accredited Herds, or herds under Federal Supervision.

Much official testing is done in Portage County, and breeders have been very liberal in consigning some of their best Advanced Registry cows, with large butterfat records.

Some of the choice consignments are listed below:

TELLUS NO. 48996 (A. R.) Milk 13,410.3 lbs., butterfat 638.04 lbs. Class A. She has two daughters on test making very good records.

LADY JESSIE'S NORETTA NO. 81668 (A. R.) Milk 6,928.9 lbs., butterfat 408.9 lbs. at 2 years. On retest, in 103 days has produced 3,389.3 lbs. milk, 174.0 lbs. butterfat.

FERN OF GORDONVALE NO. 6997 (A. R.) Milk 8,382.2 lbs., butterfat 395.34 lbs. at 2 years, on retest, in 175 days has produced 6,347.6 lbs. milk, 297.66 lbs. butterfat.

IMP. RASPAIL PETAL NO. 93884, on test, in 108 days has produced 2,632.9 lbs. milk, 132.05 lbs. butterfat in Class GG.

IMP. MADELON OF JEAN DU LUTH NO. 93892, on test, in 57 days has produced 1,663.2 lbs. milk, 81.79 lbs. butterfat.

TWO DAUGHTERS OF ROYALETTE'S STANDARD NO. 20141 (A. R.), sire of 4 A. R. daughters.

IMP. ALEX OF BELLVIEW NO. 4697 (A. R.) Milk 7,788.4 lbs., butterfat 368.0 lbs. at 4 years. Sired by Imp. Souvenir de l'Etiennerie A. R. sire of 17 A. R. daughters.

BETTY B. OF LIBERTY HILLS NO. 63469 sired by Imp. Border Raider A. R. sire of 13 A. R. daughters and full brother to Imp. Itchen May King A. R. Grand Champion National Dairy Show, 1920.

GOLD OLLIE'S SECRET NO. 50996 (Male) Sired by Norwood of Pencoyd A. R. and out of Gold Ollie A. R. milk 10,329.3 lbs., butterfat 551.3 lbs., dam of 3 A. R. daughters.

EMBLEM'S CAMELIA OF ELMVIEW NO. 77860 sired by Imp. Emblem of France A. R., and out of Miss Evelyn 10th A. R., milk 12,285.9 lbs., butterfat 443.04 lbs.

SKANIVANS (Male) by Audacious of Edgemoor, a son of Imp. Itchen May King (A. R.), dam Hertha B. (A. R.), milk 8,388.9 lbs. butterfat 405.0 lbs.

FOUR DAUGHTERS OF COUNTRYMAN (A. R.) and he by COUNTRY LAD (A. R.)

SIX DAUGHTERS OF BOB RILMA'S RECORDER NO. 41908, by Bob Rilma's Superior, and out of Imp. Alderney Betty (A. R.) 3945, milk 10,790.7 lbs., butterfat 483.5 lbs.

SEVERAL DAUGHTERS and SONS OF CRAIGAMOOR GOLDEN NOBLE NO. 39325, who has 2 daughters on test, and dam has record of 538.65 lbs. butterfat at 3 years. Dams are all in A. R.

THURSDAY MAY 26th, 1921.

TWENTY-FOUR PURE-BRED GUERNSEY BULLS are to be offered in the second day sale. They are all fine individuals, of good breeding. **HEAD YOUR HERD WITH A PURE-BRED SIRE. INCREASE THE PRODUCTION OF YOUR HERD.**

TWENTY-FIVE VERY HIGH CLASS GRADE COWS AND HEIFERS will be offered in addition to the pure-bred bulls. Start right. Sell the scrubs and buy producers.

Sale at 1:00 p. m. each day.

Auctioneers:—Love and Benjamin.

Catalogues ready for mailing. Send for one to

F. E. FOX, Sales Mgr., Waukesha, Wis.

Waupaca County Guernseys

More Federal Accredited Herds than any other County in Wisconsin

Grades and Pure-breds available by the carload

Write for information and prices to

SECRETARY E. A. HOTZ, Scandinavia, Wisconsin

Waupaca County Guernsey Breeders' Ass'n

Homestead Farm

Offers for sale bulls from 11 to 13 months of age from A. R. dams. Also a few young bull calves of excellent breeding, and three A. R. cows. Write for sale list or come and see them.

JAMISON BROS., Appleton, Wis.

Guernsey Bulls

GET A BULL, with Langwater, Pencoyd, May Rose or Haye's Cherub breeding. Prices reasonable, quality considered. Grades in limited numbers.

Fox River Valley Guernsey Breeders' Association, Harry Leppla, Secy. Appleton, Wis.

When writing advertisers please mention Hoard's Dairyman.

New England's Milk Market

(Continued from page 660)

which has from time to time threatened to flood the market. Now the breaks in the wall are more serious than ever before, the small leaks of former flush periods becoming so numerous as to endanger the whole structure. With large quantities of milk being sold to much lower markets, the producer who normally turns his milk to butter or cheese is seeking the fluid market. Also, the consumer, aware that the free flow of milk would lessen his monthly milk bill, is not led to increase his purchases at the higher rate. Whether the association can hold its price so far above those for manufactured milk products, and continue to control the flow to its fluid markets remains to be determined. The March price of $.0825 is a drop of $.0075 to meet that of a co-operative creamery organization which sells on a supply and demand basis—without reference to costs.

Producer Owned Companies

New England is turning toward producer owned companies; either for handling milk from the producer to the consumer's door or, at least, to handle the country end. The Plymouth creamery, which is a combination of shippers from several points, is an example. The Turner Center system which has been successful for many years in buying from the producer and distributing has decided to turn its business over to the producer. Payment will be made by deductions from milk checks and will occupy a period of five years. "This," says the N. E. M. P. A. publicity organ, "is in line with the established policy of the N. E. M. P. A. to encourage producer owned co-operative marketing facilities to take over old established distributing systems."

"In these producer owned companies appears a medium for greatly improved milk marketing conditions in New England. Through them the N. E. M. P. A. has fields of service opened which it has thus far failed to touch. Through strong co-operative companies it can make its cost figures valuable in indicating where members can improve their methods—perhaps in showing that some producers can never make "cost plus". Through such companies it can more nearly carry out the full purpose for which it was organized; besides selling to the best possible advantage it may come to increasing its market through well directed advertising and fulfill the need and its declared purpose: to improve the methods of milk production, distribution, manufacture, and use; to encourage the breeding and raising of better dairy stock; to promote the more economical feeding of dairy stock; to promote the legislative interests of the dairy industry; to foster co-operation in agriculture, and especially in dairying; and, in general, to improve agricultural conditions, and bring about a better understanding between the producers of dairy products and the consumers thereof."

Formula for Grafting Wax

Grafting wax, which is needed by farmers and orchardists in spring, may be made by the following formula used at the Ohio Experiment Station:

Melt together until thoroughly mixed four pounds of resin, two pounds of beeswax, and a pound of tallow.

This mixture is then poured into a vessel of cold water. It is then pulled like taffy until it becomes light and smooth. The hands should be greased with tallow for this operation.

The wax may then be shaped into balls and sticks and it will keep indefinitely in a cool place.—Weekly Press Bulletin, Ohio Experiment Station.

Don't attempt to grow a garden under or near large trees that will not only shade the crops but in addition draw most of the moisture and plant food from the soil.

GUERNSEYS

Langwater Traveler

Carries 50 per cent blood of Imp. King of the May, greatest bull of the breed.

His dam is Langwater Lustre, A. R. 806.10 lbs. fat, fifth cow in Class C. She is the second highest testing daughter of King of the May. His sire is Langwater Holliston, sire of Langwater Levity, sold for $6,000.00 and leading cow in Class EE. Traveler's daughters are averaging over 500 lbs. of fat with their first calves. His first daughter to freshen will be a class leader in FF. We offer some excellent bull calves by Traveler out of May Rose cows with fine records. Federal Accredited Herd.

CHICONA FARM GUERNSEYS
A. L. Gile, Prop., Chinook, Washington.

2 Guernsey Bulls

No. 1—A son of Bob Rilma's Monogram, whose dam and sire's dam have records averaging 887.5 lbs. fat. His dam, a daughter of Langwater Hambro, made over 400 lbs. fat in Class G., 10 months old and well grown.

No. 2 is from a 519-lb. cow and sired by a son of Lord Waukesha from a 717-lb. 13-year-old dam. They're priced right and they must be as represented. Write me for further information.

RALPH TRATT, Whitewater, Wis.

Pleasant Acres Guernsey Farm Is Offering For Sale

Bull calves of May Rose breeding from 3 to 14 months old. The dams of these calves either have A. R. records or are now on A. R. test.

Clyde E. Fruit, R. 1, Waukesha, Wis

GORDONDALE

Guernsey bulls of serviceable age offered for sale, also younger ones. They carry May Rose breeding, are from A. R. dams and have splendid A. R. backing Ask us about them.

Herd under Federal Supervision.

L. E. GORDON, JR.,
Nelsonville, Portage Co., Wisconsin.

A Real Buy Serviceable May Rose Bull

Sire: A son of Langwater Steadfast, 19 tested dams average 714 lbs. fat. Dam: A splendid daughter of Gov. of the Chene, with 526 lbs. fat, Class D.

This fellow is a top-notch individual and full of pep. Priced to sell. Don't overlook this bargain.

Federal Accredited Herd.

Norwind Farm, Sheboygan, Wis.

Guernsey Females

bred to an outstanding son of Ne Plus Ultra, one of the greatest sires of the breed. Fifty head from which to select.

MEADOWLAND FARM, Litchfield, Conn.

AYRSHIRES

Ashbrook Farm Offers Ten Heifers of this Type and Age For Sale



STRATHGLASS GARDUM SNOWDROP

Also the first prize bull calf at the Eastern States Exposition by Foulton Ambassador. This will make someone a good herd.

L. E. ORTIZ, Prop., Morris Plains, N. J.

Pure-bred Ayrshire Cattle For Sale

Best of breeding. Calves sired by a Grandson of Brown Kate, record 1,080 lbs. butter in year.

Wm. Nisbet & Sons, Richland Center, Wis.

Ayrshires — Registered

Choice show and breeding stock, all ages. Finlayston line. Herd sire for sale, granddam, "Garclaugh Spottie"

S. B. TINSMAN, Goodells, Mich.

MIDDLESEX MEADOWS FARM

OFFERS

Two outstanding AYRSHIRE BULL CALVES for sale for immediate shipment

No. 1—MIDDLESEX WHITE CHANCELLOR 25273, born September 17th, 1920.
Sire—Cavalier's Netherall Chancellor 21216, who sired the winning bull calf at this year's National Dairy Show.
Dam—White Heather of Highland 42752, who stood 2nd in the aged cow class at the same show (this year's National) and who has two good Roll of Honor records.

No. 2—MIDDLESEX MANCHESTER, born March 10th, 1921.
Sire—Auchenbrain Toreador (Imp.) 24761, record priced bull of the breed and Grand Champion at Maryland, New York, Connecticut, and New Jersey State Fairs this year.
Dam—Bida Clinton 31489, who has three A. R. records that average 11,000 lbs. of milk, 453 lbs. of fat, 4.17%; and whose two-year-old daughters will have records of over 10,000 lbs. of better than 4.00%.

Both bulls have excellent individuality, and are fit to go into any show ring and hold their own. They should develop into extra good herd sires. Prices reasonable—we KNOW you can't get as good as these two for any less money elsewhere.

A. Henry Higginson (Owner). W. R. COUTTS, (Supt.)

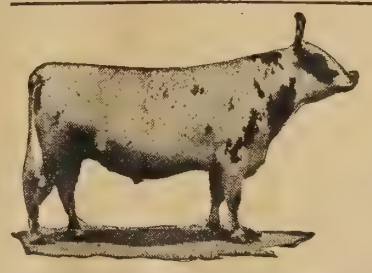
South Lincoln, Massachusetts

Monstone Farm Ayrshires

"Production — Size — Individuality"

Bull calves out of dams with A. R. records of 10,000 lbs. (and better) of 4% milk—Winners in show ring—Sired by Lessnessock Gem's Good Gift Imp.—Winner in show ring and proven prepotent sire—Weight 2,250 lbs. in breeding condition—Whose dam made 8,930 lbs. milk, 4.05% fat, in *36 weeks* (Scotch record)—Sire's dam 10,342 lbs. milk 365 days (Scotch record)—Prices $100 to $1,000. If you want class and a square deal, correspond with us. We can supply your wants at your prices. Nothing but the best. Herd Federally tested.

MONSTONE FARM, John Chalmers, Manager, IPSWICH, MASSACHUSETTS



We Have For Sale

the well bred Ayrshire bull, Bargenoch "Drexel" (18474) Imported. Bred by John Logan, Bargenoch, Scotland. Born Feb. 2nd, 1919. Color white and red. Sire, Bargenoch Magnificent (9579). Sire of Bargenoch "Royal Champion" sold at Bargenoch sale, 1919, for $7,267.00.

Dam, Bargenoch Victoria (37003). Scotch record: 9,221 lbs. milk, 4.23% fat in 43 weeks; 11,070 lbs. milk, 4.50% fat in 47 weeks.

BARCLAY FARMS, John Cochrane, Manager. ROSEMONT, PENNSYLVANIA

Delchester Farms Ayrshires

Tell us your wants and we can supply them at prices you can afford to pay.

Aged cows, bred to Glenury, an A. R. son of Finlayston.

Aged cows, bred to Rena's Baron of Highland, an outstanding son of Baron's Best of Bargenoch.

Heifers, bred to these two great sires.

Young heifers.

Bull calves.

All the above stock carries some of the best producing blood of the breed with A. R. ancestry on both sides.

Herd free from tuberculosis

DELCHESTER FARMS
Edgemont, Del. Co., Penn. - Thomas W. Clark, Supt.

World's Champion Ayrshires

Fully Accredited Tuberculosis Free — 200 Head in Herd



AUCHENBRAIN WHITE BEAUTY 2D

A. R. 14,721 lbs. milk, 4.33%
In 13 years, 112,486 lbs. milk and 13 calves
110 animals in herd are descended from this cow

The 1st, 2nd, 6th and 7th highest records were made here. Four cows average 22,823 lbs. milk, 1,046 lbs. butter. 100 A. R. records made here average 13,246 lbs. milk. Choice stock of all ages for sale at prewar prices. Special — Young bulls line bred to Auchenbrain White Beauty 2d.

PENSHURST FARM, Narberth, Pa.
(7 miles from Philadelphia)

Weymouth Farms

"Ayrshires of Quality"

All cows on Advanced Registry Test. Herd Tuberculin Tested.

We can supply you a herd sire of choicest breeding.

MARTIN A. TOWLE, Mgr.
NORTH WEYMOUTH, MASS.

Metropolitan Farm

For Sale—Bull calves from our best A. R. cows. These calves are from one month to one year old. Priced for quick sale.

Write for pedigrees and prices.

METROPOLITAN LIFE INS. CO.,
Neil J. Parker, Farm Supt.,
Wilton, New York.

Linndale Farm Ayrshires

"Are bred for Production"

Bull calves out of A. R. cows and sired by sons of World Record cows, for sale.

Our { Breeding, Conformation and Prices } are right.

See what we offer before you buy.

JOHN LINN & SONS,
Manhattan, Kansas.

BLACKBURN FARM

Home of Addington's Champion

Grandfathers—Nox'emall and Finlayston.
Father—Rena's Champion—17 A. R. daughters
Mother—Addington Queen 3d—Two mature records each over 19,000 lbs.

Fully Accredited Tuberculosis Free Herd.

SEWICKLEY, PENNSYLVANIA

Ayrshire Stock

of all ages for sale. Satisfaction guaranteed

L. W. McCONNELL, Wellington, Ohio

Pooling Effective in New York

HOARD'S DAIRYMAN:—Toward the last of April there was lacking only three hundred of the required fifty thousand signatures to the Dairymen's League pooling contract. The board of directors voted to pool on May first. The May price for milk was also set but as I understand it there is yet a possibility for a change to be made. A member or two of the conference board of milk dealers from New York City attended some of the sessions of the directors' meeting and this makes it look more as though the price may remain where set at first. Subject then to a possible change, the price for May is $2.30 to the fluid dealers. To one class of manufacturers it is $2.10 and to another it is $1.90. It depends upon the sort of competition that has to be met. The cost of production for May would be $2.39 according to the Warren formula. Butter and cheesemakers are to pay on the market for those products but are granted allowances for manufacture and are charged for skimmilk and whey according to the possible uses that they may make of those products.

It is not stated what percentage of the milk is likely to go into the $2.30 class at this period of the year. As an average it is thought to be 75 per cent but in May it must be considerably less. One can scarcely venture a guess as to what the pooling price may be when all is averaged up together. Many expect that it may be somewhat less than two dollars. I have figured it several times and cannot make it much under $2.10 although it might figure a little less. This is counting the chickens not only before they are hatched but before the eggs are layed. All the same it is not bad policy to look closely ahead and to make due allowances. Whether the price shall be $1.75 or $2.10 or somewhere between, there are certain costs to come out. The usual one cent a hundred cannot now pay expenses. I do not know as two cents will do it.

The League now has fifty-seven plants and that number may need revising quickly. It is true that some of these are small and I think that some are rented, possibly with the privilege of buying. It has been said that there are some two million dollars of certificates issued. If true, the interest on this sum and the fifth that is payable yearly seems to amount to a sum that would require over a cent a hundred on all the milk handled. While one may make wild estimates, yet I cannot see where our alarmists can get ground for the extravagant estimates that they have made of enormous cuts to come out of the milk pooled. It is a time to remain steady. Expenses here will be doubtless more than one can now estimate if outside of close touch with the situation, but any outsider who really gets down to figures should not find anything that can frighten even the most timid. Let us have faith in the good sense of our management and "possess our souls in peace".

It is now evident that when we spoke some two or three years ago of the impossibility of buying out certain big milk dealers and considered it a very impossible undertaking, that we did not know our power to do things. All the same it was necessary to work up to the point of doing big things before we tried to do them. It still behooves us to move slowly if the milk dealers will permit it. We do not want to get the city delivery of milk on our hands if it can possibly be avoided. Some farmers have even now understood that such is the plan with the pooling in operation. They should know better, but still have the notion in more instances than one can readily believe. The Nestle's have driven us to take over property that we preferred to leave alone. It has been necessary in order to protect our members. The same may be said of a few other concerns. It is gratifying to be told also that the Nestle's have withdrawn from the conference board. It means some difficulty with this concern, but it seems to leave the other dealers in a more friendly attitude.

New York. H. H. LYON.

HOLSTEINS

Holstein CATALOG Prices

These prices include compiling of pedigrees.

STYLE I.

A 6x9 inch book bound on the end.
$3.25 a page, 500 books
$3.55 a page, 700 books

STYLE II.

A 6x9 inch book, bound on the end. Good quality paper.
$3.75 a page, 500 books
$4.15 a page, 700 books

STYLE III.

A 7x10 inch book, bound on either end or side. Good enameled paper.
$4.25 a page, 500 books
$4.75 a page, 700 books

Wisconsin Live Stock Advertising Company

Pioneer Bldg., Madison, Wis.

Cows and Heifer A Few Good Bulls

Because I am overstocked, I am offering some very good registered females for sale. They either have A. R. O. records or are from A. R. O. dams.

Can also offer some excellent young bulls by a 33-lb. sire and from A. R. O. dams with records up to 28 lbs.

Every animal sold is guaranteed to be as represented.

Write or come and see for yourself.

J. D. McDonald West Salem, Wis.

Serviceable Bulls For Sale

Sired by Pabst Pontiac Hengerveld, a son of King Pontiac Champion from Pabst Hengerveld Colanthus (31.5 lbs. butter in 7 days, 1,057 lbs. in a year.

These are nicely marked, well grown youngsters out of good producing dams. Several are ready for service, others are younger.

Write today.

John Alexander, Baraboo, Wis.

GREENBUSH FARM
Registered Holsteins

Canary Mercedes Champion II No. 318082 recently made 29 lbs. of butter from 512.5 lbs. of milk in 7 days. Now on yearly work. Her bull calf, sired by a 32-lb. bull is for sale. Write for complete information in regard to this well bred younster to

GREENBUSH FARM

R. Turano, Herdsman, Glenbeulah, Wis.

FOR SALE
Grandson of 37th — the $100,000 Bull

Born March 20, 1921. Sire has 75% the same blood as the Pabst $30,000 bull. Dam: a 25-lb. daughter of a 35-lb. bull. Nicely marked, priced to sell quick.

J. W. GEHL, West Bend, Wis.

Fairhurst Herd
On the Accredited List

We offer young bulls, fine individuals and well grown. Sired by 33-lb. bull and from dams with records up to 30 lbs. Write for pedigree and price.

KITTLE BROS., Holland, Ohio.

Hollyhock Farms

Consignment to the Wisconsin Holstein Breeders' Sale

May 17, at Milwaukee, Wis

A SON OF MARY SEGIS BEETS, a cow that has proven to be a consistent producer by making as follows:

At 2 yrs. 2 mos.	22.84 lbs.	butter
" 3 "	28.27 "	"
" 4 "	31.82 "	"
" 6 "	32.22 "	"

and has just now completed a yearly record with almost 1,000 lbs. butter to her credit.

His sire is King Pontiac Artis Sadie Vale, a 34-lb. son of the great King Korndyke Sadie Vale, the only bull to have a 40-lb. dam, a 40-lb. daughter and a 40-lb. sister.

His individuality and type will suit you for a herd sire. Why look any further?

One 4-year-old cow, Summit Johanna Texal, just recently completed a senior 4-year-old record of 23.80 lbs. butter from 470.2 lbs. milk with an average per cent fat of 4.272. She combines in a very close degree the blood of Johanna McKinley Segis and Sir Ormsby Hengerveld De Kol and should prove to be a valuable foundation cow. She is an excellent individual, possesses quality and dairy conformation and with the best part of her life before her, is in a condition to go into your herd to swell the credit side of your Dairy Ledger. Bred April 19th to Sir Pietertje Ormsby Mercedes 41st.

A Show Bull — Ready For Service



IOWANA ZUR PIETERTJE
Born Feb. 4, 1920.

At A Very Low Price

His dam is a 24-lb. cow that made 760 lbs. butter in 10 months (carrying calf 168 days). Per cent fat 3.66. She is a daughter of *Sir Johanna Fayne,* who now has 12- 20,000-pound daughters. 24 average over 20,000.

Send for pedigree and price.

IOWANA FARMS, (Herd Under Federal Supervision) **Davenport, Iowa**

ROME FARM HOLSTEIN FRIESIANS

LIGHT COLORED 800-lb. BULL

Dam—a 4-year-old daughter of Sir Sadie Cornucopia, finishing a yearly record of over 800 lbs. She made 731 lbs. at 3 years. Sire—Woodcrest Sir Clyde, son of Alma Clyde (33 lbs. and 970 lbs.), and sire of 16 20-lb. 2-year-old daughters and two over 30 lbs. Bull was born May, 1920, is ¾ white and Federally tested. Reasonable terms.

W. B. BARNEY & SONS Chapin, Iowa

Bull of Ormsby Breeding

We offer Chief Segis Lyons Ormsby No. 280751 Born March 8, 1919, a grandson of Sir Pietertje Ormsby Mercedes 41st. His sire a 33-lb. bull; his dam a granddaughter of Sir Pietertje Ormsby Mercedes, who had more 1,000-lb. daughters than any other sire in the world. Also some splendid bull calves ready for service, from A. R. O. dams. Herd tuberculin tested. Write for prices.

Schermerhorn Farms, Mason City, Iowa.

A Son of LIEUTENANT RAG APPLE

from a ⅞ths sister to a 948-lb. junior two-year-old daughter of a 1,281-lb. cow. $100.00. Let us tell you about him. Serviceable.

BLUEBELL FARM, Riceville, Iowa

Yearling Bull—Ready For Service

Here is a show bull whose sire is by a son of KING KORNDYKE HENGERVELD ORMSBY and out of a 37-lb. cow. His dam is backed by many yearly records. He is priced at half his value—$125.

G. G. Burlingame, Cazenovia, N. Y.

Missouri Holstein Breeders' Sale

At Sedalia, Mo., May 24

Will Disperse My Herd

including herd sire, A Korndyke Missouri Chief Josephine Carlotta Pontiac bull. This is the best QUALITY bred bull ever offered at public auction in Missouri. Age, 20 months. A perfect individual. He will make things interesting at the National next fall. I hope that some big breeder will give this splendid combination of type and production a chance. Guaranteed in every way.

Also 11 females including 2 state champions; all are bred to this bull, some fresh at date of sale. Herd under Federal Supervision.

For particulars write

E. P. Finck, St. Charles, Missouri

When writing advertisers please mention Hoard's Dairyman.

2nd National Cooperative Sale

June 2-3-4 New York State Fair Grounds Syracuse, N.Y.

200 — Holstein-Friesians — 200

Representing the Leading Holstein States and Canada

$500 Prize

The New York State Fair Commission offers a prize of $500 to the State Association sending the best consignment to the sale, judged on the basis of individuality and condition.

REMEMBER

New York's Greatest Exposition
Sept. 12-17, 1921
New York State Fair
Syracuse, New York

Two Hundred Head of pure-bred Holsteins carefully selected by inspection committees appointed by the different state associations cooperating to make this sale a success. Selected on the basis of individuality and meeting certain record requirements. All animals sold subject to a 60-day retest guarantee. An Unequaled Opportunity to secure animals of outstanding merit from the leading herds of the Nation.

PLAN TO SPEND THIS WEEK
MAY 31—JUNE 5
IN NEW YORK STATE
PROGRAM

May 31—New York Day
Judging State Consignments
Auto Trips to Cornell University and Holstein Herds
June 1—Annual Meeting Holstein-Friesian Ass'n of America
Nat'l Banquet, State Armory
June 2-3-4—National Sale
June 5—Auto trip and boat ride, Thousand Islands. Visit North Country Farms
Reduced Passenger Fares
will apply in territory east of Chicago and north of the Ohio river.

The Leading Holstein States and Canada

Cooperating with

New York Holstein-Friesian Association, Inc.

224 Wieting Block, Syracuse, New York

Auctioneers — Baxter, Haeger, Kelley, Mack. Pedigrees — Wood. Leadsman — Heckler. Catalogs — L. S. & P. Co.

Third Annual Sale

Manitowoc County Holstein-Friesian Breeders

May 18-19, 1921

Held at the Fair Grounds

Manitowoc, Wis.

140 Pure-Breds

The choicest lot of cattle ever assembled in Manitowoc County will be sold at auction including 10 males whose dams have ADVANCED RECORDS up to 21.60 lbs. butter in 7 days as two-years-olds.
8 females with dams A. R. O. records up to 20 lbs. as two-year-olds.
Males and females from dams as high as 27 lbs. A. R. O.
1 male whose four nearest dams averaged 25 lbs. A. R. O.
A good bunch of young stock whose sires' three nearest dams average 33 lbs. A. R. O.
14 head sired by 33-lb. sire.
Several females from dams of 20 lbs. as three-year-olds.
2 four-year-old show cows with 21.60 lbs. and 22 lbs. A. R. O. records in the sale.

30 High Grades

Several males from 22-lb. dams and over.
Manitowoc County has, since the last sale, added many 30-lb. sires or the equivalent of 30 lbs., also several 1,000-lb. yearly bulls. A good number of these animals are bred to these bulls. Also young stock of these bulls in this sale.
You can't make a mistake by buying stock at this sale. All cattle females guaranteed to be breeders. All animals over six months tuberculin tested.
Every animal inspected by the Manager and Board of Directors. We are building up a Quality Sale. We want to hold a sale every year, for that reason we offer only quality cattle. Real show cattle are offered. Manitowoc County is fast becoming one of the leading Holstein counties. Come and see these cattle. Look them over. We will be glad to show you what we have. We will give you courteous treatment and do all we possibly can to help you pick the best.

Auctioneers—Col. Mack, Beaumont, Kellner.

Frank Everson in the Box

CHAS. HAMPKE, Sales Manager

Catalogs now ready

OPPORTUNITY!

Knocks but once — then passes on

Here is the opportunity to select at your own price choice, hand picked, pure-bred Holstein cattle from first class consignments numbering

150—Head—150

Everything That Makes For

Quality—Individuality—Milk Production

Will be represented in this choice collection of pure-bred Holsteins from some of the best New York and Pennsylvania herds, and your attendance at this sale will be both profitable and educational.

Among the outstanding features of this sale will be the Absolute Dispersal of the herd of Hillcrest Farms, owned by Mr. Clark Hurd of Buffalo, N. Y., numbering 27 head, a herd which represents years of careful selection and inter-breeding by a thorough Holstein man. It should be of special interest to prospective breeders to know that not a single animal has ever reacted to the TB test in this herd.

CONSIGNORS:

WHEATFIELD FARMS, La Salle, New York

Abbott, Geo., Cortland, N. Y.
Amos, C. L., Antrim Farms, Syracuse, N. Y.
Armstrong, D. B., Watertown, N. Y.
Campbell Farms, Wilson, N. Y.
Daniels, Fred, Houghton, N. Y.
Dold Bros., Alden, N. Y.
Eldridge, Charles, Porterville, N. Y.
Fletcher, C. B., Evans Mills, N. Y.
Houck, W. C., Chippawa, Ont.
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Johnson, W. L., Vestal, N. Y.
Kerrick, J. G., Towanda, Pa.
Dibble, L. S., Westfield, Pa.
Mc-Nell Randolph Holstein Farms, Randolph, N. Y.
Pine Grove Farms, Elma, N. Y.
Rancocas Stock Farms, Jobstown, N. J.
Shanahan, J. T., E. Aurora, N. Y.
Smith, Geo. N., Watertown, N. Y.
Smith, Jabez & Sons, Newark Valley, N. Y.
Stevens, R. J., Liverpool, N. Y.
Syracuse University Farms, Syracuse, N. Y.
Weil, Franklin J., Lancaster, N. Y.
Weil, J. C., Town Line, N. Y.
Williamson & Son, W. A., E. Aurora, N. Y.
Yates, Harry, Orchard Park, N. Y.
Zwilling, Fred W., Lancaster, N. Y.

Don't Forget the Dates . . Friday and Saturday, May 20-21

To be held at

Wheatfield Farms, La Salle, New York

(Midway Between Buffalo and Niagara Falls.)
On Niagara River Road Adjoining Tonawanda, Niagara Falls. Trolley Cars Direct to Farm Gates.

La Crosse County Holstein Breeders' Sale

West Salem, Wis., Monday, May 9, 1921

90 Head — **Show Quality Cattle Combined With Good Breeding Mighty Fine Holsteins. Would Look Well in any Barn** — **90 Head**

Splendid Heifers from a 30-lb. bull, and from record dams. Show heifers from a 29-lb. sire.

Young Cows in Calf to a 37-lb. bull, 1395.6 lbs. for the year.

Cows sired by Pabst Pontiac Snowball and bred to Sir Ormsby Banostine Hengerveld whose 2 nearest dams average 30 lbs. for 7 days, and 1128 lbs. for the year. Others sired by Pabst Maplecrest De Kol and in calf to King Paulette Ormsby, 32.84 lbs. for 7 days—856 lbs. for 305 days.

A Show Cow with a 22.84-lb. record due about sale time.

A Very Good 26.96-lb. cow and two of her sons, one a yearling, the other 2 years old, both sired by a 30-lb. grandson of Pontiac Korndyke.

A Beautiful Heifer from a good yearly record sire and in calf to a yearly record bull. You'll want her, I know. Cows bred to King Korndyke Haidee Ormsby.

Nine Fine Cows, all in calf to Clover Lawn Johanna Piebe 6th, a son of Clover Lawn Johanna Piebe and from a yearly record daughter of Cornucopia Hengerveld De Kol.

A Show Heifer, one of the nicest 3-year-olds you ever saw. Has a 15.31-lb. 2-year-old record.

Daughter of a 33-lb. bull.

A Granddaughter of an 1800-lb., 28-lb. cow.

A Fine Young Bull from a 33-lb. sire and from a 21.66-lb. Show Cow. Has a 21-lb. 2-year-old sister.

A Dandy Yearling Son of Segis Pontiac Uneeda Korndyke.

Sale starts at 10 A. M. Sharp, in the Sale Pavilion at West Salem.

AUCTIONEER — J. E. MACK

For Catalog write F. H. EVERSON, Sale Manager, Lake Mills, Wisconsin

Chippewa Valley Holstein Breeders' Fourth Annual Consignment Sale

Chippewa Falls, Wis., Friday, May 13

50 Head—GOOD HOLSTEIN CATTLE—50 Head

The Chippewa Valley men have always had desirable cattle to sell,—Fine Individuals, Well Kept and of Good Breeding. They are going to sell the same kind this Spring.

Cows due soon after the sale, and the kind you want to buy. Some are from dams who have made 1,000 lbs. in the Cow Testing Association.

There will be Show Quality cattle. Prize Winners at the Northern Fairs.

Heifers from record dams and bred to the 1,313-lb. bull, King Pietertje Ormsby Piebe 16th.

Daughters and granddaughters of the 34-lb. bull, Milford Meadows Ormsby Oak De Kol.

Daughters of Bluebird Canary Pet, one from a 16.66-lb. dam, one bred to Sir Glen Artis Ormsby.

A heifer from a 21.91-lb. 4-year-old who is now on yearly work and making a good record. Bred to the Show Bull, Sir Ormsby Beauty Pontiac Segis.

A 17.88-lb. cow bred to Korndyke Aaggie Johanna. A heifer from a 19.87-lb. Junior 3-year-old dam.

Daughters of Pabst Pontiac Maplecrest, an 826.68-lb. son of Maplecrest King De Kol, who has a fine list of A. R. O. daughters with good yearly records.

Six Dandy Herd Sires.

Yearling son of Korndyke Aaggie Johanna and from a 20.25-lb. dam.

Yearling son of Green Plains Pontiac Korndyke and from a 23.35-lb. dam.

2-year-old son of Finderne Netherland Korndyke and from a 23-lb. dam.

1½-year-old from a 30-lb. bull, and from a Show Cow.

6 months old calf sired by Emblagaard Tritomia Champion, and from a 21.55-lb. 3-year-old with 86.35 lbs. in 30 days.

2-year-old from Johanna Colantha Prince Pontiac and a 27.68-lb. dam.

Auctioneers — Mack and Krause. Sale Mgr., F. H. Everson, Lake Mills, Wis.

Last Announcement

OF THE

Marathon County Holstein Breeders' Sale

Wausau, Wisconsin

Thursday, May 12, 1921

60 Head of Sorted Registered Holsteins

Will be led on the shavings to be sold at your own figure

Marathon County Holstein boosters have done their utmost to make this sale a profitable venture for you and a "boost" to their County. They want you at Wausau on May 12th—to convince you absolutely that their cattle are right—that their methods of dealing with you are right. If you are interested in acquiring good pure-bred cattle—foundation stock—you can't afford to overlook this sale.

We told you in detail last week of the good things they have to offer you. We told you that the men back of this sale spent considerable time and money lining up these cattle; so come and be convinced that Marathon County is a safe, a good, and a profitable place to buy black and whites.

Remember that the registration papers and transfers in blank will be in the Sale Companies hands prior to sale time; that all animals over six months of age will be tuberculin tested; that all animals will be sold under the 60-day retest guarantee.

Auctioneers—Cook and Krause. Pedigrees—Darcey.

Write for catalogs to

Francis Darcey, Watertown, Wis.

The Son of This 32-lb. 1000-lb. Cow Ready For Service



MARY SEGIS BEETS

He is just past a year old, nearly white, and a splendid individual. His dam, Mary Segis Beets, has twice made over 31 lbs. and has just finished a 1000-lb. yearly record. His sire is King Pontiac Artis Sadie Vale, a 34-lb. son of the great K. K. S. V. Several of his daughters are doing very well on yearly test in our herd. He'll suit you for a herd sire. We guarantee him to be right. Write us about him today or come and see him.

Gustave Pabst's Hollyhock Farms

Fred J. Southcott, Manager — Dousman, Wisconsin

One-half Interest Serviceable Son

of the 1235-lb. Sire

Sir Korndyke Bess

DAM—World's Record 3-year-old for Butter in 305 days
Also 2 young yearly tested male calves.

R. E. BENSON, Dousman, Wisconsin



Yearly Records

Choice Young Bulls

from one to fourteen months old for sale. Sired by Cloverlawn Johanna Piebe whose five nearest dams average 1,070 lbs. of butter, 23,809 lbs. of milk a year. Herd numbers 140 head, forty cows with yearly records. State exactly what you want.

JOHN PULS, - HARTFORD, WISCONSIN

ORMSBY BULL - Born Feb. 28, 1919
Sire, King Ormsby Pontiac De Nijlander, whose two nearest dams average over 30 lbs.
Dam, Aaltje Hengerveld Tritomia Segis. A. R. O. 7 lbs. at 3 yrs., next dam 29.68 in 7 days. Color light, fine individual. Ready for service. Price $300.
Fairview Stock Farm Whitewater, Wis., W. C. Marshall, Prop.

Good Holstein Calves

Bargains for the next 60 days. Grade heifers. Pure-breds either sex. Order your Duroc-Jersey pigs to be shipped at three months old. Pairs or trios not akin.

J. C. BOLGER, Waterloo, Wis.

Let's Go to Monroe, Green County Wis.

May 12th, 1921

And Attend the

Green Co. Holstein Breeders' Ass'n's Semi-Annual Consignment Sale of

70 Head of top notch Registered Holsteins consisting of 54 females and 16 males. **70 Head**

This is the best Consignment of Holsteins ever offered in Green County, so don't forget our date.

For further information write or wire

H. D. Schindel, Sec'y, Box 132, Monroe, Wis.

Sheboygan County Holstein Breeders' Consignment Sale

Plymouth, Wisconsin

Friday, May 20th, 1921

Last Fall Sheboygan County put on a Sale that for Quality and Breeding Placed it in a Class by Itself. This Spring the Offering is of the Same Stamp. Keep the Date in Mind.

F. H. Everson, Sale Mgr., Lake Mills, Wis.

HOLSTEIN COWS

We offer for sale a number of cows, heifers, bulls and calves of all ages. Some sired by King Korndyke Veeman whose two nearest dams average over

WISCONSIN STAR STOCK FARM,

HEIFERS and BULLS

37 lbs. butter in 7 days and bred to King Sadie Vale Walker who is a son of the youngest 29-lb. cow in the world. Come and see them or write to

ED. M. SCHULTZ, Hartford, Wis.

Send For Our Bull Sales List

Three bulls of serviceable age—four others will be old enough for service in a month or two—others three months old and older. Almost all of them sired by SIR ORMSBY BEAUTY PONTIAC SEGIS, the son of a 37-lb., 1112-lb. three-year-old daughter of KING SEGIS PONTIAC COUNT.

If it will be of an accommodation to the purchaser, we will accept a six months' note in payment, WITHOUT INTEREST, or will accept payment on installment plan basis.

Pinehurst Farms Co., Sheboygan Falls, Wis.

$100 to $200 Buys A Bull From A Good Record Dam

Am offering several for those prices sired by a 26-lb. bull and from A. R. O. dams with records up to 25.46 lbs.

Write at once. They'll go fast.

H. W. Crawford, R. 5, Campbellsport, Wis.

1000---HERD---1000 Quality Holsteins

GRADES AND PURE-BREDS

Just now we have a splendid lot of grade heifers. Write for our pure-bred bull list.

Jefferson County Holstein-Friesian Breeders' Association,
A. F. Gafke, Secretary, Jefferson, Wis.

I-N-V-E-S-T-I-G-A-T-E—Pure-bred Holstein bulls sired by Wisconsin 3-year-old at National Dairy Show 1920. Herd tuberculin tested. Pure-bred Duroc pigs sired by Great Wonder Sensation.

RIDGEHURST STOCK FARM,
Glen C. Ramsey Ft. Atkinson, Wis.

Bull Calves

by

SIR BESS ORMSBY FOBSE

out of

Cows with 7-day records now on semi-official; two-year-olds milking as high as 70 lbs. and mature up to 92 lbs.

LINDEN LAWN STOCK FARM
B. W. RABENHORST, Jefferson, Wis.

Priced For Quick Sale

Two Highly Bred

Holstein Bulls

Born June 1st, 1920. Sired by Pabst Colanthus Champion. Dams by Segis Homestead. Both unusually fine animals. Write for extended pedigrees.

John A. Brown, Gordon, Douglas Co., Wis.

GRANDSONS OF

SIR VEEMAN HENGERVELD

One ready for service. ⅞ white and a show bull. He'll suit you. Six bull calves 2 to 3 months old ½ to ¾ white, most of them from heavy producing daughters of a 34-lb. son of K. K. S. V. All are from very good producing dams. Prices $50 to $65.

AUG. SEEFELDT, Theresa, Wis.



The Count-Piebe Combination



KING SEGIS PONTIAC COUNT
"The Marvel of All Sires"
Whose daughters have broken more World's Records than the daughters of any other sire.

PIEBE LAURA OLLIE HOMESTEAD KING
"The Present Day Sensation"
The only bull in the world with five 20,000-lb. two-year-old daughters.

Will Triple Your Milk Check Because It Will Put Production Into Your Herd

And more than triple the price you are getting for your calves. Because it combines individuality with production, it has given us thirty cows at Arden Farms that have **each produced $1,000 worth of milk per year. Do you want that kind?**

We Offer
Sons of "Count" from Daughters of "Piebe"
Sons of "Piebe" from Daughters of "Count"

We have the finest line of young bulls we have ever raised at ARDEN FARMS, priced in accordance with present financial conditions. LIBERAL TERMS GIVEN IF DESIRED.

J. M. Hackney, 602 Merchants Bank Building, St. Paul, Minnesota

2 Daughters of S. P. O. M. 38th

both over 20 lbs. as 3-year-olds and from high record daughters of Colantha Johanna Champion.

A Daughter of S. P. O. M. 41st

with 17.23 lbs. as a 2-year-old and bred to Sir Ormsby Akkrummer Hengerveld, 39-lb. bull.

To Be Sold at The State Sale May 4

Look For Them. They Will Please You.

Woodlake and Clover Farms,

JOHN B. IRWIN, Sta. F. -:- Minneapolis, Minn.

Registered Cows and Heifers

We have on hand more females than we usually carry so are able to offer some good ones for sale. A number have A. R. O. records and most of them are from tested dams. Bred to a yearly record sire and themselves backed by yearly producers.

Address correspondence to Axel Hansen, formerly with John B. Irwin.

MINERAL SPRINGS STOCK FARM, - - SAVAGE, MINNESOTA

Stuart—McIntyre—Hansen, Owners.

Address correspondence to Axel Hansen, formerly with John B. Irwin.



LORD BOBS KORNDYKE PONTIAC

Echoland Farms

Offer For Sale

Lord Bobs Korndyke Pontiac

He is a show bull and a good sire.

His Sire—Roberts Abbekerk Pontiac is an excellent individual and a bull that has won first at many of the leading shows, and by a good son of King of the Pontiacs. His dam is a 29.37-lb. cow from the 33.79-lb. sire, Sir Gerben Pauline. This bull will make a real herd header for some small breeder and we know he will please as an individual. For price and description write

EGIL BOECKMANN, White Bear, Minn



Lola Segis Pontiac Homestead

the highest record bull in southern Minnesota, heads our herd. His sire, Piebe Laura Ollie Homestead King, has more daughters that as 2-yr.-olds have produced 20,000 lbs. milk in a year than any other. His dam, a 34-lb. 4-year-old daughter of King Segis Pontiac Count, has 3 records averaging 33 lbs. and has made over 1,000 lbs. in 1 year. We have a few serviceable bulls and younger from A. R. O. dams for sale.

Clover Lea Farm, W. W. Walker, Owner. Austin, Minnesota



Sir Walker Segis Homestead

The best show bull and son of the great bull, PIEBE LAURA OLLIE HOMESTEAD, out of a "COUNT" daughter, BEAUTY BEETS WALKER SEGIS, world's greatest heifer, with two yearly records over 25,000 lbs. milk and 1,000 lbs. butter in heifer form, and a seven-day record of 35.03 lbs. butter from 730 lbs. milk.

We offer several choice bulls, one month to a year old, out of high yearly record and A. R. O. cows, at very reasonable present day prices. Pedigrees and photos will be sent.

A. J. LASHBROOK, - - Northfield, Minnesota



Lakeside Farm Herd

The records of his dam, dam of sire, and dam of grandsire, average 31.33 butter 7 days, milk 548.84. This bull was 2nd prize winner in New York State Fair in class of thirty. His dam was also prize winner in same show. Send for pedigree. Herd under State and Federal supervision.

E. A. POWELL, Syracuse, N. Y.

ON MONDAY MORNING make a start toward better dairy cows and

Write to River Meadow Farms

Every man knows best whether he wants high-producing grades, pure-bred Holstein cows, heifer calves, or just a good pure-bred bull to get him started. Our cattle stand for the most economical production of dairy products. Prices are very reasonable. River Meadow has a thirty-year reputation for reliability. Can furnish them in any number. 400 head always on hand. Remember to Write, Monday or any other morning, to

RIVER MEADOW FARMS, Portlandville, N. Y.

Five Heifer Calves

All show animals by a 31-lb. sire out of A. R. O. cows of good individuality. Will sell one or the bunch at bargain prices as we are overstocked. Also bulls for sale.

G. G. BURLINGAME

Cazenovia, N. Y.

A LINE-BRED "41st"

BULL CALF FOR SALE



SIR PIETERTJE ORMSBY BESS BURKE
Born Dec. 20, 1920

A real showy calf, straight as a line and of ORMSBY type

His dam and sire's dam are both daughters of SIR PIETERTJE ORMSBY MERCEDES 41ST, the only son of Spring Brook Bess Burke. His dam is on yearly test as a junior two-year-old and bids fair to go 800 lbs. The sire's dam made 28.93 as a 3-year-old and 26.82 as a 2-year-old.

THIS CALF WILL GROW INTO MONEY —SEND FOR PHOTOS, PEDIGREE AND FULL PARTICULARS.

E. C. Schroeder Farms

(Under Federal Supervision)

MOORHEAD, Minnesota

Holstein Bulls

At Farmers' Prices

We are not in the game to get rich but to help promote the breed by offering pure-bred bulls at the lowest prices, enough to cover raising. Write for prices and descriptive list. The Ormsby kind.

RAMSEY COUNTY HOME,

J. E. McMahon, Supt., North St. Paul, Minn.

"DUKE"

The only place you can buy sons of serviceable age sired by DUKE PIETERTJE KORNDYKE ORMSBY

The bull selling at the last Minnesota state sale for $33,000.00 is from the herd where he stood for three years prior to the sale. "Duke's" dam now has three records above 1,000 pounds, the last one was 1,190 pounds.

Now is the opportune time to buy one of these bulls as their sisters will be given every opportunity. Get a son now and be in line. Clean bulls from a clean herd. Prices reasonable. Write

EDW. H. ULRICH, Biscay, Minn.

A BULL BARGAIN

Bull calf born July 19, 1920.
Sire's nine dams average over 1,000 lbs. butter in year.
Dam has over 500 lbs. butter in 263 days.
This calf is an excellent individual.
Straight top line. Price $500.

MANKATO HOLSTEIN FARMS

Marlow & Randall, Mankato, Minnesota.

HOLSTEIN FEMALES

Females of all ages for sale, priced very reasonable Mostly all bred to our 34-lb. sire, he a grandson of Count, from a sister of Piebe. One or a carload. Under State and Federal supervision.

BLACK & WHITE STOCK FARM, R. 3, Melrose, Minnesota

COME TO BISCAY

for your next purchase of pure-bred or grade Holstein cattle, mature or young stock. Large selection, also a few select male calves to offer. Located near station.

BISCAY SALES CO., BISCAY, MINN.

We Have the Nicest Lot of Calves

By "Fayne Star" that we have ever had to offer. They run mostly white and are good individuals. We are pricing them worth the money. Get our bull circular. It is free.

FLECKS FARM, Faribault, Minn.

Choice at $100—Bulls Valued Up to $250.

Ready for service. T. B. tested by all three tests. Every one goes, to clean them out at once. A. R. O. dams and grandams. Sire's 15 nearest dams average over 30 lbs. Don't delay. Write now. Herd Federally tested.

HENRY J. KARPINSKI, Route 7, Oswego, N. Y.

Edinboro Lake Farm

Show Type HOLSTEINS Production

Six state yearly record champions 1918-19.

We offer bull calves by Sir Paul Veeman Hengerveld and Sir Ormsby Skylark Fredericka, out of yearly record dams with type.

Edinboro, Pa.

SONS

of Sir Echo Sylvia Johanna—

⅞ Brother to the $106,000 Bull

From high bred fine individual A. R. O. cow up to 30 lbs. Several on test now. All good straight individuals, backed by lots of milk and butter. Some are ready for service. Price very low. Write for catalog.

(Herd Under Federal Supervision)

CHESTNUT HILL FARMS,
G. A. Burdick, Mgr., Gibsonia, Pa

ORIGIN FARM

HORNLESS HOLSTEINS, Registered and A. R. O. Animals, all ages, for sale. Federally Tested.

GEO. E. STEVENSON, Scranton, Penna

BULL CALF

Sire's dam, butter, 1 yr., 848 lbs.; her daughter, 1,055 lbs. Grandsire's dam, 987 lbs. at 1 yrs.; her full sister, 1,344 lbs.; another, sam dam, 1,322 lbs. Dam, Miss Pietertje Alexin 3d, sister to Miss Pietertje Alexina 2d, 1,290.9 lbs. A dandy calf, priced right. Write quick t

McKAY BROS., - - CADDOA, COL

6 Good Cows For Sale

THE MINNESOTA KIND

They are all by a 36-lb. sire, are bred to a son of King Korndyke Colantha Ormsby, and are due to freshen this fall and winter. They are from 3 to 5 years old and absolutely straight and right. Lack of barn room forces us to sell.
Write or come and see them.

E. J. Brosious, - Stillwater, Minn

Grandsons of Sir Pietertje Ormsby Mercedes

The sire is Sir Pietertje Ormsby Mercedes 22 a son of Minnesota's first 1000-lb. cow. These bulls are all nicely marked, straight top line Very good individuals from good A. R. O. dam For pedigrees and prices, write

O. J. GROVER, - GLYNDON, MINN

Grandsons of

Duchess Skylark Ormsby and of S. P. O. M. 38th

for sale. These youngsters are from A. R. O dams that are now making good yearly records. Write today for further information.

POPLAR HOLLOW STOCK FARM,
Bertram D. Scott, Prop., Richfield Station
Minneapolis, Minn.

Bull Calf

advertised last week is sold. Here is another good one ready for light service. Sired by 30-lb. bull. Dam a 14-lb. 2-year-old who will be tested again next spring. Priced so reasonable that you can't afford to be without him $150.00 for immediate sale.

V. R. Holmes, Anoka, Minn

Get A Calf

We have a grand bunch of youngsters on hand. Come and pick out a calf while you have a big choice. Grow him to suit you. Saves you money and we are selling them as cheaply as we can. Show calves that are backed by generations of official testing and careful breeding. Sons of DUTCHLAND CREAMELLE COLANTHA LAD No. 165049. His yearly daughters average over 834 lbs. of butter at 26 months of age

GRAHAMHOLM FARMS,
H. R. Searles, Mgr., Rochester, Minn

REGISTERED BULLS

FROM TESTED DAMS

Sired by a 30-lb. son of Colantha Johanna Lad and a 26½-lb. son of Laura Piebe Ollie Homestead King. Well marked, straight individuals from two months to 2 years old. Priced to suit present conditions.

GEO. H. ELWELL,
Minneapolis, Minnesota

RICHLY BRED

HOLSTEIN BULL CALVES

out of A. R. dams and sired by our two richly bred herd sires — **King Piebe Ormsby Mercedes**, a 35-lb son of Sir Korndyke Bess and every dam in pedigree over 22 lbs. and **King Pietertje Mercedes Ormsby**, son of Sir Pietertje Ormsby Mercedes and out of 19-lb. senior two-year-old dam.

Herd tuberculin tested. Write for information visit herd.

P. FROST SPAULDING FARM CO.
C. L. Spaulding, Mgr., Warren, Minn

Third Michigan State SALE

75 of Michigan's Choicest . . . Holsteins

Selected From 30 of the Best Herds in the State

Every herd represented is under State and Federal Supervision and Fully Accredited or has passed one or more tests without reactors. There is no better guarantee of health.

Every animal has passed critical inspection by one of the best judges of Holstein cattle in Michigan, and we invite your attendance at a real Quality Sale, a sale in which you can select healthy foundation animals of the highest type and with breeding of the producing sort—true "Michigan Holsteins", at

Grand Rapids, Friday, May 27

The Michigan Holstein-Friesian Association
H. W. Norton, Jr., Sec'y, Old State Block, Lansing, Michigan

Attend this Series:

Central Michigan Breeders,	East Lansing, May 23rd
John M. Tobin Dispersion,	Allegan, May 24th
Martin Buth Dispersion,	Grand Rapids, May 26th
Third Michigan State Sale,	Grand Rapids, May 27th

Livingston County Holstein Ass'n

Quality Sale

Howell - - Michigan

Wednesday, May 18th

The Home of Healthy Cattle
From Herds Under Federal Supervision.
60- to 90-Day Retest Privilege.

90 Head Registered Holsteins

Two-thirds either have A. R. O. records or are from record cows.

5 cows with records from 25 to 29 lbs.

1 daughter of a 32-lb. cow and several others from high record cows.

9 bulls whose dams have records from 25 to 32 lbs.

JAY B. TOOLEY, President. **J. G. HAYS, Secretary.**

For Catalogs (Ready May 6th) Address,

F. J. Fishbeck, Howell, Michigan

MR. CATTLE BUYER

We can supply you with good, healthy registered Holstein cows and heifers, singly or in car lots. We always have some very desirable young bulls for sale. It will pay you to look into our high class listings.

LENAWEE CO. HOLSTEIN BREEDERS' ASS'N, ADRIAN, MICH.
L. W. Harwood, Sales Mgr. **R. C. Curtis, Sec.**

The Pontiac Herd

"Where the Champions come from"

Offer Bull Calves sired by sons of *Pontiac Korndyke, Hengerveld De Kol, Pontiac Dutchland, or Admiral Walker Pietertje.*
Do you want a Pontiac in your herd?

PONTIAC STATE HOSPITAL, Pontiac, Mich.

THE TRAVERSE HERD

We have what you want in
BULL CALVES

the large, fine growthy type, guaranteed right in every way. They are from high producing A. R. O. ancestors. Dams' records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.

Traverse City State Hospital, - Traverse City, Michigan

A Grand Yearling Bull

Sired by a son of KING KORNDYKE SADIE VALE from a 32.74-lb. 3-year-old dam. His dam, a 22-lb. 4-year-old, is now on year's test. The second month on test she made 2,450.0 lbs. milk and 100 lbs. butter. Her sire a double grandson of KING SEGIS. She is closely related to the world's wonder cow, BEECHER WYTHE 2D.

A Federal Accredited Herd

Price $250.00

M. J. SEBERGER, Schererville, Indiana

We Offer a Yearling Son

Of King Pietertje Homestead Ormsby No. 221488, out of the State record Junior 2-year-old with a record of 17,860.2 lbs. of milk and 716.16 lbs. of butter. His name is Prince Korndyke Ormsby Fayne No. 323802 and he took 5th premium at the last Dairy Show as a Junior calf. Write for pedigree and price. Herd under Federal Supervision.

BUFFALO CREEK FARM,
H. L. BINGHAM, Supt., Arlington Heights, Ill.

Holstein Bull Bargain

Royal Breeding—Splendid Individual

Carries 43¾% blood of Pontiac Korndyke, the greatest of all sires. 25% of blood of King Segis Pontiac and 1-½% blood of King Segis. None better. 4 others ready for service. First $250.00 check gets him.

Wm. N. Osborn, Wanatah, Ind.

YOU CAN'T DO BETTER FOR THE MONEY. Bull calf born Aug. 17, 1921. Mostly white, a show bull and well grown. His 3 nearest dams average 28.47 lbs. Sire is a 32.7-lb. grandson of King of the Pontiacs. Send for pedigree and photo. Have only 2 other bull calves besides this one. C. I. REAMER, Prop., Utopia Dairy Farms, North Liberty, Ind.

For Immediate Acceptance—

Three young bulls ready for service—Holsteins.
No. 1—Sire a 30-lb. bull. Dam a 27.5-lb. cow. Price $300.00.
No. 2—Sire 30-lb. bull. Dam 23-lb. 3-year-old. Price $250.00.
No. 3—Sire 30-lb. bull. Dam 16-lb. cow. Price $100.00.
King of the Pontiacs breeding, well grown and good individuals. Send for extended pedigree.

R. F. JOHNSON, Assumption, Ill.

Whitehurst Farms

BULLS FOR SALE FROM SEMI-OFFICIAL DAMS. Priced Right.

A. F. Randolph, Prop., Canton, Ill.

"SPOT"



Eli Aaggie Fayne Johanna
Milk 27949 lbs.
Butter 1001 lbs.

Breeders of Holstein Cattle

2 WORLD } RECORD COWS IN OUR HERD
4 STATE }

Holstein Bull Calves For Sale

A Few Exceptional Individuals Ready for Service

Write for Bull Sale List **LISLE FARMS CO., LISLE, ILL.**

Dispersion Sale

OF

Registered Holsteins

Maple Lawn Farm, Harvard, Ill.

40 Head—Saturday, May 14

Including the two-year-old herd sire, Pabst Korndyke Bacchus, a son of Korndyke Segis Johanna from Pabst Dandelion, an 872-lb. 3-year-old daughter of King Pontiac Champion. Ten daughters and three sons of Pabst Korndyke Bacchus, mostly from A. R. O. dams.

35 young cows and heifers, mostly under three years old. Several with good A. R. O. records. Daughters of King Segis Pontiac, King Pontiac Rutherford, Juliana King Repeater, Vanderkamp Segis Ormsby Lad, Paul Calamo Korndyke, Joe Calamo Hengerveld, Woodlawn Hengerveld Segis, Sir Sadie Cornucopia Pietje.

Nearly all are granddaughters of yearly record cows with records from 872 lbs. (as a three-year-old) to 1,271 lbs.

FOR CATALOG ADDRESS

L. M. Wakeley, Harvard, Illinois

Auctioneers — Haeger and Mack.

CASE

TRADE MARKS REG. U.S. PAT. OFF. AND IN FOREIGN COUNTRIES

KEROSENE TRACTORS

More Profit for the Dairyman

WHILE the market price you receive for your dairy products is, of course, the biggest factor in determining whether or not you are producing at a profit, there are also other considerations that are very important. Take the matter of producing winter feed for your stock for instance. If the cost of producing and harvesting the crop is high, your profits naturally will be reduced in the same proportion. Today, therefore, with a low market, it is more necessary than ever that strict attention be given to the details of feed-crop production in order to keep down the cost and so insure a reasonable margin of profit.

A *Case Kerosene Tractor*—10-18, 15-27 or 22-40 H. P.—will enable you to save time and labor on every operation connected with your crop from plowing the land and planting the seed to harvesting the crop and reducing it to ensilage or other form of feed. This saving all along the line is your best assurance of *safe* and *profitable* dairying, regardless of market conditions.

There are a number of things that enter into the economy and dependability of Case Tractors on all farm jobs. For example, every Case Tractor is equipped with a vertical, four-cylinder, valve-in-head, kerosene burning motor, mounted crosswise on a *twist-proof* frame. Power is transmitted to the drawbar without appreciable loss by means of simple, cut-steel gears, enclosed and running in lubricant. The full power of the motor is available for belt work because the pulley is mounted directly on the crank shaft.

Write for our catalog if you are interested reducing your operating costs

J. I. Case Threshing Machine Company
Dept. E10 Racine, Wisconsin

CASE

SILO FILLERS

Case Silo Fillers are built in four sizes: No. 10, 12, 16, 20. They require from 6 to 40 H. P. engines to operate them, according to size, and have capacities ranging 5 to 30 tons of ensilage per hour.



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A new way—a quick way to paint your floors

NO need to lug out all the furniture. Just move it over to one side; then paint the other side.

48 hours, and it is all done, and the room in use again. That means 2 days and 2 nights. But you can't do it with "any old floor paint." As sure as preaching, if you try it with anything but Lowe Brothers Hard-Drying Floor Paint, you will have a mess on your hands.

Lowe Brothers Floor Paint is made in a certain way to make it dry quickly, and hard, and still stand wear and tear. It gives a beautiful glossy surface, that can be wiped up same as if it were glass.

It is sold by the one best dealer in each town.

We'll be only too glad to send you a little booklet, called Floor Paint Lessons.

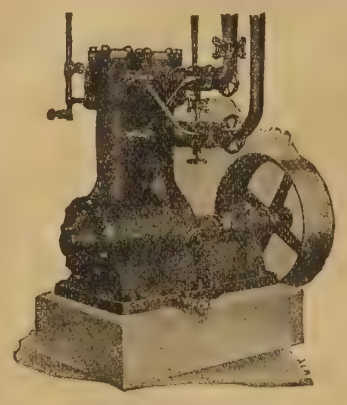
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Sanitary, Economical, Durable

MECHANICAL REFRIGERATION

For Creameries, Milk and Storage Plants



Vertical Twin Cylinder Refrigerating Machine.

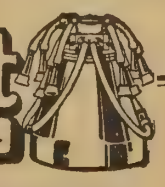
Modern methods demand better sanitation in creameries, milk and storage plants. The imperfect system of "ice cooling" will no longer answer. Aside from the troubles arising from ice cooling, after the first cost, mechanical refrigeration is more economical. The difference in the cost of operating an ice machine and that of ice to do the same work, will soon pay for the installing of a refrigerating plant. Every creameryman knows the importance of temperature control, not only in the cooling room, but in the cream ripening process. With mechanical refrigeration you have perfect control at all times.

HORIZONTAL machines in all sizes from 6 TONS to 750 TONS daily capacity. If interested write for bulletins.

THE VILTER MFG. COMPANY, 874 Clinton St., Milwaukee, Wis.

Independent

St. Paul MILKER Minn.



New Exclusive Features

At a Price that Will Interest You

Write for Money-Saving Information

INDEPENDENT MILKING MACHINE CO.
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The Ideal Milk Cooler



This apparatus has been, and now is, the best low priced MILK COOLER AND AERATOR on the market—extra large cooling surface, simple, strong and durable, ice chamber easy of access—easy to clean and easy to operate—adapted to use with either ice or running water. It has been in use *more than twenty years and all improvements added to date.*

Ask for descriptive circulars and prices.

OAKES & BURGER CO.
(Established in 1873). Cattaraugus, New York

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Urbana Ill.
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HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING



Fort Atkinson, Wisconsin Volume LXI, No. 17 May 13, 1921

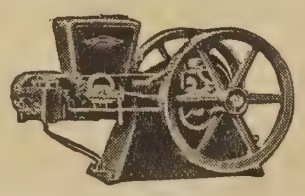
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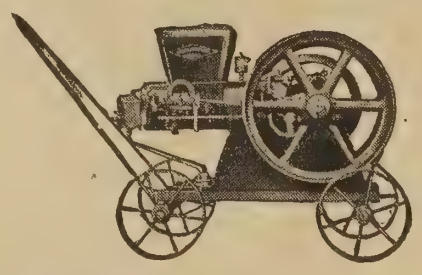
DEPENDABLE AT ALL TIMES



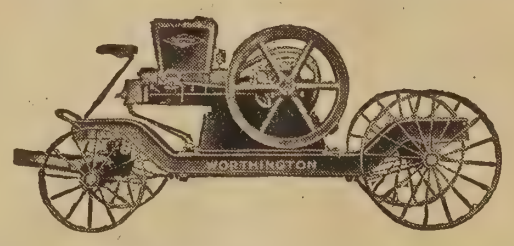
1½ H. P. GASOLINE ENGINE



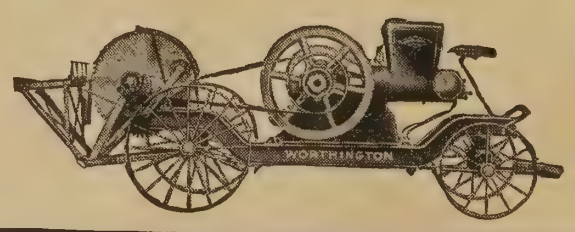
2½ AND 4 H. P. KEROSENE ENGINE



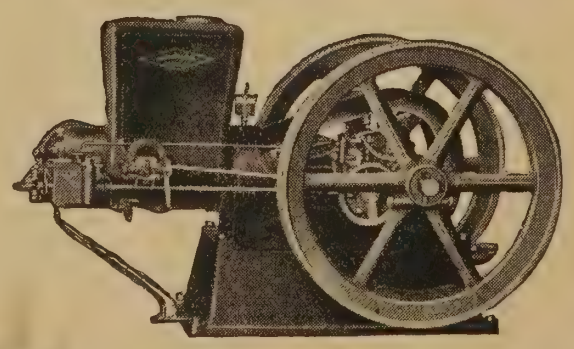
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WHEREVER business men gather together today you hear of economies in production—new standards of efficiency for labor, for machinery and in the distribution of finished products.

Reconstruction demands lower production costs and higher relative values.

It demands a new standard of efficiency in the use of materials; and especially true is this in the use of lumber.

It may surprise you to know that the service value of the average purchase of lumber could be increased 100%, if the buyer chose the most practical wood and the most economical grade for a given purpose.

Lumber is more intimately woven into our complex industrial fabric than perhaps any other basic material. In the production of coal, in the manufacture of machinery, in the distribution of countless commodities where we least expect it, lumber touches every home, every farm, every business in the land.

That is why an enlightened lumber service is important in this period of industrial reconstruction and in the great era of home-building that is ahead.

Lumber is capable of the same close analysis as is a bar of steel or a block of concrete.

For years there has been accumulating a mass of close-knit knowledge about the kinds of wood, their service values and adaptabilities.

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From now on the Weyerhaeuser Forest Products trade-mark will be plainly stamped on our product.

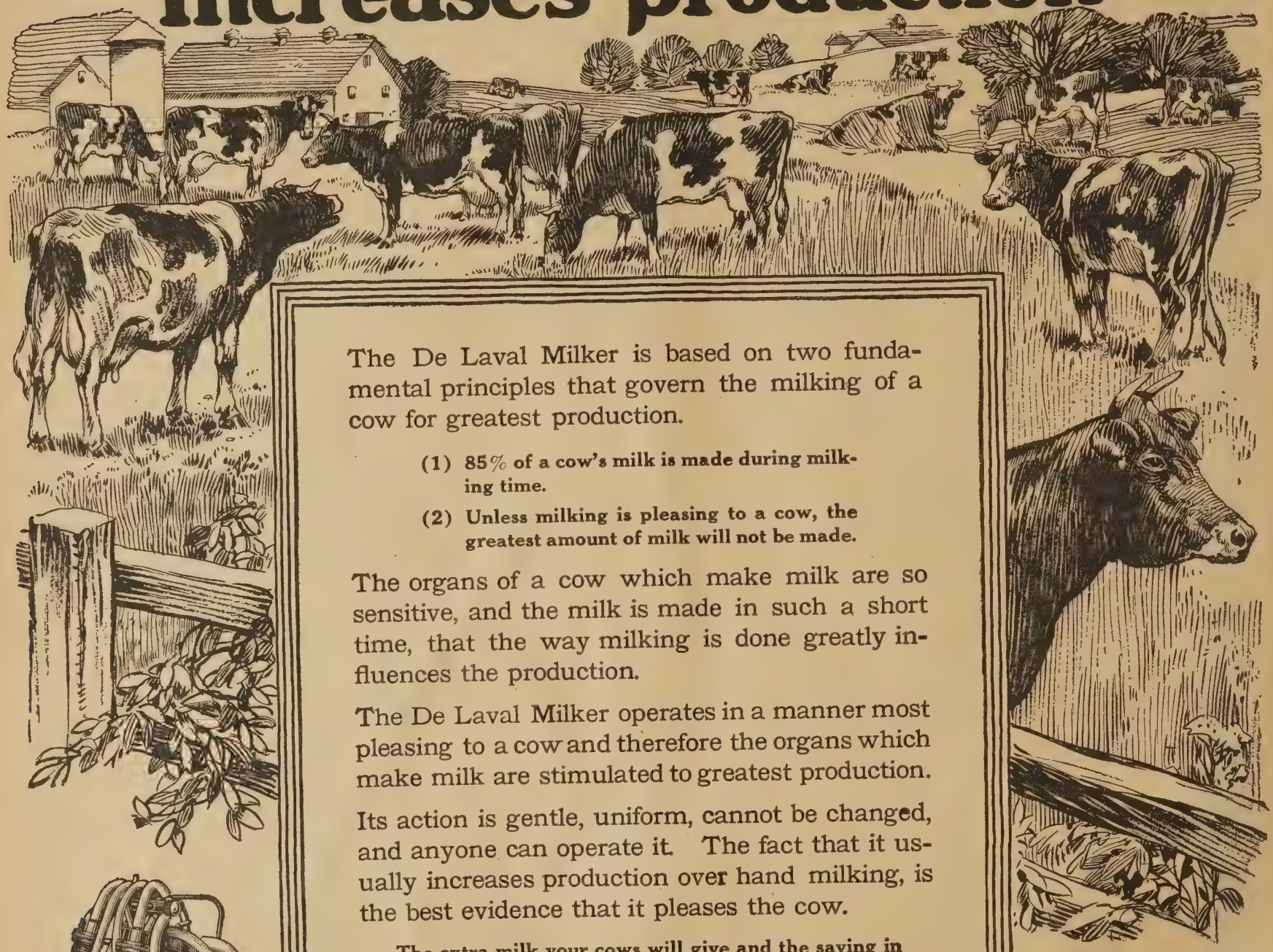
When you buy lumber for any purpose, no matter how much or how little, you can look at the mark and know that you are getting a standard article of known merit.

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Why the De Laval Milker Increases production



The De Laval Milker is based on two fundamental principles that govern the milking of a cow for greatest production.

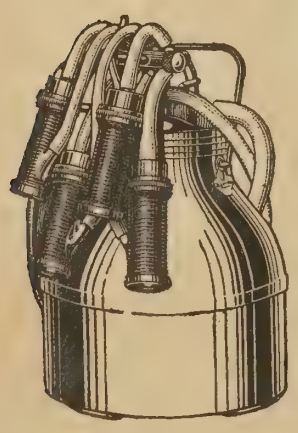
(1) 85% of a cow's milk is made during milking time.

(2) Unless milking is pleasing to a cow, the greatest amount of milk will not be made.

The organs of a cow which make milk are so sensitive, and the milk is made in such a short time, that the way milking is done greatly influences the production.

The De Laval Milker operates in a manner most pleasing to a cow and therefore the organs which make milk are stimulated to greatest production.

Its action is gentle, uniform, cannot be changed, and anyone can operate it. The fact that it usually increases production over hand milking, is the best evidence that it pleases the cow.



The extra milk your cows will give and the saving in time will soon pay for a De Laval Milker. It is a better way of milking. Write for complete information.

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Milker or Cream Separator

HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING

Volume LXI FORT ATKINSON, WIS., MAY 13, 1921 Number 17

THE CREAMERY BEAUTIFUL

One of the Best Advertisements for Dairy Products

H. A. BENDIXEN, IDAHO

ONCE upon a time there was a little old shack on the wayside just outside of the town limits. All the people shunned it and the mothers all warned their children to stay away from it, because in the house there lived—not a witch or a ghost, but—the buttermaker, and the old shack was the creamery.

For a mile or more one could smell the creamery and the smell was not of the most pleasant kind. No wonder that a creamery was not allowed to locate within the city limits. Old Sam Brown, one of the town veterans, who would tell you all about the town from the time his father was a boy to the time when this youngest grandson would reach the age of seventy-five, would point with pride to the stately livery barn on main street as the sight of the town, but to mention the creamery would cause him to heave out his last and only chew of perfectly good tobacco. The creamery was a nuisance; it was avoided like a pest.

Good milk, cream, butter, and dairy products in general were as valuable to mankind those days as they are to us today. However, with a lack of knowledge and appreciation of the importance of proper sewage disposal and other sanitary precautions, the creamery of the early days bred flies and disease and old Sam Brown had reason to dislike it.

But times changed. Today in the same town young Sammie Brown, whose grandad never came near the creamery, likes to come around to the buttermaker and mootch a nice cold drink of buttermilk. No longer does the livery barn adorn the best corner on main street, but the creamery has its place and the air around the place is as pure as you find it anywhere. You may not believe it, but it's true.

You step inside the creamery and you find yourself surrounded by bright clean walls, an abundance of light from all sides, and a glistening floor. You are greeted by the buttermaker, a healthy looking chap, cleanshaven and all dressed in white. He takes you around and you see the plant in operation. All the machinery is painted white and you can see that it is white and not partly of a different shading. All sanitary piping is shining and the water and steam pipes neatly bronzed. You can walk the floor safely without landing on grease and you do not hear the churn squeak with every turn of the line shaft. Everything runs smoothly and without a squeak.

Then you turn around, see girls, in white as clean and cute as fairies, wrapping butter, good to look upon (the butter) and tempting enough to eat of. It's all so beautiful and so inviting and you like the looks of things and you buy butter. Then the buttermaker tells you to come again and you take another look at the—butter being wrapped and say you'll come again and you do come again. You never knew you liked butter so well, and you don't mind paying good money for that clean, attractive little carton of bovine bliss, wrapped by fairy hands in the white house of dairydom.

You like to deal at the creamery because the creamery is the pride of the town. A nice lawn and flower beds adorn its front and the ash pile is well out of sight. The windows shine and you can actually look through them. A glossy coat of finish gives the finishing touch to a pleasing building.

Yes, indeed, the author is right who said: "A thing of beauty is a joy forever". Whether in a woman or in the woods, in a house or in a horse, in the front lawn or in a factory, in a piece of machinery or in a pound of butter, beauty is always a joy. You see beauty and you think of quality and where you find beauty as a rule you will find quality. Beauty at times may be as we say "skin deep" or superficial and mean little, but in the majority of cases attractiveness is associated with a good character and high quality.

Look at a man's front lawn and you can almost read his character. What you see on the factory grounds reflects upon the firm's policies. Clean, well planned, and neatly kept grounds outside of a factory indicate the cleanliness, business ability, and reliability of the man inside. On the other hand, a plant shacky and neglected in appearance always suggests bad management and a poor product. In judging by appearance the public is doing nothing unreasonable, especially when it comes to creameries.

There is not a more delicate product than first class creamery butter, and such butter can not possibly be produced in a creamery which is not clean and sanitary in every respect. A buttermaker in a creamery hidden by weeds, ash piles, and rubbish of all sorts is not apt to be very strict about cleanliness inside the plant. The dirt is bound to be carried on to the inside and, all in all, dirt is not compatible with high class butter. An attractive plant, then, as well as an attractive package, without doubt is a great advertisement and advertising pays. Everybody does it and must do it.

Why is it that exhibitors of live stock spend so much time and painstaking work in fitting their animals for the show? The brilliancy of the animal's coat or horns or the fluffiness of its tail adds little to the real worth of the animal. Nevertheless it raises the sale value of the animal and its chances for winning in the show ring.

The color in a piece of candy has nothing to do with its sweetness but it strikes the eye of the child and the child's desire to buy is instinctively increased.

Butter is not an article bought primarily for its beauty. However, there is something about attractiveness in anything that makes you willing to pay and as a rule you are not sorry for what you have bought.

It takes a good man to make good butter and a good man will show his taste in the package and on the front of his plant and in his office as well as in the quality of the product itself. Of course quality is important and with quality where it ought to be no greater market could be found for dairy products than right here at home in the United States. The dairy industry of this country need not look for outside markets, although there are splendid opportunities for export. Consumption of dairy products in the United States can easily be doubled and should be doubled according to the view of our most prominent men on nutrition. All that needs to be done is to advertise.

Advertise Your Product

It is easy to advertise butter and all dairy products, because they are not only attractive but possess the highest food qualities. Little has been done until just lately to advertise dairy products, and shrewd business men who know how to advertise are "getting-by big" with substitutes that are no substitutes. There are no cheaper foods than dairy products considering actual food value. They contain, as we now know, that all-important growth and health promoting fat soluble vitamine, without which animals cannot live. There are only a few sources of this substance and dairy products are by far the cheapest and most available source of all.

If qualities, equal to those possessed by dairy products, could be found in some of the so-called substitutes on the market, the manufacturers of these products would simply flood

(Continued on page 718)



NEW HARTFORD CO-OPERATIVE CREAMERY, WINNER OF FIRST PRIZE IN 1920 IOWA CREAMERY GROUNDS IMPROVEMENT CONTEST

Why the Sunflower Makes Good

C. A. LECLAIR, WISCONSIN

THE culture of sunflowers for silage originated several years ago in the dry sections of the western United States. From the outset the crop made so good that many farmers were soon growing it. Now its use has spread so rapidly that eventually every state in the Union where, because of insufficient rainfall or unfavorable climatic conditions, corn is not a sure crop will see its golden smile gazing often and widely from the fields. Unless the unexpected happens, not only the great dry West, but also Minnesota, Wisconsin, Michigan, New York, Vermont, New Hampshire, and Maine and parts of Canada will have as much right to the title of sunflower land as does Kansas. It is the big, single headed sunflower rather than the many stalked weed which is taking these states by storm. As persistently as a Kansan cultivates to rid his fields of the smiley faced weed, farmers elsewhere cultivate to make it grow into one of the most promising fodder crops that can be raised outside of the real corn belt.

There is everything in favor of a steady increase in the popularity of the sunflower as a forage crop. In its ability to produce pounds of digestible and palatable nutrients, it has every known variety of drought and frost resistant corn beat a mile. Let me quote from one of the many enthusiastic growers of the weed, not in the arid West, either, but from humid Cloverland. Mr. Henry Roberts of Michigan, says:

"Here in Upper Michigan we have had so much faith in the cow that hundreds of us farmers got pretty deep into dairying before the problem of getting suitable roughage greatly bothered us. We called on our state experiment stations for help and they did nobly. Frost resistant varieties of corn have been originated but corn in this part of the country can not be depended upon. Unless some brilliant mind can propagate a species that will germinate at absolute zero and stand the temperature of liquid air, we will always have to look elsewhere for material to store for the all essential succulent winter feed. Some of us tried oats mixed with peas.

"The peas were planted deep and early, and the oats shallower and somewhat later so that both had a chance to make maximum growth.



SUNFLOWERS AND CORN ON UPPER MICHIGAN FARM



ENSILING SUNFLOWERS AND CORN ON A NORTHERN WISCONSIN FARM

This succotash we could grow with some success but, unless the proportion of peas to oats was just right and the crops were ensiled at the proper stage of maturity, the stuff was hard to cure. Not until our county agent got us to try sunflowers did we find a crop that actually beat corn for silage."

John Seaquist of Door County, Wisconsin, and hundreds of other farmers of the north central and eastern states could tell this same story. I know a Cloverland seedsman who alone expects to sell more than a ton of sunflower seed. This means that in his territory at least 1,000 acres of sunflowers will be planted.

Feeding Value Equal to Corn

The sunflower is phenomenal in possessing practically the same feeding value as corn. I have known farmers who have had their silos filled part with corn and part with sunflowers who claimed to notice absolutely no difference in the milk flow of their cattle when they switched abruptly from one kind of silage to the other. Cows relish good sunflower silage. Of course, animals accustomed to the corn silage prefer it slightly but the opposite would undoubtedly be true were the conditions reversed.

Carefully conducted tests under the direction of the authorities of the Cornell Agricultural Experiment Station in New York substantiate the evidence of thousands of farmers that the production of butterfat was, if anything, increased by sunflowers when cows were fed on them alternately with corn for equal periods.

In similar tests at the Chatham Experiment Station in Upper Michigan where oat and pea silage was compared with sunflower silage, L. R. Walker, county agent, reports the following:

"Last year at the Chatham Experiment Station they had sunflower ensilage on top of oat and pea ensilage. The sunflowers were fed first and when the change was made to oat and pea ensilage, no difference was noted in the milk flow which was carefully weighed daily. I see no reason why the sunflowers will not work in this vicinity. We have yields this year of twenty-five tons of flowers and will be able to make comparisons with corn this winter, but I feel confident that the comparison will be valuable to sunflowers."

Yields Better Than Corn

Considering that it costs no more to plant, cultivate, and harvest sunflowers than corn these crops have another characteristic in common. In the matter of acre yield, however, the sunflower proves its superiority. In high or low altitudes, on poor or good soil, under humid or arid climatic conditions, with or without irrigation, the sunflower can be banked upon to outyield corn. In fact, other things being equal, it will make on the

(Continued on page 706)

Bob Takes An Inventory

C. E. LADD, NEW YORK

EVERY winter Bob Browning and his wife talked over the farm business, planned what crops should be raised on the farm next year, how many cows they should keep, whether they should start any spring calves, and how many chickens should be hatched. From long experience they knew exactly how much work they could do during the summer. They knew the possibility of obtaining more labor and they understood the producing power of their soil.

One February evening when they were discussing these questions, Helen Browning said to her husband, "Bob, isn't there some way of telling whether our farm business is worth any more this year than it was last year and how much more or less it is worth? We have never figured this out, but couldn't we take a day off some time and really find out where we stand?"

"Well," said Bob, "the groceryman takes an inventory every year and I expect he is able to find out from that just where his stock stands. I don't know why we can't do the same."

The result was that the next day Bob and his wife, after discussing the question long and lengthy the night before, determined to take as much time as necessary and make an inventory of the farm business. This was how it was done.

Bob sharpened his pencil, took down an ordinary account book, which had been partly used for other purposes, and wrote at the top of the page, "Inventory, Browning Farm, 1919."

His first entry was "Farm," The farm had been bought six years before for $8,000. Since that time a few repairs and improvements had been made on the buildings. The land had been steadily improved from year to year and all land in the immediate neighborhood had risen in value. It seemed only fair to suppose that this farm, if placed on the market, could be sold for $9,000. So the first entry was "Farm,——150 acres, at $60 per acre———$9,000."

Next came live stock and first of all the working animals. There were but four horses on the farm, one well matched heavy team which did the brunt of the work, and two extra horses somewhat older which were used either together or singly or in combination with the heavier team. The heavy team was large, in fine condition and six years old apiece. In any market they would bring $500 and were entered at that in the inventory.

The question of valuing the other two horses was more difficult; but from the auctions which had occurred that winter in the neighborhood, it seemed reasonable to believe that Tom was worth $150 and Dick $75. "Anyhow," Bob said, "we can only use our best judgment this year, with no big jump either way, I believe we won't be fooling ourselves much." So the entries were put down:

Horses	
Heavy team, weight 3,000 lbs., 6 years old	$500
Tom, weight 1,300 lbs., 10 years old	150
Dick, weight 1,350 lbs., 14 years old	75
Total for all horses	$725

Naturally, after horses, the cows and young stock came next. Recent auctions helped to give values for the cows, two-year-olds, yearlings, and calves. Moreover, hardly a week passed but that some cattle dealer happened into the barn and talked to Bob about the value of stock, generally making an offer for some cow or cows before leaving. At the milk station mornings the chief topic of conversation, when all other subjects failed, was the price of cattle and the amount that dealers had paid for stock bought during the past week. So Bob and his wife took their account book to the cow stable. Here Helen took the pencil and the book and became the clerk, while Bob went back and forth behind the row of cattle making up his mind as to the value of each one and balancing their good points and bad points so as to attain just the nicety of judgment required to place a fair value on each animal.

"Why don't you group them into classes?" asked Mrs. Browning, "and value them in that way."

The suggestion seemed so reasonable that Bob adopted it at once.

"Well," he said, "there are 15 cows, every one of them sound in all four quarters, of full age so that they are giving their maximum amount of milk and with teeth good enough so that they should all last for years to come. They ought to bring today at any auction $120 apiece and I'd hate to sell them for that if a dealer of-

(Continued on page 714)



FALCON'S PROUD WARRIOR

FALCON'S FLIGHT GUERNSEYS

Record Making Which Does Not Interfere With Persistent Production and Reproduction

THOUGH with cows, as with men, it is better to be a "has been" than a "never was", feed bills are paid by "issers" alone. Even a world record cow, great as her past performance may be, is worth only beef prices when sterile. A system of record-making which makes cows "has beens", incapable of reproduction, no matter how large the one year's production, is pernicious, expensive, and no longer acceptable. A record which ends a cow's usefulness should be strongly discounted, and is.

Worthwhile records are those which do not make barren cows of a breed's best individuals; the only worthwhile record cows are those which come back year after year paying a profit by their milk flow, and contributing regularly to the further improvement of their breed by dropping healthy, vigorous calves.

At Falcon's Flight Farm in Connecticut, where Bell-founder—May Rose Guernseys are bred, the first forty-two Advanced Register records completed average 589 pounds of fat —about twenty pounds higher than the first forty ever made on any other Guernsey farm in America. All but three of these cows have dropped calves since the records were finished. One of the three died shortly after the test and the other two are now heavy in calf. During the past four years there have been but three abortions in the herd of 110 females, and federal tests in June, 1920, and January, 1921, show the herd to be tuberculosis-free. Such a health record gives value to a description of this herd and its management.

When the Falcon's Flight herd was started fifteen years ago, much care was exercised in selecting its members. The occasional additions during the following seven years brought only high class animals into the herd's foundation. Since 1913 no females have been purchased. The developments here recorded are entirely from stock owned then, 96 per cent of the present herd of 110 females being bred on the farm. Progress before 1913 was limited by a disastrous epidemic of contagious abortion. The fact that no females have been brought in in eight years is credited with part of the present freedom from disease.

Until 1917 Falcon's Flight Guernseys were maintained as a milking herd and were fed and managed in the manner which seemed practical to profitable production. Calves were allowed to get a bit shaggy haired and roughed it considerably until they came to milking age, but they were breeders. Cows were bred to freshen each year and were fed a wide ration which might not have given immediate maximum production but which was healthful and kept cows in the milking herd year after year.

Changed to Breeding and Record Making Herd.

Four years ago, the plan of the farm changed and what had been only a first-class dairy herd without fame or renown was started on the way to a high rating among the breeding establishments of the country. Instead of working solely for economical milk production it squared away in a breeding plan which is definitely worked out for generations to come. Its accomplishments in this short time have listed it among the breed's leaders.

But the feeding and management luring the "dairy years" have become a habit. So, instead of starting cows on test to "smash records, regardless", care was taken that the cows were not "smashed". In the dairy, the most profitable cow had been the one which made consistent returns year after year; it seemed logical, therefore, that as a breeding institution it wouldn't be the cow that would ring the bell for one year and then fade out that would set the mark but the one which would make her record and drop a goodly number of calves afterward which would do the real business. Consequently a test ration with about 18 per cent protein was used. The basal mixture was 300 lbs. bran, 300 lbs. ground oats, 200 lbs. oil meal, 200 lbs. gluten, 100 lbs. cottonseed meal, and 140 lbs. hominy. Cows which tend to become too thin as the lactation period advances are fed additional hominy and for those inclined to lay on flesh oil meal is added to the basal mixture. On the day these notes were taken fifteen cows on test were receiving an average of 12 lbs. of grain daily and were producing 39 lbs., a little over 3 lbs. of milk for each pound of grain.

An average of 6 lbs. of dried beet pulp was being fed. It is given with the grain mixture dry. It is thought that feeding it wet decreases the quantity of silage consumed and that better results have been obtained when it is supplied dry. When no silage is available, the pulp is fed wet.

Even with this carbonaceous ration a period of six weeks is taken in getting a fresh cow onto full feed.

The Results in Health

Examples of the results of Falcon Flight feeding and care on persistency of production and reproduction are Cassifide and Hoop of Gold, two cows of the original lot purchased. The first lived nearly seventeen years and dropped fourteen calves. At thirteen years she was put on test and made 11,965.4 lbs. milk containing 534.15 lbs. fat. She has four A. R. daughters whose records average 550 lbs. and a son whose first four daughters tested average 554.81 lbs. fat. Hoop of Gold, at seventeen years, is still in producing form and due to calve in August. Such longevity and continued function can result only from healthful care and management.

The fact which changed Falcon's Flight Farm from a place where it was only known that a good dairy herd of Guernseys was maintained to an institution eagerly sought by breeders for breeding stock was the testing of the daughters of Bellfounder, one of the first bulls used on the farm. His daughter, Countess Prue, with her world's record of 1,103.28 lbs. fat, guaranteed the farm a place in the sun. Polly of Falcon's Flight, the full sister of the world champion, both out of Pruette, made 728.79 lbs. of fat on her first test and is at present making a record which should easily give these two full sisters an average over 1000 lbs. of butterfat. Their average last month was 916 lbs. Mononette, bred on the farm, and with a production of 858.11 lbs. fat, has a daughter, Monobelle, by Bellfounder, whose record is 847.64 lbs. fat. The average of these two records is larger than that of any other Guernsey dam and daughter bred on one farm. The first seventeen Bellfounder daughters to complete records average 661 lbs. of fat, and include My Fancy of Falcon's Flight with 979.11 lbs. fat, Monobelle with 847.64 lbs., and Blanco with 806.33 lbs. Daughters now on test promise to bring the average of all above 700 lbs.

Bellfounder for $220

Bellfounder, the bull whose daughters give him a rating among the greatest sires the breed has known, never sold for a record price: he never saw a show ring, and couldn't have won had he been exhibited. At a Florham Farm auction, $220 was enough to take him to Falcon's Flight. Because of abortion in the herd his offspring are limited to those sired after 1912. In 1914, when an old bull, he was sold to another Connecticut farm, and later went to the butcher, "unhonoured and unsung". Fortunately the small number of daughters of this great Guernsey were kept healthy and developed into strong, vigorous cows under the plan of management of Falcon's Flight.

Banzai, also purchased from Florham Farms and used before Bellfounder, was an equally great sire in the opinion of those at Falcon's Flight. Though his daughters were started on test when well along in years, the five with records average 12,874.9 lbs. milk, 667.97 lbs. fat.

The third sire used, Prince of Litchfield, is the son of Cassifide. He was sired by Banzai. His son, Duke of Falcon's Flight, out of Little Duchess, a daughter of Banzai, with 13,616.3 lbs. milk, 655.36 lbs. fat, is in service now. Another successful sire was Raymond's Pioneer of Lewison, eight of whose daughters, all at less than mature age, have averaged 10,282.2 lbs. milk, 528.95 lbs. fat.

Plans for Future

The Bellfounder and May Rose families will be continued in the herd. At present a son of Bellfounder, Choice of Elm Tree Farm, and a double grandson represent that family. The plan is to use a son of certain cows now in calf to "Choice". The May Rose line is carried on through the use of Falcon's Proud Warrior, by Langwater Warrior and out of Pride of Birth, a 644.12-lb. cow with five daughters averaging 552 lbs.

Such richly bred sires will be used in a herd of strong constitutioned, straight topped, deep barreled cows with square, well hung udders—cows developed by a safe, sane plan of feeding and care which has given them strength and vitality for years of heavy milking and dropping calves each year. A statement from the farm well outlines the plan to preserve and improve upon the present characteristics of the herd: "It is the intention to perpetuate these qualities through carefully considered policies of line breeding with an occasional resort to inbreeding where such action seems to be warranted by the animals to be so inbred and the ends to be attained." So well are plans laid for continuing this breeding herd that the statement of Chester W. Adams is well put that, "If two and two were as certain to make four in the breeding of animals as it is in mathematics, the future of Falcon's Flight Guernseys would be assured."



THREE FALCON'S FLIGHT GUERNSEYS, ILLUSTRATING THE TYPE BEING BRED

They are straight-topped, strong constitutioned, deep barreled cows with square, well hung udders. Hoop of Gold, on the left, is seventeen years old and due to calve again in August. My Fancy of Falcon's Flight, center, has a record of 18,214.7 lbs. milk, 979.11 lbs. fat. She is by Bellfounder and is second among his daughters only to Countess Prue whose world record is 1,103.28 lbs. fat. Rose of Falcon's Flight, right, has a record of 11,771.2 lbs milk, 633.11 lbs. fat. She is one of five daughters of Bellfounder now on test which are expected to bring the average of all above 700 lbs. fat.



DO YOU KNOW THAT FRESH AIR IS ⅔ OF A COW'S RATION

IRRESPECTIVE of how well you feed your cows, they are not getting correct nourishment when you house them in improperly ventilated barns, because *fresh air is two-thirds of a cow's ration.*

That's why the U. S. Dept. of Agriculture, the farm journals and stock and dairy experts of the country advocate efficient farm barn ventilation to promote healthy and contented cows and a greater milk yield.

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FARM BARN POWER VENTILATOR

The ILG FARM BARN POWER VENTILATOR keeps the air in your cowbarn fresh, clean and invigorating. It operates electrically, draws out every trace of foul odors and gasses which arise from dung and excretions. It keeps the hay and grain sweet and fresh, and helps the cattle grow stronger and give more good milk. Made for 32-Volt D. C. and 110-Volt Standard Currents.

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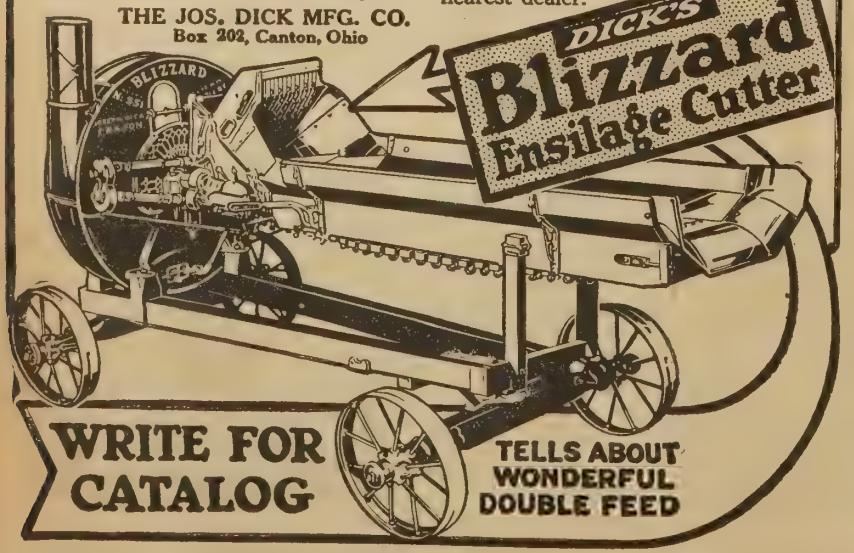
What Ensilage Cutter Shall I Buy?
Buy DICK'S BLIZZARD

—*advises Paul Pritchard,* of Geneseo, Ill. A scene on his farm is shown above. "This is my second Blizzard," says Mr. Pritchard, "It filled my 12x48 130 ton silo in thirteen hours using four bundle teams on short hauls." The Blizzard is

Self Feeding

Just toss the bundles on the feed table. No need to cut them. They are carried direct to the knives. Six fans whisk the cut silage up into highest silos with ease. W. W. Vipond, of Scales Mound, Ill., says: "We found the Blizzard light running, very large capacity and capable of blowing the silage into the highest silo. We think it the one real machine." **Catalog tells whole story.** Write for it and name of nearest dealer.

THE JOS. DICK MFG. CO.
Box 202, Canton, Ohio



WRITE FOR CATALOG

TELLS ABOUT WONDERFUL DOUBLE FEED

When Writing to Advertisers, Mention Hoard's Dairyman

Cow Testing Associations

RECORDS, PRICES OF FEEDS, FAT, AND MILK

Following is the summary of reports received during the week and up to the time of going to press of this issue:

State	Association	Tester	Month	No. of cows tested	No. of cows producing over 40 lbs. fat	Fat production of high cow	Owner
Penn.	Wyalusing	Walter West	March	348	35	71.	W. B. Kennedy
"	Troy	M. V. Bennett	"	364	68	69.9	W. D. Huntington
"	Canton	B. E. Whitney	"	474	120	79.7	M. C. Gates
"	Towanda-Wilmot	Leslie Warren	"	260	40	65.0	Paul Jennings
"	West Chester	Allen Goodman	"		27*	84.4	Westtown School
Ohio	Coshocton Co.	Jos. A. Emig	"	274	15	56.9	Seldon Pew
Wis.	Empire Osceola	Palmer Simonson	"	442	119	100.9	Braun & Sons
"	Monticello	H. T. Albrecht	"	438	115	93.4	E. W. Marty
Va.	So. W. Virginia	R. B. Strickler	"	268	21	64.3	St. Albans San.
Wash.	Stillaguamish	M. C. Hong	"	449	57	87.3	Z. Farrington
"	Snohomish	A. E. Sweet	"	279	71	87.6	Krassin & Son
Ore.	Smith—Umpqua	Millie Adams	"	83	22	61.4	W. L. Baker
"	Rogue River	J. B. Bichan	"	281	56	68.3	R. Billings
Ohio	Sullivan	P. Guisinger	"	120	32	102.3	G. B. Warner
Mo.	Webster Co.	F. M. Herman	"	301	30	73.6	W. C. North

*Over 50 lbs. fat.

Association Notes

Wyalusing, Pennsylvania:—This association has been selling grades and buying pure-breds. All members use pure-bred bulls. They have just started to buy co-operatively and are pleased with the saving. During March, market milk testing 3 per cent sold for $2.10 per cwt. Milk retailed for 10c per quart. Bran sold for $38 per ton; cottonseed meal, $44; gluten, $44; corn and oats, $38; distillers grains, $33; linseed meal, $34; oats, $40; hominy, $39; Unicorn, $30; corn meal, $38.

Troy, Pennsylvania:—The condensery paid $2.00 per cwt. for milk. The creamery paid 50c—56.8c per pound for fat. Prices of feed are as follows: cottonseed meal, $2.25—$2.65 per cwt.; wheat feed, $2.25; corn meal, $1.70—$2.00; oil meal, $2.40—$2.65; hominy, $1.70—$2.00; bran, $2.00—$2.20; barley, $1.70—$2.00; gluten, $2.25; middlings, $1.70—$2.25.

Canton, Pennsylvania:—We have 534 cows in the association of which 171 are registered. We have 68 pure-bred Shorthorns, 58 pure-bred Holsteins, 43 pure-bred Jerseys, and 2 pure-bred Guernseys. During March market milk sold for $1.98 per cwt., the required test being 3 per cent. The creamery paid 55c per pound for fat. Milk retailed for 12c per quart and butter for 55c per pound. Cottonseed meal sold for $44 per ton; oil meal, $50; gluten, $44; wheat bran, $39; corn meal, $34.

Towanda—Wilmot, Pennsylvania:—During March, market milk testing 3.3 per cent sold for $2.10 per cwt. Four cents were paid for each point above. Feed prices are: gluten, $48 per ton; ground oats, $41; corn meal, $37; oil meal, $50; cottonseed meal, $42; Unicorn, $54; Pioneer, $53; bran, $37.

Coshocton County, Ohio:—Market milk testing 3 per cent sold for $4.20 per cwt. during March. The condensery paid 52c per pound for fat and the creamery, 52c. Milk retailed for 14c per quart and butter for 50c per pound. Hay sold for $12 per ton; bran, $32; corn, 70c per bushel; oats, 50c; cottonseed meal, $1.50 per cwt.

Empire—Osceola, Wisconsin:—Another registered Holstein sire has taken the place of a scrub bull. Four registered Holstein bulls were sold by members. The creamery paid 60c per pound for fat and the cheese factory 58—62c. Silage sold for $8 per ton; alfalfa and clover hay, $16—$20; bran, $29; oil meal, $48; cottonseed meal, $50; gluten feed, $45; barley, $30; oats, $26; corn, $30.

Monticello, Wisconsin:—During March market milk testing 3.7 per cent sold for $2.20 per cwt. Six cents were paid for each point above. The creamery paid 45c—50c per pound for fat. Milk retailed for 10c per quart and butter for 50c per pound. Bran was priced at $28 per ton; alfalfa hay, $28; oil meal, $50; silage, $6; hominy, $28; oats, 50c per bushel.

Southwest Virginia, Virginia:—Four unprofitable cows were sold this month. The creamery paid 45c per pound for fat. Milk retailed for 14c per quart and butter for 60c per pound. Larro sold for $75 per ton; bran, $40; cottonseed meal, $40.

Byron County, Wisconsin:—Twenty-three members have finished a year's tesing. Their herds included about 400 cows. Seventy-eight cows were sold during the year, 27 for breeding purposes and 51 as boarders. Forty-nine cows qualified for the Register of Production, having made 365 or more pounds of fat.

S. A. Smith owned the high cow in the association, a Holstein, Oakfield Johanna, which made 15,945 lbs. milk containing 607.5 lbs. fat.

Some good figures were collected to indicate the profits from liberal feeding of concentrates. A herd which was fed $36.87 worth of grain per cow made a return above feed cost of $123.43. One in which $49.59 worth of grain was fed made a net return over feed of $118.16. A herd



The five grade Guernsey cows shown here are from the herd of 17 owned by F. D. Breitrick & Sons, Wisconsin. This herd led the Ellington Testing Association in the year ending April 1, 1921, with an average production of 7,375 lbs. milk, containing 343.4 lbs. fat and a return over feed cost of $138.92 per cow. The herd has association records for two previous years, the average for the first being 302.1 lbs. fat, and, for the second, 318.8 lbs. Each of the five cows shown made more than 400 lbs. of fat last year, the average being 440.7 lbs. Matthew Nelson is the association tester.

which received only $20.39 worth of concentrates per cow made a return over feed of $89.92 and in one where only $15.24 worth of feed was fed the net return over feed was only $70.11.

The highest herd in the association was that owned by Henry L. Weber, containing 20 registered Holsteins which averaged 10,721 lbs. milk containing 375.8 lbs. fat.

Feed, Care, and Study

Herd Average Increased by 100 lbs. Fat

"As members of the Cedar Grove, Wisconsin, Cow Testing Association for the past three and one-half years," say Huenink & Lubach, owners of Wisconsin's champion cow test cow, "we have obtained some profitable results. When we started our herd averaged 11,829 lbs. of milk and 410.2 lbs. of butterfat, while the last year our average was 13,757 lbs. milk and 502.2 lbs. butterfat.

"We were encouraged by our tester to mix our rations before feeding and to milk some of our cows three times a day. In one instance this gave an increased production of over 3,000 lbs. of milk.

"Another problem our tester helped us solve was our calf feeding. He encouraged us to mix a good calf ration and our calves have grown as much as two and a half pounds a day.

"Another item we must not forget is that testing showed the difference in the profits of the several cows Some of the cows made as much as two and a half times that of other individuals.

"It was through the tester's suggestion that we started with purebred cattle in earnest, which some day is going to give us a good purebred herd.

"Testing showed us that we had sold a registered bull to be slaughtered that had five daughters that averaged over 13,300 lbs. milk and 525 lbs. of butterfat. A lesson like this one we will remember a long time. Our association work helped us to feed and care for our cows, and then study the results obtained."

Holstein Wins Kansas Trophy

HOARD'S DAIRYMAN:—The loving cup, offered annually by the Kansas State Dairy Association, was awarded to the Holstein cow, Lillian Korndyke Sarcastic, who made the highest semi-official butterfat record in the state of Kansas during the year 1920. Lillian Korndyke Sarcastic is a registered Holstein bred, owned, and developed by Mr. T. M. Ewing.

Her record is 23,335.2 lbs. of milk and 780.1 lbs. of butterfat, which is equivalent to 975.13 lbs. of 80% butter. During the year Lillian was milked four times daily for the first two months, and three times per day for the remainder of the year. Her ration consisted mainly of silage, alfalfa hay, and mixed grain, with some pasture. She was kept in a roomy box stall, and turned out with the rest of the herd for exercise and pasture.

This cow was just eight pounds of butterfat above the cow who won the cup in 1919. Lady Volga Colanthus 2d, the 1919 winner, and the first cow in Kansas to produce over 20,000 lbs. of milk in Kansas, completed a record of 24,638 lbs. of milk and 771.78 lbs. of butterfat.



Lillian Korndyke Sarcastic, winner of the Kansas trophy for the highest butterfat production in 1920.

The breeding of this cow is worthy of note, as she is a maternal sister to Irene Sarcastic De Kol, the Kansas cow that won grand championship at the Missouri, Iowa, Nebraska, and two Kansas State Fairs, as well as winning second place at the 1920 National Dairy Show at Chicago. The sire of Lillian was Wauseona King Korndyke who is now owned by McConnell Brothers, Kansas. The dam of this bull produced 16,174.1 lbs. of milk and 612.17 lbs. of fat or 765.21 lbs. of 80% butter in a year. His sire is Sir Korndyke Queen who has 40 tested daughters and is a son of Pontiac Korndyke.

Several daughters of Wauseona King Korndyke have been tested for yearly production, and all have made good records. These include Queen Mahomet Colanthus who produced 15,656 lbs. of milk and 578.34 lbs. of butterfat in 305 days as a junior three-year-old.

Kansas. R. B. BECKER.

The fortunate people—the truly fortunate—are not so much those who succeed in life as those who succeed in living.—E. S. Martin.

We had an old horse named Barneo,
He died when he swallowed a cameo,
They made boots from his hide
Both narrow and wide,
And the rest was made into oleo.—Ex.

DODGE BROTHERS
MOTOR CAR

The reliability of Dodge Brothers Motor Car is almost always referred to when its name is spoken

It seems to stand as a symbol for the car itself—a symbol which everyone knows and recognizes

People speak of the car's economy and efficiency with high praise, but they speak oftener and with even greater enthusiam of the way it can be depended upon

The gasoline consumption is unusually low
The tire mileage is unusually high

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"PELOUZE" Dairy Scales

Three Sizes: 40, 60 and 120 lbs. by Tenths of a Pound.

Guaranteed Accurate

Made to comply with Departments of Weights and Measures. Large Circular Dial, with distinct, black figures and graduations. Patented adjustable hand for obtaining the tare weight of empty pail.

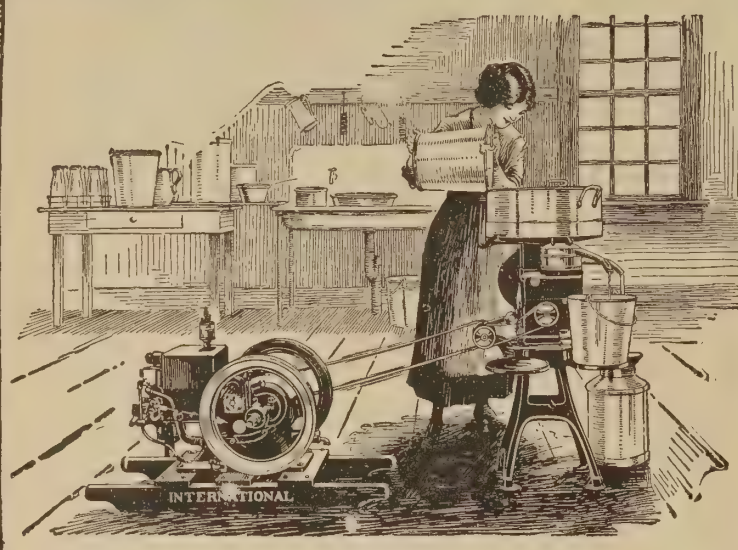
Order direct or through any leading Dairy Supply house. Specify "Pelouze."

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at World's Original and Greatest School and become independent with no capital invested. Every branch of the business taught. Write today for free catalog. Jones Nat'l School of Auctioneering, 38 N. Sacramento Blvd., Chicago, Ill. Carey M. Jones, Pres.



Primrose Prices Down!

Go over these Primrose details again —then see the International dealer

PRIMROSE is the only cream separator with two wide-open cream outlets that are never restricted in size. The regulating screw is in the skimmilk outlet. It is easy to adjust because it works on the large volume of skimmilk instead of on the small volume of cream.

In the Primrose, oil is forced through the bearings and not just to them.

It is the only separator in which the dirty used oil is turned out automatically when new oil is poured in.

Primrose separators run easily and steadily, skim with exceeding closeness, and serve their owners reliably for many years. Direct power drive and electric motor drive equipment available. Built in four sizes with capacities ranging from 350 to 850 pounds of milk per hour.

Primrose quality may now be had at lowered prices. Take advantage of Primrose lower price at the stores of the International dealers.

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92 Branch Houses and 15,000 Dealers in the United States

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Lightning proof— Weather proof— **Roofing Products**

For lasting service and fire protection use metal roofing—adapted to rural and city properties.

APOLLO-KEYSTONE Galvanized Sheets are carefully manufactured and highest in quality. Unequaled for Roofing, Siding, Culverts, Silos, and general sheet metal work. Sold by leading dealers. For fine residences and public buildings KEYSTONE COPPER STEEL Roofing Tin Plates are unexcelled. Look for the Keystone added below regular brands. Send for our "Better Buildings" booklet.

AMERICAN SHEET AND TIN PLATE COMPANY, Pittsburgh, Pa.



The Ideal Milk Cooler



This apparatus has been, and now is, the best low priced MILK COOLER AND AERATOR on the market—extra large cooling surface, simple, strong and durable, ice chamber easy of access—easy to clean and easy to operate—adapted to use with either ice or running water. It has been in use *more than twenty years and all improvements added to date.*

Ask for descriptive circulars and prices.

OAKES & BURGER CO.

(Established in 1873). Cattaraugus, New York

When Writing to Advertisers, Mention Hoard's Dairyman

Why the Sunflower Makes Good

(Continued from page 702)

average twice as much feed as corn. Under the most favorable conditions, sunflowers have been known to yield as much as fifty tons of ensilage to the acre. At the Oklahoma Agricultural College, Professor Blizzard reports yields of five tons of sunflower silage on land where corn and kaffir burn up. He says: "On the poorer Oklahoma farms sunflowers will be an important crop in the future in making beef."

Comparative yields of sunflowers and corn are reported at the Nevada and Nebraska Agricultural Experiment Stations. At the Nevada Station the yield of corn was 14 tons per acre to 23 tons for sunflowers, and at the Nebraska station the yield was 17 tons for corn and 23 tons for sunflowers.

Early at Both Ends

The sunflower owes its drought and frost resistance to the fact that it may be planted earlier and harvested later than corn. Sunflowers can be planted in the spring just as soon as it is possible to get on the land. The young plants will withstand the late frost which may ensue. On the other hand, I have seen sunflowers unharmed by frost on the farm of Mathew Lochen, Delta County, Michigan, during the past season while corn and other crops in adjoining fields were completely frozen. Exceptionally heavy freezing weather may make sunflowers nod their heads but rarely is it ever cold enough before they are harvested to prevent them from again looking up to the sun. This ability of the sunflower to withstand cold enables it to even beat the most resistant types of corn which have so far been developed when it comes to making a heavy yield of fodder during unfavorable seasons. When it comes to withstanding dry weather the sunflower again has it all over corn. When corn wilts for lack of moisture the entire plant collapses. Sunflowers under the same conditions lose their lower leaves in succession but the top remains green. This enables the plant to continue growth as soon as sufficient water again becomes available.

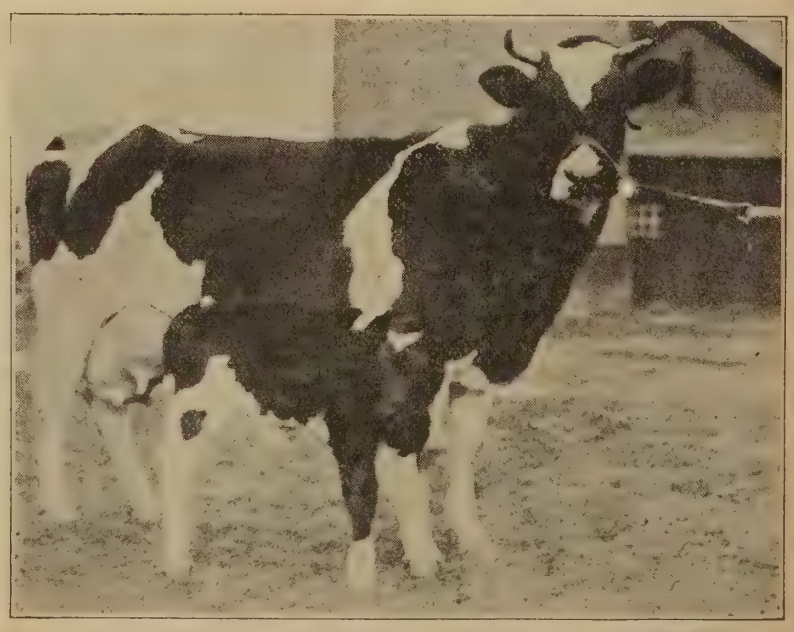
Culture of the Crop

In general the culture of sunflowers for ensilage is practically the same as that for corn. The seed, usually the giant Russian, single blossomed variety, is planted either in hills or drill rows with a corn planter. Some farmers plant and ensile sunflowers only. Others ensile a mixture of sunflowers and corn. In the latter case the two crops are either planted separately or together.

Mr. A. Johnson, Door County, Wisconsin, is one of a large number of farmers who puts a mixture of corn and sunflowers into the silo with the idea of insuring plenty of material to feed in seasons when corn does not do well. Mr. Johnson uses the plate with the smallest holes in his planter box and then sows a mixture of seven pounds of corn to one pound of sunflower seed. Planting in this way his silage is about two-thirds corn and one-third sunflowers.

Sunflowers will grow well on any soil that will produce corn and on many soils which will not. Although not so particular regarding the fertility of the soil as corn, sunflowers nevertheless respond to manuring and good culture. Because they are planted as early or earlier than corn it is best to have the land fall plowed. It should be thoroughly disced and harrowed before planting is begun. Even then there is some chance that the planting will be too thick rather than otherwise for the seed is somewhat smaller than corn. It requires from two to twenty pounds of sunflower seed to the acre, depending upon the fertility of the soil and the thickness of stand it will support. After sunflowers come up they should be harrowed like corn and later cultivated with an inter-row cultivator. As the plants advance in growth, care should be taken not to cultivate too deep, for sunflowers have an enormous number of fine feeding roots which ramify the ground close to the surface of the soil. If these are torn or bruised it is bound to prevent a maximum growth of the crop. Because of their rapid growth sunflowers can be "laid by" considerably earlier than corn. They then need no further attention until the time comes to harvest them. Sunflowers should be cut for silage when most of the seed is in the advanced milk stage and before the leaves begin to dry up and the stalks of the plants get too woody. Like corn the sunflower is subject to few disease and insect pests. Occasionally sunflowers are hit by rust which reveals itself, around the middle of August or later, by a dropping off of the leaves of the plants. When rust occurs the crop can be saved if cut before the disease gets any headway.

Sunflowers are not any more ex-



KING ESTHER LUCY PIETERTJE, HOLSTEIN COW OWNED BY PENNSYLVANIA STATE COLLEGE

February 6th she dropped the calf shown with her. It weighed 142 lbs. at birth. This is held to be a record weight for the state. The dam completed a record of 14,047.5 lbs. milk, 549.4 lbs. fat on January 3rd, which makes her fourth highest junior four-year-old in the state.

haustive of the fertility of the land than is corn. Oats generally do fine on sunflower stubble. Hence the crop works excellently in the average stockman's rotation. Unlike corn few farmers who grow the crop for ensilage can afford to raise their own seed although this can be done. When sunflowers are desired for seed they must be planted much thinner than when raised for silage. This necessitates a special seed plot. The threshing of sunflower seed also presents a problem so that all in all it is found most economical in the long run to depend upon seedsmen for the farm supply of sunflower seed. There are certain parts of this and other countries which are particularly adapted to sunflower seed production and it is from these sources that seedsmen draw their stock. As previously stated the amount of seed required per acre is not large and the price is comparatively low so that there is nothing to hinder a wider use of this valuable crop not only beyond but within the outer fringe of the corn belt. Since this vast area of country comprising more acres than the corn belt proper is distinctly adapted to the husbanding of animals it undoubtedly will be a long time before a crop will be discovered which can beat the sunflower to fill its many silos.

Although corn has always been looked upon as the king of silage crops in sections where it is adapted, the wave of the chinch bug northward in the great corn states has made farmers in certain sections actually abandon its culture. So far the sunflower has been immune to the ravages of the chinch bug and it is rapidly supplanting corn where the latter can no longer be grown.

How He Avoids Moldy Silage

HOARD'S DAIRYMAN:—Last year I found conditions in my silo pit similar to those of L. P. B. of Idaho. As the precautions I took last fall eliminated all mold, I will give you information which may be of some help to you.

I have a 26x12 foot, one piece stave silo on a cement walled pit eight feet deep, built in 1919. The pit has a cement floor without drainage. Where the staves join the pit, you probably have a shoulder of about two or three inches, same as mine. On this shoulder, I built a liberal run-off to the staves using pulp plaster and, as the cement wall in the pit was quite rough, I applied liquid cement with a whitewash brush. The liquid was of the consistency of cream. Applied this mixture for a few feet and then went over it again with plain water which gave the wall a surface smooth as glass. The floor was treated in the same manner. As we went up, in filling, we sealed all doors with the same pulp plaster. Don't think clay will answer the purpose. It won't. The settling silage will take it along down and defeat its purpose. Pulp plaster will stay "put". So much for the preparation of the silo.

Now for the filling. I think no hard and fast rules can be laid down and that you are thrown on your own judgment. For a guide I will give you my experience. My corn was very ripe and hard and stalks exceedingly dry. I placed a Fairbanks Morse horizontal force pump with a two horse engine next to my water tank which holds eight barrels of water. I conducted the water into silo through a garden hose run over the top of silo and entered distributor pipe at last section. Then I made a nozzle from a piece of gas pipe flattened at one end just enough to deliver a good coarse spray. With the pressure I had, the water was distributed evenly throughout the silage. One man handled the distributor pipe and hose with ease. We made no attempt at packing until evening. As help was unobtainable, two of us did all the work and could put in only five feet in a day.

In the evening after chores, we added another tank of water and tramped it down well. By that time all silage was well soaked and packed as hard as a board. We kept this up from day to day until the silo was full. Then we put on four tanks of water for good measure and weight. Every five feet of silage got thirty-three barrels of water exclusive of the four tanks of water put on the top. The result was that when we opened the silo November 1st, we found a wagon box full of rotten silage on top and the rest the finest and brightest stuff you ever saw, way down to the last shovelful. No mold anywhere.

Oconomowoc, Wis. F. C. G.

Willys LIGHT

JUNIOR

Only $295

Rock Bottom Prices are Here

EVERY home in North America can now afford electricity. The demand for lower prices has been met. Never before in the history of farm light and power have such values been offered. Think of it! A standardized electric light and power big enough for light and small power for only $295.

This price is only possible at this time because of intensive effort directed to engineering and production plus a determination on the part of Auto-Lite to meet the farmer more than fifty-fifty on price reduction NOW. Rock-bottom prices are here.

Willys Light Junior is a smaller plant. In every other respect it measures up to Willys Light in quality. It is air-cooled, has the wonderful Auto-Lite engine generator and standard voltage. Willys Light Junior puts electric light and power within the reach of every one.

600 Watts—32 Volts—80 A. H. Battery, $295; 160 A. H. Battery, $365; 240 A. H. Battery, $435. All prices F. O. B. factory.

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Power and Light with the Quiet Knight

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This famous plant is equipped with the Willys-Knight sleeve-valve engine that improves with use, an exclusive superiority. In addition Willys Light has fifty distinct advantages.

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There is a dealer near you ready to serve you.

1,250 Watts—32 Volts—160 A. H. Battery, $525; 240 A. H. Battery, $595. All prices F. O. B. factories.

Wonderful Dealer Opportunities Available

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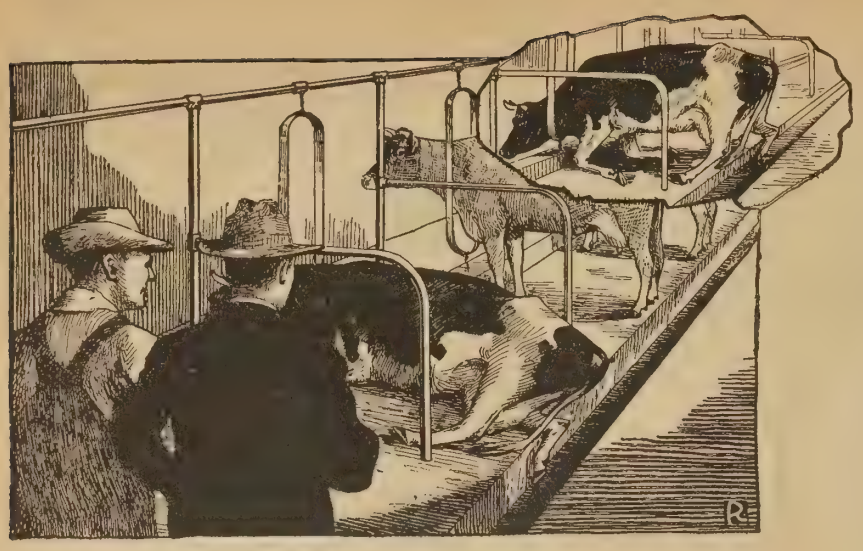
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The cork in them grips the hoofs. Whether wet or dry, cows don't slip on cork brick floors. It's simply a matter of insurance of the best kind—insurance that prevents rather than pays for damage done. Circle A Cork Brick in your stall floors will protect *all* of your cows for very much less than an accident to *one* of them might easily cost you.

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Live Stock Owners Seek Funds for Tuberculosis Eradication

In order that tuberculosis-eradication work may be continued, Secretary of Agriculture Wallace, at the urgent request of members of Congress and others interested in the live stock industry, has asked that an emergency fund amounting to $405,000 be included in the deficiency bill of the present Congress, to be used in the payment of indemnities for tuberculous cattle. It is estimated by the Bureau of Animal Industry that this amount will be necessary to carry on the slaughtering of tuberculous cattle until June 30, the end of the present fiscal year.

"For the present fiscal year," says the secretary, in requesting the deficiency appropriation, "$800,000 was provided in the agricultural appropriation act for operating expenses in the eradication of tuberculosis, and $680,440 for the payment of indemnities for tuberculous cattle slaughtered. On account of the number of reacting animals found, the sum provided for indemnities is practically exhausted."

There remain sufficient funds to carry on the operating expenses for the remainder of the fiscal year, but, because the fund provided for indemnities is exhausted, it has been necessary to discontinue the testing of new herds. If the emergency fund asked by Secretary Wallace is passed in the deficiency bill, the eradication work can continue without serious interruption.

"For the first 8 months of the present fiscal year," the secretary continues, "there were found by the tuberculin test 32,424 tuberculous cattle; whereas for the same months of the previous year there were found only 18,273 reactors. This is not an indication that tuberculosis is on the increase because there were tested, from July 1, 1920 to February 28, 1921, 792,398 cattle with 4.1 per cent of reactors; whereas during the previous year for the same months there were tested 419,376 cattle with 4.3 per cent of reactors.

"Another fact that should be taken into consideration is that the market value of cattle has decreased to an extraordinary degree, in fact the salvage received from the sale of tuberculous cattle was approximately twelve dollars per head less during these eight months than during the previous fiscal year, thus making it necessary that the department pay a larger percentage of indemnity than heretofore.

"It is estimated that for the balance of the fiscal year there would be condemned for tuberculosis 13,500 cattle, and at an average rate of indemnity of $30 per head the total claims for federal indemnity would amount to $405,000. Therefore, this additional sum would be necessary to keep the work going along uninterruptedly to June 30."

Under the present practice the federal government pays not exceeding one-third of the difference between the appraised value of the reactor animal and the salvage obtained therefrom, the maximum amount payable from the federal appropriation in any case for a grade cow being $25 and for a pure-bred $50. The remainder of the loss due to the slaughter of an animal for tuberculosis is borne by the state or county alone or by the state or county and the owner, depending upon the law in the state where the animal is slaughtered. That the various states are alive to the importance of the tuberculosis-eradication work is shown by the fact that the 36 states, in which



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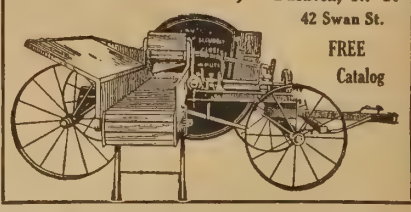
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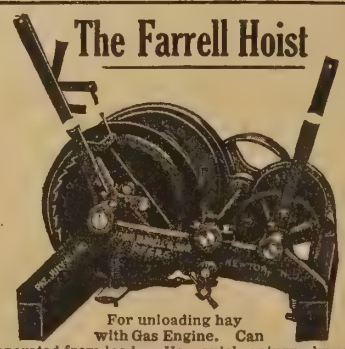
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legislatures have been in session since January 1, have appropriated nearly $4,000,000 for this purpose, and nearly $775,000 as emergency appropriations.—U. S. Dept. of Agriculture.

Western Dairy Notes

HOARD'S DAIRYMAN:—The Lewis-Pacific Dairymen's Association is now operating their $250,000 utility plant at Chehalis, Washington, where they are processing in the neighborhood of 100,000 pounds of milk daily. The plant is equipped to manufacture butter, cheese, powdered milk, and facilities will soon be provided for evaporated milk so that immediate advantage may be taken of any change in the market conditions of any of the respective dairy products.

The plant is owned exclusively by the 700 dairy farmers comprising the membership of the association and shipping their product to the plant.

M. C. Hong of the Stillaquamish Cow Testing Association reports that 475 cows finished the year test and averaged 6,715 pounds of milk and 292.40 pounds of fat. The highest producing herd was that owned by the Valley Gem Farm, consisting of twenty-four Guernseys, which averaged 8,870 pounds of milk and 412.40 pounds of fat. The six high testing herds have all been in the association since 1917, while the six low testing herds have held membership in the association for but one year.

The Washington State Department of Agriculture, through the Dairy and Live Stock Division, is instituting a campaign among the dairy farmers of the state, especially cream shippers, for the production of a better and higher standard product. In their circular it is stated that when a customer purchases a pound of poor butter or butter which is "off" in flavor the consumption of oleomargarine and other butter substitutes is encouraged, consequently it is to the best interests of the dairyman to produce a high standard of cream.

Dr. R. J. Donahue, former chief of the dairy and live stock division of the Washington State Department of Agriculture, has returned to the state service and has been assigned to duty in Eastern Washington. Dr. Donahue left the state employ several months ago to accept a position with The Carnation Stock Farm.

Milk prices between producers and distributors in Snohomish County will hereafter be fixed by a joint meeting of the board of directors of the Snohomish County Dairymen's Association and the distributors. This was decided upon in Everett at a special meeting attended by about one hundred and fifty members of the Snohomish Association, who agreed to accept the Seattle Milk Commission's prices with a ten cent per hundred weight differential below the Seattle quotation. The price for Snohomish County will include twenty-five cents per hundredweight for transportation expense to be charged to the shipper.

The Skagit Valley Cow Testing Association has been added to the western dairy division's list of those having 100 per cent pure-bred bulls. This makes six in the western territory. The Wahkiakum County Association also finished its year 100 per cent perfect. ALTON D. HURLEY.



"OK" Delaware County Puts Stamp of Approval on PINE TREE MILKER

140 Farmers of Delaware County, milk with the Pine Tree. Every spot above shows an installation. Send for the key to this map, giving the names of every user — and letters from many of them.

THE map shows what the farmers of one of New York's greatest dairy counties, think of the Pine Tree Milker. Every spot shows an enthusiastic Pine Tree user. 140 of them, whose names are only omitted here through lack of space. Send for this list—the key to the map.

Delaware County, N. Y,, has its counterpart in every dairy state in the Union. Fond du Lac County, Wis.; Los Angeles County, Calif.; McHenry County, Ill.; Steele County, Minn. — all have shown the same unmistakable approval of the Pine Tree.

Farmers everywhere are thinking and talking milking machines. Men who still milk by hand find they are selling in competition with machine owners who produce their milk at lower cost. Even with easier labor conditions farmers are realizing more and more their need of a machine. You are going to buy a milker sometime. Better start *now* to learn why the Pine Tree has so completely dominated New York's greatest dairy county.

Learn something about pulsators! No chain is stronger than its weakest link—no milker is any better than its pulsator. When you look at a milker, look at the pulsator *first*. Ask any Pine Tree user, what kind of service he gets. He'll tell you his machine is on the job every milking, year after year. No fussing—no delays—*no expense*—and the Pine Tree Pulsator is largely responsible.

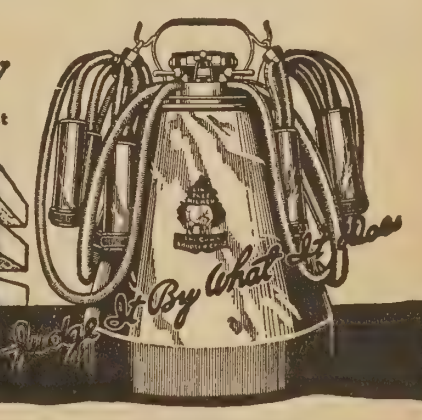
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110 Montgomery Street Syracuse, N. Y. — 319-325 Second Ave., South Minneapolis, Minn. — 346 Washington Street San Francisco, Cal.

PINE TREE MILKER



Reduced Fare to Syracuse

Reduced fares to the biggest Holstein sale of the year have been granted by railroads in certain territories. Breeders coming to the Second National Co-operative Sale of the Holstein-Friesian Association of America, to be held from May 31 to June 4 in Syracuse, N. Y., in connection with the annual meeting of the association, will effect a 25 per cent saving.

States included in the reduced fare area are Michigan, Indiana, Ohio, Pennsylvania, West Virginia, Virginia, Maryland, Delaware, New Jersey, New York, and the portion of Illinois bounded on the West by a line drawn from Chicago to St. Louis. Breeders coming from beyond these states can secure reduced fares while within the area.

When buying tickets to Syracuse, breeders within the states listed should ask for reduced fare certificates. These will be stamped at the sale and count for one-half the cost of the return ticket.

Members from beyond the reduced fare section can secure a certificate when entering the territory and the reduction for that part of the trip. Officials of stations not having certificates will furnish information as to where they can be secured. It will necessitate a change in both cases, but will mean a saving.

New York. E. R. ZIMMER.

Have you decided on a clean-up day on your place yet? Why not make it tomorrow?

Water in the Stable a Necessity



THE "BUCKLEY" DEVICE

Is the leader. Why not use the best? Write to the manufacturers for a descriptive circular.

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Silos Are Essential to Dairy Progress

Every dairyman needs a permanent silo. Portland vitrified block and concrete stave silos are permanent. Also grain bins, coal pockets, supply tanks, cisterns, glazed building blocks and ensilage cutters. Farmer Agents wanted. Write today.

PORTLAND SILO COMPANY, Portland, Indiana.

When writing advertisers please mention Hoard's Dairyman.

EDITORIAL COMMENT



THERE is no substitute for milk, and its use should be distinctly increased instead of diminished, regardless of cost.—DR. E. V. MCCOLLUM.

WHY SO CARELESS

A man who advertises for help and then receives letters containing applications and references but who fails to answer the letters or return the references to the owners, shows not only poor business practices but poor breeding. It is unfair and unjust for an advertiser to hold letters of recommendation when he has been requested to return them and especially so when stamped envelopes are sent for their return.

One of our subscribers, who answered an advertisement for help, writes us, in part, as follows: "Why do these so-called high class breeders act so careless? Don't they think that the references are of any use to the person sending them? They are certainly of no use to any other person except their owner. At the present time, I have three references out by answering advertisements of breeders and I find it impossible to get them to return them to me or even answer my letters when stamps are enclosed for returning them."

It amounts to nothing more than downright discourteous treatment for any one to keep letters of recommendation even if the owner did not ask that they be returned. It is difficult to understand the reasoning powers and the business judgment of such men. They should not only make a pledge themselves to return all letters of recommendation but to answer each inquiry courteously. Such practice assists in building a business. It has a financial value. It is just common decency.

LARGER RETURN FOR BUTTER

In order to render justice to the farmer who produces a high grade of cream, it is necessary to establish grades and pay for cream according to its grade. It is unfair to pay as much for poor cream as for good cream, and such practice encourages the production of poor cream, for it is easier to be slack and indifferent than it is to follow right practices necessary for the production of a high quality of cream.

Minnesota College of Agriculture has issued a statement in favor of grading cream and points out the losses incurred when cream is not graded. It is, of course, impossible to state just how much is lost by not grading. This can never be determined accurately for there are so many factors that have to do with fixing the price of our various grades of butter. However, there is no argument for the production of poor butter. It is positively injurious to the creamery and to the dairy industry. Not only does it bring a lower price on the market, but less of it is consumed. A person will instinctively consume more of a high quality butter than he will of a poorer grade.

According to the quotations of butter in New York for the calendar year 1920, as shown by the United States Bureau of Markets, the average yearly price for butter scoring 93 was 62.39 cents per pound; for 90 scoring butter, 58.16 cents per pound; and for 86 scoring butter, 50.79 cents per pound. Between these scores the price varied according to the score. It will be observed that there is a difference of 11.5 cents between butter scoring 86 and butter scoring 93.

We are looking for opportunity to improve our system of marketing to bring to the producer a larger portion of the consumer's dollar. There is no system of marketing, no reorganization, nor anything else that will begin to bring the saving—or perhaps better say the return—to the farmer that is possible by the production of good cream, provided, of course, the creamery will pay for it according to its quality. There is an opportunity to return the farmer 11.5 cents more for his butter than is received for 86 scoring butter. The dairy experts of Minnesota hold that millions of dollars are being lost every year by the butter producers of that state through the lack of an adequate cream grading system; they estimate the loss to be nine million dollars annually. It is undoubtedly more than this because larger quantities of butter would be consumed if it were all of better quality.

A. J. McGuire, dairy specialist, holds that the Minnesota co-operatve creameries could, without difficulty, make a grade of butter that would score at least 92 points, if they would set about it in the right way, for already a third of their co-operative creameries are making butter scoring 92 and over. Creameries working for a better return for their butter may well consider seriously paying for cream according to grade. They, together with their patrons, control the quality and cannot lay the blame of poor quality of butter on someone else. It is within their power—those producing 86 scoring butter—to improve it and in this way stop one of the largest losses sustained by the butter industry.

LABOR AND INDUSTRY

That the increase in wages of labor has brought flagrant indifference and inefficiency in the discharge of its duties has been a source of disappointment to us. It is our desire to have labor well paid and when well paid we desire to have labor render a good service. We cannot understand the reasoning powers of men when they ask for shorter hours and increased pay and then expect to do less work per hour. There is no way of building homes, railroads, or anything else without labor. Money will not do it, neither will organization. There is only one way to develop the industries of this nation and that is through work.

The New York Herald, in an editorial, points out how inefficient labor has become and it indicates what results we may expect in all industries unless labor changes its practices. We quote:

"Twenty-odd years ago, according to records, a mason and his helper laid 1,500 bricks in a working day of eight hours for $5.25. To lay those same 1,500 bricks today costs, for the same labor, $40.80. But while this makes it cost the builder eight times as much in round numbers to get that work done now as it cost then, the mason and his helper do not earn eight times as much money at their trade. The reason is simple enough. What it took the mason and his helper only eight hours to do twenty odd years ago it now takes a mason and his helper half a week to do. In other words, the bricklaying capacity of a mason and his helper has fallen from 1,500 bricks a day to 500 bricks a day.

"At eight times the former rate a thousand bricks, the mason and his helper today get two and a half times the former wage a week because they do only a third as much work. But while the mason and his helper get only two and a half times as much as before, the cost to the man who pays the bills has to be, of course, that terrific figure of eight times as much.

"And here is what all that means to the man that rents the house in which laying the bricks cost eight times as much as before. There is not merely eight times as much interest on the cost of laying the bricks which must go into the rent; there is eight times as much taxes on the cost of laying the bricks; there is eight times as much depreciation; there is eight times as much insurance on the cost of laying them. The rent has to take in all of it.

"Nobody in this country ever suffered when workers time after time demanded and got more and more pay for doing more and better work. Everybody, in truth, was the gainer. But when workers produce less and less they are digging the industrial graves of both themselves and their country."

The farmer has not been guilty of any such inefficiency or indifference to his duties and it is unfortunate for all and particularly the laborers that they have produced this condition. They will pay very largely the penalty although all other classes will have to share it with them. We will never get back to the proper relationship until labor is willing to do a full day's work and for a compensation in keeping with what it earns.

IS CO-OPERATION SOCIALISM?

Some hold that co-operative enterprises are socialistic. We wonder just how sincere these objectors to co-operation are. Co-operation is the pooling of the interests of several individuals engaged in the same character of work. This is done for the advantage that comes through united effort as against individual effort. Co-operation does not destroy individual initiative or lessen the desire to be efficient.

Co-operative creameries were established among farmers because it is more work to make butter on the farm than to have it made in a factory. A more uniform quality of butter can be made upon a large scale and better markets can be obtained. There is nothing socialistic about fifty or more farmers building a creamery and taking their product there to be manufactured into butter. Each patron has a deep interest in the quality of the butter, in the best price to be obtained, and in the efficiency of the work done at the creamery.

No one owns a part of the co-operative creamery except those providing it with raw material. Socialism would make every individual in the community a part owner of the creamery even though they had no interest in it. If a co-operative creamery makes a profit, it belongs to the patrons who own it and to those who furnish the product for manufacturing butter. If it loses, it is the patron's loss and not the community's loss. No public funds are used for building the creamery; no arbitrary power is exercised to force the patrons or individuals of the community to act together, but the whole enterprise is carried on upon the volition of the patrons. These same farmers may go a step farther and form a co-operative marketing company in order that their products may be carried under their direction to the wholesaler or distributor in the city. These men produce the product on the farm; take it to the creamery where it is manufactured into butter and then provide means for carrying it to the market where the consumer may purchase it. It is nothing more or less than a business conducted by several people for their mutual benefit, and we can see nothing socialistic in this.

There is little difference between co-operation of this character and a co-operative enterprise where various individuals become stockholders in a manufacturing institution. These stockholders desire good results and efficiency; they want to excel that they may have a return on their money, and so it is with the patrons of the co-operative creamery. They desire this institution that they may manufacture their butter cheaper and be able to market it upon a better basis than if it were done individually. Their purpose is a larger return for their product. We believe the desire for gain earned through the giving of service is essential to the development of a nation.

One of the best presentations on the differences between co-operation and socialism was given by Mr. C. S. Barrett, president of the Farmers' National Union, in a communication to the consumers regarding some of the farmer's problems. He has pointed out the necessity of farmers co-operating for the purpose of marketing their products to better advantage and that consumers should likewise form co-operative enterprises that they may buy advantageously from the farmer. He then states: "Do not think I am advocating extreme, radical, or socialistic measures, for I am not. Agricultural and consumer co-operation are the antipodes of Marxian socialism or communism. The socialist lives under the enforced rule of the majority—by

law; the co-operator lives under the system of self-help through mutual help—by volition. Socialism may be despotism but co-operation is enlightened self-interest."

There is as wide a difference between socialism and co-operation as there is between our form of government and an autocracy.

Cheese Factory Equipment

We are trying to get farmers in our locality interested in dairying. Would you please advise as to capital needed to start a cheese factory to handle about 5,000 lbs. of milk daily? What machinery will be needed and what should be the cost of same?

What kind of cheese usually sells best?

Red Cloud, Neb. W. R.

The four principal kinds of cheese made in Wisconsin are American, Swiss, Brick, and Limburger.

American cheese is made in about three-fourths of the factories. Swiss cheese sells for the highest price, which is about 45c a pound at the factory, provided the cheese is of first quality. However, it usually happens that a considerable proportion of Swiss cheese made at any factory is second quality and sells for about 22c at the present time. With American cheese the present selling price is about 20c a pound. The usual yield of cheese is about 9½ lbs. from 100 lbs. of milk.

A cheesemaker is able to handle about 5,000 lbs. of milk daily and this will keep him fully occupied. The cost of supplies for making cheese, including salt, rennet extract, color, bandages, boxes, etc., will come to about 4c per pound of cheese, so that if the cheese sells for 20c a pound, your farmers will receive about 16c a pound, or if you made 10 lbs. of cheese from 100 lbs. of milk, they would receive about $1.60 per 100 for the milk.

American cheese is the ordinary kind most commonly sold in stores, and as there are few factories in Nebraska, you should be able to sell your output without difficulty either to a cheese dealer in your nearest large city or to stores in the neighboring small towns.

To start a cheese factory, you will need to provide a building which must contain a make room and a curing room, and usually it also includes living rooms for the maker's family, which are very often located above the factory. This is most convenient because the maker is on the spot all of the time in case of burglars or a fire or any accident.

The entire factory should be protected from flies and other vermin. The curing room at least should be well protected from the heat of the sun, and is usually located on the north side of the factory and the windows should have wooden shutters so as to shut out the light and heat of the sun in the daytime. They can be opened more or less during the night when the air is cooler.

You should estimate as part of your expense the annual cost of interest and depreciation or the amount of rent paid for the building used as the cheese factory. In addition, you may estimate the equipment needed for a small factory about as follows:

You can get a 5,000-lb. cheese vat for about $250, and, if you want to start most economically, you might get a self-heated vat, which has a small stove in the bottom for heating the milk which makes it unnecessary to provide a steam boiler. However, large sized factories prefer to have a boiler and a steam engine for pumping the water, running the curd mill, and the boiler also permits easy heating of the milk, the steaming of cans and other equipment, and the pasteurization of milk for making starter. I would suggest that you start with a self heating vat which will cost between $250 and $300.

The cheese press will cost about half of this amount and you will need about 25 Daisy cheese hoops if you make Daisies. These hoops cost about $3.50 apiece.

A curd mill can be bought for $15 and a pair of curd knives for $12.

You will also need platform scales weighing from one-half pound up to about 400 lbs. and a weigh can for weighing the milk delivered at the factory each morning by the patrons. A Babcock test outfit and some tinware such as conductor spouts, pails, and dippers, etc., will bring the total cost of this small factory equipment to between $600 and $700.

If you have 5,000 lbs. of milk, you should certainly put in a whey separator and skim the fat out of the whey, as you are likely to recover about 12 lbs. of fat daily from the whey in the form of whey cream and as this whey cream is very good for making butter or ice cream, and the fat is worth about 50c a pound, you have a profit of about $6.00 a day, which will soon pay for the separator and afterwards pay a large part of the running expenses of the factory.

This whey cream can be churned once or twice a week into butter at the cheese factory and sold to the farmers who bring the milk if you have no other outlet for it.

In addition to this, you should make some plan as to the method of settling with your farmers for their milk from the proceeds obtained from the sale of cheese. It is customary in this state to fix a cheese price on Monday, ship the cheese on Tuesday, have it arrive at the buyer's warehouse on Wednesday or Thursday, and the factoryman receives a check in payment for this cheese by Saturday or not later than the following Monday, when the time comes to sell the next lot of cheese.

The cheese has to remain in the curing room at least three or four days in order to dry off on the surface well in order to ship. Thus, the payments for cheese are about two weeks behind the receipt of the milk at the factory. In order to allow the cheesemaker time for figuring payments after receiving the money, it is customary to pay for the milk of one calendar month not earlier than the 15th of the following month, and some factories pay on the 30th. In this way, you will never have any factory capital invested in cheese and the farmers will wait for their money until it is received from the buyer.

In starting a cheese factory, considerable effort must be given to securing a clean milk supply, and especially to cooling the night's milk on the farms promptly after it is drawn from the cow, and keeping it cool throughout the night by setting the cans of milk in a tank of cold well water. Unless this is done, the milk is apt to be off flavored and more or less sour, producing a poor quality of cheese, especially in warm weather, so that the full market price cannot be obtained for the cheese.

A great many other details of the cheese making process are fully described in the last revised edition of Decker's book, "Cheesemaking". This is used by all Wisconsin Dairy School students and costs $1.90.

Wis. College of Agriculture. J. L. SAMMIS.

Peanut Meal

Very recently I was talking with a neighbor of mine relative to the amount of milk his cows were giving. He tried out some peanut hulls, with possibly some peanut grains, which he purchased from a peanut establishment in this locality. He says that it increased the cows' flow of milk considerably. He is feeding one-half peanut meal with the same amount of white middlings. Tell me just what you think of the elements in the peanut hulls and grain, and if they might be injurious to a cow in the event this feed was used regularly.

Chevy Chase, Md. J. B. W.

We apprehend that the results from feeding meal containing a large percentage of peanut hulls is, perhaps, more apparent than real. The hulls themselves contain very little feeding value but if not in too great proportion, the peanut meal will be high in protein and will make a most excellent feed for supplementing home grown grains. We have heard of no ill effects from feeding this class of meal. The peanut hulls are over half fiber and are less valuable than common straw. When the meal is made from the unhulled nuts, it will contain about 20 per cent crude digestible protein and 23 per cent fibre, which would make it about one-third less valuable than linseed oil meal as a protein concentrate.

Persistency of Milk Flow

A reader of Hoard's Dairyman wishes information which will enable him to judge the persistency of his cows. The question is how rapidly will the milk production decline month by month assuming the cow is milked ten months and calves again at the end of twelve months.

The important relation of the manner of feeding should be emphasized first of all. Too often a cow said to lack persisteney in milking is really doing all she should. She can not be expected to manufacture milk without a sufficient amount of raw material in the form of feed. The heavy milking cow only too often is underfed when fresh because nature, to make sure the calf will not suffer, has arranged so the fresh cow will continue to give milk freely for some time even if there are deficiencies in the feed, making up the deficiency from her body.

The normal rate of decline in milk during the lactation period then can be observed only when the cow concerned has at all times sufficient feed to supply the nutrients for the milk she is producing. The figures given are compiled from the records of a group of high class cows. These animals had sufficient feed at all times, were milked twice daily and dried up after ten to eleven months preparatory to freshening again in about twelve months. With the cows of this class the highest milk yield comes as a rule between the tenth and the thirtieth day, more often about the end of the first month. The yield during the first month may be expressed by 100%. The yield during the second month should be practically the same, declining from that point as follows: 3rd month, 95%; 4th month, 90%; 5th month, 85%; 6th month, 80%; 7th month, 70%; 8th month, 60%; 9th month, 45%; 10th month, 20%. It will be noted that the decline is not regular, becoming more rapid near the end of the lactation period.

If the cow is bred to freshen again in eighteen months in place of twelve, the decline in milk yield will be gradual and almost regular throughout.

University of Minnesota. C. H. ECKLES.

Cabbage for Hogs

I would like to know the value of green cabbage for hog feed when I can buy good corn at $2 per 100 pounds.

Punta Gorda, Fla. C. G. B.

Cabbage is a feed not especially well suited to the needs of hogs. While an allowance of this succulent roughage would be of some feeding value, a feeder can not make up a large portion of the hog's ration from cabbage and receive good results. It is much better suited to the feeding of sheep or cattle—being quite valuable for that purpose. The hog's stomach is not fitted for making use of large amounts of roughage as is the stomach of the cow.

Some idea of the bulk of this feed is obtained from the fact that 100 lbs. contain only about 8.9 lbs. of dry matter. In each 100 lbs. there are only about 1.9 lbs. digestible protein, 5.6 lbs. carbohydrates, and .2 lb. fat. In 100 lbs. of corn meal there are 88.7 lbs. of dry matter, including 6.9 lbs. of digestible protein, 69 lbs. carbohydrates, and 3.5 lbs. fat. From these figures it may be seen that cabbage cannot be given a high valuation. Calculating strictly upon a chemical basis, it will be worth only about 25c per hundred pounds when corn is valued at $2 per bushel.

Ensiling Corn Stover in the Spring

Would like to hear of some one through the Dairyman who has had the experience with cutting up cornstalks in the spring and putting them into the silo. What sort of feed does it make and will it keep any length of time?

Sawyer, Wis. E. J. S.

Readers who have tried out this system of ensiling corn fodder or corn stover are especially solicited to reply. Was the corn stored in barn, stack, or field prior to ensiling? How and when was the corn ensiled? How much water was used? Was water applied in blower or by means of a hose and then sprayed over the cut material in the silo? Did the silage keep well? How soon was it fed out? Was the silage palatable? How did it compare with regular corn silage in amount fed and results?

Cannot Register Grades

Please send me a list of state institutions which have taken grade herds and developed into pure-breds.

Brookewood, Va. J. A. C.

In order for dairy cattle to be given registration in the herd books of any of the dairy breed associations in this country, they must be from registered sires and dams. It is therefore impossible to register grades or any animals which are descended from grades, which precludes any institution from developing grades into pure-breds. If our reader desires to raise pure-bred animals, it is necessary for him to start with stock which is already registered.

Hoard's Dairyman

Fort Atkinson, Wisconsin

Founded 1885 by W. D. HOARD

W. D. HOARD & SONS CO., Publishers
H. L. HOARD, A. R. HOARD, F. W. HOARD
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Subscription Rates

Subscription in United States and Mexico $1.00 per year; 3 years, $2.00; Canada, $1.50 per year.

FOREIGN SUBSCRIPTIONS may be sent through news dealers and book sellers in all foreign countries.

All foreign countries in the Postal Union $2.50 a year; not in the Postal Union $3.00, including postage.

Correspondents must not expect us to acknowledge the receipt of letters containing remittance for subscription. The receipt of Hoard's Dairyman is sufficient notification that money has been received. The label on the paper will show date to which subscription is paid. In case of renewals, if date on label is not changed within two weeks after remittance is sent, inform us at once.

We solicit advertisements of meritorious articles needed by the farmer. We try to keep our advertising columns clean and wholesome, that they may merit the patronage and confidence of our readers. Unwholesome, immoral, and quack medical advertising are excluded. A sincere effort is made to exclude frauds, irresponsible and unscrupulous firms. We will always take it as a favor to be notified whenever any advertiser's dealings with a subscriber are in bad faith or evidence a lack of business honor. Advertisers generally recognize the readers of Hoard's Dairyman as an up-to-date class of farmers, who farm with business-like methods, and we hold our columns for the patronage of only those with whom our readers can deal with profit and satisfaction.

ADVERTISING COPY must be received eight days previous to the date of publication. Advertising to be classified or changes in advertising must reach us twelve days previous to date of publication.

Entered at Fort Atkinson, Wis., as second class matter.

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Coming Events

May 23—Missouri State Holstein Association first Annual Show of Sale Cattle at Sedalia, Mo.

June 1—American Jersey Cattle Club, annual meeting, New York City.

June 1—Holstein-Friesian Association of America, annual meeting, Syracuse, New York.

June 9—Ayrshire Breeders' Association meets in Springfield, Mass. Secretary, J. G. Watson, Brandon, Vt.

June 22-25—Tuberculosis Eradication Conference, State House, Boston.

Jersey Cattle Notes

For week ending April 22:

Number of animals registered: Bulls, 194; cows, 390; total, 584. Number of transfers recorded: Bulls, 293; cows, 625; total, 918.

Uncle Ab says it's all right to be a pessimist about yourself, if you will only be an optimist about your neighbors.

Wisconsin Assembly Passes Filled Milk Bill

By a vote of 72 to 16 the Wisconsin Assembly on May 5 passed the bill prohibiting the manufacture and sale of filled milk. A strenuous fight was made by the manufacturers of the imitation condensed milk and resort was had to every means of influencing the members of the Assembly, but their efforts were without avail against the good sense of the legislators and the support given the bill by farmers all over the state.

The fight now goes to the Senate and the result cannot be foretold with certainty, although friends of the bill believe that it will pass with a good margin. It is important that farmers, particularly, write their state senators at once expressing their approval of Assembly Bill 477A that prohibits the manufacture and sale of filled milk. The effort of the organizations back of the bill can be most effectively supplemented by this means and Wisconsin dairy farmers will have themselves to blame if the bill does not pass.

National Dairy Conference

Twenty-two states were represented at the dairy conference called by the American Farm Bureau Federation. Those representing the various producers' associations, co-operative marketing companies, the creamery and cheesery federations gave the delegates of the conference outlines of their organizations, why they were formed, their problems, and what they have and expect to accomplish. It was a very successful conference, and we believe substantial assistance will be given the dairy industry from the efforts of this occasion.

In opening the conference Chairman Coverdale said:

"The American Farm Bureau Federation has been called upon at various times to offer suggestions and plans for the formation of co-operative milk and other dairy products' marketing associations. We have also been called upon through our state organizations to assist in lining up unorganized territory in order to strengthen existing organizations. It is the desire of the American Farm Bureau Federation to render the greatest assistance to the existing Dairy Products' Marketing Associations and also to be of service to the unorganized territory."

C. H. Gustafson, director of the Co-operative Marketing Department of the American Farm Bureau Federation, portrayed the broad general principles of co-operation. "All producers," he said, "whether of milk, grain, live stock, cotton, tobacco, or fruit, are confronted with unsatisfactory conditions. The present system of marketing seems out of date so far as the producer is concerned. Too often local co-operatives become competitors rather than co-operators. The many thousands of co-operatives must be united under one system for the benefit of both the producer and consumer. When two or more decide to do the same thing at the same time for the same purpose, then we have co-operation."

Space forbids, at this time, to give a review of each subject discussed, but we shall publish in the near future liberal extracts from the addresses made by those who appeared on the program.

The resolutions epitomize the conclusions of the gathering and outline briefly some of the things which must be given attention by those engaged in the protection and development of the dairy industry. The res-



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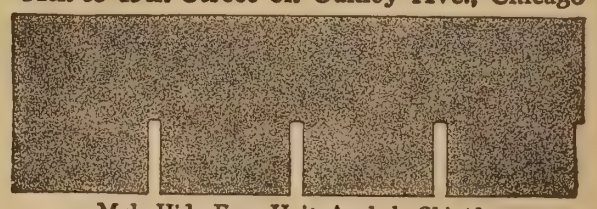
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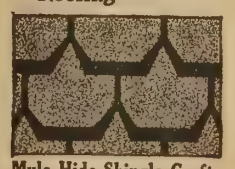
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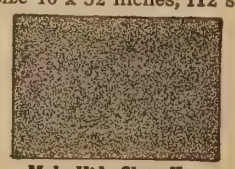
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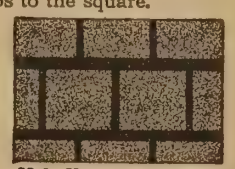
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utions were unanimously adopted nd are, in part, as follows:

We recommend that the president f the American Farm Bureau Fedration be requested to appoint eleven ien, representative of the dairy industry of the United States to be seected with the advice and consent of ie National Milk Producers' Federaon. That as soon as possible, this ommittee shall convene and make uch reports and recommendations as heir findings shall warrant. The hief purpose of this committee will e to study the various dairy marketig organizations; to provide plans or marketing organizations in the unrganized territory; to strengthen ie present existing organizations herever possible; to recommend ians for the correlation of the varius dairy products co-operative marting activities in a national way, nd such other matters as the comittee may consider of value in the nterest of the producers and the consmers.

We recommend that the American arm Bureau Federation be requestd to appoint a dairy marketing spealist within the co-operative marting department for the purpose of o-operating with this committee and i the interest of the marketing of airy products generally.

The American Farm Bureau Fedration, in co-operation with state rm bureau federations and milk roducers' organizations, was reuested to undertake a producers' dvertising and publicity campaign esigned to increase the consumptive emand for dairy products.

The Capper—Volstead Bill, clarizing the Federal laws so as clearly i authorize the co-operative marketig of farm products, was endorsed.

Congress was asked to amend the Varehouse Act to include dairy prodcts and thereby permit better marting and financing.

A protest was filed against present eight rates on agricultural products ad the Senate investigation was ommended.

The manufacture of butter substittes out of vegetable oils was oppsed as injurious to the development ad health of present and future genrations.

In recent years, a compound made c condensed skimmilk and cocoanut d has been placed upon the market. he manufactureres of this product, ommonly known as filled milk, claim tat it provides a market for skimnik. This claim is not well taken, for istead of providing a market for simmilk it destroys a market for btterfat. In 1920, 7,000,000 lbs. of ocoanut oil were used in the manufcture of filled milk and as a result a market for 7,000,000 lbs. of buttrfat was destroyed and 8,000,000 lb. more butter was placed upon the rket. In other words, the cocoanut cw of the South Sea Islands repced 40,000 cows owned by Ameri-n dairymen, and the price paid for th skimmilk to make this compound ws not equal to what the live stock o the farm would return for it.

Moreover, this compound is sold as nik and when sold as such is a counterfeit. A fraud is perpetrated upon th consumer. It does not contain th nourishing properties of milk wich is the fundamental food of this ntion and no product has a right to sc imitate it that the consumer is liely to be deceived. The dairy indstry must be protected from this counterfeit and the consumer from deception. Legislation is urged to prvent the manufacture and sale of a compound of milk, skimmilk, and vegetble oils for human consumption.

An hourly wage was demanded for th farmer and his help that will compet with the hourly wage of equally skilled labor in other industries, and a tariff was urged giving the products of the farm protection equivalent to that accorded the products of the factory.

The appreciation of the milk producers of the country was voiced to the American Farm Bureau Federation for calling the conference and inaugurating a movement for the more extensive and intensive organization of dairy farmers in co-operative marketing associations.

Record Holstein in New Jersey

The senior three-year-old Holstein cow, Finderne Netherland Valdessa 374245, has set new 7- and 30-day records for the state of New Jersey. In 7 days this cow produced 16.88 lbs. of butterfat in 674.5 lbs. of milk; in 30 days she produced 66.87 lbs. of butterfat in 2,743 lbs. of milk. She exceeds the 30-day record of the former champion of the state by over 100 lbs. of milk. Her best day's production was 100 lbs. of milk, that being the 45th day of her test. She is owned by Finderne Stock Farms.

Put a Bottom in the Silo

HOARD'S DAIRYMAN:—I notice in your issue of March 25th, that L. P. B. wants to know why his silage molds. If he will finish up his silo by putting in a good, tight cement bottom—shaped like a saucer—I am very sure he won't have any more trouble with his silage spoiling. With nothing but the ground for a floor, all the juices leak away and, of course, it becomes too dry and will burn and mold. Better leave the roof off than the bottom out.

Wellsboro, Pa. J. M. R.

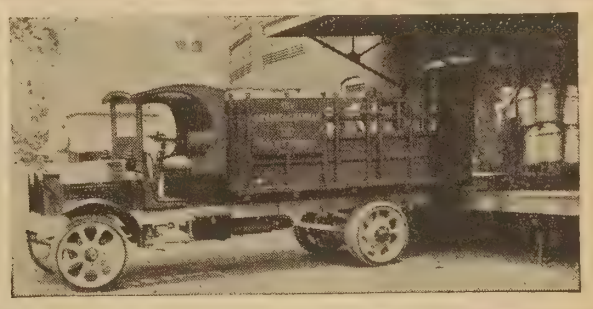
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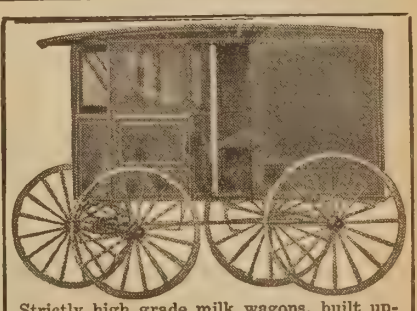
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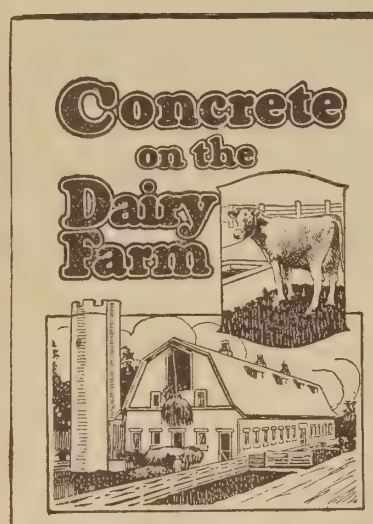


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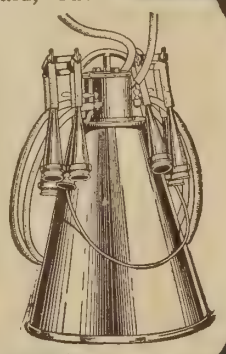
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Bob Takes an Inventory

(Continued from page 702)

fered it to me this minute. Then there is this cow which didn't do well last summer and may never do well again. It has been a question for some time whether we ought to keep her. We'll call her worth $50."

Five two-year-olds about to freshen this spring carried some risk at the time of freshening, and at their age they were not yet ready to give their maximum flow of milk. Yet they were big, straight heifers and Bob estimated that they were worth $75 each. The bull, a yearling pure-bred with good ancestry, had cost $35 as a calf and had been fed and grown for over a year, so $75 seemed no more than he was worth, and he had probably cost that much up to date.

"There," said he, "that completes the list of cattle, 29 head in all. Now let's add them up and see what they come to." Mrs. Browning's neat, legible entries in the notebook showed this record:

Dairy Cattle	
15 mature cows at $120	$1,800
5 two-year-olds (to freshen soon) at $75	375
1 pure-bred bull	75
3 yearling heifers at $30	90
4 heifer calves at $15	60
1 veal calf	10
Total value of all dairy cattle	$2,410

Next the other outbuildings were visited, entries were made of two shoates, at $15 each, and 150 White Leghorn hens at $1.00 each. This completed the live stock.

"Now," said Mrs. Browning, "comes our hardest job. It is fairly easy to say what all these things are worth, but how are you going to value the machinery, tools, hay, silage, and grain?"

"Well," said Bob, "if we just keep our common sense working, take hold of one end and keep pulling, I guess we will unravel it into some sort of shape. Let's make our next heading 'Machinery', and under it we will inventory all harness, machinery, small tools, wagons, sleighs, and such things."

In placing a value on these the purchase price was considered, the number of years that the machine had been used, and the number of years it would last. The larger tools were soon listed.

When it came down to hoes, hand rakes, pitchforks, shovels, and all the other small tools, which the auction bills always describe as "other articles too numerous to mention", Bob and his wife decided to estimate the whole lot at $25 and made this as the last entry under the machinery heading.

The hay and feed was a more difficult matter and yet from the figures given in several reference books, and from the custom of selling hay by measure at the local auctions, it seemed fair to estimate the hay in the barn on the basis of 500 cubic feet being equal to one ton.

The mows were measured, the contents computed and a value placed on this at what it was worth at the barn. That is, the hay was valued at the market price minus the cost of baling and hauling it to market. In the same way the amount of silage was estimated and a value placed on it equal to one-third the value per ton of timothy hay.

The various bins in the granary were measured and the bushels of grain computed. The cow feed on hand was figured easily by simply counting the number of bags.

After all this had been done there still remained many miscellaneous items of seed and supplies such as one-half sack of clover seed, 40 bushels of seed potatoes, 2 bushels of seed corn, one ton of fertilizer, and 1½ tons of ground limestone. Each of these was entered up carefully in the account book and a value placed on it, becoming a part of the inventory under "Feed, Seed, and Supplies".

"Well," said Helen, "we have listed everything that we own, now suppose we list what we owe."

So under the heading "Accounts Payable", was listed:

Mortgage on farm	$3,000
Bank notes	250

The inventory seemed complete yet it had taken them only about four hours to do the entire job.

Bob and his partner were anxious to see what their figures could tell them, so after adding up all the various headings the inventory was summarized:

Inventory, Browning Farm, Feb. 4, 1920	
Farm 150 acres	$9,000
Horses, 4	725
Dairy cattle, 29 head	2,410
Poultry, 150 fowls	150
Hogs, 2	30
Machinery	875
Feed, seed, and supplies	840
Total assets	$14,030
Total accounts payable	3,250
Net worth	$10,780

"It has paid for the time, anyhow, just to see how much we are worth today," said Helen, after they had studied the figures a few minutes, "and I am thinking that after we do this next year and find out whether our 'Present Worth' has increased or decreased during the year, we will see that it has much more value than even now appears."

The inventory figures were filed away in a drawer of the desk. Spring soon came and Bob became so busy in preparing the ground and planting his crops that inventories were forgotten. Again the growing season rolled around, the harvest season came, the crops were gathered into the barn and once more came the long, cold winter with its short days, but each one packed full of business, as they can only be on a farm which runs a winter dairy.

During the spring and summer Bob had become interested in some pure-bred stock and finally purchased several head, paying partly cash and giving his note for the remainder. He had expected to pay for these out of his potato crop, but the season was bad for potatoes. Early in the spring the vines were struck with tip-burn to be followed immediately by blight and as a result the crop was poor. The price was not especially good and Bob felt that he had really lost money on the crop as a whole. Cabbage and canning factory peas, however, brought him a fairly good price, but the acreage of these crops was small and he had never depended on them.

The cows were doing well. The milk checks kept growing larger each month as more cows freshened and the pure-breds seemed to be justifying their cost in the milk which they produced, to say nothing of the offspring.

Yet Bob remembered his disappointment with his potatoes and as a result of the reaction from the hard summer's work with no vacations and few breathing spells he felt rather discouraged and wondered whether his year's work had not resulted in a real loss.

On February 4 the inventory book was brought out and the new inventory taken. This time it was easier. Most of the animals and articles had already been entered and it was a simple matter to check them up, to note the conditions and to place a value on them. Most of this inventory was completed at the desk in the

living room, with occasional visits to the barn, to get a better estimate as to the present value.

The farm was entered at the same value as the year before. The value of the horses was decreased a little in order to off-set the depreciation of the extra year's age. The hens and the hogs were not much different as Bob always calculated to keep about the same number of these on hand each winter. The cattle account had to be entirely changed. There was now a new classification, as there were five pure-breds in the herd. Each one of these had by right of birth and name a herd book number and, because of the performance of some of their ancestors, had a special value. The pure-breds were listed separately. The mature cows were placed in a class by themselves and the young stock classified as before except for two pure-bred calves that were given individual valuations.

All the machinery had been used for a year since the last inventory and an allowance of ten per cent depreciation was made. The hay mows, the grain bins, and the silos were again measured, the contents were computed and values again established.

The entire inventory required two hours. At the end of that time a summary was again made and these results were placed opposite the results of the previous year:

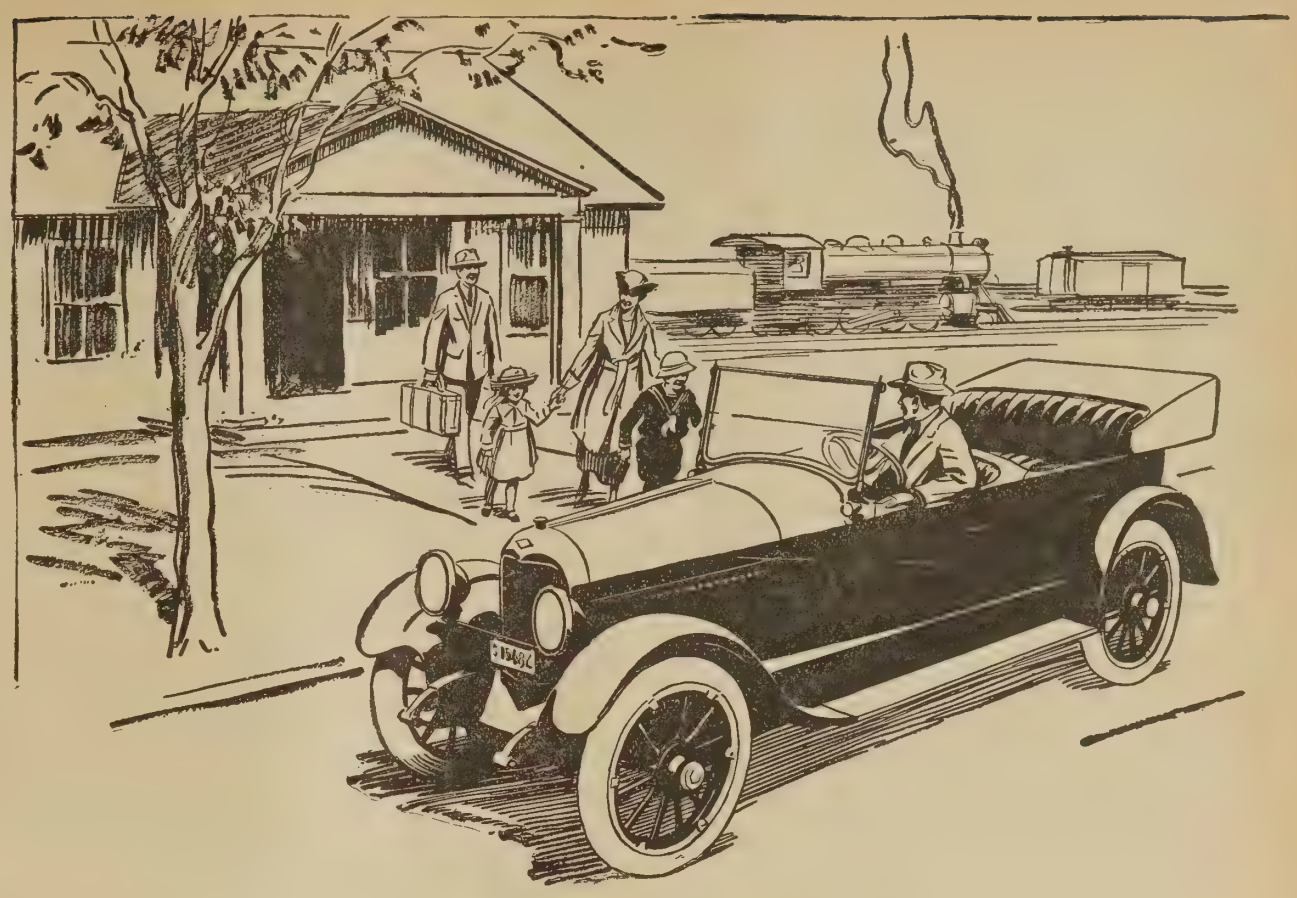
Inventory, Browning Farm. Feb. 4, 1921	
Farm, 150 acres	$9,000
Horses, 4	600
Dairy cattle, 32 head	3,315
Hogs	25
Hens	160
Machinery	900
Feed, seed, and supplies	1,080
Total assets	$15,080
Amounts owed (including notes for cattle)	3,800
Net worth today	$11,280

"Well," said Mrs. Browning, "last year we were worth $10,780, this year we are worth $11,280. That gives us a net gain for the year of $500. We haven't done so very badly after all, in spite of all these blue spells that you have had and your discouragement because the potato crop was poor."

Bob was surprised and mightily pleased. He had been feeling blue. The thought of that extra note which he owed and hadn't been able to pay as quickly as he had expected, had weighed on him all through the past few months.

"This inventory business pays," he said, "and I am going to turn over this page of the note book and write down three things I am sure of: (1) It is easy to take an inventory if you will use your best judgment and not fool yourself or cheat yourself on prices. (2) The later in the winter that you take the inventory, the less feed and supplies there will be to reckon on. (3) An inventory gives me more information for less trouble than any kind of an account that I can keep."

"But," added Bob, "there is one thing that keeps bothering me. I know now that the farm made a little money last year, but I am darned if I know where we made it. We had cows, hens, and pigs; sold potatoes and cabbages and peas and a little hay. We raised hay, oats, and grain to feed. Now which ones of these made money for us and which ones lost money and which ones made more money than others and which made less money than others? That is a question that our inventory won't answer, but it just simply makes me more curious to find out the whole truth." Next year we'll figure that out too.



PAIGE

The Most Beautiful Car in America

Three Factors of Quality

The great nation-wide success of the Paige New Series "Glenbrook" model is founded upon three attributes —Beauty, Performance and Economy.

When a man first looks at this car he is captured by the exquisite finish and long, graceful lines. He realizes that it is an unusual art creation—a newer and finer conception of the five passenger vehicle.

And then comes a trial on the road—one thrilling experience behind the motor that accelerates from five to twenty-five miles per hour in nine seconds flat. That ride is never forgotten and it leads inevitably to proud, enthusiastic adoption.

Later comes indisputable proof of low gasoline consumption, long life of tires and care-free, untroubled mileage. And last—but far from least—comes the confidence and respect that only fine products command. Such is the cause and effect of "Glenbrook" ownership.

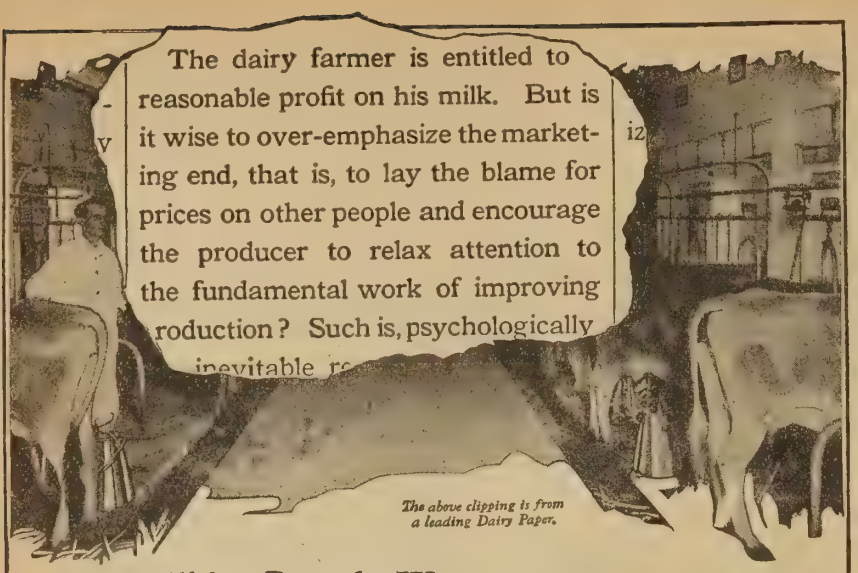
New Series "6-44" Models

Glenbrook Five Passenger Touring Car	*$1795 f. o. b. Detroit*
Ardmore Four Passenger Sport Model	*2015 f. o. b. Detroit*
Lenox Roadster Two Passenger	*1795 f. o. b. Detroit*
Coupe Four Passenger	*2600 f. o. b. Detroit*
Sedan Five Passenger	*2720 f. o. b. Detroit*

Cord Tires Extra

PAIGE-DETROIT MOTOR CAR COMPANY, *Detroit, Michigan*

Manufacturers of Paige Motor Cars and Motor Trucks



Hand Milking Bars the Way to Good Profits at the New Prices

THE only way that you, like every other business man, can keep *profits up* is to keep *production expenses* down. Start right, by doing away with hand milking—by far one of the greatest wastes in milk production.

Owners of Sharples Milkers are making good money—are thinking less about market prices, and more about improved production—selling more milk and producing it for less money.

The Sharples is made in two types. The Sharples Master Milker (for large or small dairies) is now in satisfactory use on over one million cows and is to be found in nearly every country in the world. Our Moto Milker is an electric, portable milker made especially for six to twenty cow dairies that have electricity. No installation is necessary—simply wheel it in the barn and milk. It will run from a farm lighting plant. Both machines have the same gentle suckling action on the teats and the intermittent squeezing by Compressed Air (patented).

No other milker has a positive squeeze. No other milker even squeezes the teats out of round. No other milker uses compressed air. Sharples patents protect this absolutely.

Most cows give down more milk to the gentle, comfortable Sharples suckling action than they do to hand milking. They like it and it increases the mild yield.

A Sharples will cut your milking costs and increase your profits from the start. Let us send you our descriptive booklet. Sent free.

THE SHARPLES MILKER COMPANY
WEST CHESTER, PA.
Chicago San Francisco Toronto

SHARPLES MILKERS

Settle the Harvesting Question Once for All

THERE are unusual advantages in settling the harvesting problem once for all this year.

There are two things to accomplish if you make a profit in 1921. You must farm economically and you must farm well—that is, get the biggest possible crops from your land at lowest cost.

An E-B Osborne Harvester bought now will help. You can be sure of your harvesting being done right, without loss or waste, not only this year but for many years to come.

Into the E-B Osborne Binder has gone the benefit of 60 years experience. Thousands and thousands are in active use. Their light running, perfect tying and long lasting qualities are known throughout the world. See one on your E-B dealer's floor or write for catalog.

Emerson-Brantingham
Implement Co., Inc.
Established 1852 Rockford, Ill.

EMERSON-BRANTINGHAM THE E-B LINE FARM MACHINERY

A Complete Line of Farm Machinery Manufactured and Guaranteed by One Company

When Writing to Advertisers, Mention Hoard's Dairyman

DAIRY MARKET NEWS

New York Butter Market

New York City, May 3:—There has been a strong bearish sentiment in the market for some time. That is undoubtedly the result of a feeling on part of operators that readjustment is the order of the day in all lines of business and that prices must be forced down if they do not fail naturally. The nervous and sensitive feeling that has prevailed for several weeks still continues and probably will until values reach such a level that operators and speculators feel that it is safe to place stocks in storage. Undoubtedly, a stabilized condition will not obtain for fully a month as the flush of production will not be until about the first of June, even though the present season is far in advance for this time of the year.

Receipts continue to be moderate in spite of reports from producing areas that production is fully 25% greater than it was a year ago. It is apparent that there is a greater consumption of butter universally which is responsible to a great degree for the comparative smallness of shipments that are being received in this and other markets. It is doubtless true that many receivers who formerly shipped to this market have diverted their shipments elsewhere of late because of the effect on this market of the large shipments of Danish butter that were received here earlier in the year. It is thought that much of that butter will again be destined for this market in view of the fact that New York quotations are much higher than those of Chicago and fully as high as those of any of the other large markets.

Reports from Denmark state that practically all of the butter produced in that country is now finding a market in England, Norway, and Sweden and at prices considerably higher than could be obtained in this country. Danish butter is being offered for future delivery to this country at 39c, transportation and duty charges paid. It is readily apparent that with asking prices at those levels there is no incentive for local operators to speculate in the foreign butter. No California butter is forthcoming, hence this city must depend on its middle western sources of supply for its butter.

On Tuesday of last week, extras were quoted at 39½@40c. On the following day an unexpected weakness developed and prices declined 2c. On Thursday, the market continued to weaken and on Friday there was little activity. However, there was no change in quotations until Saturday when the price fell 2½c. On Monday, free buying caused a price advance of ½c and that was followed by a further recovery of 2c this morning. Quotations today are: Extras (92 score), 37½@38c; higher scoring than extras (93 score or higher), 38½@39c; firsts (90—91 score), 36@37c; firsts (88—89 score), 34@35½c; and seconds (83—87 score), 29@33c.

W. B. LIVERANCE.

Heavy Declines in Butter Prices

[Report by U. S. Bureau of Markets.]

Receipts of butter on the four large markets for the week ending April 30 ran heavier than for the previous week, but the figures did not point to a very heavy increase in the "make" nor did it appear that such receipts would cause as much market surplus as there would be if trade were anywhere near normal. Trade is not normal, however, at this season of the year and shippers of butter, as well as receivers and buyers have all been waiting for such a break in prices as developed during the week.

The average wholesale prices on 92-score butter at five of the principal markets for the week ending April 30, 1921, and the corresponding week a year ago were as follows:

	Week ending April 30 1921	1920
	Cents	Cents
New York	38.3	68.2
Chicago	35.0	63.9
Philadelphia	39.8	67.8
Boston	39.5	67.5
San Francisco	31.5	55.7

The receipts of butter at these markets were 10,217,766 lbs. as compared with 9,564,694 lbs. a year ago and 8,988,900 lbs. a week ago.

Cheese Trading Improves Slightly

[Report by U. S. Bureau of Markets.]

Stronger trading was in evidence on the cheese markets during the week ending April 30, but there was still an unsettled undertone which prevented really active trading. The general feeling the previous week was that prices were due for sharp declines. While a good many dealers still expect lower markets than have as yet developed, others now think that prices are close to bottom, or at least that another decline at Wisconsin primary markets such as occurred during the week under review will bring prices to about as low a point as will be reached this spring.

The average wholesale prices on American cheese (style Twins) for the week ending April 30, 1921, and for the corresponding week a year ago were as follows:

	Week ending April 30 1921	1920
	Cents	Cents
New York	27.5	29.5
Chicago	16.7	28.5
Boston	18.5	30.5
San Francisco	13.4	24.3
Wisconsin	15.7	28.3

The total receipts of American cheese at these markets were 4,050,160 lbs. as compared with 2,613,070 lbs. a year ago and 3,137,862 lbs. a week ago.

Dairy Markets

CHICAGO, May 6—Butter—Creamery, extras, 31c; standards, 30c; dairy, firsts, 25@30c; seconds, 20@25c.

Eggs—Ordinary, 18@19c; firsts, 22½c.

Cheese—Twins, 18@19c; Young Americas, 21@22½c.

MILWAUKEE, Wis., May 6—Butter—Creamery, tubs, 32c; prints, 33c; extra firsts, 30@31c; firsts, 28@29c.

Eggs—Miscellaneous receipts, country candled, cases included, 21½@22c; cases returned, 21@21½c; seconds, 17@18c; checks, 16@17c.

Cheese—Twins, 13½@14c; Daisies, 14@14½c; Young Americas, 14@14½c; Longhorns, 13½@14c; Brick, 17½@18c; Limburger, 27@28c; Swiss Loaf, 48@50c; block, 30@31c.

NEW YORK, May 6—Cheese—Dull; state milk, common to specials, 15@21c.

Butter—Easier; receipts, 14,308 lbs.; creamery, extras, 37½c; state dairy, tubs, 22@37c.

Eggs—Unsettled; receipts, 42,770 cases; nearby white fancy, 33c; nearby mixed fancy, 24@31c; fresh firsts, 24½@30c.

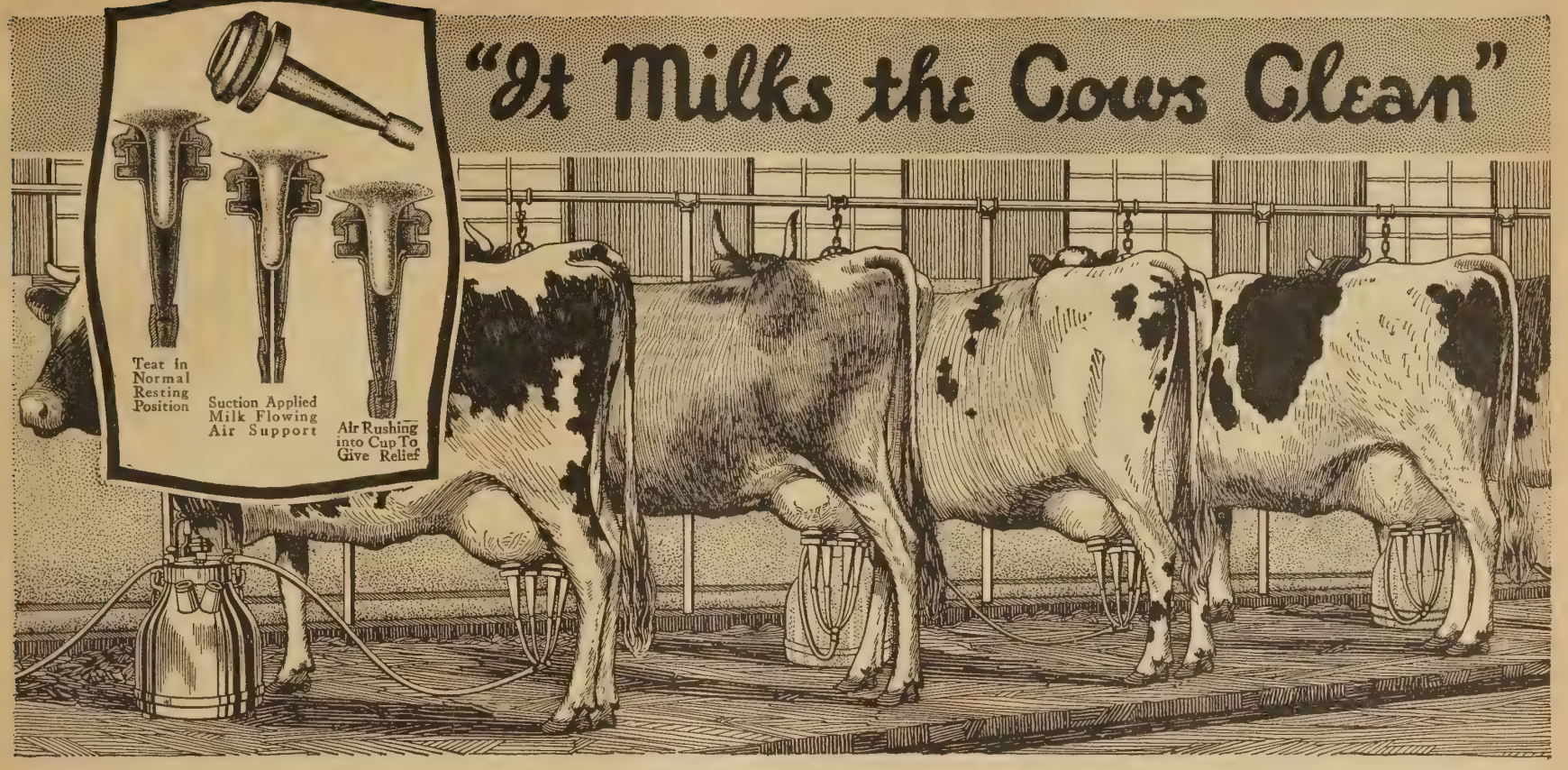
Carload Prices of Hay and Feed at Important Markets April 30

(In dollars per ton)

Commodity	New York*	Philadelphia	Baltimore	Richmond	Savannah	New Orleans	Memphis*	Pittsburgh*	Cincinnati*	Chicago*	Minneapolis*	Kansas City*	St. Louis*	Omaha*	San Francisco
HAY															
Timothy and clover:															
No. 1 Timothy	30 00	24.00	.....	25.00	29.00	30.00	27.50	22.50	21.00	22.00	20.00	†19.50	24.50	.....	....
No. 1 Clover, mixed	26 50	....	18.50	22.00	.....	.....	.....	18.00	17.00	17.00	17.00	†15.00	20.00	....	....
No. 1 Clover	22.50	.....	15 50	23 00	.....	.....	.....	17.00	13.00	15.00	17.00	†14.00	.....	.....	.....
Alfalfa:															
No. 1 Alfalfa	.....	.....	.....	.....	.....	30 00	28.00	.....	22.00	23.00	20.00	†22.00	.....	20.00	20.00
Standard Alfalfa	.....	.....	.....	.....	.....	28.50	26.50	.....	21.00	21.00	18.00	17.00	.....	17.50	17.00
No. 2 Alfalfa	.....	.....	.....	.....	27.00	24.50	23.50	.....	14.00	17.00	15.00	15.00	.....	11.00	15.00
FEED—Bagged															
Wheat Bran:															
Spring	26 00	24 50	26 50	26.00	.....	.....	.....	23.50	22.50	19.50	16.00	.....	.....	.....	.....
Soft Winter	.....	28 00	28 00	28.00	28.50	.....	21.00	24.50	23.00	.....	.....	.....	19.00	.....	.....
Hard Winter	.....	25 00	.....	.....	28.00	25.00	.....	24.00	22.50	.....	.....	15.50	18.00	15.00	35.00
Wheat Middlings:															
Spring (Standard)	25 25	23 75	25.00	25.00	.....	.....	23.00	22.50	22.50	18.50	15.00	.....	.....	.....	.....
Soft Winter	.....	29 00	27.00	30 00	31.00	.....	.....	27.00	25.50	.....	.....	.....	.....	.....	.....
Hard Winter	.....	25.00	.....	.....	.....	.....	.....	27.00	22.50	.....	.....	.....	.....	18.00	.....
Rye Middlings	.....	23.00	.....	23.00	.....	.....	.....	19.50	19.00	.....	.....	.....	.....	.....	.....
High protein meals:															
Linseed	37.50	35 50	.....	.....	.....	.....	.....	34.00	36.00	33.00	30.50	31.00	.....	34.00	.....
Cottonseed (41 per ct)	.....	37.00	.....	.....	.....	33.00	.....	.....	.....	33.50	.....	31.00	.....	.....	35.00
Cottonseed (36 per ct)	34.50	35.00	.....	.....	28.00	32.00	26.00	.....	30.25	31.50	.....	.....	.....	.....	.....
No. 1 Alfalfa me'l (med)	38.50	.....	30.00	.....	.....	28.00	.....	.....	24.00	22.00	.....	18.50	20.50	18.00	22.00
Gluten feed	37.50	33.70	39 00	.....	.....	.....	.....	33.43	32.80	26.50	.....	.....	.....	.....	.....
Hominy feed (white)	29.00	28 50	27.50	28.00	.....	30.00	.....	27 00	23.00	23.00	.....	.....	21.00	18.50	.....
Ground barley	.....	.....	.....	.....	.....	.....	.....	.....	36.00	28.00	21.00	25.00	.....	.....	.....
Beet pulp	.....	27.00	30.00	30.00	40.00	37.00	.....	25.80	27.00	.....	.....	.....	.....	.....	30.00

*Hay quotations represent average of cash sales at these markets. †Nominal.

Straw:—Continued light receipts caused straw prices to remain firm but practically unchanged from last week. Prices are quoted as follows: Wheat straw: Philadelphia $17.50; Pittsburg $15; Baltimore $14; Cincinnati $12; Chicago $11; Omaha $8; Kansas City $8.50. Oat straw—Baltimore $15.50; Pittsburgh $15; Minneapolis $10; Chicago $12.50; Omaha $9.00 Rye Straw: New York $20.00; Philadelphia $19; Pittsburgh $15.50; Chicago $13.50; Baltimore $17; Minneapolis $10.



The Burrell Universal Teat-Cup

WHETHER of the same breed or of different breeds, different cows have teats of different sizes and shapes. In the development of an efficient and practical milking machine, this difference in the sizes and shapes of teats presented a difficult problem. It was the Burrell Universal Teat-Cup, finally perfected in 1910, which satisfactorily solved this problem. Time has proved it.

With the Burrell Universal Teat-Cup, only one size is required to milk the great majority of cows; and, although we make a large cup for extremely large teats and a small one for extremely small teats, there are many herds which have been milked continuously for the past ten years with only the regular size of the Burrell Universal Teat-Cup.

The feature of the Burrell Universal Teat-Cup, which makes this possible, is its ring-shaped air reservoir at the top of the cup. When the vacuum suck is applied, the air is pulled down and in rushing over the square shoulder of this reservoir creates an air-cushion which compresses and supports the teat in a natural and comfortable manner.

It will be significant to you that our study of milking machines extends back to 1860, and that during these sixty years we have experimented with every possible type of teat-cup. After exhaustive experiments, we developed the Burrell Universal Teat-Cup, adopted it because of its conspicuous advantages and discarded all other types as unsatisfactory. It is easy to keep clean and is inexpensive.

There are other exclusive Burrell features that you should know about — the Burrell Positive Relief Pulsator, the Burrell Automatic Controller, and the Burrell Moisture Trap. Get acquainted with the Burrell Milker.

Write today for our booklet and complete information. Tell us how many cows you milk and why you are not already milking by machine. Use the coupon below.

D. H. BURRELL & CO. INC.

Little Falls **New York**

TRADE MARK

BURRELL B-L-K MILKER

(Clip Coupon Here)

D. H. BURRELL & CO., INC., LITTLE FALLS, N. Y.

Gentlemen: I have ..... (number) milking cows. I am not now milking by machine because .....

I want you to send me your booklet and complete information about the Burrell Milker and tell me why *"It Milks the Cows Clean."* 10

Name ..... P. O. ..... State .....

Let your next tire be

FISK



Trade Mark Reg U.S Pat Off.
Time to Re-tire?
(Buy Fisk)

We Believe in Equity for the Farmer

IN tires, our idea of equity is to build a casing definitely for the rough, all-round use a farmer must give his car, at a price which makes rough driving cost less per mile.

We have done that in the Fisk Red-Top, and we are frank to say that no tire can give a higher average mileage under the severe test of a farmer's work-a-day driving.

It is made extra strong with an extra ply of fabric and a heavy tread. It is a tire which need not be coddled—one from which you may properly expect the excess mileage true of all Fisk Tires.

Our 140 branches enable your dealer always to have in stock fresh tires of this year's building—and every one has the stamina for a surplus of lively miles.

Sold only by dealers

The Creamery Beautiful

(Continued from page 701)

the advertising mediums of this country, bringing before the people those wonderful facts. As it is, the dairymen have the long end of the argument, but they have indeed been slow in making use of it. Dairy products only too often are left to stand on their merits. The public is misinformed by unscrupulous advertising and it is up to the dairymen of the country now to re-educate the people to the great value of dairy foods.

By advertising dairy products dairymen not only serve their own interests but that of the country as well. In order to do more effective work the task of educating the people to the greater use of dairy products in their diet has been taken up by the National Dairy Council supported by state dairy councils. Organization of all the different branches of the dairy industry is under way in most states now and extensive advertising campaigns in co-operation with the National Dairy Council are being conducted.

Most of these campaigns are of a wide scope, including not only newspaper and magazine advertising, but also educational work conducted through schools, clubs, home demonstration agents, and numerous other agencies. Producers and manufacturers of dairy products alike certainly should recognize the importance of this work and give it their full support.

Attractiveness of the creamery grounds as well as that of butter in the packages is, however, one of the most valuable advertisements together with high quality products.

Beautifying Contests

Many creameries, especially farmers' creameries, in the past paid little attention to this aspect of their business. Iowa, some years ago, made a move to beautify its creameries. For several years Professor M. Mortensen of the Iowa State College offered a cup to the creamery in Iowa doing the best work along the line of improving the attractiveness of its grounds. The cup was finally awarded to Guy Thomas of Clear Lake.

The beautifying contest in Iowa is now an annual affair. In 1918 it was won by H. C. Stendel of the Tenold Creamery near Northwood, in 1919 by L. Anderson, Coulter, and in 1920 by P. W. Petersen, New Hartford. The work done at these creameries is not at all extraordinary and expensive. Every creamery in every state should do something to beautify its grounds.

The contrast in appearance of the plants before and after beautification is wonderful in every case where an attempt was made. Should it not be the pride of every creamery in the country to form a respectable and attractive part of the local landscape of the community? A little paint, a shovel, and some elbow grease together with some well selected and arranged shrubbery will do wonders in many instances. A beautiful creamery is an advertisement of its products, an inspiration for its buttermaker and the patrons, a credit to the town, and a justification of modern dairying. Let's brush up. It pays.



COULTER CREAMERY, WINNER OF FIRST PRIZE IN 1919 IN CREAMERY GROUNDS IMPROVEMENT CONTEST

Profits by Selling High Test Milk

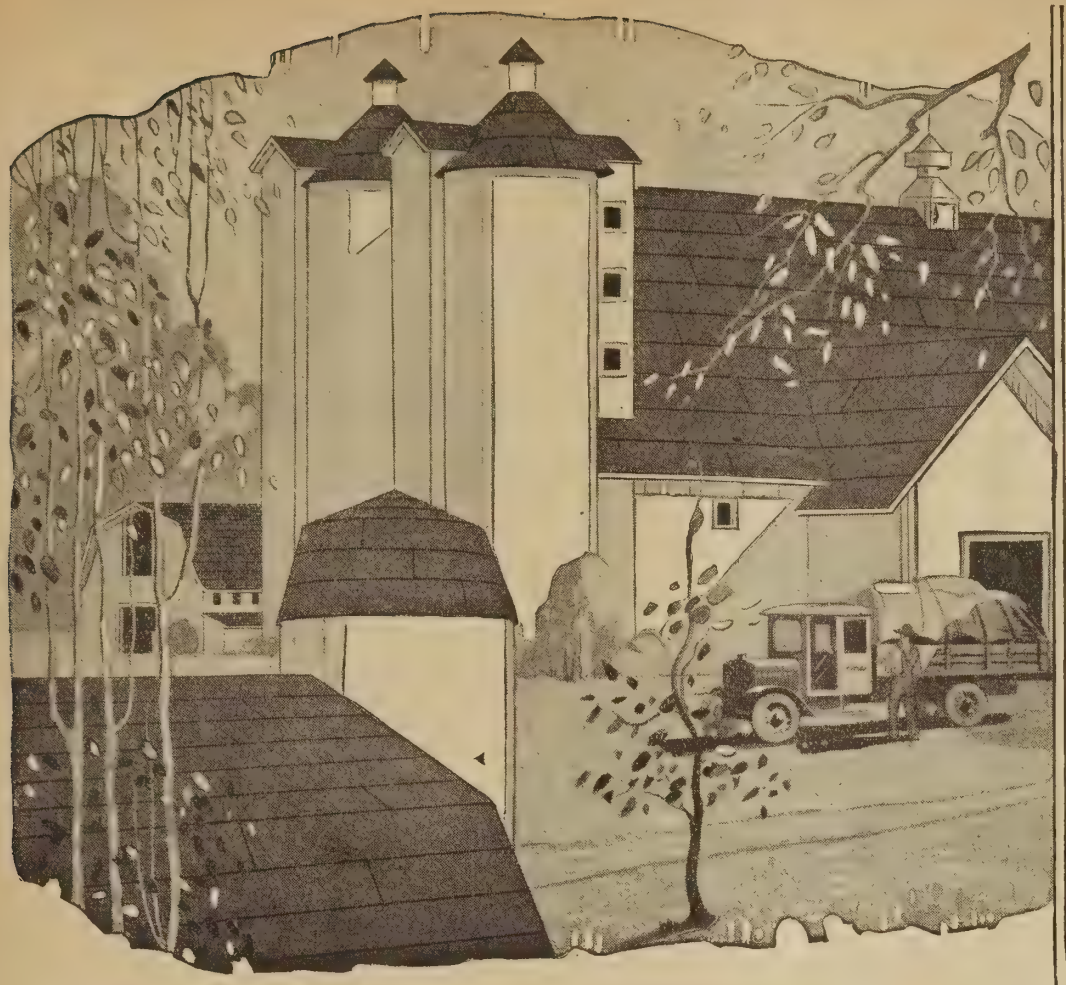
HOARD'S DAIRYMAN:—It may be of interest to you to know how we treat the problem of marketing our milk.

Suppose we drew from our cows 550 lbs. of 5% milk for one day and marketed the entire amount. We would then have for sale 27.5 lbs. of pure butterfat worth in milk, say, 50c pound, or $13.75. But we need 200 lbs. of skimmilk for our calves so we run through the separator 250 lbs. of our 5% milk, getting 12.5 lbs. of butterfat in 50 lbs. of 25% cream, leaving us the desired 200 lbs. of skimmilk. Now the question is, what will we do with this 50 lbs. of 25% cream to get the best returns?

In the cream the butterfat is worth but 40c per pound but in milk it is worth 50c per pound so we return the 50 lbs. of 25% cream to our 300 lbs. of whole milk still remaining from our day's run which gives us a mixture of 350 lbs. of whole milk testing approximately 7.8%. This puts a premium of 10c a pound on the 12.5 lbs. of butterfat in our cream, making it worth to us $1.25 more per day to sell milk of the higher test rather than to sell part cream and part milk. We also get the same price for our day's run of milk had we sold it as it came from the cows and we get 200 lbs. of skimmilk. This skimmilk costs us nothing, for the creamery would pay us nothing for it because they pay for the butterfat content of the milk and they have got all we had to sell in the 350-lb. mixture the same as they would had we sold them our complete day's run of 550 lbs.

Using the above figures you will note that our skim is worth about 62c per hundred whereas at the present price of top hogs it would not be worth over 50c with grain.

Haines, Oregon. D. H. P.



Are Your Roofs a Protection or a Menace?

The greatest danger of fire lies in its spreading from one building to another—particularly in the case of structures roofed with wooden shingles. If one building catches fire, sparks and burning embers falling upon nearby roofs may turn a small blaze into a serious fire.

Barrett Everlastic Roofings minimize this fire hazard. The popular low-priced, plain-surfaced form—Everlastic "Rubber" Roofing—is highly fire-resistant. Falling sparks or hot cinders may char it in spots, but they cannot set it on fire.

The beautiful red or green Everlastic Single Shingles, Multi-Shingles and Slate Surfaced Roll Roofing have the additional protection of a surface heavily coated with real crushed slate. And yet they cost less than ordinary, inflammable wooden shingles.

Fire-resistant, waterproof, easy-to-lay. Durable, economical, beautiful. What more can you ask of a roofing?

It will pay you to look for the Everlastic name when you buy.

The Barrett Company

Illustrated booklets free on request



New York, Chicago, Philadelphia, Boston, St. Louis, Cleveland, Cincinnati, Pittsburgh, Detroit, New Orleans, Birmingham, Kansas City, Minneapolis, Dallas, Nashville, Syracuse, Seattle, Peoria, Atlanta, Duluth, Salt Lake City, Bangor, Washington, Johnstown, Lebanon, Youngstown, Milwaukee, Toledo, Columbus, Richmond, Latrobe, Bethlehem, Elizabeth, Buffalo, Baltimore, Omaha, Houston, Denver, Jacksonville

THE BARRETT COMPANY, Limited: Montreal, Toronto, Winnipeg, Vancouver, St. John, N. B., Halifax, N. S.

Barrett Everlastic Roofings



An attractive roof adds greatly to the appearance of the home

The Everlastic Line



Everlastic "Rubber" Roofing

A recognized standard among "rubber" roofings. Famous for its durability. Made of high-grade waterproofing materials, it defies wind and weather and insures dry, comfortable buildings under all weather conditions. Nails and cement included.

Everlastic Slate-Surfaced Roofing

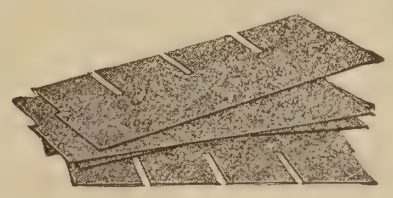


A high-grade roll roofing, *surfaced with genuine crushed slate,* in two natural shades, red or green. Needs no painting. Handsome enough for a home, economical enough for a barn or garage. Combines real protection against fire with beauty. Nails and cement with each roll.

Everlastic Multi-Shingles

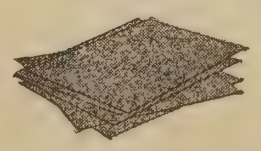
(*Four-Shingles-in-One*)

Made of high-grade thoroughly waterproofed felt and *surfaced with crushed slate* in beautiful natural slate colors, either red



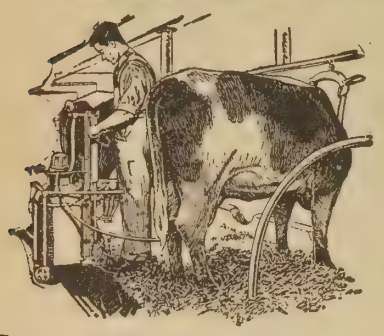
or green. Laid in strips of *four shingles in one* at far less cost in labor and time than for wooden shingles. Give you a roof of artistic beauty worthy of the finest buildings, and one that resists fire and weather. Need no painting.

Everlastic Single Shingles



Made of the same durable slate-surfaced (red or green) material as the Multi-Shingles, but cut into individual shingles, 8 x 12¾ inches. Laid like wooden shingles but cost less per year of service. Need no painting.

Complete MILKER *only* $123!!



Tremendous sensational milking machine offer. Every man who keeps cows—Read this!

Not one cent installation expense. No more complicated machinery, so simple a little boy can run it—fewer parts—costs less—*so amazingly easy* to clean—adaptable to each cow according to her character. Scientific, sanitary, practical; and *stays* in good order.

Hand Power—also
Gas Engine Power—
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Introductory offer:—

30 Days FREE TRIAL!

In every locality in which we have no dealer, agent or salesmanager, we will send *one* machine on 30 days' free trial and at our rock bottom price, direct from the factory; to the first responsible farmer who asks for it. No deposit; no C. O. D.; 30 days full free trial; you alone to decide. *ACT QUICK!*

After trial, if satisfactory, keep the machine on our IRON CLAD Guarantee.

Those who take the trouble to learn the knack are wonderfully well satisfied. Read this:

"We are more than pleased with the milker; it is a dandy; the cows rather there was no such thing as hand milking—but it takes thirty days for some of them to find it out. I couldn't send the machine back if I wanted to, as my men would both quit."
L. F. MURPHY, Hartford, Wis.

And hundreds of letters like this.

Valuable Book

Giving Points *on* **Machine Milking**

This book is full of *important* information for the man who is thinking of getting any kind of a milking machine. *Get Posted!*

Sent FREE!

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Burton Page Company, Dept. 4625
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Send me your free book on Machine Milking with illustrations of all your milking machine models and full explanation of your 30 day FREE TRIAL offer.

Name.....
Address.....
No. of cows.....
Have you a milking machine now?.....
Give name of make.....

Third Michigan State Sale

West Michigan State Fair Grounds

Grand Rapids, Friday, May 27

75 of Michigan's Best Holsteins

from herds under State and Federal Supervision and Fully Accredited or with one or more tests without reactors.

Animals of the type which breeders like to keep in their herds.

Selected from thirty of the best herds in the state and sold with 60- to 90-day retest guarantee.



BELLE PERFECTION DE VRIES 4TH
Butter, 7 days, 29.42 lbs; milk, 670.9 lbs. Butter, 155 days, 499.3 lbs.; milk, 13,290.8 lbs. Now on yearly test.



KING ONA CHAMPION
A $10,000 son of a $10,000 bull. The sale includes a son of this great young sire and 5 cows in calf to him.



ELZEVERE KORNDYKE 208387
AT 4½ YEARS
Butter, 23.8 lbs.; milk, 466.3 lbs.

Six cows with records from 30 to 34.9 lbs. butter in seven days and eight from 27.25 to 29.42 lbs.

Thirty others from 20 to 26.6 lbs.

Four daughters of 30-lb. cows and five daughters of 29-lb. cows.

Every animal has passed inspection by one of the best judges in the state and is protected by the best of guarantees.

Catalogues on Request.

The Michigan Holstein-Friesian Association

H. W. Norton, Jr., Secretary, Old State Block, Lansing, Michigan.

ATTEND THESE SALES:
Central Michigan Breeders, East Lansing, May 23rd
Martin Buth Dispersion, Grand Rapids, May 26th
Third Michigan State Sale, Grand Rapids, May 27th

STERILIZE
MILKING MACHINES
PAILS AND CANS
with B-K (Bacillus-Kil)
The Sentinel of Sanitation

DEPENDABLE -- CHEAP

Just put B-K in the rinse water after scrubbing milker, pails, cans and strainer. It kills the bacteria that sours milk.

Does the work quick—costs little to use. No extra labor or equipment required. Leaves utensils sweet and pure, free from odors. B-K is endorsed and used for this purpose by dairy authorities everywhere. B-K is a pure concentrated sodium hypochlorite—every scientific man knows the value.

Get a gallon of B-K—the Standard Farm Package. If your dealer hasn't that size, have him get it for you.

GENERAL LABORATORIES
Madison, Wisconsin

Great **CALF CLUB** Opportunity

45 — Yearling Heifers — 45

In the **SALE** of

Sedalia May 24

Tuberculin Tested MISSOURI HEALTHY HOLSTEINS *Retest Permitted*

WE PAY CAR FARE BOTH WAYS at rate of one mile for each two dollars' worth of cattle purchased

Missouri Holstein - Friesian Ass'n

TEAT CUP NEWS

A new principle in teat cup construction with two years of successful service. The action gently massages while suction is applied thus putting your milker in the pipe line class without a pulsator. Our SIMPLE, UNIVERSAL teat cup does the trick. Write for our money back five-day trial offer if your dealer cannot supply you.

FROST ENGINEERING COMPANY, 528 S. Oak Park Ave., Oak Park, Ill.

Wisconsin Holstein Meeting

The biggest meeting of Holstein breeders ever held in Wisconsin and one of the most important conventions to go to Milwaukee is the advanced word concerning the annual convention, meeting, and sale of the Holstein-Friesian Breeders' Association of Wisconsin scheduled for Milwaukee May 16th and 17th. The Republican House will be headquarters and the convention will open at 10 a. m. and close with a banquet at 7 o'clock in the evening. Eight fifteen should find everyone ready to go to a theater or other form of amusement as there will be no speaking in connection with the banquet.

The annual breeders' state sale will be held on the State Fair Grounds at West Allis on May 17th. Selling should commence at 10:30 in the morning. Lunch is provided on the grounds. Sixty cows and seven bulls specially selected by the sales committee from thirty-two of Wisconsin's best herds make up the consignment. L. L. OLDHAM, Sec.

OLD DEERFIELD HERD
For Sale—Holstein Bulls 4 to 7 months old. Sired by King Piebe Korndyke Johanna No. 210876. Prices $50 to $60.
Young cows $200 to $300. Some $175 and up. Reg., transferred f. o. b. cars my station.
CARL FOLL, R. F. D. Deerfield, Wis.

The Wisconsin Breeders'

Northern State Sale

Marshfield, May 26

The Northern State Sale is under the auspices and management of the Holstein-Friesian Breeders' Association of Wisconsin. It is the outgrowth of a desire to populate the vast Dairy Empire in the Northern part of our state with a number of the very best foundation animals that we can possibly get together for dispersal. They will prove of much benefit to the breed and to the men buying them. They are the kind that only a State Association Sales Committee can get together. Breeders can ill afford to spare them but State pride is a big lever and we used it to pry them loose. The usual health and breeding guarantees at state sales prevail.

SIXTY COWS AND HEIFERS OVER SIX MONTHS ALL GOOD BUT SOME VERY CHOICE AS YOU MAY KNOW. A splendid 25-lb. daughter of King Johanna Korndyke Segis. A show cow and bred to Pabst Piebe De Kol King. A fine daughter of Pabst Pontiac De Kol King out of a 24-lb. dam. A 29.99-lb. 5-year-old cow that milked nearly an average of 100 lbs. a day on test. A 25-lb. daughter of Sir Fobes Ormsby Pietertje. A number of very fine daughters of Sir Bess Pietertje Fobes. A 24-lb. daughter of Canary Pearl of the Dairy. Another of the 100-lb.-a-day kind. A beautiful daughter of Pontiac Hengerveld Sir Korndyke. A cow claimed by many to be the finest show cow in the North of Wisconsin. A very attractive granddaughter of Queen Juliana Dirkje. She is now on test and making over 800 lbs. for the year. A splendid daughter of Homestead Junior De Kol. A daughter of Sir Ormsby Beauty Pontiac Segis who is the grandson of Pietertje Maid Ormsby and out of the highest living daughter of Count. Three very sweet daughters of Roberts Pontiac De Fries.

THE SALE SENSATION is a 30-lb. granddaughter of Old Sir Piet. She was wanted for the National at St. Paul but the owner was not sufficiently passive until too late.

NINE BULLS ALL OF SERVICEABLE AGE AND RIGHT GOOD INDIVIDUALS. A two-year-old out of a 29.99-lb. dam with 690 lbs. of milk in 7 days. A yearling son of Sir Ormsby Banostine Champion—the only son of Duchess Skylark Ormsby. His dam made 700 lbs. in the 10 months division at 9 years of age. His 2 nearest dams average 1,075. A son of Sir Bess Pietertje Fobes carrying 75% the same breeding as Bess Burke Ormsby the 42-lb. cow. A 3-year-old 30-lb. proven sire of good type and a quick sure breeder. He weighs 1,800 lbs. A 3-year-old son of Aristocrat Pontiac. The dam has 27.40 lbs. of butter and 625 lbs. of milk in 7 days and 1,150 and 25,456 lbs. in year. A show ring winning son of Senator Johanna White. The two nearest dams average 26.30 lbs. in 7 days and 19,748 lbs. of milk and 900 lbs. of butter in the year. A very choice yearling who is out of the same dam as the 36-lb. daughter of 37th and is sired by a half brother—thus carrying 75% the same blood. A fine young son of a 40-lb. two-year-old. The dam's sister has nearly 700 lbs. of butter and 18,000 lbs. of milk as a two-year-old.

You know something of the offering from the above. Space will not permit a description of it all. You won't be disappointed when you come to Marshfield and look the lot over the day of the sale.

The Sales are under the auspices and management of the State Association.
The details relating to the sale will be given by L. L. Oldham, Secretary.

Wisconsin Holstein-Friesian Breeders' Ass'n

241 Washington Building, Madison, Wisconsin

Don't forget Milwaukee May 17. The 4th Annual Wisconsin Breeders' State Sale will be held on the State Fair grounds. Attend the State Association Annual meeting at the Republican House the 16th. You will have a good time and renew many old acquaintances.

Kill Every Rat on Your Place



In Less Than ONE WEEK

Science Dooms Rats, Mice, Gophers

SCIENCE has doomed the pests which costs the farmer over $200,000,000 a year in the destruction of grain, poultry and buildings. You farmers need no longer suffer this loss, because I absolutely guarantee to kill off all the rats on your place within less than ONE WEEK'S time. This is possible through the remarkable discovery of the chemists of the Alexander Laboratories, Kansas City, Mo. They have perfected a virus that kills rats, mice and gophers as if by magic. Thousands are now using this wonderful Alexander Rat-Killer Virus and saving the money that rats cost them every year.

Read These Letters of
Absolute Proof

Rats Gone—Poultry Saved.

"Your Rat-Killer has certainly killed off the rats around here. We have always lost considerable poultry from rats and now are unable to see either rats or mice. I intend to recommend Alexander Rat-Killer to my neighbors." E. J. RENICK, Leeds, Mo.

Entirely Free From Rats.

"I have given your Alexander Rat-Killer a thorough test and believe it is the most wonderful thing I ever saw for ridding a place of rats. Our barns are entirely free from rats and mice and I want you to send three more test-tubes to use against the gophers here."
MOORE FARMS, Harry Moore, Owner, Gardener, Kan.

Rids Farm of Pests.

"Alexander Rat-Killer has killed all the rats and mice on our place and we are glad to recommend it."
WILLIAM AUSTIN, Rochester, N. Y.

No More Rats and Mice.

"Please rush me six tubes of Alexander Rat-Killer. I have tried out one tube in the barn and notice that there are no more rats and mice there. I am going to put it all over the farm now." ARTHUR C. ELLIOT, Montclair, N. J.

Home Free From Rats and Mice.

"I have conducted what I consider a strict test of your Alexander Rat-Killer Virus and find that my house is entirely free from rats and mice."
MRS. T. W. REED, Kansas City, Kan.

Not a Poison

Alexander Rat-Killer Virus is not a poison—it can be eaten by human beings or any animal on the farm as safely as their regular food, but it is quick sure death to rats, mice and gophers. Chickens, hogs, cattle or any other farm animal are not affected in the least.

Guaranteed To Kill All Rats Within ONE WEEK

Alexander Rat-Killer Virus is merely mixed with bread or meat scraps and placed where rats, mice or gophers can get to it. Within a few hours after a rat has eaten this virus he gets a high fever and suffers a terrible suffocation and thirst. He leaves the barns and nesting holes and goes to the open fields to die. Rats and mice thus affected always die far away from the barns or houses, so there is no odor. **In Less Than One Week's Time not a single one of these pests is left alive on your place.** It is a scientific fact that one rat affects others and soon the whole colony leaves the houses and buildings to die. I guarantee that though Alexander Rat-Killer Virus is absolutely deadly to rats, mice and gophers—chickens, hogs or any other farm animal can eat it and not be affected at all.

Big Introductory Offer

To introduce Alexander Rat-Killer Virus to one million new users and to rid America of rats as soon as possible, I will send a regular $2.00 tube of virus for only $1.00. Try it according to the simple directions, and if at the end of a week's time you are able to discover any rats, mice or gophers on your farm, your money will be refunded. A big Kansas City Bank says that I am reliable and will do as I agree.

Send No Money

Just write me—a postcard will do—and the regular $2.00 size tube will be mailed immediately. When it arrives, pay postman only $1.00 and a few cents postage, on my absolute guarantee that if not absolutely satisfactory your money will be refunded without question. You are the sole judge.

WRITE TODAY Don't lose money any longer from rats, mice and gophers. Write me today and rid your farm of these dangerous and expensive pests within a week's time.

E. R. ALEXANDER, President
ALEXANDER LABORATORIES
224 Gateway Station, KANSAS CITY, MO.



HOARD'S DAIRYMAN JUNIORS



A DEPARTMENT FOR THE DAIRY FARM BOY

The Junior Gardener

Some juniors have complained to us that there is nothing for them to do that they can really call their own. Of course, what they really meant is that they cannot have a calf or a pig to raise. While it should be the ambition of every junior to learn all that he can about the best breeds of farm stock and how to raise them, still we believe that no junior should be idle waiting for the time to come when he can have calves and pigs of his own. They will come in the due course of time and, while we are waiting, we should not forget that there are many other things that all juniors can have a hand in.

We are going to propose vegetable gardening either on a small scale or a large scale, as a problem in which most any junior will be able to take part. It is a splendid thing to have a garden all of your own, even if it is but a part of the regular family garden. What we want you to do is to have one of your own, one that you alone are entirely responsible for. Even many of our city cousins can enter into this project and we happen to know that thousands of them have, all over the United States. A piece of land for a garden is something that almost any boy or girl is able to get. It is all right to work in mother's garden and of course we always want the juniors to do their share of the work in the family garden, but it is lots more fun in growing things that you can call your own. Maybe you can raise some things to sell and thus make a little money in that way. And when the season of fairs is on hand again, you will have some things to exhibit. Every farm home should have vegetables of all kinds for the table and maybe you can be the means of providing them.

Gardening is not difficult work, either. Some people have tried it and failed, and the biggest reason being that they did not look after it at the right time. Gardening, like everything else we do, will not be successful unless we take care of it. Planting is one thing and keeping the weeds out is quite another.

How to Plan a Garden Wisely

If we had only one rule to offer for junior gardeners to follow, it would be this. Make every part of your garden produce all that it is capable of. And it is not a difficult matter to do this, either, because we usually grow such a diversity of crops in a garden, some that require early spring planting while others demand the hotter weather of middle summer. To illustrate, tomatoes and turnips can follow lettuce and radishes very nicely. In this way no part of the garden will be idle for any great length of time.

Gardeners of experience always make a plan on paper before they start to plant. By doing this they can plan for everything to much better advantage. By knowing the size of the garden, a plan can be worked out on paper according to an adopted scale which will be found very useful all through the summer for you to refer to. Besides, it is good practice to do this and one learns to be economical and systematic. The plan you make should contain or show things like the following. The amounts of each vegetable and the space which you expect each to occupy, where each is to be located, the distances between the rows, dates of planting each, and whether or not more than one crop is to be grown on the same space during the season.

Of course, the size of the garden will largely determine the kinds and amounts of the crops to be grown. But, everything considered, if we are gardening to have vegetables for the family use in winter, we should give considerable attention to those kinds which can easily be stored and kept for winter use, because when the winter months set in, we all appreciate having vegetables for the dinner table and there is little reason why plenty should not be found stored in every farm cellar. If we all only realized how valuable vegetables are in keeping us in good health, we would find cellars much more complete with a good winter's supply than we usually do.

Too many people realize too few facts about the best ways to plan the garden. We want you, juniors, to take a pride in doing the best job that you can. It is much better practice when you have but a small garden to plan on planting the lettuce and radishes between the rows of those vegetables that will occupy the land all summer and into the early fall. If we do this, we can plant lettuce and radishes between the rows of carrots and parsnips. This will be quite a saving of space. And if you do not have sufficient room for large plants like corn, do not attempt to grow them in a small vegetable garden. Other vegetables that will give a better account of themselves and that will use the space to better advantage should be selected.

And, of course, it is good policy to grow as large a variety as is practical, but on the other hand one should not select those about which he knows little. Some garden crops are hard to grow so it would be better to let them alone and confine your efforts to those that are easier to handle. If there are any places in the garden spot that are inclined to be more shaded than others, plants like lettuce and spinach should be planted in these. Although such plants must have the sunlight, they can get along better than can some others with a less amount. And another fundamental rule should be to train big spreading plants like tomato vines up on stakes so that they will not take up so much of the space. In addition, they will bear a better quality of fruit. In planning for a large garden, one should plan to use as much horse power as is possible in cultivating. In the smaller gardens, we must expect that the weeding and hoeing will have to be done by hand.



THERE'S HEALTH, WEALTH, AND PROSPERITY IN A GOOD GARDEN

Getting the Soil Ready

It is not a good plan to be in too much of a hurry to plant the garden. Thorough seed bed preparation is what is necessary if you expect the plants to grow rapidly. This involves several considerations. Perhaps it means a good application of well rotted stable manure to increase the fertility of the soil. If it does, the manure may be applied either before the plowing or the spading is done or following, providing it is well worked into the soil. Most vegetables like plenty of lime in the soil. Perhaps it would not be out of place to work some of this into the soil. Commercial lime if allowed to slake will do the business and will make a soil, that is inclined to be sour, much sweeter.

And at no time should one work in the garden when the soil is too wet, and especially not at the time during the preparation of the seed bed. A soil that is either plowed or spaded when it is too wet will be very lumpy when it dries out and there will be trouble all summer in working it. This is especially true of those soils that we term "heavy" or those which have a high clay content. As a matter of fact, it is better to avoid this kind of a soil for gardens if something better can be had that is conveniently located. A rich, sandy loam is a good garden soil, but with proper attention most any soil will give good returns. The plowing or spading should be deep. Most vegetables want to send their roots deep and, in the case of root crops like carrots and turnips, unless the soil has been worked to a good depth, they will not grow to a good size and they are liable to be very irregular in shape. Then there is another important feature about garden plowing that should be recognized for the sake of making the following work in the garden easier. It should be so well done that all organic rubbish of all kinds will be turned under and completely buried where it will be out of the way when we plant and hoe. Some people who make small gardens spade only the amount that they will plant at any one time. It is much better practice to spade the entire garden when you once start, because later on the soil may become too dry to do a good job. Spading early in the spring helps to hold the moisture in the soil. And it is a good practice when once the spading has been completed to rake over the entire surface at once before it dries out too much. This will make a fine seed bed surface and you will find that it is much easier to plant the fine seeds when you get ready to do so. One cannot be too careful about getting the soil ready, for much of the success you will have is determined by how well the job is done. Because most of the garden is not planted immediately following the plowing or spading, each strip as it is planted should be separately prepared. A hand cultivator will do this very well and if one of these is not conveniently at hand, the hoe will do just as well. Then with a little careful raking an ideal seed bed can be prepared.

Certain Garden Tools are Necessary

If one wishes to work to advantage, certain garden tools are quite necessary. A good iron toothed rake is very essential to fine the surface with. This is indispensable and there is hardly any time during the planting season that it will not be used. Of course, a garden always suggests a hoe, and we think that the most convenient hoe to have is one of the three cornered kind. If the handle is attached at one corner, so much the better for making trenches to receive the seed, especially when a planting line is being used. A tape for measuring is also a good thing to have, although one can get along without this. A strong trowel will be found almost necessary at times, especially when working with such plants as are usually transplanted. There should be a good strong line to be used for guiding the planting of the rows and in addition there should be a couple of strong stakes to attach each end of the line.

One should always take good care of the tools and equipment each time after they are used. This will save some time and trouble and one should get in the habit of keeping them in a convenient place where they will always be found. The hoe, trowel, and rake should be kept clean and dry so that they will not get rusty. Dirt sticks readily to a rusty hoe and then it is almost impossible to use it. A little precaution will mean a great deal the next time you want to use it.

Planting the Seed

Good strong seed should be used, and a good soil and seed bed will avail but little unless the seed used is good. It is a good practice to germinate some of the seeds in a tester before planting them in the garden. This may be done most conveniently in one of two ways. By planting about fifty in a box of sand, one will soon know the kind of seed he has, or he may place the same number of seeds between two moist pieces of cloth or blotters held in a plate. In a few days this will tell the story. If from 75% to 100% of the seeds grow and produce strong, vigorous looking plants, the seed is good and may be used with safety.

And another matter that you juniors should not be too impatient about is too early plantings. Most seeds

germinate best when the soil is warm, and the weather is fairly well settled. When once out of the ground, they should grow rapidly if they are to be of good quality. This is especially true of those plants that require warm weather to make them grow the best.

The line should always be used to make straight rows. It should be stretched tight and kept close to the ground if you want to keep the rows as straight as possible. In order to get the line tight, the two stakes should be set firmly in the soil so that they will not give. If the row is quite long, another stake set in about the center will help to keep the line tight and in place. You must remember that the line is simply to act as a guide in keeping the rows straight and with this in mind, when the trenches for planting the seeds are made, it should not be crowded to one side.

For small seeds, a shallow trench is best and the right way to make it is to use the end of the hoe handle if the soil is loose and fine. It would be a difficult matter to state how deep the trench should be, but we might say this, that it should be just deep enough to allow the seeds to be covered well. In planting large seeds like peas, it should be deeper than for small seeds like onions. And if the soil is inclined to be lumpy it should be made some deeper.

If a deeper trench is desired, it can be made by standing close to the line and using one corner of the hoe. By moving it backward and forward, it can be kept straight, at least more so than by drawing it forward in a steady stroke. With the trenches made, the seed is ready to be sown.

It is entirely unnecessary to have a garden drill for the planting of small gardens. Planting by hand does a good job and it is not likely to take as much seed. An easy way to do this is to pour some of the seeds into the left hand and then by taking a pinch between the fore finger and thumb of the right hand, they can be distributed quite uniformly in the trench by rolling them out if the thumb is rolled across the finger. With a litle practice, one soon becomes quite expert. Another way to accomplish the same thing is to leave the seeds in the package and then holding it over the trench and shaking it gently, the seeds will drop out quite uniformly. Both require practice but either way is easy to learn. Of course, too many seeds will drop and consequently there will be too many plants in the row, but these can be thinned out later on.

Covering the seed properly is no small item in the success of the garden. There are two very fundamental things to look out for. One is to see that all the seeds are covered, and the other is to press the soil closely about the seeds, so that they will germinate better. In order to do this, some of the soil on either side of the trench should be worked back over the seeds and then pressed down, either with the back side of the hoe or by stepping upon it. Following this some loose dirt should be raked over the row to prevent too much escape of the soil moisture by creating a soil mulch over it. All of this is very important if you are to get the best results.

The row should then be marked. This can be done by placing a stake at either end. Then if one wishes to loosen the soil following a heavy rain which has compacted it too much and before the young plants are out of the ground, he can do so without disturbing the soil too deep over the row.

Why the Rows Should Be Thinned

No matter how carefully the seeding is done, there are bound to be too many plants in each row. This means that unless some are removed there will not be the proper development that one should expect. In general the best time to do the thinning is just after a rain and while the plants are still very small, for the reason that they are often most easily removed without disturbing those that are to remain. The average distance that there should be between the plants after they are thinned is anywhere from 6″ to 10″. However, in the case of certain vegetables like onions and beets, a partial thinning at first will enable the plants to get sufficient growth so that they may be used for the table from time to time.

Keeping the Garden Clean

Have you ever seen a garden that gave great promise in the beginning that was a failure in the end? If one sets out to have a good garden, he must expect that planting is but a small part of the operation that goes to make success. Keeping the garden clean is very important.

The vegetable plants cannot be expected to compete with the weeds for moisture and plant food, for the weeds usually grow faster and they soon crowd the young plants too much. And keeping the garden clean accomplishes other things. When the soil is kept stirred either with a hoe or a cultivator, the moisture cannot escape at the surface as readily through evaporation. And after a heavy rain when the soil dries out and tends to bake, forming a hard crust over the surface, cultivating it breaks up the crust and admits the air to the roots of the plants. All of this does more good than we are usually aware of, for our efforts are rewarded by the plants making a much better growth than they could if we did not cultivate. In a small garden, one does not need any tools other than a narrow rake and a small hoe. Smaller tools are much better for they enable one to work more closely about the plants and the job is usually done much better. If you are buying hoes and rakes this spring it will pay you to consider carefully before spending your money. Avoid large tools to work the garden with. In addition to the two tools mentioned, a hand cultivator will be found very convenient to have. In a soil that has been properly prepared, these implements do very good work and they cut down on the time required to do the work. No matter what tool is being used, the object should always be to stir the soil thoroughly, leaving the surface fine and smooth. One of the tests of you as a junior gardener will be, how clean did you keep your garden during the summer months. If you have done a good job, there will not be a single weed going to seed this fall in your garden patch.

Junior Letter

Hoard's Dairyman Juniors:—This is our first letter to the juniors. We have been reading the junior letters for some time and are very much interested in them, so we thought we would write one and see how it would compare with the rest of the junior letters.

We live on an 80-acre farm 4½ miles southwest of Fond du Lac. We have sixteen grade Holstein cows, three heifers, and one registered Holstein sire. We also have three horses, 26 Duroc pigs, and 70 chickens. Father started seeding about ten days ago and last Saturday we had the worst blizzard we had this winter. The snow was piled up three and four feet high in some places but in a day or two it will be all gone again.

My two brothers and I have three old Belgium hares, seven that are pretty near full grown and twelve that are about three weeks old. We feed them clover, soy beans, vegetables, ground feeds, corn, and skimmilk.

We have a milking machine and we boys do the milking all alone with the exception of starting the engine.

We wish the juniors would write to us, we would be very glad to answer their letters. Our address is R. 4, Fond du Lac, Wis.

Elmer, Victor, and Leo Kramer.

The instrument chosen by the greatest artists

ALDA
BESANZONI
BORI
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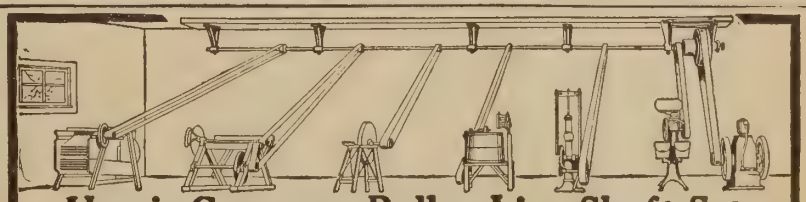
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Enables you to run cream separator and all other machinery from one line shaft. Governor absorbs sudden jerks and shocks of engine—saves machinery, time, money. Simple, efficient, strong—no frail parts. Easily attached to floor, wall or ceiling.

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STOCK FOR SALE

Holstein heifer and bull calves. Pure-bred, registered and high grade. Splendid individuals and breedings. Delivered to you, $25 and up. Your inquiry will be given our best attention. BROWNCROFT FARMS, McGraw, N. Y. 5*

I have usually 100 head of registered and high grade Holsteins on hand for sale. Also registered and imported Percheron and Belgian horses. RALPH HUDSON, Milton Junction, Wis. 12*

For Sale—At Elmwood Stock Farm, high grade Holstein cows, fresh and springers, by the carload. JOHN MURPHY, Mukwonago, Wis. 3*

"The Willows" offers fifty high grade Holstein cows for sale. S. D. SHAMBEAU, Waupaca, Wis. 12*

High Grade Holstein heifer calves, two to four weeks old, from tuberculin tested herds, $30 each, crated. Will ship C. O. D. WAUKESHA CO. HOLSTEIN-FRIESIAN BREEDERS' ASSOCIATION, Waukesha, Wis. 9*

High Grade Holstein and Guernsey calves. $25 crated. Safe delivery guaranteed. BROWN & COLLINS. Lima Center, Wis. 16*

Serviceable grandsons of Lola Segis Pontiac Homestead for sale, he a 34-lb., 1,000 lb. son of Piebe Laura Ollie Homestead King. Their dams are daughters of Joe Oak De Kol Fobes. Well grown, good individuals. Your choice, $150. R. W. MEAD, Stillwater, Minnesota. 10*

Holsteins—37-lb. herd sire, young bulls, cows, heifer calves. PHILIP LEHNER, Princeton, Wisconsin. 6*

Closing out herd of grade Holsteins, $100.00 each. H. A. KUHTZ, Waukesha, Wisconsin. 24*

For Sale—My entire herd of choice high grade Holsteins, mostly bred to and sired by thirty-pound bull. There is one full load of the best large heifers in southern Wisconsin, uniformly marked, about three-fourths white. C. L. SIMMONS, Belmont, Wis. 1*

Baby Bulls—Registered Holstein-Friesian by high class sires and heavy producing dams. Price is right. C. S. MULKS & SON, Whitewater, Wisconsin. 3-*

Listen! Your last chance to get some of those beautifully marked extra high grade Holstein heifer calves at greatly reduced prices. Registered bull calves $35.00 C. O. D. Look them over and if they don't suit don't pay for them. J. M. MCFARLAND, Watertown, Wisconsin. 14-4

Lake Shore Holsteins—Fifty fine, big, fat, pure-bred yearling heifers. One or all, priced to move them at once. Come. E. J. OPPLIGER, Forest Lake, Minn. 14-4

Holstein heifer calves, high grade and well marked, three to six weeks old for $16.00 crated. Registered bull calves $35.00 each. RUDOLPH KUNDERT, New Glarus, Wis. 14-*

30 Registered Holsteins—Entire herd, prime condition. Bargain. All or part. DR. HAINES, Three Rivers, Mich. 15-3

For Sale—Registered Holstein bull, 4 weeks old. Korndyke King Hengerveld strain. $50. JOS. T. RYAN, 1201 West Lake St., Chicago, Ill.

Nice registered Holstein bull. Eight months old, well marked, thrifty, high yearly production sire, $75. Younger bulls, $50. WARD BROTHERS, Fort Atkinson, Wisconsin.

Holstein Bull—Ready for service, 2 dams average 106 lbs. milk in one day, 40.67 lbs. butter in 7 days. $200 terms. Also two heifer calves. ROY HARRIMAN, Appleton, Wisconsin. 17-6

I have 4 or 5 cars of high grade Holstein cattle for sale. Address J. E. MCMAHON, North St. Paul, Minnesota. 17-2

Small herd Registered Holsteins wanted on shares on my farm. Experienced and equipped. G. E. NICHOLS, Murray, Iowa.

We ship our 7 weeks old Holstein calves subject to inspection c. o. d. for $28.00. Express charges paid. Special price on lots. SPREADING OAK FARM, Whitewater, Wis. 17-tf.

For Sale—My entire herd of pure-bred Holsteins, one cow and three heifers giving milk, one two-year-old heifer, two heifers, 11 and 16 months, sired by son of King Segis, one heifer calf 4 months, and herd bull 15 months. Price $1,025. WILLIAM PEITHMAN, Richview, Ill.

My entire herd of grade Guernseys for sale. Also a few choice heifer calves at $30.00 delivered. SHADY HILL FARM, Whitewater, Wis. 23*

Guernsey heifer calves. Can ship you 10 at once about 4 weeks old. Calves out of my own herd, so know what I am shipping. $30 each crated. F. O. B. Waukesha. WERN FARMS, Waukesha, Wis. 18*

For bargains on May Rose bulls with type and production, write KUHTZ BROS., Waukesha, Wis. 21*

Guernsey calves six weeks old, $20. F. O. B. Knapp. THOMAS HAGERTY, Knapp, Wisconsin. 2*

Guernseys—Registered males and females, all ages. Breeding and type unexcelled. Grade cows, yearling heifers, heifer calves. No better quality anywhere. Tuberculin tested. Prices reasonable. Why not buy through an association and from breeders in the business to stay? Write your wants today. F. E. FOX, Secretary Waukesha County Guernsey Breeders' Association, Waukesha, Wisconsin. 6*

High grade Guernseys—Twenty young cows and heifers to freshen. Some with records. Almost pure-bred. Tuberculin tested. OAKLAND GUERNSEY FARM, Mukwonago, Wisconsin. 9*

Young bulls for sale. Sons, grandsons and double-grandsons by Bell Buoy of Linda Vista 19430 with 20 A. R. daughters, who has six daughters that average 524.55 lbs. fat at two years. O. R. SCHWALEN, Roberts, Wisconsin. 11*

May Rose Guernsey bulls for sale. Sire, Langwater Frenchman. Dam's A. R. records 500 to 660 lbs. fat. Federal Accredited herd. HOMER RUNDELL, Livingston. Wisconsin. 12*

Guernsey Bulls—Two to fourteen months old, grandsons of Ne Plus Ultra out of A. R. dams; priced to sell. Federal Accredited herd. WM. F. FRETZ, Pipersville, Pa. 14-4

For Sale—Guernsey bulls, old enough for light service. L. J. BYERS, Coldwater, Mich. 16-*

Grade Guernseys for sale. Milkers and springers, also heifers and calves. Best of breeding. Prices reasonable. WILBUR D. AUSTIN, R-6, Janesville, Wisconsin. 16-2

Guernseys—Registered bulls of Advanced Registry breeding—$100.00 and up. Herd Federally inspected. Write for list. HELENDALE FARM, Athens, Wisconsin. 14-spl.

For Sale—A car of high grade Guernseys with cow testing association records. POLK COUNTY WISCONSIN GUERNSEY BREEDERS' ASSOCIATION, J. H. Stewart, Sec., Clear Lake, Wisconsn. 11-spl

For Sale—One registered Guernsey cow with three months heifer calf. Three high grade yearling heifers. Federal supervision. WALTER E. SATTERLEE, Irving, Illinois.

STOCK FOR SALE

For Sale—Grade Guernseys, 4 bred and 8 yearlings, 6 to 16 months old. MITWEDE BROS., R-9, Waukesha, Wisconsin. 17-3

Offer sons of Murne Cowan's King World's highest bred Guernsey bull. RICHARD F. KLEMM, Baraboo, Wisconsin. 17-5

For Sale—Thorough-bred Guernsey bull, son of Glorious Starlight, 4 years old, good server. Right price. FRED BROWN, Fort Atkinson, Wis. 17-2

Pure-bred cows and heifers. Have about 10 cows and heifers for sale, all guaranteed. Have several classy young bulls for sale from dams with 500 pounds fat or better. All animals are priced low and guaranteed. FRISSDALE FARM, Hopkins, Minn. 17-4

Brown Swiss bulls. A. W. WILLMANN, Hawkeye, Iowa. 15-4

For Sale—Jersey bull calves from 1 month to 4 months old, out of cows which have made from 36 to 69.4 lbs. fat in 30 days, and by a bull that is a grandson of Sophia 19th and his dam made 555 lbs. as a two-year-old. From $50.00 to $150.00. Also 6 months' old heel driving collie female, sable and white, $15.00. OTIS M. TREVEN, R-2, Moundsville, W. Va. 15-3

Jersey bulls, yearlings. Tested dams, Raleigh sire, whose dam made 705 lbs. fat. W. A. LAMB, Roberts, Wisconsin.

Ayrshire bull calves sired by a grandson of Beuchan Peter Pan. Priced reasonable. CHARLES DUNBAR, Elkhorn, Wisconsin. 16-2

Ayrshires—For sale, all ages, both sex, best breeding, colors and type. SPRINGCASTLE FARMS, Charlestown, Indiana. 16-3

Ayrshires, males, registered—$15.00 up. MAPLEWOOD FARMS, Worcester, New York.

STOCK WANTED

Wanted—About carload of Guernsey or grade stock. Address W. H. BUSH, 38 S. Dearborn St., Chicago, Illinois. 16-2

Wanted—A Holstein-Friesian bull calf, ready for service, to use on a grade herd. LAURENCE E. DOTY, Geneseo, New York.

STOCK BUYER

Registered dairy cattle bought and sold. EDWARD A. WALTER, 111 Monroe St., Chicago. 18*

Will buy for you, dairy cattle of any breed, grades or pure-bred. DAVID W. WILLIAMS, Lake Forest, Illinois. 6*

Commission basis—One hundred and fifty head in our own herd for sale, Holstein and Guernsey, registered and grade. Large barns for centralizing and testing shipments of any size. Private yards for shipment. Every herd near here known by us. Write your demands. EDGEWATER STOCK FARM, Fort Atkinson, Wisconsin. Breeders and commission buyers. 10*

Save 30 per cent by buying your cattle through J. D. POWERS, Fort Atkinson, Wis. 12*

DOGS

German Shepherd, airedales, collies, and old English Shepherd dogs. Brood matrons, puppies, farm helpers. 10 cents for instructive list. W. R. WATSON, Box 520, Oakland, Iowa. 20*

POULTRY

Eggs $1 setting. Parcel post paid. Thoroughbreds. Barred Rocks, White Rocks, Buff Rocks, Anconas, White Wyandottes, Brown Leghorns, White Leghorns, Rhode Island Reds, Buff Orpingtons. PHILIP CONDON, West Chester, Ohio. 5-15

Baby chicks $11.00 per 100 up. Postpaid. Catalogue free. FARROW-HIRSH CO., Peoria, Illinois. 9-16

Baby chicks $10.00—100 up postpaid. Catalog free. UNIVERSAL BABY CHICK CO., Peoria, Ill. 14-4

Baby chicks, quality first. Pure-bred, bred-to-lay from free range flocks. White Leghorns, Buff Leghorns. Barred Rocks, White Wyandottes. Send for catalog. WANDSCHNEIDER'S HATCHERIES, Box 1, Fort Atkinson, Wisconsin. 16-4

Live Broilers now wanted. Highest prices paid for poultry, veal, pigeons, lambs, etc. Quick returns, fair treatment. C. E. MC NEILL & CO., 325 West So. Water St., Chicago, Ill. 17-*

SWINE

Duroc-bred gilts and boar. Prize winners. Spring pigs. PHILLIP LEHNER, Princeton, Wisconsin. 5*

Chester Whites—Better pigs for less money. Send for descriptions. LLOYD NESBIT, Barron, Wis. 16-3

Hampshire pigs for sale. Prize winners. Spring pigs. JOHN C. SJOLANDER, Clearbrook, Minn. 17-2

HAY

Alfalfa and prairie hay for sale. Prompt shipments. Personally inspected loading. Wire or write GUNN HAY CO., Lexington, Nebr. Reference Lexington State Bank. 11*

Alfalfa Hay for Sale—Write or wire for delivered prices. ALBERT MILLER & COMPANY, 192 North Clark St., Chicago. 17*

FEED BAGS

Ship your bags to LARIMER BAG CO., Washington, D. C. 11-spl

FEEDS

Dried Beet Pulp—the wonderful dairy feed. New reduced prices. Ask your dealer or write THE LARROWE MILLING COMPANY, Detroit, Michigan or Los Angeles, California. 12*

AGENTS WANTED

Representatives wanted to write hail and cyclone insurance every township in the Northwestern states. Little experience necessary, good commissions. Write quick. ST. PAUL MUTUAL HAIL AND CYCLONE INSURANCE COMPANY, 805 Pioneer Bldg., St. Paul, Minnesota. 12-12

Yes Sir, we have a special opportunity for you during spare time, an opportunity to do some good work in your neighborhood, for the betterment of dairy farming, that will pay you in cash for the effort you put forth. Write for our "Special Opportunity Getting Together" folder. Address HOARD'S DAIRYMAN, Fort Atkinson, Wis. 2-tf

SEEDS

Seed Corn—Eureka ensilage, ninety-day Silvermine, Riley's White 52-day, Johnson, Reid's, $3.50 bushel; five bushels, $3.00 per bushel. HAMMOND SONS, Rockport, Indiana. 16-*

FARMS FOR SALE

Dairy Farms—Clark and Taylor Counties, Wisconsin. Good soil. Send for list of farm bargains. OWEN REALTY CO., Owen, Wis. 16-5

A bargain in a 190-acre blue grass dairy farm 8 miles from Nashville, Tennessee; oiled highways, interurban and railroad service. Two-story brick residence, barns, silos, etc. $160.00 per acre. C. M. ARMISTEAD, Madison, Tennessee. 12*

For Sale—2,000 acres fine hardwood timberland, birch, white ash, maple, white pine, spruce. Sawyer County, Wisconsin. Logging would pay handsome profit. Land delightfully situated for stock ranch. Two trout streams, six springs. Also 130-acre dairy farm, buildings new, on lake shore in Barron County. W. A. HANCE, Freeport, Illinois. 7*

Clover, alfalfa, sugar beet, prairie. Owners price. Easy terms. Submit trades. GASEL, Thief River Falls, Minnesota. 14-4

Stock Ranch—240 acres 1½ miles from Oil Town. 138 acres Water Right. Deal with owner. $125.00 per acre for Water Right takes all. For full description write BOX 6, Greybull, Wyoming. 15-*

I have a few choice improved and partly improved farms in the famous potato and dairy region of upper Michigan, 40 to 160 acres. Low prices and easy terms. JOHN MAJOR, P. O. Box 198, Marinette, Wisconsin. 16-13

We have three quarter-sections of land in Bottineau County, North Dakota and two quarters in Renville County, North Dakota. We are in the market to exchange a quarter or more of this land for some registered Holstein cows or heifers. We would want them to be of good quality, and we would price the land right. We have a 1,200-acre stock farm close to our place of business here in Illinois and could use these cattle to better advantage than we can the land in North Dakota. If you have anything to offer, kindly let us hear from you stating the age of your cattle, the number, the price, and whether or not they are tuberculin tested. BANTA BROS. & CO., Lowpoint, Illinois. 16-3

Register and secure a Farm—Our colonization plan offers the man who wants a farm a greater opportunity than a U. S. Homestead. Good man can register and get good land, and we furnish him 4-room house, barn, cows, and tools. To show good faith settler deposits $500 on buildings and stock—that's all. After 3 years, settler pays for farm at $100 a year. Over 100 registered, got farms and started last year. Many from Wisconsin. Good places on new road ready right now, so write for free books, maps and registration blank, or come at once to look. NATIONAL LAND COLONIZING CO., Box A15, Ladysmith, Wisconsin. 16-3

Near Washington, D. C. very best milk market Virginia dairy farms on pikes and electric lines. Send for 60-page catalogue. BUELL FARM AGENCY, Herndon, Va. 16-2

Hardwood cut-over land, silt loam, clay sub-soil. Neither sandy nor gravelly; close to town; good roads; good schools; in the heart of the dairy country. You deal directly with the owners. No agents and no commissions. Easy terms. Also improved farms. Write for map and Booklet No. 4. NORTH WESTERN LUMBER CO., Land Department, Stanley, Wisconsin. 1*

For Sale—Farm 550 acres, (400 being rich reclaimed muck land, 150 pine and prairie). This is a wonderfully fine Dairy, stock and truck raising proposition, 400 acres ready for cultivation with drainage into Lake Tohopekaliga 65 feet above sea level at head of Navigation from the gulf. Entire acreage fenced, cross fenced with year-round pasture. Artesian well. This farm is between two brick highways just outside city limits. Price $55,000, half cash balance in five years at 5% interest. J. M. WILLSON, Kissimmee, Florida. 15-spl

Big farm bargain in New York. 396 acres. Fine land. Big crops. Good buildings. Forty cows, four horses, machinery, hay, grain, everything goes for $17,000.00, $7,000 gets possession. U. G. DAVIDSON, Route 1, Oneonta, New York. 5-spl

For fine dairy and farm lands, large and small tracts, fifteen to twenty-five dollars per acre, good roads, write ADELAIDE FAILE, Barlow, Miss.

Florida Stock Farm—700-acre high class limestone farm, rolling, joins town, pike on two sides. For sale by a Doctor. Address BOX 746, care Hoard's Dairyman. 17-3

New York State Farms. Cayuga County. Are you coming East to buy a farm? Write F. M. COLWELL, Auburn, New York.

New York State greatest farm bargains. Great land, wonderful markets. Send for free list. FRANK J. BASLOE, Herkimer, New York. 17-3

222-acre village farm with 3 horses, 24 cows, tools, machinery, vehicles, etc.; big income assured from money-making dairy; convenient, all advantages; 90 acres machine-worked; 40-cow pasture with running water, 30 acres valuable woodland; good variety fruit; good 2-story house, 42-cow barn, 4 hay barns, stable, etc. To settle affairs. $7,500 for everything, easy terms. See page 28 Illustrated Spring Catalog 1100 Bargains. Free. STROUT FARM AGENCY, 150 DL Nassau St., New York City.

"Cream of the Land Farms." Gentlemen! We have them. Write NEW YORK FARM AGENCY, Westfield, New York. 17-spl

FARMS WANTED

You want cash for your farm. Your local man has tried selling. You have spent money on advertising schemes. Write describing size, building, stock, price and mortgage. WALTER MILLER, Brumder Bldg., Milwaukee, Wis.

DAIRY FOR SALE

Will furnish 100 cows, half of everything else and give half. Will sell tools, horses, tractor, car and half of the crops. Will move off now or this fall. Barn for eighty cows, drinking cups, three large silos. 80 acres corn, 50 of oats, 50 of alfalfa. 400 chickens. Have milking machine. Will give terms on all to right man. State particulars and how many in family in first letter. FRANK ROGERS, General Delivery, Leavenworth, Kans. 17-2

EXCHANGE

Wanted To Exchange—160 acres virgin prairie land near Winnipeg for cows, heifers and farm stock. Write for particulars. F. H. BEILHARZ, Janesville, Wisconsin. 16-4

For trade a good 160 acres, all fenced, for registered Holstein cows and heifers. EMIL WOLLENBURG, Donnelly, Minn. 16-2

STANCHIONS

Crumb's Stanchions are guaranteed to please the purchaser. They are shipped subject to trial in the buyer's stable. They are right. Send for booklet. WALLACE B. CRUMB, Box H, Forestville, Conn. 15-10

TANNING

Let us tan your hide. Cow and horse hides for fur coats and robes. Cow and steer hides into harness or sole leather. Catalog on request. THE CROSBY FRISIAN FUR CO., Rochester, New York. 10-17

LIGHTNING RODS

Lightning Rods—Exclusive agency and quick sales to live dealers selling "Diddie-Blitzen Rods." Our copper tests 99.96 per cent pure. Write for agency. Prices are right. L. A. DIDDIE CO., Marshfield, Wis. 9*

TOBACCO

Tobacco Kentucky natural leaf aged in bulk, mild and mellow, 5 lbs. $2.75, 10 lbs. $5.00 Mention chewing or smoking. FARMERS POOL TOBACCO CO., Box 240, F. Mayfield, Ky.

MACHINERY

For Sale Cheap—A small lot of standard make Swedish Cream Separators, 400 pounds capacity, $29.00, 500 pounds capacity, $34.00, 700 pounds capacity, $39.00. These are all new machines, wonderful bargains. THOMAS TAFFEE, Box 355, Lansing, Mich. 18*

One Waterloo Boy 12-20 tractor good as new. One Grand Detour Jr. 3-bottom plow, new. Two 16-inch pulverizers new. H. C. KARSTEN, Huntley, Illinois. 10*

For Sale—No. 4 Aultman Taylor Clover huller, used four days, looks like new. Will be sold at a bargain. Address W. F. BLOCH, New London, Wis.

For Sale—10-20 Titan Tractor in first-class shape. 3-14 inch John Deere gangs. Plowed 60 acres. JOHN STURN, R-1, Beaver Dam, Wis. 17-2

For Sale—A Koban double cylinder magneto equipped row boat motor very little used. Price $100. Liberty bond accepted. BOX 364, Lodi, Wis.

PRINTING

Hoard's Dairyman Art Department designs your letter head free. Just tell us your breeds of stock. Book of 5,000 **Farm, Ranch** and Cottage names 25 cents. Ask for samples of letter heads, envelopes, shipping tags, cards, milk tickets, etc. Poor stationery is more of a damage than a help. Be sure and give correct post office address, including state. Address HOARD'S DAIRYMAN, Art Dept., Fort Atkinson, Wisconsin. 8-tf

SILOS

12x24 brand new Kalamazoo stave silo. D. UTTER, Lake Beulah, Wis. 16-2



Advertising in this department is 7c per word. Remit in advance.

POSITIONS WANTED

Farm Manager—Scientific, practical, energetic, is now available for position. Lifetime experience in constructive dairy-farming, A. R. O. records, feeding and breeding of pure-bred livestock, production of certified milk, etc. College graduate and at present teaching Dairy Husbandry and engaged in Dairy Research work in State College of Agriculture but desire to get back on the farm. Only large proposition where results are appreciated will be considered. Address BOX 738, care Hoard's Dairyman. 16-2

Position wanted by American cheesemaker, long experience, married. Prefer good factory that runs the year round. Address BOX 736, care Hoard's Dairyman. 16-2

Farm manager, energetic, economical, thoroughly capable, experienced in Advanced Registry, pure-bred stock, modern farming and in everything pertaining to the successful management of an up-to-date farm. Excellent references. Address BOX 751, care Hoard's Dairyman.

Position Wanted—A. R. herdsman, manager, laborer; married, best reference. State wages. CECIL E. SPEER, Vesper, Wisconsin.

First class farmer, excellent references, year's experience, best dairying, wants charge or employment, good farm on permanent money-making arrangement. Describe fully, location, equipment, compensation, living conditions, work expected. Address BOX 748, care Hoard's Dairyman.

Working herdsman, single, would appreciate change soon. Strictly sober and reliable, having broad experience A. R. O., fitting, showing and clean milk production. Good calf raiser and have good knowledge of ailments of cattle. Have been connected with some leading herds as herdsman. Can get along with help to best advantage. Would consider any size proposition. Best of reference furnished. Will go anywhere. Address BOX 747, care Hoard's Dairyman.

Single man wants position on dairy farm. Experienced and reliable. Address BOX 750, care Hoard's Dairyman. 17-2

Manager, American, married. Practical dairyman and farmer with college training and experience in farm management and the breeding care and feeding of pure-bred dairy cattle. Could furnish good second man. References exchanged. No small proposition considered. Open for engagement after Nov. 10. Address BOX 749, care Hoard's Dairyman.

Position wanted by farm or estate manager. Life experience, general farming, gardening, fruit, poultry, pure-bred stock, certified dairying, modern methods, development work. Best of references. American and married. Particulars on receipt of your proposition. Address FARM MANAGER, 4463 North Uber St., Philadelphia, Pa. 17-2

Experienced dairy farm manager who has for years run large dairy farm with considerable profit, is open to a proposition from a large concern to start or manage dairy industry. Western part of country where such could be successful preferred. Write offer. Address BOX 744, care Hoard's Dairyman. 17-2

Have you an important dairy farm you want to have managed by competent, working superintendent? If so, write me—salary or shares. Western state preferred. Address BOX 745, care Hoard's Dairyman. 17-2

Practical dairyman wants employment. Experienced machine milker, understand calf raising, balanced rations. American, 23 years of age. P. O. BOX 573, Marlow, Okla.

HELP WANTED

Wanted—Married man to work 90-acre farm stocked with pure-bred Holsteins. Good cow man, a little knowledge of A. R. O. work preferred. Also knowledge of general farming. Shares or salary. ARCHIE REID, JR., Janesville, Wis. 14-*

Wanted—Railway mail clerks. $135 month. Write for list positions. FRANKLIN INSTITUTE, Dept. L115, Rochester, New York. 16-4

Wanted—Man with money to establish cheese factory. 600 good dairy cows within a radius of four miles. Write MIAMI COMMERCIAL CLUB, Miami, New Mexico. 16-2

Capable and experienced herdsman, to take charge of 300 pure-bred and high-grade Holsteins. Must be qualified in practical feeding, sanitation, production of certified milk, calf raising, veterinary work covering all minor ailments, capable of handling men with economical efficiency. Furnish references, experience, salary expected, and date available for duty. Six-room house, bath, heat and light, and other allowances furnished. Address COMMANDER T. DeF. HARRIS, In Charge Naval Academy Dairy, Gambrills, Md. 16-2

Wanted—June 1st, an experienced dairyman, married, could use father and son. Both seven-day and yearly test work. Salary and bonus on records made. Registered Holsteins, good cows. Modern barn, pleasant surroundings. E. DICKINSON, Bellefont Farms, Bellefontaine, Ohio. 16-2

Help Wanted—Working farm manager for 300-acre farm fifty miles from Chicago. Farm to be run on business basis. Manager must be familiar with machinery, tractors, and all things pertaining to successful farm, and able to farm economically. Must have good references. Address BOX 743, care Hoard's Dairyman. 16-3

HELP WANTED

Wanted at once—Good, reliable, single man or boy who can and is willing to do anything about farm. $30.00 per month and board. CRYSTAL SPRING STOCK FARM, Littlestown, Pa. 16-3

Wanted at once a first class herdsman, married or single, for Guernsey herd. Present herdsman leaving on account of his father's death. CHAS. A. WILKINS, Platteville, Wisconsin.

Wanted—A competent man to bottle milk in small modern dairy. CLOVER LEA FARMS, Austin, Minnesota. 17-3

Wanted at once—A single man, clean, honest and a hustler, to help care for twenty cows. Must be a good milker, have knowledge in feeding and raising calves and general farm work. A good home for the right man. A permanent position. L. J. STOCKERT, JR., Churubusco, Ind.

Wanted—Working foreman in up-to-date certified dairy. Good living conditions. Must know how to handle men and certified milk. Address THOS. SHIELDS, Eureka, Mo.

A good boy wanted on small dairy farm, age about 16 or 17 years. A right good place. Write J. C. WARD, Belmont, Wis.

Surplus Milk

In the following statement Mr. C. H. Staples gives a lucid outline of the surplus milk situation in Louisiana. He indicates very clearly the necessity for a uniform production throughout the year, and for providing means for handling milk other than through its sale for distribution in the city market.

Spring time as usual has brought an increase in milk production in Louisiana that confronts the milk producers as one of their most serious problems. The problem is serious, because no provision is made for the handling and disposition of the surplus milk at a profit by the producers.

The farmers depend almost entirely upon the milk dealer to buy the increase in production, which is impossible for the reason that the dealer cannot increase his sales to this extent. The amount of whole milk that can be handled by the milk dealers or the farmers who sell direct at retail to the consumers, must be based on the average monthly production for the year and on the amount of whole milk that the public demands.

If the producers in the whole milk sections expect and demand that their entire production must be sold by their respective dealers they must stabilize their production and produce a more equal amount at all seasons of the year. This can best be done by the dairy cows freshening in the fall of the year.

The milk producers can help their own situation greatly by using the cream separator when the production increases, feeding the skimmilk to calves and pigs and selling the cream to the creameries. Increase in production comes mostly with the freshening of dairy cows, which means that there are young calves to feed and they should have a large percentage of the increased production. No country can improve its dairy cattle without raising its best heifer calves and they must have milk if the best development is to be had.

With the continual growth of the dairy industry in Louisiana the demand for whole milk is going to be supplied. When this stage in production comes, the surplus must be disposed of by the producers in products other than whole milk. The creamery will no doubt prove to be our best market for the surplus and is found in all dairy sections. If every farmer would sell one-third of his production as cream and utilize the skimmilk on the farm, it would mean better dairy herds in the future, less trouble in marketing the products, and the realization of greater annual profits.

Until Louisiana dairymen, and especially in the whole milk sections, realize that they as individuals must do their part to help solve this present and serious problem of a surplus of spring milk, the dairy industry will not make much progress.

Three Champion Alabama Jerseys

Alabama has three new champion Jersey cows. Fairy Lad's Pallas 5th becomes champion in the junior two-year-old class with a production of 10,417 lbs. milk, 500 lbs. fat. She is owned by J. E. Dunaway. In the senior three-year-old class Eminent 25th's Foxy and Praytor's Miss Oxford, both owned by Praytor & Jemison, have been close contestants. The former was champion for 24 days with a record of 10,822 lbs. milk, 585 lbs. fat. Praytor's Miss Oxford completed her record 24 days later with a production of 10,553 lbs. milk, 606 lbs. fat.

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SWINE

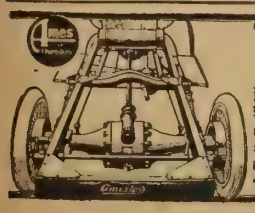
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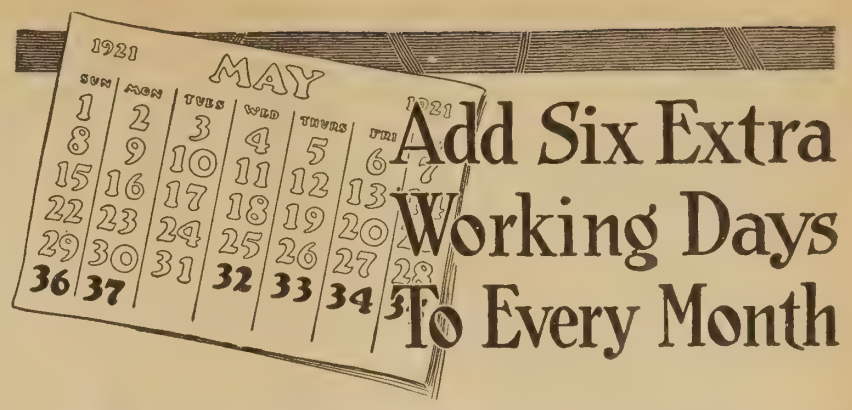
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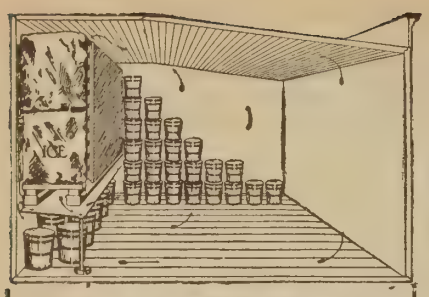
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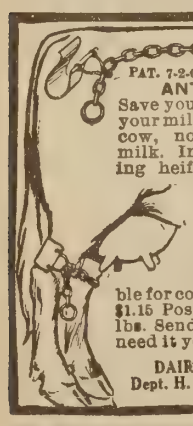
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VETERINARY

Advice is given free in this department. Inquires must be signed by the writer, and should pertain to veterinary Matters only. Where an immediate reply and prescription are desired by mail, the inquiry must be accompanied by a fee of one dollar. In every instance it will be necessary to give a full description of the symptoms present.

Cowpox (Vaccina)

While this disease is comparatively common among dairy cows we frequently find other somewhat similar but simpler troubles mistaken for it and viewed with considerable alarm. The latter, however, are not contagious whereas true cowpox gradually spreads through the herd attacked. The infection also tends to remain in a stable and attacks are manifested by recurring crops of characteristic eruptions on the teats of the same cow.

The disease is acutely infectious and is caused by a virus which cannot be detected by microscope and so passes through a porcelain. It is therefore termed an "ultra-microscopic, filterable virus". The disease is communicable to man, the hands of the milker frequently becoming infected. When contracted in this way the person infected is thereby rendered immune to smallpox of man, and it was this fact that led Jenner in 1796 to institute the practice of vaccination of people with the virus of cowpox to protect them against smallpox. Outbreaks of the disease in cattle are traceable, ordinarily, to recently vaccinated persons, and it is alleged that it may possibly be communicated by milkers convalescing from smallpox. In our experience the disease is usually brought into a dairy stable by a new bought cow or by a new milker who has been handling affected cows.

The disease is ushered in by a slight, seldom noticed fever. Then the teats swell at their bases, become red, and show an eruption of nodules in two or three days. The udder may also redden and swell and occasionally shows round nodules. Those on the teats are oval in form. In from one to two days more vesicles or blisters form and are filled with clear liquid or lymph which contains the specific virus of the disease. The vesicles are reddish, bluish, or yellowish white with a metallic lustre and are surrounded by thickened, reddened tissues. They become concave or depressed 8 to 11 days after the onset of the attacks and the fluid, which has now become pus-like, is contained in several compartments. If ruptured, angry red sores result; otherwise the fluid dries and scabs or crusts remain. When the scabs drop off characteristic "pits" or "pock marks" are seen but soon disappear. The vesicles usually are few in number, and may occur in successive crops. The attack generally subsides in 30 to 40 days. Milk contaminated by liquids from the vesicles may transmit the disease. Teats may become so sore that milking tubes have to be used.

The disease must run its course. There is no specific remedy. The most important matter is instantly to isolate the affected animals and have them milked by someone who does not handle the other cows. The next important consideration is to prevent the affected parts from infection by filth. Infected sores often induce ruinous mammitis. Floors should be kept clean, disinfected, and well bedded. Vesicles should be painted daily with a saturated solution of permanganate of potash as soon as their liquids discharge. This quickly causes formation of crusts. Should any sore become aggravated by infection, strong iodin ointment applied once or twice daily generally proves remedial.

Sores on Teats

One of my pure-bred Holstein cows is afflicted on one teat which I describe as follows: It began about four months ago with hard lumps, about the size of large Lima beans, located between the skin and milk duct. They did not seem to be sore and after a short time the skin slipped off the one nearest the end and it became very sore. I ceased milking that teat and applied ointments and it healed, but the ones above broke and ejected a bloody pus and the swelling does not abate, nor does the swelling respond to treatment.
Howard, Colo. R. W. W.

Scratches or abrasions of the skin probably became infected by the filth germ, Bacillus Necrophorus, in the cases described and necrotic sores were the result. Immerse the teats for five minutes twice daily in hot water containing all the boric acid it will dissolve, then dry gently and apply iodin ointment. If that does not quickly prove remedial, apply glycerite of tannin instead of the ointment.

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Many times as effective as carbolic acid yet so safe you can use it to purify drinking water for live stock or the home. Ideal for removing disease bacteria from all kinds of food-handling equipment; cream separators; milking machines; kitchen utensils and machinery; tables, shelves, floors; feeding and watering troughs and livestock.
Sterilac does not injure rubber or metal—is non-irritating and non poisonous. Withstands hot weather from 10 to 50 times longer than other disinfectants.

COSTS ONE CENT A GALLON

Bottle to make 75 gal. $1.00; to make 300 gal. $3.00. Comes as a powder—no loss from breakage, or freezing in transit, no heavy freight charges. Dissolve in water as you need it.
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SALE ANNOUNCEMENTS

May 14—Holstein Dispersion Sale, Maple Lawn Farm, Harvard, Ill. L. M. Wakeley.
May 17—Holsteins. State Fair Grounds, Milwaukee, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 18—Jerseys. Monroe County Jersey Breeders' Consignment Sale at Tomah, Wis.
May 18-19—Holsteins. Manitowoc County Holstein-Friesian Breeders' Association, Manitowoc, Wis. Chas. Hampke, Manager.
May 18—Holsteins. Livingston Co. Holstein Association Sale at Howell, Mich. F. J. Fishbeck, Sale Manager.
May 19—Guernseys. Dispersion of Geo. W. Browne's Herd of Miami Beach, Fla., at Waukesha, Wis. F. E. Fox, Sale Mgr.
May 20—Holsteins. Sheboygan Co. Holstein Breeders' Sale at Plymouth, Wis. F. H. Everson, Manager.
May 20-21—Holsteins. Wheatfield Farms Consignment Sale at La Salle, N. Y.
May 23-24—Holsteins. Missouri State Holstein Association Show and Sale at Sedalia, Mo.
May 24—Guernseys. Marathon Co. Guernsey Breeders' Ass'n. Second Annual Consignment Sale at Wausau, Wis. F. E. Fox, Waukesha, Wis., Sales Mgr.
May 25—Holsteins. Salem—Cumberland 2d Breeders' Consignment Sale.
May 25—Guernseys. Portage Co. Guernsey Breeders' Association Annual Consignment Sale of Registered Guernseys at Amherst, Wis. R. K. McDonald, Sec'y. F. E. Fox, Waukesha, Wis., Sale Manager.
May 26—Brown Swiss. First National Consignment Sale, Peoria, Ill. Wm. S. Dunn, Mgr., Middleburgh, N. Y.
May 26—Guernseys. Portage Co. Guernsey Breeders' Association Annual Consignment Sale of Registered Guernsey males and grade females at Amherst, Wis. R. K. McDonald, Sec'y. F. E. Fox, Waukesha, Wis., Sales Manager.
May 26—Holsteins. Marshfield, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 26—Jerseys. Greene County, N. Y., Jersey Cattle Club Consignment Sale at Cairo, N. Y.
May 27—Holsteins. Michigan Holstein-Friesian Breeders' Assn. Sale at Grand Rapids, Mich. H. W. Norton, Jr., Secretary, Lansing.
May 27—Holsteins. Outagamie County Holstein Breeders' Ass'n. Sale at Appleton, Wis. Edw. O. Mueller, Sec.
May 28—Holsteins. Sullivan Bros., Marengo, Ill.
May 28—Holsteins. Unity Breeders' First Annual Consignment Sale at Unity, Ohio.
May 31—Registered Guernseys. Barron Co. Guernsey Breeders' Ass'n. 3rd Annual Consignment Sale, Barron, Wis.
June 1—Holsteins. Dispersion of Fairview Stock Farm's Herd at Anderson, Ind. O. L. Janney, Owner.
June 1, 1921—Holsteins. Central Wisconsin Holstein Breeders' Ass'n. 13th Semi-annual Consignment Sale at Marshfield Sales Pavilion, Marshfield, Wis. R. A. Peterson, Wisconsin Rapids, Wis., Sale Mgr.
June 1—Guernseys. Quality Sale, Chippewa Valley Guernseys, at Eau Claire, Wis. G. R. Ingalls, Sale Mgr.
June 2—Guernseys. Clark County Guernsey Breeders' Annual Consignment Sale at Owen, Wis., C. E. Beck, Manager.
June 2-3-4—Holsteins. Second Co-operative National Sale at Syracuse, N. Y.
June 3—Guernseys. Fond du Lac Co. Combination Sale. Charles L. Hill, Mgr.
June 4—Guernseys. Folly Farm Guernseys at Fond du Lac, Wis. Chas. L. Hill, Mgr.
June 7—Guernseys. The Southern Wisconsin Guernsey Breeders' Ass'n. Sale, Ft. Atkinson, Wisconsin.
June 8—Guernseys. Complete Dispersal Sale of the Chas. Govin herd of Menominee, Wis., at Waukesha, Wis. F. E. Fox, Sale Mgr.
June 9—Holsteins. First Annual Bred Heifer Sale, Thorp, Wisconsin. W. H. Krause.
June 9—Holsteins. First Annual Sale, Holstein-Friesian Co-operative Association of New Jersey, Trenton, New Jersey. J. W. Bartlett, Secretary, New Brunswick.
June 9—Guernseys. Waukesha County Guernsey Breeders' Ass'n. Eighteenth Semi-Annual Sale of Registered Guernseys at Waukesha, Wis. F. E. Fox, Sec.
June 9—Guernseys. Massachusetts Guernsey Breeders' Sale. Leander F. Herrick, Sale Mgr.
June 14—Guernseys:—Minnesota Guernsey Breeders' Annual Sale. State Fair Grounds, St. Paul. L. V. Wilson, Secretary.
Oct. 19—Guernseys. Michigan State Sale of Registered Guernseys at Lansing, Mich. F. E. Fox, Waukesha, Wis., Sale Mgr.
Feb. 21-22, 1922—Holsteins. Iowa Holstein-Friesian Association's Annual Sale.

Waukesha Holstein Sale

Waukesha County, Wisconsin, held one of the most successful sales of the season April 25-26, selling 111 head for just short of $37,000, an average of $333.

Approximately one-third of the offering, 34 head to be exact, went to Indiana, Michigan, Illinois, and Iowa, with Indiana taking the majority. Five men were doing the buying from that state.

This is in itself convincing proof that the organization and publicity work Waukesha County Holstein breeders have done is paying dividends. Other county sales are most often local in character; Waukesha has for the last several years been able to attract buyers from a distance as well as from local territory.

The sale included two 32-lb. cows, both of them five-year-olds. Gewina Canary Pearl, sired by a grandson of Homestead Jr. De Kol and from a granddaughter of Piebe De Kol Burke and Pearl of the Dairy's Joe De Kol, was easily the best thing in the sale. She was a splendid individual, and the $2,200 bid for her was certainly not in excess of her value. She was consigned by M. P. Becker and purchased by Mrs. Z. A. Stealy of Illinois.

J. B. Johnson consigned the other 32-lb. cow, Black Bess Korndyke, a daughter of Fairview Pontiac Beets Korndyke. Her sister, sold a year ago through the same sale to Gustave Pabst, Wisconsin, has just finished a year's record of 1,270 lbs. butter. "Black Bess" sold at her worst, having just freshened. She was purchased by Ben Klima of Iowa for $1,500. Her yearling son by a son of K. K. S. V. topped the bulls at $1,000, being purchased by B. Felix of Indiana.

Mack, Love, and Benjamin did the selling with Reid Murray in the box.

Sec. W. L. Baird was sale manager.

Following is a list of those animals selling for $300 or more and buyers:

Baird Bros., Wisconsin	
Lilith Cornucopia Burke	$359
Pioneer Sadie Oak De Kol	410
W. J. & A. B. Klussendorf, Wisconsin	
Catalog No. 6	$380
Bairdland Johanna Fayne	530
Ruby Homestead Johanna	365
De Freule Shadybrook	425
R. D. Lepien, Wisconsin	
Catalog No. 7	$575
D. H. Beeson, Michigan	
Bonair Esther Ormsby	$305
K. P. Segis Burke Inka 2d	390
La Belle Mercedes Pietertje	360
Schlicher Bros., Wisconsin	
Bonair Snow White Ormsby	$325
Wellington Vashti Korndyke Gladi 2d	300
D. Martin, Wisconsin	
Anna De Kol Inavale	$405
J. J. Reid & Son, Wisconsin	
Ollie Watson Canary Paul	$360
Colantha Homestead Sinda De Kol	325
Ben Klima, Iowa	
Black Bess Korndyke	$1,500
Daisy Beets Ormsby	475
Geo. J. Schuster, Wisconsin	
Catalog No. 28½	$410
E. G. Alden, Indiana	
Wellington Vashti Korndyke Gladi	$700
De Freule Blanche De Kol	325
Onida Pontiac Bess	450
Queen Oak Hengerveld	360
Aaltje Salo Josephine Pauline	355
E. J. Piper, Wisconsin	
Hengerveld Pet Korndyke	$330
Inka Johanna Akkrummer	375
Henry Nolte, Indiana	
Mercedes Hark Hengerveld	$305
Piebe Clyde Mercedes	300
B. Felix, Indiana	
King Bess Korndyke	$1,000
Edw. Foxwell, Wisconsin	
Veeman Sadie Vale De Kol Maid	$309
Annie Hengerveld Mechthilde	310
Hillside Farm, Wisconsin	
Colantha Queen De Kol Hengerveld	$300
Leo Van Hess, Indiana	
Paeonie Duchess Veeman Pontiac	$705
Theo. F. Wolff, Wisconsin	
Sir Segis Ormsby Bess	$925
A. E. Wenger, Wisconsin	
Sub. for Catalog No. 55	$355
Beauty Pietertje Ormsby May Flower	525
Rose Home, Indiana	
Doetje Nellie Korndyke	$685
Carl Wachsmith, Wisconsin	
Meadowmere Ormsby Pietertje	$460
P. J. Muehl, Wisconsin	
Beauty Ormsby Netherland	$300
Roy Henderson, Wisconsin	
Dodge Co. Abigail Ormsby	$400
Jones & Griffith, Wisconsin	
Onida Pontiac Rose	$320
Mrs. Z. A. Stealy, Illinois	
Gewina Canary Pearl	$2,200
Pabst Creator Sandes	800
L. E. Pease, Wisconsin	
Johanna Matalie Mercedes 2d	$405
J. J. Marty, Wisconsin	
Sir Ormsby Johanna of Riverview	$460
Henry Howell, Wisconsin	
Nocdair Perfection King Superba	$450
E. M. Haas, Wisconsin	
Delavan Korndyke Segis King	$400
P. Kowalkowski, Wisconsin	
Mercedes De Kol Lyons Rijaneta	$300
G. G. Garvens, Wisconsin	
De Freule Snowball	$315
A. E. Ibson, Wisconsin	
Nocdair Segis De Kol Rue	$600
De Grove Bull, Wisconsin	
De Freule Pearl Dinkje	$410

Cough

Can you tell me why and what causes cows to cough that have passed seven successful tests for tuberculosis?

Derry Village, N. H. F. W.

When not due to tuberculosis, cough is often traceable to dust in the stable or lack of ventilation in a stable that is not kept clean. Standing in a cold draft is also a frequent cause and there are many others, but a personal investigation would be necessary to enable us to assign the exact cause.

If you miss the cheer of bulbs this spring, make a note to plant some next fall.



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It all depends on what happens here

Here's where the wear begins—
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Here's where you lose power—
And here's where your real tractor depreciation takes place.

You can get just so much life out of these parts, and that life is not very long unless you use the right lubricant.

Texaco Tractoil is the right lubricant. It withstands the high working temperatures. It clings to the metal surfaces and by virtue of its paramount lubricating quality, it lessens friction—cuts down wear.

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TEXACO Motor Oil

The uniform oil that keeps your motor active. It is a fine, lasting oil that completely retains its lubricating properties despite engine heat. It so perfectly seals the clearance between piston and cylinder, that no gasoline can leak into the crank case. Thus full compression is secured, and every last ounce of power used that the gas has to give. Be certain to get the can with the red Star and green T.

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says the Good Judge



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A small chew lasts so much longer than a big chew of the ordinary kind. And the full, rich real tobacco taste gives a long lasting chewing satisfaction.

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Put up in two styles

W-B CUT is a long fine-cut tobacco
RIGHT CUT is a short-cut tobacco

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All Aboard for Missouri

Sedalia, Mo.

98 Head of Missouri Healthy Holsteins

MISSOURI HEALTHY HOLSTEINS

State Holstein Show & Sale

May 23-24

We'll Pay Your Car Fare —
at the rate of one mile for each $2.00 worth of Holsteins purchased.

A FEATURE OF THE

Fredmar Farms

Consignment

is a two-year-old heifer sired by

King Segis Pontiac

and her young son by

Carnation Denver Segis

by a half brother of the world's record cow and sire of four world's champion milk producers.

Fredmar Farms
St. Louis County, Mo.
City office 3550 Lindell Ave., St. Louis.

The Herd With the World's

Health Record

(39 yrs. without tuberculosis or abortion)

Is represented by 4 fine young A. R. O. cows and 2 heavy springing 3-year-old heifers, all bred to

"Alcartra Hengerveld Segis De Kol"

a 30-lb. son of the $50,000 bull "The best bull in the state"

Several of his calves will be in the Show the day before the Sale.

We also have in the sale a year-old bull from the best cow in our herd.

Woodcrest Farm Herd
"Healthy Holsteins"
S. W. Cooke & Son, Maysville, Mo.



PICKERING FARM

30—HOLSTEINS (5 Bulls, 25 Heifers)—30
From World Record Breeding Stock

This is the chance of your lifetime to buy the best of foundation Holsteins from a reliable breeder who guarantees every animal, the only opportunity you will have this year to purchase Pickering Holsteins at public auction.

Missouri State Holstein Show and Sale, May 23-24
Missouri State Fair Grounds, Sedalia, Missouri

The bulls are all sired by **Finderne Pride Johanna Korndyke** and out of tested dams. Part of the females consigned to this sale are sired by **Finderne Pride Johanna Korndyke,** while others are in calf to this great bull, some will be fresh at the time of sale. As you will remember, **Finderne Pride Johanna Korndyke** is a son of the highest yearly record cow living and he already has 18 ARO daughters, while others are now on test and still others due to be tested as soon as they freshen. All of these offerings can be seen at farm, before sale date. We also have a few young bulls out of high testing dams sired by our great herd bull, for private sale at the farm. Nearly 100 of this famous bulls' cows in our herd.

Special Announcement--Purchase of **King Echo Posch Lyons, Junior,** herd sire--the richest bred May Echo bull.

Write for sale catalog to **Maj. Harlo J. Fiske, Mgr.**

PICKERING FARM, Belton, Mo.
Purely a Breeding Establishment



Eleven Females and a Great Herd Bull

Sire—Sir Korndyke Hengerveld De Kol
Grandsire of "Duke"
Dam—Campus Josephine Delphi
Closely related to Mo. Chief Josephine

Watch Him In The Show

E. P. FINCK, St. Charles, Missouri

Butterfield Farm

HOLSTEIN FRIESIAN

Many Cows and Heifers Now On Test

Herd Sire — King of Pontiac's Son

A. MORRISON, JR., KansasCity, Mo.

We Are Doing Our Bit —
A Granddaughter of Pietertje Maid Ormsby for the State Sale of Mo.
E. K. MAGEE, Belton, Missouri

Our

Consignment

1 Bull

8 Females

"Every One a Real Show Animal"

Herd Regularly Tested for Contagious Abortion and Tuberculosis

Glen G. Davis
Columbia, Missouri

Missouri's Long-Distance Holsteins

We made more and better yearly records last year than any privately owned herd in the state.

A few yearly record cows consigned to the Missouri Holstein Breeders' Sale, Sedalia, May 24, 1921.

Herd Federal Accredited.

Write for catalog.

C. E. Driver
Crescent, Missouri

We Offer

Two Young Cows

one making record of over 20 lbs.

Two Heifers

Heavy Springers

Oliver Calvert, Sedalia, Mo.

SECOND CO-OPERATIVE

National Sale

Syracuse, New York

June 2-3-4

200 of the best Holsteins, committees could select from more than 75 prominent herds located in Canada and the United States from the Atlantic to the Pacific. The collection for individuality, records backing and individual performance in both short and long time work will compare favorably with any collection ever before assembled for a National Sale.

These Breeders Contributing

WOODLAWN DAIRY, Lincoln, Nebr.
PALM & PALM, Lincoln, Nebr.
UNION COLLEGE, College View, Nebr.
GARDINER HALL, JR., S. Willington, Conn.
C. P. HARPER, Watertown, Conn.
DEPARTMENT PUBLIC CHARITIES, Bridgeport, Conn.
G. A. HARPER, Watertown, Conn.
J. E. SINGLETON, Wallam Lake, R. I.
F. P. KNOWLES, Auburn, Mass.
W. D. LEWIS,
MT. HERMON SCHOOL, Mt. Hermon, Mass.
F. F. FIELD HOLSTEIN CO., Brockton, Mass.
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BLOOMINGDALE FARMS, Somerville, N. J.
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RANCOCAS STOCK FARM, Jobstown, N. J.
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WARD W. STEVENS, Liverpool, N. Y.
WHEATFIELD FARMS, LaSalle, N. Y.
WALBURN RIVERS, Ingersoll, Ont.
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W. C. HOUCK, Chippewa, Ont.
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R. M. HOLTBY, Port Perry, Ont.
HALEY & LEE, Springford, Ont.
F. R. MALLORY,
TRAVERSE CITY STATE HOSPITAL, Traverse City.
W. T. HILL, Flint, Mich.
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G. L. SPILLANE, Flint, Mich.
PETER BOGART, Munger, Mich.
PETER SMALL, Chesterland, Ohio.
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THE GREENDALE CO., Hiram, Ohio.
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PIET BERGSMA, Ferndale, Wash.
E. E. HEG & SON, Seattle, Wash., R-3.
R. H. TUTTLE, Walla Walla, Wash.
CARNATION STOCK FARMS, Seattle, Wash.
WINTERTHUR FARMS, Winterthur, Del.

Some of the Leading Offerings Follow:

A 2-yr.-old with 4 1000-lb. sisters, from a 1344-lb dam. Bred to a 1000-lb. sire.

A granddaughter of a 1400-lb. cow from an "Ona" dam backed by two 1000-lb. dams.

A 3-yr.-old with 972 lbs. butter and most 23,000 lbs. milk.

A 30-lb. daughter of a 33-lb. cow.

A 26-lb. 2-yr.-old bred to a son of a 37-lb. cow.

A 25-lb. 2-yr.-old with over 200 lbs. in 60 days.

A son of Ormsby Korndyke Lad from a 31-lb. daughter of King Segis De Kol Korndyke.

A 33-lb. granddaughter of King Segis.

A K. P. daughter from a 36-lb. dam.

A 36-lb. 4-yr.-old making a sensational yearly record.

A maternal sister to a 43-lb. cow in calf to a son of a 43-lb. cow.

A daughter of Dirkje Countess with 3136 lbs. in 30 days.

A 30-lb. daughter of Prince Hengerveld Pietje with over 700 lbs. milk.

A son of a 1200-lb. daughter of Ormsby Korndyke Lad, sired by Sir Aaggie Mead De Kol.

A granddaughter of King of the Pontiacs from a two times 30-lb. dam.

A daughter of a 33-lb. daughter of Valdessa Scott 2d, first 40-lb. cow.

A daughter of a 37-lb. 3-yr.-old sired by a son of a 41-lb. cow.

Three daughters of King of the Ormsbys.

An 18-month-old daughter of Flint Pauline with 1200 lbs. butter and 30,347 lbs. milk.

A 30-lb. 3-yr.-old granddaughter of a 1300-lb. cow.

A son of a 33-lb. cow sired by a son of a 37-lb. cow.

Three daughters of the famous King Segis Pontiac Konigen.

A yearling daughter of a 33-lb. full sister to the dam of Count.

A 30-lb. daughter of a 30-lb. dam and sister to the $27,000 bull.

A 33-lb. dam that produced the world champion. Will make 1000 lbs. in a year.

A sister to the new World Champion 29,000-lb. senior 4-yr.-old.

A son of the World Champion 42-lb. 2-yr.-old. A maternal sister to a 30,000-lb. 4-yr.-old.

A 36-lb. cow bred to a May Echo Sylvia grandson.

Three Champion Echo Sylvia Pontiac daughters in calf to the young son of Tilly Alcartra.

Two 30-lb. cows bred to Champion Echo Sylvia Pontiac.

A yearling bull backed by four direct generations of 700-lb. cows and seven 700-lb. cows.

A 35-lb. show cow with over 700 lbs. milk.

A yearling son of a cow with 1100 lbs. butter and 25,598 lbs. milk.

The highest record daughter of King Pontiac Champion (38 lbs.).

A son of a 30-lb. 2-year-old sired by a full brother to a 44-lb. cow.

A son of the world champion yearling milk producer from 7 days to a year.

Guaranteed Under 60-Day Retest

36 30-lb. Cows

The sale will be held on the New York State Fair Grounds, conveniently located from the center of Syracuse. Excellent accomodations will be afforded buyers and spectators.

20 From 30-lb. Dams

New York Holstein-Friesian Ass'n

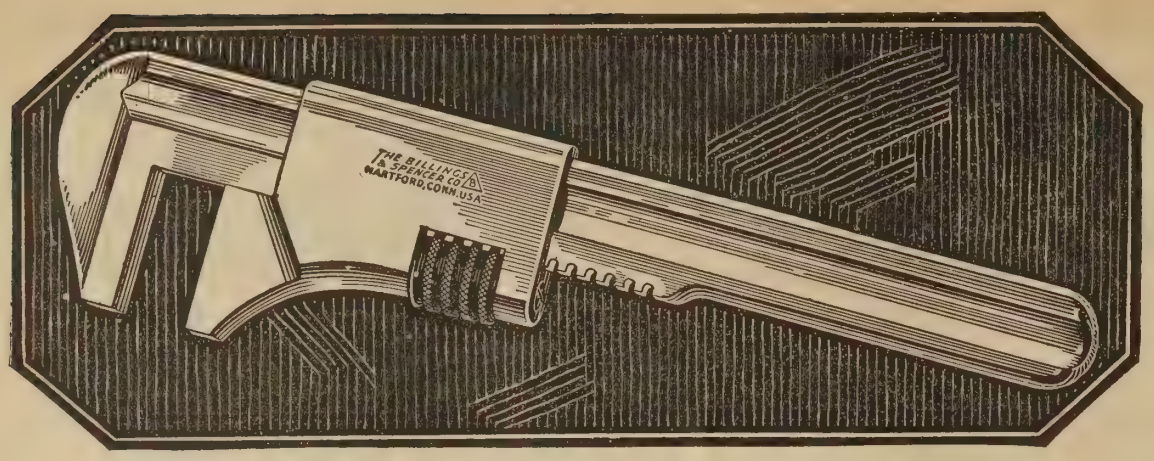
E. R. Zimmer, Secretary, Syracuse, New York



A 31-LB. COW ON YEARLY TEST. TO BE SOLD.



A 33-LB. DAM OF A WORLD CHAMPION. TO BE SOLD.



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The harder the job the more you appreciate the strength and accuracy of Billings & Spencer wrenches. Farmers pick the best tools made.

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Gophers, prairie dogs, squirrels, crows and other birds won't touch seed corn treated with "Stanley's Crow Repellent." Saves Re-planting-Non Poisonous-Ready for use. No tar, lime or plaster required. Will not clog your planter. In successful use for ten years. Large can—enough for two bushels of seed corn, $1.50. Small can—enough for one bushel, $1.00.
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World's Greatest White Collies



They will herd your stock, guard your flock and rid your place of vermin. A playmate for the children and a household companion. Largest breeders of white collies in the world.
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Common Sense and "One to Three"

HOARD'S DAIRYMAN:—Just what do we mean when we advise dairymen to feed grain according to milk production? This question has been bothering me for some time. It has sprung up dozens of times during the past 18 months. Again I see the common ratio "one pound of grain to each three pounds of milk produced" specified by Mr. Fruit in his letter published on page 512 of the April 8th issue of Hoard's Dairyman.

Years ago I noted that though our feeder stoutly maintained that he was feeding "1 to 3" as instructed, he invariably exceeded that amount, occasionally going above "1 to 2" in a month with 80 cows in the barn.

In February I went over the feed and milk records for a herd for the month of January. The owner said it was his plan to feed one to three but his record showed in even figures 10,000 lbs. of grain fed to the cows, not counting young animals, for the month of January, the yield being 20,000 lbs. of milk. He was surprised, and then recollected that there had been dry cows during January and some cows on test. Deducting the amount fed to dry cows the ratio was spread to "1 to 2½".

I have a twelve months' record for each of twelve herds from Sheboygan County for 1920. The combined average of the twelve for the year was a little less than one pound of grain to three pounds of milk produced. The herd average for four of these was practically one pound of grain to three of milk produced, but there the practice stops. The herd averages of the others ranged from 1 to 7, to 1 to 2½. Taking the herds separately the digression from "standard practice" is even more marked. In the winter months when production is low and part of the cows are dry into the bargain the feeding ratio exceeds one to two in several cases. It runs from that down to no grain at all fed while cows are on pasture.

It is also true that dry cows should normally be fed some grain for most economical results, but there is no feeding ratio at all in such cases unless it is the mathematical conception of "one to an infinitesimal" which doesn't mean much to a farmer—nor to anyone else perhaps. Practically our feeding standard means that a 6,000-pound cow will get a ton of concentrates in a year or one to three, and that a 9,000-pound cow will get a ton and a half more or less. But they will get these quantities in varying amounts during the year, say a base ration of four to six pounds of grain a day except perhaps for two to four weeks at the time they are being dried off and the balance in varying amounts, "according to production" up to 15 and even more pounds of concentrates a day.

Truly, "The eye of the master fatteneth his cattle". The milk producer, too, has to be on the job, all the time, with his brains as well as his feed scoop. There is no substitute for brains in feeding cows for milk production.

The recommended standard runs remarkably true to form in practice as "an average" over considerable periods, but, it seems to me, is strictly limited in the practice of good dairymen to a rough and ready general check on the amount of grain which is likely to prove profitable in the bulk of cases. This amount may be exceeded for good reasons—in the case of cows on test or in the case of necessity, as when other feeds are below the usual standard in amount or in quality **or** out of line in relative values. Or it may be very much reduced when other feeds are abundant and relatively cheap as in those cases where alfalfa hay and corn silage have been used year after year as the ration of the cows.

This is only another instance to show that averages have to be used with a great deal of common sense—that averages can't be followed blindly. Common sense in feeding is best developed by careful observation with the scales applied to the feed bucket and the milk pail every day.

Wisconsin. S. W. MENDUM.

Corn Insurance With Early Corn

HOARD'S DAIRYMAN:—It will soon be corn planting time, and perhaps many will be delayed in getting the seed into the ground. As a rule, we have most of our corn planted in good time, but sometimes bad weather and the putting in of a large acreage of spring crops will make one field or part of it several days late. Late maturing corn has proven a disappointment to us when planted late and it is caught by moderately early frosts, so we adopted the plan of raising some early maturing corn each year to supply us with seed when the occasion came to plant corn a little late.

It may seem like a simple matter to start in to raise an early corn, but it was three or four years before we found the kind and type most desirable to our purposes. One or two supposedly early varieties turned out

to be too late maturing when the seed was planted near the first of June, some were shallow grained with too large a proportion of cob to corn, and the white varieties did not appeal to us because their feeding value is not as high as the yellow corn.

Finally we secured a yellow variety that matures from ten days to two weeks earlier than our late corn. It has a small cob and a deep grain, which is well proportioned and has a high feeding value. It yields nearly as well as the later varieties, but even if it does not yield quite as well we have the advantage of having well matured corn. I would rather have fifty bushels of solid, mature corn than sixty bushels of immature corn, and I believe most other farmers would also. When we can get our corn planted in good season we prefer the later maturing corn because of its higher yielding qualities. If conditions are very favorable at planting time, which may be once every two or three years, I believe the early corn will yield remarkably well.

The early corn may be counted as a kind of insurance against soft corn when planting has been delayed for ten days to two weeks. When we are able to get all our corn planted in good time we plant all of the late maturing corn except for a few acres which are planted to early corn in case seed of the early corn should be needed the following season, then select the seed for purposes of improvement in both the corn and the yield.

This early corn is also very desirable for replanting, either where the stand has been thinned by ants or cutworms or is a complete failure due to unseasonable weather or other adverse conditions. Usually it is a week or more after planting before one is able to determine fully what per cent of a stand has been obtained, and it is often two weeks or more before the full extent of damage done by weather and insects is known, so in either case where replanting must be done one will be getting the corn in from one to three weeks late. An early variety comes in good under these circumstances, and while I may say we have not had to resort to the early corn very often it has been used to good advantage when necessary.

Why trouble to grow early corn for seed when it can be purchased in an emergency which may not be more than one year out of three to five years? Two good reasons come to mind; first, you do not know anything of the performance of the corn you buy or its adaptability to your soil and methods of culture. It is only by testing out several varieties or strains in a few rows that these things can be determined to your satisfaction. Second, if you have not tried out the seed you will hesitate to buy at the last moment, in fact there may not be time to secure the seed, and a chance will be taken with the late corn. There is a great deal more satisfaction in knowing what the corn will do on your farm and with the evidence and a good supply of seed one does not hesitate to plant it.

Indiana. J. L. JUSTICE.

Save Silo Doors

HOARD'S DAIRYMAN:—Most silos have loose doors. They are apt to be misplaced during the summer so that when filling time comes there is a hunt for them. I have found that the best way to keep the doors in place is to leave the top door at the top of the silo when starting to feed. Then as each door is taken out slip it in the door frame above. When the bottom is reached there will be one empty space. This is not serious as one wants an open door when filling the silo. Then just shift each door down one frame as the silo is filled and at the top is the extra door needed to complete the job.

An advantage of this method is that the silo is much stronger during the summer when it is apt to be empty. The doors prevent the wind getting a twist on it and help to make the whole silo more rigid.

Ohio. EARL ROGERS.

Now, all together, lift the chorus: Eat plenty of milk!

AYRSHIRES

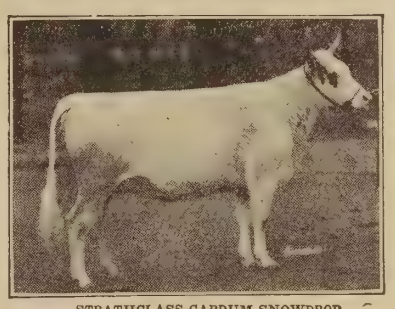
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Ashbrook Farm Offers
Ten Heifers of this Type and Age For Sale



STRATHGLASS GARDUM SNOWDROP

Also the first prize bull calf at the Eastern States Exposition by Foulton Ambassador. This will make someone a good herd.
L. E. ORTIZ, Prop., Morris Plains, N. J.

Ravinia Ayrshires
Won 4 out of 7 French Cups
for
Best Production in America
In Each Class During 1920.
Ravinia Blood Guarantees Heavy Production of both Milk and Butterfat.
Write today to Box 100-E, for Sales List of bulls and cows, heifers and bull calves of any age.
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GOSSARD BREEDING ESTATES

South Farm
250 Registered Ayrshires
Stock of all ages for sale.
Write for prices.
George A. Cross, Mgr., Willoughby, Ohio.

FOR SALE
Registered Ayrshires
Cows and Heifers. One bull fit for service. Also some choice young bulls and heifer calves. Best of Breeding.
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Pure-bred Ayrshire Cattle For Sale
Best of breeding. Calves sired by a Grandson of Brown Kate, record 1,080 lbs. butter in year.
Wm. Nisbet & Sons, Richland Center, Wis.

MIDDLESEX MEADOWS FARM
OFFERS
Two outstanding AYRSHIRE BULL CALVES for sale for immediate shipment

No. 1—MIDDLESEX WHITE CHANCELLOR 25273, born September 17th, 1920.
Sire—Cavalier's Netherall Chancellor 21216, who sired the winning bull calf at this year's National Dairy Show.
Dam—White Heather of Highland 42752, who stood 2nd in the aged cow class at the same show (this year's National) and who has two good Roll of Honor records.

No. 2—MIDDLESEX MANCHESTER, born March 10th, 1921.
Sire—Auchenbrain Toreador (Imp.) 24761, record priced bull of the breed and Grand Champion at Maryland, New York, Connecticut, and New Jersey State Fairs this year.
Dam—Bida Clinton 31489, who has three A. R. records that average 11,000 lbs. of milk, 453 lbs. of fat, 4.17%; and whose two-year-old daughters will have records of over 10,000 lbs. of better than 4.00%.

Both bulls have excellent individuality, and are fit to go into any show ring and hold their own. They should develop into extra good herd sires. Prices reasonable—we KNOW you can't get as good as these two for any less money elsewhere.

A. Henry Higginson (Owner). W. R. COUTTS, (Supt.)
South Lincoln, Massachusetts

Monstone Farm Ayrshires
"Production — Size — Individuality"
Bull calves out of dams with A. R. records of 10,000 lbs. (and better) of 4% milk—Winners in show ring—Sired by Lessnessock Gem's Good Gift Imp.—Winner in show ring and proven prepotent sire—Weight 2,250 lbs. in breeding condition—Whose dam made 8,930 lbs. milk, 4.05% fat, in *36 weeks* (Scotch record)—Sire's dam 10,342 lbs. milk 365 days (Scotch record)—Prices $100 to $1,000. If you want class and a square deal, correspond with us. We can supply your wants at your prices. Nothing but the best. Herd Federally tested.
MONSTONE FARM, John Chalmers, Manager, IPSWICH, MASSACHUSETTS



We Have For Sale
the well bred Ayrshire bull, Bargenoch "Drexel" (18474) Imported. Bred by John Logan, Bargenoch, Scotland. Born Feb. 2nd, 1919. Color white and red. Sire, Bargenoch Magnificent (9579). Sire of Bargenoch "Royal Champion" sold at Bargenoch sale, 1919, for $7,267.00.
Dam, Bargenoch Victoria (37003). Scotch record: 9,221 lbs. milk, 4.23% fat in 43 weeks; 11,070 lbs. milk, 4.50% fat in 47 weeks.
BARCLAY FARMS, John Cochrane, Manager, ROSEMONT, PENNSYLVANIA

Delchester Farms Ayrshires
Tell us your wants and we can supply them at prices you can afford to pay.
Aged cows, bred to Glenury, an A. R. son of Finlayston.
Aged cows, bred to Rena's Baron of Highland, an outstanding son of Baron's Best of Bargenoch.
Heifers, bred to these two great sires.
Young heifers.
Bull calves.
All the above stock carries some of the best producing blood of the breed with A. R. ancestry on both sides.
Herd free from tuberculosis
DELCHESTER FARMS
Edgemont, Del. Co., Penn. - Thomas W. Clark, Supt.

World's Champion Ayrshires
Fully Accredited Tuberculosis Free
— 200 Head in Herd



AUCHENBRAIN WHITE BEAUTY 2D
A. R. 14,721 lbs. milk, 4.33%
In 13 years, 112,486 lbs. milk and 13 calves
110 animals in herd are descended from this cow
The 1st, 2nd, 6th and 7th highest records were made here. Four cows average 22,823 lbs. milk, 1,046 lbs. butter. 100 A. R. records made here average 13,246 lbs. milk. Choice stock of all ages for sale at pre-war prices. Special — Young bulls line bred to Auchenbrain White Beauty 2d.
PENSHURST FARM, Narberth, Pa.
(7 miles from Philadelphia)

Weymouth Farms
"Ayrshires of Quality"
All cows on Advanced Registry Test. Herd Tuberculin Tested.
We can supply you a herd sire of choicest breeding.
MARTIN A. TOWLE, Mgr.
NORTH WEYMOUTH, MASS.

Metropolitan Farm
For Sale—Bull calves from our best A. R. cows. These calves are from one month to one year old. Priced for quick sale.
Write for pedigrees and prices.
METROPOLITAN LIFE INS. CO.,
Neil J. Parker, Farm Supt.,
Wilton, New York.

Linndale Farm Ayrshires
"Are bred for Production"
Bull calves out of A. R. cows and sired by sons of World Record cows, for sale.
Our { Breeding, Conformation and Prices } are right.
See what we offer before you buy.
JOHN LINN & SONS,
Manhattan, Kansas.

BLACKBURN FARM
Home of Addington's Champion
Grandfathers—Nox'emall and Finlayston.
Father—Rena's Champion—17 A. R. daughters
Mother—Addington Queen 3d—Two mature records each over 19,000 lbs.
Fully Accredited Tuberculosis Free Herd.
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of all ages for sale. Satisfaction guaranteed
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BROWN SWISS



BETTY OF LAKE VIEW

Breed Brown Swiss Cattle

They prove their superiority over other breeds when subjected to trying conditions on the farm, by keeping in good flesh and filling the pail while other cows grow thin and reduce their yield. You can prove this to your satisfaction.

BROWN SWISS CATTLE BREEDERS' ASS'N
IRA INMAN, Secretary, Beloit, Wis.
William B. Hale, Pres., Aqueduct Bldg., Rochester, N. Y.

JUBILEE FARM

Box 747, Peoria, Illinois.

All Females Withdrawn from Sale Until After the
ILLINOIS BROWN SWISS BREEDERS' ASSOCIATION SALE
MORTON, ILL., APRIL 21
and
FIRST NATIONAL CONSIGNMENT SALE
PEORIA, ILL., MAY 26

A number of line-bred bulls for sale.

Look For Our Consignment

At the National Brown Swiss Sale, Peoria, Illinois, May 26, 1921

The six head we are consigning are from cows with official records from 11,000 to 17,000 lbs. Gallatin Browney, Grand Champion bull at the National Dairy Show, 1919, included. For catalog address W. S. Dunn, Middleburgh, N. Y.

HULL BROS., Painesville, Ohio

When writing advertisers please mention Hoard's Dairyman.

Illinois Brown Swiss Sale

At the Illinois Brown Swiss Breeders' Sale held at Morton, Ill., April 21, the 23 females offered brought an average of $203 and the entire 33 head sold for $5,520, a very fair price considering the number of young animals included.

B. E. Skinner of Wisconsin paid the top price of the sale, $400, for Magnolia Medilla, a 4-year-old consigned by W. C. Randall.

Following is a list of those animals selling for $200 or more and buyers:

John A. Krusemark, Illinois	
Bonnie Cloise	$205
B. E. Skinner, Wisconsin	
Maisie D.	$240
Dora Deane	200
Magnolia Medilla	400
Gerber Bros., Illinois	
Princess Belle	$230
Ira Inman, Wisconsin	
Bonnie Beatrice	$280
David Steeder, Illinois	
Trilba M. 3rd	$230
Henry Johannes, Illinois	
Pearl K. of Swiss Summit	$200
Jubilee Farms, Illinois	
Buster's Pride	$290
Fred Krumps, Illinois	
Pierre's Lady	$210
Roy Resser, Illinois	
Cherry	$215
Fred Ragenhouse, Illinois	
Nellie Bly of Brimfield	$205

How about the wet spots on the farm which the spring rains showed up? Going to drain this year?

JERSEYS

A Show Bull

Ready for Heavy Service

He is Lillian's Noble, born Aug. 27, 1919. His sire is Daisy's Noble Vanwood, he a son of Oonan's Golden Tormentor. He is from Lillyvale's Lillian. Solid color, black tongue and switch. Price $200.

W. T. Williamson, 276 Aurora St., Lancaster, New York

Attend —

The National

Brown Swiss Sale

Peoria, Ill., May 26

40 Head will be Sold

These are the Best that can be Selected from the Leading Herds of the Country.

They come from such Herds as Hawthorne Farm and Jubilee Farm in Illinois, Hull Bros. of Ohio, and Walhalla Farm of N. Y.

That Means Nothing but the Best. Every Entry Will be a Good One.

Write for your Catalog now, and plan to be at the Peoria Fair Grounds on May 26.

Wm. S. Dunn, Sale Mgr., Middleburgh, N. Y.

DO NOT FORGET

Monroe County Jersey Club's

Third Annual Consignment Sale

Tomah, Wisconsin, May 18, 1921

47 head quality Jerseys: cows, heifers, bred and open and a few choice young bulls. Catalogs out but if you have none come any way and we will have one here for you.

We are on the main line of the C. M. & St. P. R. R. between Milwaukee and LaCrosse and on Wisconsin trunk line highway No. 12.

Come you will not be sorry but you will be if you don't.

Auctioneer—Col. D. L. Perry, Columbus, Ohio.

E. E. Wyatt, Sale Manager

INCREASED PRODUCTION GUARANTEED

We guarantee any Jersey bull we sell to increase the average production of any herd

OR MONEY REFUNDED

YOU TAKE NO CHANCES. Our guarantee insures increased production and profit. Bulls for sale, ready for service.

AYREDALE STOCK FARM
F. W. Ayer, P. O. Box 713, Bangor, Maine.

N. B. Write us the size and producing ability of your herd, and we will describe and price a bull guaranteed to increase their production.
By mentioning "Hoard's Dairyman" we will know you are asking for a guaranteed bull.



Heifer Calf For Sale

Dropped Oct. 6, 1920, fawn color, nice type, and in fine condition. Sired by Golden Renown's Majesty, and her dam (Majesty's Brown Bess) is sired by a grandson of Royal Majesty. This heifer is exceptionally well-bred and dam is good producer.

Will sell cheap on account of being crowded for room. Registered, transferred, and crated for $80. Accredited Herd.

W. M. KNIGHT, Oak Grove Jersey Farm, - - - Eagle, Waukesha Co., Wis.

25 out of 80

OR

31¼ per cent of the highest record cows of the breed, at various ages from yearlings to mature cows

Bred or Their Sires Bred at Hood Farm

These 25 cows and heifers average 14,156.6 lbs. milk, 765.5 lbs. fat. Two out of the eighty Imported cows; seven out of the eighty sired by Imported bulls; 9 or 1⅛ per cent Imported or sired by Imported Bulls.

A Sophie Tormentor Bull

at the head of your herd means increased production and profit. Four-generation pedigree on request.

HOOD FARMS, Inc.
Lowell - - Mass.

Montpelier Jerseys

Three young bulls ready for service. Trace three times to Oxford Lad. Fine typy individuals. Right in every way.

Montpelier Manor Farms, Laurel, Md.

The Elms Jersey Farm

A few young cows, bred heifers and unbred heifers, for sale at from $150 to $250. Write for pedigrees and descriptions.

Thos. T. Bacheller, Jr., Mgr.
Forest Lake, Minn.

JERSEYS—DUROCS

Just one bull old enough for service and a few young calves. Hood Farm breeding.

F. R. Constance & Sons, Waupaca, Wis.

POLLED JERSEYS

Breeders' names and Spillman's "Inheritance of the Poll Character in Cattle" mailed free.

CHAS. S. HATFIELD, Secy, R4, Box 5, Springfield, Ohio.

Register Merit Jersey Herd

At Head, Mona's Jacoba Premier grandson: Pogis 99th of Hood Farm. Dam, Mona's Jacoba, record 806 lbs. butter: Granddaughter Jacoba Irene, young stock; St. Lambert breeding for sale. **R. C. Green & Son, Albion, Wis.**

Ten Splendid Jersey Bulls

Good type, 6 to 18 months old. Heifers bred and open. Hood Farm Torono, King Sappho King, Loretta D. Bright Prince, etc. blood lines. Free from abortion. Dams are in the R. of M. or on test. Accredited herd.

Address: J. Q. Emery & Son, Edgerton, Wis.

2 Excellent Bulls

AND

a R. of M. Cow For Sale

No. 1—Sophie Tormentor Bull, born Feb. 9, 1919, by Sophie 19th's Tormentor and from Figgis 78th, 545.4 lbs. butter as a yearling. Well developed and a sire of good type calves. Cost $500 at Hood Farm. Because I'm selling out he goes for $300.

A son of Interested Prince 2nd and from Hamley's Maid of Meridale, 743 lbs. butter. 17 months old, and well grown. He's worth $1000, but offered at $200.

Hamley's Maid of Meridale 262000, born Dec. 27, 1909. In good condition and bred to Tormentor bull, see No. 1. Her last calf a heifer born Nov. 20, by the same bull and a beauty. Remember her R. of M. record is 743 lbs. butter. Price $300.

E. J. Lansing, Oshkosh, Wis.

JERSEY BULL

14 Months Old
From Register of Merit Dam

With record of 416 lbs. fat, age 3 years, 2 months, carried calf 247 days. 7 nearest dams of this bull are in Register of Merit with good records. Solid dark color and a very good individual. Price $140.00.

P. G. WARMINGTON, Honey Creek, Wis.

HERE'S YOUR OPPORTUNITY

Bull calf born March 4, 1920, sired by a grandson of Majesty's Western King and out of a R. of M. daughter of Ibsen's Chief. For full pedigree and price write

E. E. HILL & SONS, Tomah, Wis.

Valley Farm is Offering

Several bulls, 6 to 12 months old, from R. M. cows. Sired by Golden Maid's Viscount and Kilda's Royal Majesty, two of the best Island bred bulls living. At prices to sell. Write

FRED STUBLEY, Black Earth, Wis.

Hillcrest Jerseys

Bull calf born March, 1920. Sired by Imp. grandson of Golden Fern's Noble. Priced right for quick sale. Write

ROLLIE VANDERVORT, TOMAH, WIS.

Washington, D. C., Weekly News

[Special to Hoard's Dairyman]

WASHINGTON, MAY 2—Congress has settled down to its steady grind. The naval bill, one of the two appropriation bills left unfinished, which created the emergency requiring the calling of this extra session, has been passed, and the House is hard at work on the army appropriation bills. The generally accepted administration measure for naval affairs went through the House without difficulty, and a proviso to withhold the ninety millions in the bill for battleship construction until the President could call a disarmament conference, failed by a large majority. The administration measure for the army, however, is having hard sledding, and the wishes of the Department of War for an army of 175,000 has already been voted down and 150,000 substituted, against the protests of administration leaders. Meanwhile the Senate has received the emergency tariff bill as passed by the House, and also the immigration restriction measure and they have been under committee consideration while the Senate as a body passed the Columbian treaty, strictly an administration measure, and the Knox Resolution declaring a state of peace with Germany.

These matters out of the way, the Senate on May 3 began consideration of the emergency tariff measure, which has right of way, and is considered the chief measure of agricultural interest in the administration program.

The Senate Committee on Agriculture has before it a number of measures of general agricultural interest, including especially the Kenyon (Milliken) rural credit measure, but has as yet made little progress in any measure designed for special agricultural interest. It appears that the lead will be taken for a time at least by the House Committee which has completed a week's hearings on grain gambling legislation and is apparently about ready to report a bill, and has begun packer control bill hearings, also with the appearance of having a bill in sight which can be reported, and stand a chance of enactment. There has never been as good an outlook for legislation on this much discussed subject as at this time.

What's a vacation, asks the farm woman? Seven-eighths of them year-in and year-out never have one.

Broad Ripple Farm Guernseys

Offered In An

Absolute Dispersal Sale

May 19th, 1921, Waukesha, Wis.

Live Stock Pavilion

44 Registered Guernseys

Geo. W. Browne
Owner

An exceptionally fine opportunity is given breeders to purchase some very fine Guernseys in this sale. The best of breeding is represented in the pedigrees, and the individuality is especially good. A. R. cows with records as high as 644.86 lbs. butterfat are offered.

Females bred, are bred to the herd sire, Rex of Broad Ripple, whose dam has a record of 797.7 lbs. butterfat and is a daughter of the great bull, Langwater Hayes Rosie's King of the May A. R. Positively every animal will be sold. No by-bidding permitted, by guarantee of Sales Manager.

Such splendid individuals as the following are offered:

REX OF BROAD RIPPLE NO. 61960, whose dam has a record of 779.7 lbs. butterfat.

MAY KING'S DOLLY OF INGLESIDE A. R., milk 13,955.0 lbs., butterfat 644.86 lbs. Sire—May King of Ingleside A. R., sire of 22 A. R. daughters. Dam—Dolly's Glenwood Girl of Ingleside A. R., milk 9,889.9 lbs., butterfat 489.7 lbs.

CRITERION'S MILKMAID NO. 83347 (A. R.) butterfat 535 lbs. at 2 years.

SUNNYBROOK MIGNONETTE NO. 64437, winner of many prizes. Sire—Florham Autocrat A. R., sire of 4 A. R. daughters, by Ne Plus Ultra A. R. Dam—Imp. Lady Minnie A. R., milk 9758.1 lbs., butterfat 476.1 lbs. at 2 years.

CREAMLAND BLANCH NO. 82472 (A. R.) milk 7,380.9 lbs., butterfat 466.3 lbs. at 2 years.

FRAU OF MERIDIAN 2D NO. 38978 (A. R.) milk 10,669.7 lbs., butterfat 571.6 lbs.

BESSIE'S YEKSA STARLIGHT (A. R.) milk 8,285.9 lbs., butterfat 454.04 lbs. at 4 years.

THREE DAUGHTERS of Yeksa's Prince of Sunnyside A. R., sire of 4 A. R. daughters.

LILY ROSE OF MAPLE HILL NO. 76842, on test, in 31 days has made 48.96 lbs. butterfat Class D. Sire—May King's Vrangue of Ingleside A. R., sire of 15 A. R. daughters. Dam—Lillian's Milkmaid of Maple Hill A. R., milk 12,980.7 lbs., butterfat 567.3 lbs. at 2 years.

TWO GRANDDAUGHTERS of Imp. Itchen May King 25174 (A. R.) Grand Champion, National Dairy Show, 1920; sire of 17 A. R. daughters.

SIX DAUGHTERS of Dairymaid's Criterion of Iowa A. R., sire of 5 A. R. daughters. Dam's record, milk 15,885 lbs., fat 661.87 lbs.

TWO DAUGHTERS of Ada's Yekstang 18283, whose dam is Dora's Ada A. R., milk 14,052.1 lbs., butterfat 751.10 lbs.

FOUR DAUGHTERS of Philip's O. K. No. 12892, A. R. sire of 3 A. R. daughters.

MAY BIRD OF EDGEMOOR 81709, on test, in 115 days has made 144.93 lbs. butterfat at 2 years.

DUCHESS OF MAPLE HILL A. R. 5769, milk 10,621.1 lbs., butterfat 535.92 lbs. at 1 year, 10 months. Sire—Langwater Hayes Rosie's King of the May A. R., sire of 16 A. R. daughters. Dam—May King's Duchess A. R. 5770, milk 13,440.5 lbs., butterfat 709.44 lbs. at 5 years.

Auctioneers—Love, Benjamin.

Send for Catalog to F. E. Fox, Sales Mgr., Waukesha, Wis.

GUERNSEYS

A May Rose Bull

He Will Suit You

He is Gumption of Koshkonong Place, ready for heavy service and as straight as a line. His sire is Anton's King Cecil, one of the best May Rose bulls in the state. His dam is Gladness of K. P. (414.68 lbs. fat Class G), a daughter of Gilt Edge of K. P. (15 A. R. daughters).

Write me today about him.

A. R. HOARD, Fort Atkinson, Wisconsin

14 GUERNSEY BULLS

10 Heifers or A. R. Cows

your choice out of 75 head. All born and raised in our own barns. Herds accredited and guaranteed free from abortion, non-breeders and calf scours. 11 years of State and Federal testing without ever finding a single reactor or having a single case of abortion or a single non-breeder. $10,000 reward to anyone who can disprove the above statements. No better GUERNSEYS anywhere at any price. Send for bargain sale list.

MATH. MICHELS & SONS, Fond du Lac, Wis.

Guernsey CATALOG Prices

These prices include compiling the pedigrees from one of the most up-to-date Guernsey files in America.

Our standard size catalog is 7x10 inches and is best adapted for printing four generation pedigrees. We can also make attractive prices on catalogs of larger size containing five and six generation pedigrees.

500 7x10 Catalogs - $3.75 per page
750 7x10 Catalogs - 4.38 per page
1000 7x10 Catalogs - 5.00 per page

Prices on Single Pedigree Orders

4 gen. typed in two colors—1 copy $1.00, 2 copies $1.25

4 gen. Mimeo—one color, 25 copies $2.00

4 gen. Mimeo—two cols. 25 copies $3.00

Prompt efficient service guaranteed

Guernsey Department
of the
Wisconsin Live Stock Advertising Company
Pioneer Bldg., Madison, Wis.

Guernsey Bulls

Special Low Prices

Guernsey bulls by Beauty Eagle's Bonny Boy 42893, he by Bonny Boy of Riverdale 29070 (noted show bull), and out of Beauty Eagle 18117, 846 lbs. fat, or a son of Glenwood's Champion 15639 (24 A. R. daughters) out of daughter of Langwater Demonstrator 16451. Splendid high producing dams. Send for sale list.

LA BELLE KNOLL FARM, Oconomowoc, Wis.

Waukesha County Guernsey Breeders' Ass'n's

Eighteenth and Semi-Annual Consignment Sale of

Fifty Registered GUERNSEYS

Waukesha, Wisconsin—June 9th, 1921

Watch coming issues for further announcements.

Waukesha County Guernsey Breeders' Association

F. E. FOX, Secretary, Waukesha, Wis.

NOTE—Remember Dispersal Sale of Chas. Govin's Herd of Registered Guernseys, at Waukesha, on June 8th.

Pleasant Acres Guernsey Farm Is Offering For Sale

Bull calves of May Rose breeding from 3 to 14 months old. The dams of these calves either have A. R. records or are now on A. R. test.

Clyde E. Fruit, R. 1, Waukesha, Wis

OPPORTUNITY! Consigned to the Portage Co. Sale — Amherst, Wisconsin, May 25.

Gold Ollie's Secret, high class 3-year-old bull sired by an A. R. son of Imp. Golden Secret of Lilyvale. Dam—Gold Ollie, A. R. 551 lbs. and 3 daughters average 566 lbs. 2 splendid young A. R. cows. Sons and daughters of Craigamoor Golden Noble whose first A. R. daughter will make over 600 lbs. Class G. May 25, Amherst, Wis.

L. E. Gordon, Jr., Nelsonville, Wis.

A Real Buy Serviceable May Rose Bull

Sire: A son of Langwater Steadfast, 19 tested dams average 714 lbs. fat. Dam: A splendid daughter of Gov. of the Chene, with 526 lbs. fat, Class D.

This fellow is a top-notch individual and full of pep. Priced to sell. Don't overlook this bargain.

Federal Accredited Herd.

Norwind Farm, Sheboygan, Wis.

Langwater Traveler

Carries 50 per cent blood of Imp. King of the May, greatest bull of the breed.

His dam is Langwater Lustre, A. R. 806.10 lbs. fat, fifth cow in Class C. She is the second highest testing daughter of King of the May. His sire is Langwater Holliston, sire of Langwater Levity, sold for $6,000.00 and leading cow in Class EE. Traveler's daughters are averaging over 500 lbs. of fat with their first calves. His first daughter to freshen will be a class leader in FF. We offer some excellent bull calves by Traveler out of May Rose cows with fine records. Federal Accredited Herd.

CHICONA FARM GUERNSEYS
A. L. Glie, Prop., Chinook, Washington.

Sons of

Langwater Fisherman

Serviceable Age and Younger

They are from A. R. daughters of Yeoman's King of the May and of Langwater Demonstrator, with records from 500 to 700 lbs. fat. Strongly bred May Rose calves carrying 15% to 20% of the blood of May Rose 2nd. Priced from $150 to $500. Guaranteed to be as represented.

We will answer your inquiry promptly.

MIXTER FARMS,
J. S. Clark, Supt., Hardwick, Mass.
300 Guernsey Females

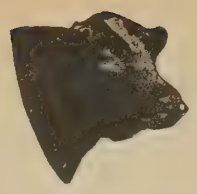
Clark County Guernseys

3d Annual Consignment Sale JUNE 2d, 1921, Owen, Wis.

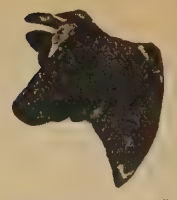
45 REGISTERED GUERNSEYS

A choice offering of mostly all young animals, free from blemish; 50% of stock out of Federal Accredited Herds.

Send for your Catalog at once to C. E. Beck, Owen, Wisconsin



Economy in Production GUERNSEYS Quality of Products



The Guernsey is a medium sized cow that produces with greatest profits large quantities of milk and butterfat of the highest quality. She is exceptionally gentle and responds promptly to good feed and care. Send for our free literature.

THE AMERICAN GUERNSEY CATTLE CLUB, BOX H46, PETERBORO, N. H.

Twelve Great Guernsey Sales

In the 1921 Wisconsin State Guernsey Sale Circuit

Note the Date — Place. **Follow the Circuit**

MAY 19th—Guernseys. Dispersion of Geo. W. Browne's Herd of Miami Beach, Fla., at Waukesha, Wis. F. E. Fox, Sale Mgr.

MAY 24th—Registered Guernseys. Marathon County Guernsey Breeders' Association. 2d Annual Consignment Sale. Wausau, Wis. F. E. Fox, Sales Manager, Waukesha, Wis.

MAY 25th—Registered Guernseys. Portage County Guernsey Breeders' Association. 2d Annual Consignment Sale. Amherst, Wis. F. E. Fox, Sales Manager, Waukesha, Wis.

MAY 26th—Registered Guernsey Bulls and Grade Females. Portage County Guernsey Breeders' Association. Amherst, Wis. F. E. Fox, Sales Manager.

MAY 31st—Registered Guernseys. Barron County Guernsey Breeders' Association. 3d Annual Consignment Sale. Barron, Wisconsin.

JUNE 1st—Registered Guernseys. Chippewa Valley Guernsey Breeders' Association. 3d Annual Consignment Sale, Eau Claire, Wisconsin.

JUNE 2nd—Registered Guernseys. Clark County Guernsey Breeders' Association. 3d Annual Consignment Sale. Owen, Wis.

JUNE 3rd—Registered Guernseys. Fond du Lac and Winnebago County Guernsey Breeders' Association. 3d Annual Consignment Sale. Fond du Lac, Wis. C. L. Hill, Sales Manager, Rosendale, Wisconsin.

JUNE 4th—Absolute Dispersal Sale of Folly Farm Registered Guernseys. Owner—R. H. Donnelly. Sale at Fond du Lac, Wis. C. L. Hill, Sales Manager, Rosendale, Wisconsin.

JUNE 7th—Registered Guernseys. Southern Wisconsin Guernsey Breeders' Association. 2d Annual Consignment Sale. Fort Atkinson, Wis. James H. Murphy, Sales Manager, Delavan, Wisconsin.

JUNE 8th—Absolute Dispersal Sale of Registered Guernseys. Owner—Chas. O. Govin, Menomonie, Wis. Sale at Waukesha, Wis. F. E. Fox, Sales Manager, Waukesha, Wisconsin.

JUNE 9th—Registered Guernseys. Waukesha County Guernsey Breeders' Association. 18th and Semi-Annual Consignment Sale. Waukesha, Wis. F. E. Fox, Secretary, Waukesha, Wis.

Send for Catalogs. **Attend the Circuit**

The Dates Are May 25th and 26th

SECOND ANNUAL CONSIGNMENT SALE

Portage County Guernsey Breeders' Ass'n

Registered and Grade Guernseys

Amherst, Wisconsin

ON MAY 25TH—FIFTY-FOUR REGISTERED GUERNSEY MALES AND FEMALES are to be offered. Many A. R. Cows are included, and bulls are out of tested dams.

ON MAY 26TH—TWENTY-FOUR REGISTERED Guernsey Males and Twenty-five Grade females will be sold. Buy now. Get Started RIGHT.

Sale 1:00 p. m. Each Day. Auctioneers: Love, Benjamin.

F. E. FOX, Sales Mgr., Waukesha, Wis.

HONESTY PRIDE OF BIRCHFIELD 44580



Sire — Langwater Warrior 26509
Dam — Langwater Honesty 49479
10,536.9 lbs. milk, 517 lbs. fat, at 2 yrs. and 5 months

We are now offering a few splendid sons of Honesty Pride of Birchfield. From cows with A. R. records or now on test. Everyone is a straight backed, growthy, vigorous youngster. These young bulls will put type and production in your herd. Prices range from $150 to $300.

Quality Guernseys **HIGHLANDS** *Tuberculin Tested*

NYE H. FREEMAN, Herdsman, Linwood, New York

Quality Sale of -- Chippewa Valley Guernseys

Wednesday, June 1st—Eau Claire, Wis.

Third Annual Consignment Sale

Fifty Registered Guernseys

This is the Fourth Sale in the 1921 Guernsey Sale Circuit. The Chippewa Valley Guernsey Breeders are solicitous that animals offered will be right in every way and desirous that purchasers will be pleased with them.

Many exceptionally fine bulls are used in this section, of May Rose, Glenwood, Yeksa and Governor of the Chene breeding. Many of the breeders are doing official testing, and creditable records have been made.

Watch coming issues for further details.

CHIPPEWA VALLEY GUERNSEY SALES ASSOCIATION

G. R. INGALLS, Sales Manager **EAU CLAIRE, WIS.**

(Advertising service furnished by F. E. Fox, Waukesha, Wis.)

Thorn Hill Farm Guernseys



Have several well bred young Guernsey bulls for sale at reasonable prices. All my own breeding. May Rose and Glenwoods, out of A. R. cows with records from 500 to 750 lbs. of fat. Write for sales list to

AUGUST ZIESING, **Deerfield, Ill.**

Harbor Hill Guernseys

Masher's Galore 8572 A. R.

Increased the Average Production Credit of 12 A. R. daughters out of A. R. dams by 181 lbs. We offer his double grandson out of another daughter also making a better record than her dam.

C. H. Hechler, Superintendent
Box 30, Roslyn **New York**

Do You Want A Guernsey Bull

Closely related to Pergue's Crescent A. R. with a record of 13,316.9 lbs. milk and over 582 lbs. fat in Class EE and dropping two calves within the year, entitling her to second place in her class? Some excellent young bulls closely related to Pergue's Crescent ready to head your herd. Write for descriptive circular, or come and see them.

Ernest W. Sass, Box H, Streator, La Salle County, Illinois

Guernsey Bulls

Our last 9 official records average over 51[illegible] lbs. fat, including all ages. Our herd sire ha[illegible] 8 A. R. daughters, including one with 572 lbs fat in Class GG. His three nearest dams average 822 lbs. fat. Send for pedigrees and prices on young bulls with this backing.

Folly Farm, Box 587, **Libertyville, Ill.**

Iowanola Guernseys

We are offering

A Very Fine Son

born July 25, 1920, out of Imp. Kitchener's Express 43925, his dam has 592 lbs. of fat, and out of Franseca of Homa Della who has 12,855.2 lbs. of milk and 640.09 lbs. of fat in Class D. This is a very typy calf and should appeal to any one in need of a bull. Correspondence solicited.

MOUNTAIN BROS.,
Carrier 403, **Des Moines, Iowa.**

Guernsey Bulls For Sale

Polly's Anchor No. 42845, born August 24, 1916 and Imp. Bluebird of Lakeside No. 45329, born June 15, 1917. Good, straight bulls, very gentle and sure breeders.

For Sale by

RADISSON FARM, **ANOKA, MINN.**

Tilden Farms Guernseys

FOR SALE: Several typy, May Rose bulls out of A. R. cows and sired by Hope's May Rose of Maple Hill (35903), whose dam is a class leader with 776 pounds of butterfat at 3 years. Also several choice pure-bred females and a few excellent grade cows. Herd on Federal Accredited list.

TILDEN FARMS
James H. Murphy, Mgr. **Delavan, Wisconsin**

8 Registered Heifers For Sale

5 of them are from 18 to 20 months old and in calf to a good son of Langwater Cavalier. Of these, 3 are granddaughters of Langwater Hambro and of Bob Rilma's Monogram. They are well grown and good individuals.
The other 3 are from 5 to 8 months old.

Write or come and see them.

Ralph Tratt, **Whitewater, Wis.**

642 Pounds Fat

is the average on the A. R. daughters of Bellfounder, the sire of Countess Prue, the World's Champion Guernsey and My Fancy, eighth in Class A.

We offer bull calves carrying 15%—50% of this consistently high producing blood.

Prices $225.00 to $600.00.

The demand is keen; write today.

FALCON'S FLIGHT FARMS,
Litchfield, Connecticut.

GRASSLAND FARMS GUERNSEYS

Choicely bred males and females for sale (The natural increase of the herd.)

Herd federal tested for tuberculosis. Send for sales list. Satisfaction guaranteed.

Taconic, Conn., Litchfield Co., (C. N. E. R. R.

Young Bulls for Sale

From A. R. Dams

Sons of Golden Noble of Craigamoor from A. R. dams with records up to 648 lbs. fat. They are from 3 months to a year old. Write for complete information.

MAPLE HEIGHTS GUERNSEY FARM
Frank E. Swan, **Wauwatosa, Wis.**
Federal Accredited Herd.

Fond du Lac County Guernseys

100 choice bull calves, by best sires of the breed out of dams with records up to 850 fat.
20 choice heifers, 6 months to 1 year old.
Grade cows and heifers. Send for sale list.

B. F. SHERIDAN, Secy.,
Fond du Lac, **Wisconsin.**

Major Oliver S. Johnson



The Dairy Auctioneer

Tipton, Ia.

"Maj. Johnson has conducted twenty-five Sales for me"—Dr. M. B. Wood, Mankato, Minn.

Wern Farm Guernseys

I am offering for sale 20 head of choice Grade Guernsey springers coming with first and second calf. Also have two bulls highly bred along May Rose lines just ready for service, that I will sell. For full particulars, write, wire, or come and see the stock.

Wern Farm, **Waukesha, Wis.**

Homestead Farm

Offers for sale bulls from 11 to 13 months of age from A. R. dams. Also a few young bull calves of excellent breeding, and three A. R. cows. Write for sale list or come and see them.

JAMISON BROS., **Appleton, Wis.**

Guernsey Bulls

GET A BULL, with Langwater, Pencoyd, May Rose or Haye's Cherub breeding. Prices reasonable, quality considered. Grades in limited numbers.

Fox River Valley Guernsey Breeders' Association,
Harry Leppla, Secy. **Appleton, Wis.**

Hillswold Farm

Shrewbury, Mass.

Registered Guernsey bull calves for sale. Dams in Advanced Registry and tuberculin tested. Prices right and animals guaranteed to suit. **W. A. Cloues, Mgr.**

Dispersal Sale of

Folly Farm Guernseys

Owned by R. H. Donnelley, Libertyville, Ill.

To be Held at the Sale Pavilion

Fond du Lac, Wis., June 4th

The character of the cattle in this sale we are sure is second to none to be held this year. The herd bull Allenwood King Regent is the sire of 8 A. R. daughters and several more under test. One is a class leader. Fourteen of his daughters in the sale. Average record of his three nearest dams 822.31 lbs. fat, which is, we think, the highest for any bull of the breed.

Of the 35 females in the sale 20 are cows and 19 of these are in the Advanced Registry, or are now under test. Two of them are Class Leaders.

Included in the Lot are:

Mavoureen of Pencoyd 583.91 lbs. fat. Fifth in Class DD.

Folly Laura 572.09 lbs. fat. Eighth in Class GG.

Doris of Sarnia just finished over 600 lbs. fat.

Constance of Sarnia, 518 lbs. fat.

Corrina of Sarnia, 542.37 lbs. fat.

Lady of Tamworth, 519.04 lbs. fat.

Langwater Queen Mab, 440.2 lbs. fat Class D.

Fillmore's Topsy, 490.53 lbs. fat Class F.

St. Austell's Daybreak, a daughter of Don Diavolo of Linda Vista, now making a very large record. Many others of same class.

See the "Dairyman" of next week for full list of these A. R. cows with their records. Then send for catalog and attend the sale.

Chas. L. Hill, Sale Manager, Rosendale, Wis.

See adv. of Fond du Lac and Winnebago County Sale at Fond du Lac on June 3rd.

Fourth Semi-Annual Sale

OF THE

Fond du Lac Co. and Winnebago Co. Guernsey Breeders' Ass'n's

Sale Pavilion

Fond du Lac, Wis., June 3d

60 Head of High Class Females and 10 Bulls

Among the bulls are those out of dams with records of 678 lbs. fat Class F, 618.89 lbs. fat Class B, 507 lbs. fat Class B, 589 lbs. fat Class A.

Many A. R. cows or cows now under test and heifers out of this class of cows, and others nearly as good.

Cows and heifers in calf to such noted bulls as Cherub's Prince, Superb of Edgemoor, Dairymaid's Nonpariel of Iowa, Pencoyd Leader, Pencoyd Crackerjack, Langwater Kinglike, Sunkiston, Rex's Champion of Maple Hill, Jessy Rose's Pride of Iowa, Queen's Golden, and others as good.

Come to the great picnic of the Fond du Lac County and Winnebago County Guernsey Breeders' Associations at Lone Tree Farm, Green Lake, Wis., on June 2nd, and then to this sale at Fond du Lac on June 3rd.

Look up our advertisement in the Dairyman next week, and send for catalog. Then attend the picnic and sale.

Chas. L. Hill, Sale Manager, Rosendale, Wis.

See ad of Folly Farm Dispersal Sale at Fond du Lac on June 4th.

RUNDELL'S IMPORTED GUERNSEYS

40—Excellent Yearling Heifers—40

Will arrive on the "Menomonie" about May 20. They were the first yearlings to be selected on the Isle of Guernsey this year and are without question a wonderful bunch. Will make an attractive price on 20 head. Write for information and prices to

Village Farm **BRIAN L. RUNDELL** **Livingston, Wis**

Waukesha — The Guernsey County

Nearly two hundred members in our Association. Many of the best sires of the breed are being used. We can supply your wants. Pure-breds or grades, male or female, all ages. Prices will interest you.

Come to the County or Write

Waukesha County Guernsey Breeders' Association

F. E. Fox, Secretary **Waukesha, Wisconsin**

LONE TREE FARM

GREEN LAKE, WIS.

Has in its Herd 15 A. R. Guernseys and 11 R. of M. Jerseys

And Carries About 16 Cows on Test.

To inquiries for BULL CALVES we give full, honest particulars and stand behind every animal sold.

Jersey Sire—A Son of Pogis 99th. Guernsey Sire, Langwater Islander.

MR. GUERNSEY BREEDER

we are offering bulls of May Rose, Glenwood and Yeksa breeding out of A. R. cows. Our records range from 450 lbs. to 864 lbs. of fat; ages from 2 months up to serviceable age for $100 and up.

Can spare a few fine females.

CORIUM FARM, F. J. Rueping, Owner, Fond du Lac, Wisconsin

Guernseys

Best May Rose breeding. Both sexes and all ages from an Accredited Herd. Write your wants and send for lists.

E. S. Person, **Minot, N. D.**

Guernsey Females

bred to an outstanding son of Ne Plus Ultra, one of the greatest sires of the breed. Fifty head from which to select.

MEADOWLAND FARM. **Litchfield, Conn.**

When writing advertisers please mention Hoard's Dairyman.

Second Annual Consignment Sale

Registered Guernseys

Marathon Co. Guernsey Breeders' Ass'n

Wausau, Wis., Fair Grounds May 24

FIFTY-TWO REGISTERED GUERNSEY MALES AND FEMALES are listed in the Second Annual Consignment Sale. Marathon is one of the leading Guernsey centers, and the selections offered are very high class.

The entire number were carefully inspected by the Sales Committee, who were very anxious to put in only the best. The animals will be sold subject to the sixty-day retest, and consignors are ready to stand back of all guarantees made.

Below are listed a few of the fine offerings:

Four daughters of SKEEZICKS' PRINCESS NO. 40773, who is by Skeezicks A. R., sire of 13 A. R. daughters, and out of a daughter of Imp. Financier A. R.

Six daughters of LONE PINE'S STAR NO. 50935, who is a grandson of Imp. Governor's Whimsome A. R. and Skeezicks A. R.

Eleven daughters of STAR OF LONE PINE NO. 32452, sired by Imp. Governor's Whimsome A. R., sire of 5 A. R. daughters, and by Governor of the Chene A. R.

Two daughters of ONA'S MAY KING OF WEST SALEM NO. 27874, by Itchen Daisy's May King of Langwater A. R., and out of Ona of the Glen A. R., 415.48 lbs. butterfat at 2 years.

HELENDALE NORTHERNER, sired by Step Lively, full brother to Florestine's Triumph A. R., 599.4 lbs. butterfat 8th Class CC, 681.61 lbs. Class A.

PENCOYD'S HERO OF ELDERON, sired by Pencoyd Autocrat, whose dam and grandam's records average 680.13 lbs. butterfat.

PEARLY GATE NO. 53589, by Penthesilia's Champion A. R. sire of 6 A. R. daughters, and out of a daughter of Pearlson A. R.

MERRIDY OF HAWTHORN FARMS NO. 100362, by Imp. Forest of the Chene A. R. who is a son of Governor of the Chene (A. R.) sire of 103 A. R. daughters.

ERRANT'S NELLETTE NO. 40565, on test, in 304 days has produced 398.36 lbs. butterfat. Half sister to Nancy of Sharon A. R., 706 lbs. butterfat Class AA.

The others are just as good. Be with us on the 24th of May.

Consignors:

Walter Alexander	Elmer Bandy	H. R. Burg
Wm. A. Erbach	M. C. Ewing	Paul Kickbusch
Robt. Kickbusch	Bryce McAdam	A. J. Plowman
Stark Brothers	Adolph Thompson.	

Sale Committee:

A. J. Plowman, J. S. Alexander, Adolph Thompson, Wm. Lonsdorf.

Auctioneers—Love, Benjamin

Send at once for catalog to

F. E. FOX, Sales Mgr., Waukesha, Wis.

Virginia Holstein Sale

On April 15, 1921, there was held at Richmond a Virginia breeders' consignment sale of Holstein-Friesian cattle. Seventy-four consigned to this sale sold for a total of $22,230.

The top cow was a 7-year-old, Dixie Butter Bess, consigned by F. R. Chambers and purchased by Brentwood Farm, Pennsylvania, for $910. The value placed on this cow in the sales ring was due not only to her being a daughter of the famous sire, Hengerveld Pontiac Korndyke, but also to the fact that she shows wonderful type and individuality.

The top bull in the sale was consigned by Brentwood Farms and sold to Carr Brothers & J. R. Wingfield of Virginia for $605. This bull, King Model Vale, is a son and a grandson of King Model. He is a splendid individual and shows lots of quality. He goes to a good Holstein community in Virginia and is a valuable addition to the Holstein breed in the state.

The 67 females averaged $305.62 and the seven males averaged $250. It was very evident from the prices paid that the buyers placed more value on outstanding type, individuality, and good condition than upon blood lines. The consignments to this sale gave evidence that Virginia breeders of Holsteins are giving more consideration to quality and type than has ever before been shown in a sales ring of Holstein-Friesian cattle in Virginia.

The majority of the buyers were from Virginia, only 20 head going out of the state.

Following is a list of animals selling for $350 or more, and buyers:

R. W. Massie, Virginia	
Alma Riverside Cornucopia	$365
Emma De Kol Soldene	435
Huntington Valley Farm, Pennsylvania	
Forest Dale De Kol Korndyke	$435
Margaret Aaggie Korndyke	780
J. L. Ratcliffe, Virginia	
Nellie Anna Finderne Fayne	$355
Elsie Segis Girl	455
Countess Nevada Mercedes	510
Carr Bros. & J. R. Wingfield, Virginia	
King Model Vale	$605
J. B. Andrews, Virginia	
Julia Clothilde Janzen	$450
Lady Butter Bess	385
W. C. Saunders, Virginia	
Nazli Beets Alcartra	$500
Queen Ocea Pontiac	425
Brentwood Farm, Pennsylvania	
Dixie Butter Bess	$910
Willow Glen Lady De Kol Alcartra	570
J. A. Loving, Virginia	
Scotia Pontiac Korndyke	$400
Dr. A. L. Smith, Virginia	
Maid Josephine Colantha	$355
J. B. Lee, Virginia	
Anna Veeman It 2d	$390
Mrs. M. B. Munnally, Virginia	
Dutchess Polkadat Colantha	$550
Cheney Bros. & Jones, Virginia	
Rosin Alice Ragapple De Kol	$375

REGISTERED HOLSTEINS

Sales List

FEDERALLY tested herd of 800 selected Holstein cows headed by world's record sires. Young bulls, for sale. Satisfaction guaranteed.

Write for Sales List No. 105

511 Consumers Bldg., Chicago, Ill.
511 Stuart Bldg., Seattle, Wash.

Carnation Stock Farms

For Immediate Acceptance—

Three young bulls ready for service—Holsteins.
No. 1—Sire a 30-lb. bull. Dam a 27.5-lb. cow. Price $300.00.
No. 2—Sire 30-lb. bull. Dam 23-lb. 3-year-old. Price $250.00.
No. 3—Sire 30-lb. bull. Dam 16-lb. cow. Price $100.00.
King of the Pontiacs breeding, well grown and good individuals. Send for extended pedigree.

R. F. JOHNSON, Assumption, Ill.

Whitehurst Farms

BULLS FOR SALE FROM SEMI-OFFICIAL DAMS. Priced Right.

A. F. Randolph, Prop., Canton, Ill.

Cows and Heifer

A Few Good Bulls

Because I am overstocked, I am offering some very good registered females for sale. They either have A. R. O. records or are from A. R. O. dams.

Can also offer some excellent young bulls by a 33-lb. sire and from A. R. O. dams with records up to 28 lbs.

Every animal sold is guaranteed to be as represented.

Write or come and see for yourself.

J. D. McDonald West Salem, Wis.

FOR SALE

Grandson of 37th — the $100,000 Bull

Born March 20, 1921. Sire has 75% the same blood as the Pabst $30,000 bull. Dam: a 25-lb. daughter of a 35-lb. bull. Nicely marked, priced to sell quick.

J. W. GEHL, West Bend, Wis.

Serviceable Bulls For Sale

Sired by Pabst Pontiac Hengerveld, a son of King Pontiac Champion from Pabst Hengerveld Colanthus (31.5 lbs. butter in 7 days, 1,057 lbs. in a year.

These are nicely marked, well grown youngsters out of good producing dams. Several are ready for service, others are younger.

Write today.

John Alexander, Baraboo, Wis.

GREENBUSH FARM

Registered Holsteins

Canary Mercedes Champion II No. 318082 recently made 29 lbs. of butter from 512.5 lbs. of milk in 7 days. Now on yearly work. Her bull calf, sired by a 32-lb. bull is for sale. Write for complete information in regard to this well bred younster to

GREENBUSH FARM

R. Turano, Herdsman, Glenbeulah, Wis.

HOLSTEINS FOR SALE

SPECIAL—Prize winning yearling Holstein bull. 30-lb. sire; 19.53-lb. dam. Splendid individual.

PURE-BREDS: 161 Cows, 134 Heifers, 19 Heifer Calves, 290 Young Bulls
GRADES: 93 Heifer Calves, 127 Heifers, 418 Cows

Some good carloads at reasonable prices. Listed for sale through Wisconsin banks. Other Live Stock: Breeders are listing with us other dairy cattle, beef cattle, horses, sheep, and swine. Write us if you want stock. We will answer promptly.

BANKER FARMER EXCHANGE
D. H. Otis, Director, 1822 Chadbourne Ave., Madison, Wis.



Colantha Changeling Lad



Whose dam made 30 lbs. at 4 years, has daughters making up to 32 lbs. at 3 years old. On them a 30-lb. son of 37th whose daughters are now making 23 and 24 lbs. as 2-year-olds. On them we are using a 30-lb. son of 41st. We are clearing our stables at bargain prices on bulls up to serviceable age. Also a bunch of females for immediate sale. Bulls $150 up.

Badger Stock Farms, Hartford, Wis. Lawrence F. Murphy

BUY DIRECT Reasons for Buying Holstein Cattle in Waukesha County:

1. You can buy direct from the breeder through the breeders' association, organized by the breeders to promote the breeding of more and better Holstein cattle and to assist in a fair marketing of the same.
2. There are over 50 pure-bred Holstein sires in service in Waukesha County whose dams have records of over 30 lbs. butter in 7 days or 1,000 lbs. butter in a year.
3. There were 1,307 long-distance tests made on Holsteins in Waukesha County during the past year, which is more than the total in the next four leading counties in the state.
4. There are more tuberculin tested cattle in Waukesha than in any other county in the world.
5. The breeders' organization is in a position to put you in touch with "bred-for-production-stock" at reasonable prices.
6. When buying through the Association, you obtain the services of men who devote their entire time to the Holstein industry. It saves you time. You get more for your money.

Write or Wire for information

Waukesha County Holstein-Friesian Breeders' Association

254 Broadway, Waukesha, Wisconsin

Sheboygan County Holstein Breeders'

Consignment Sale

Plymouth, Wis., May 20

65 Head 65 Head

Do You Appreciate Records? Do you want some Holsteins with Wonderful A. R. O. backing? If so, Plan to Attend This Sale.

Sheboygan County Holsteins are Noted for their Records, both 7-day and Yearly.

Nearly all the animals in this sale are from record dams, or have records of their own.



YESLETINE BESS 240108

28.10 lbs, butter, 670.2 lbs. milk; 105 lbs. milk high day.
CONSIGNED BY S. A. EASTMAN, PLYMOUTH, WIS.

There will be:

A Dandy Heifer, a faultless individual, daughter of King Pietertje Ormsby Piebe 7th, whose three nearest dams average 1110 lbs. Her dam is a 28.68-lb. 4-year-old, now on yearly test, and making a good record.

Daughters of Pabst King Hengerveld, a 1057.15-lb. son of King Pontiac Champion.

Daughters of Sir Ormsby Beauty Pontiac Segis, who is from the Highest Record daughter of Count—37 lbs. for 7 days, and 1121 lbs. for the year. They are in calf to Cedar Lawn Canary Paul 4th.

Also a fine 17.09-lb. 2½-year-old, in calf to the Ormsby bull.

Three daughters of Sir Longfield Pearl Spofford, whose first three dams average over 1000 lbs. One from a 700-lb. dam with 16,000 lbs. for the year; one from a 900-lb. dam with 22,234.6 lbs. for the year; and one from an 18.64-lb. 3-year-old.

Two nice heifers sired by the 30-lb. bull, Canary Fobes Inka Homestead, and in calf to King Abbekerk Pontiac Segis 3d, a 31.39-lb. grandson of Count.

Good producing cows in calf to Pabst Korndyke Cornflower, Cedar Lawn Paul Champion, Pabst Pontiac Adonis, and to a son of the $50,000 bull, King Segis Pontiac Alcartra.

Cows and heifers on test at present time. Records will be announced at sale.

A Yearling Bull, sired by Pabst Pontiac Adonis, a son of the great 38.43-lb. heifer, Pabst Korndyke Cornflower, who sold at the 1920 National for $30,000. His dam has a record of 353.42 lbs. butter and 7963 lbs. milk in 5½ months.

A December bull calf sired by King Pietertje Ormsby Piebe 7th, whose 5 nearest dams average 1110 lbs. from 23,080 lbs. milk. The dam of King Pietertje will soon finish her second year with about 1000 lbs. butter as a junior 3-year-old.

An October bull calf, sired by Sir Longfield Pearl Spofford, a yearly record bull whose dam has an 891.35-lb. 4-year-old record, next dam 1215 lbs., and whose sire's dam has a 972.56-lb. record. The dam of this calf is an 18.37-lb. junior 3-year-old.

A November calf sired by King Abbekerk Pontiac Segis 3d, a 31.39-lb. grandson of Count.

Tuberculin Tested and Sold Under the Usual 60-day Guarantee

Auctioneers—Mack & Laux

For catalog write

F. H. Everson, Sale Mgr., Lake Mills, Wis.

Third Annual Sale
Manitowoc County Holstein-Friesian Breeders

May 18-19, 1921

Held at the Fair Grounds

Manitowoc, Wis.

140 Pure-Breds

The choicest lot of cattle ever assembled in Manitowoc County will be sold at auction including 10 males whose dams have ADVANCED RECORDS up to 21.60 lbs. butter in 7 days as two-years-olds.
8 females with dams A. R. O. records up to 20 lbs. as two-year-olds.
Males and females from dams as high as 27 lbs. A. R. O.
1 male whose four nearest dams averaged 25 lbs. A. R. O.
A good bunch of young stock whose sires' three nearest dams average 33 lbs. A. R. O.
14 head sired by 33-lb. sire.
Several females from dams of 20 lbs. as three-year-olds.
2 four-year-old show cows with 21.60 lbs. and 22 lbs. A. R. O. records in the sale.

30 High Grades

Several males from 22-lb. dams and over.
Manitowoc County has, since the last sale, added many 30-lb. sires or the equivalent of 30 lbs., also several 1,000-lb. yearly bulls. A good number of these animals are bred to these bulls. Also young stock of these bulls in this sale.
You can't make a mistake by buying stock at this sale. All cattle females guaranteed to be breeders. All animals over six months tuberculin tested.
Every animal inspected by the Manager and Board of Directors. We are building up a Quality Sale. We want to hold a sale every year, for that reason we offer only quality cattle. Real show cattle are offered. Manitowoc County is fast becoming one of the leading Holstein counties. Come and see these cattle. Look them over. We will be glad to show you what we have. We will give you courteous treatment and do all we possibly can to help you pick the best.

Auctioneers—Col. Mack, Beaumont, Kellner.

Frank Everson in the Box

CHAS. HAMPKE, Sales Manager

Catalogs now ready

A 31-Lb. Daughter of "Piebe"

Consigned to the

Wisconsin State Sale, at Milwaukee, May 17



BEAUTY BEETS SEGIS 2D

She made 31 lbs. butter in 7 days and has just finished a 305-day record of 21,263.3 lbs. milk, 867.5 lbs. butter as a junior 4-year-old.

Her sire is Piebe Laura Ollie Homestead King, a show bull and a sire of show ring winners. He has more daughters that have produced 20,000 lbs. milk in a year as 2-year-olds than any other sire.

Her dam, Beauty Beets Segis, is one of the good daughters of King Segis Pontiac Count. She made 29 lbs. butter in 7 days and 895.5 lbs. from 21,442 lbs. milk in a year as a 3-year-old. She has since made 941 lbs. butter from 23,125 lbs. milk in a year.

Beauty Beets Segis 2d is a show heifer as well as a producer. You can't go wrong on her.

Look for Her at Milwaukee

Pinehurst Farms Co., Sheboygan Falls, Wis.

K. L. JUVE. Manager

Sir Pietertje Ormsby Mercedes 41st

is proving to be one of the very best sons of S. P. O. M. His sons and daughters have wonderfully good type. His daughters are making remarkably good 7-day and long time records.

We Have a Few Sons For Sale

from dams with mighty good records. A few are just about ready for service. One of them will suit you.

Write us for complete information.

Gustave Pabst's Hollyhock Farms

Fred J. Southcott, Manager **Dousman, Wisconsin**

HOLSTEIN COWS

We offer for sale a number of cows, heifers, bulls and calves of all ages. Some sired by King Korndyke Veeman whose two nearest dams average over

WISCONSIN STAR STOCK FARM,

HEIFERS and BULLS

37 lbs. butter in 7 days and bred to King Sadie Vale Walker who is a son of the youngest 29-lb. cow in the world. Come and see them or write to

ED. M. SCHULTZ, **Hartford, Wis.**

Send For Our Bull Sales List

Three bulls of serviceable age—four others will be old enough for service in a month or two—others three months old and older. Almost all of them sired by SIR ORMSBY BEAUTY PONTIAC SEGIS, the son of a 37-lb., 1112-lb. three-year-old daughter of KING SEGIS PONTIAC COUNT.

If it will be of an accommodation to the purchaser, we will accept a six months' note in payment, WITHOUT INTEREST, or will accept payment on installment plan basis.

Pinehurst Farms Co., Sheboygan Falls, Wis.

Bull Calves

by

SIR BESS ORMSBY FOBSE

out of

Cows with 7-day records now on semi-official; two-year-olds milking as high as 70 lbs. and mature up to 92 lbs.

LINDEN LAWN STOCK FARM

B. W. RABENHORST, **Jefferson, Wis.**

Beautiful Daughter and a World's Record Son

of

Sir Korndyke Bess

At Milwaukee, Wis., May 17

R. E. BENSON, **Dousman, Wisconsin**

$100 to $200 Buys A Bull From A Good Record Dam

Am offering several for those prices sired by a 26-lb. bull and from A. R. O. dams with records up to 25.46 lbs.

Write at once. They'll go fast.

H. W. Crawford, R. 5, Campbellsport, Wis.

A Few Good Granddaughters

OF

King Segis Pontiac

and from A. R. O. Dams.

Guaranteed right. You Get Your Papers When You Buy.

Rock Valley Stock Farm
Fort Atkinson, Wisconsin



Yearly Records

Choice Young Bulls

from one to fourteen months old for sale. Sired by Cloverlawn Johanna Piebe whose five nearest dams average 1,070 lbs. of butter, 23,809 lbs. of milk a year. Herd numbers 140 head, forty cows with yearly records. State exactly what you want.

JOHN PULS, - HARTFORD, WISCONSIN

1000---HERD---1000 Quality Holsteins

GRADES AND PURE-BREDS

Just now we have a splendid lot of grade heifers. Write for our pure-bred bull list.

Jefferson County Holstein-Friesian Breeders' Association.
A. F. Gafke, Secretary, Jefferson, Wis.

Wayside Lawn Farms

offer

Young Bulls Ready for Service

sired by 31-lb. bull, Hengerveld Banostine Gudultje, whose two nearest dams average 30.65 lbs. butter in 7 days and 848 lbs. butter in one year. The bulls are from tested and untested dams. They are well grown and right in every way. Price $100.00 to $200.00. Herd Federally Accredited.

WALTER SORGE, **Reedsburg, Wis.**

ORMSBY BULL - Born Feb. 28, 1919
Sire, King Ormsby Pontiac De Nijlander, whose two nearest dams average over 30 lbs.
Dam, Aaltje Hengerveld Tritomia Segis. A. R. O. 17 lbs. at 3 yrs., next dam 29.68 in 7 days. Color light, fine individual. Ready for service. Price $300.
Fairview Stock Farm Whitewater, Wis., W. G. Marshall, Prop.

Good Holstein Calves

Bargains for the next 60 days. Grade heifers. Pure-breds either sex. Order your Duroc-Jersey pigs to be shipped at three months old. Pairs or trios not akin.

J. C. BOLGER, **Waterloo, Wis.**

I-N-V-E-S-T-I-G-A-T-E—Pure-bred Holstein bulls sired by Wisconsin 3-year-old at National Dairy Show 1920. Herd tuberculin tested. Pure-bred Duroc pigs sired by Great Wonder Sensation.

RIDGEHURST STOCK FARM,
Glen O. Ramsey **Ft. Atkinson, Wis.**



The Count-Piebe Combination



KING SEGIS PONTIAC COUNT
"The Marvel of All Sires"
Whose daughters have broken more World's Records than the daughters of any other sire.

PIEBE LAURA OLLIE HOMESTEAD KING
"The Present Day Sensation"
The only bull in the world with five 20,000-lb. two-year-old daughters.

Will Triple Your Milk Check Because It Will Put Production Into Your Herd

And more than triple the price you are getting for your calves. Because it combines individuality with production, it has given us thirty cows at Arden Farms that have **each produced $1,000 worth of milk per year. Do you want that kind?**

We Offer
Sons of "Count" from Daughters of "Piebe"
Sons of "Piebe" from Daughters of "Count"

We have the finest line of young bulls we have ever raised at ARDEN FARMS, priced in accordance with present financial conditions. LIBERAL TERMS GIVEN IF DESIRED.

J. M. Hackney, 602 Merchants Bank Building, St. Paul, Minnesota

2 Daughters of S. P. O. M. 38th

both over 20 lbs. as 3-year-olds and from high record daughters of Colantha Johanna Champion.

A Daughter of S. P. O. M. 41st

with 17.23 lbs. as a 2-year-old and bred to Sir Ormsby Akkrummer Hengerveld, 39-lb. bull.

To Be Sold at The State Sale May 4

Look For Them. They Will Please You.

Woodlake and Clover Farms,

JOHN B. IRWIN, Sta. F. -:- Minneapolis, Minn.

Registered Cows and Heifers

We have on hand more females than we usually carry so are able to offer some good ones for sale. A number have A. R. O. records and most of them are from tested dams. Bred to a yearly record sire and themselves backed by yearly producers.

Address correspondence to Axel Hansen, formerly with John B. Irwin.

MINERAL SPRINGS STOCK FARM, - - SAVAGE, MINNESOTA

Stuart—McIntyre—Hansen, Owners.

Address correspondence to Axel Hansen, formerly with John B. Irwin.



LORD BOBS KORNDYKE PONTIAC

Echoland Farms
Offer For Sale
Lord Bobs Korndyke Pontiac

He is a show bull and a good sire.

His Sire—Roberts Abbekerk Pontiac is an excellent individual and a bull that has won first at many of the leading shows, and by a good son of King of the Pontiacs. His dam is a 29.37-lb. cow from the 33.79-lb. sire, Sir Gerben Pauline. This bull will make a real herd header for some small breeder and we know he will please as an individual. For price and description write

EGIL BOECKMANN, White Bear, Minn



Lola Segis Pontiac Homestead

the highest record bull in southern Minnesota, heads our herd. His sire, Piebe Laura Ollie Homestead King, has more daughters that as 2-yr.-olds have produced 20,000 lbs. milk in a year than any other. His dam, a 34-lb. 4-year-old daughter of King Segis Pontiac Count, has 3 records averaging 33 lbs. and has made over 1,000 lbs. in 1 year. We have a few serviceable bulls and younger from A. R. O. dams for sale.

Clover Lea Farm, W. W. Walker, Owner. Austin, Minnesota



Sir Walker Segis Homestead

The best show bull and son of the great bull, PIEBE LAURA OLLIE HOMESTEAD, out of a "COUNT" daughter, BEAUTY BEETS WALKER SEGIS, world's greatest heifer, with two yearly records over 25,000 lbs. milk and 1,000 lbs. butter in heifer form, and a seven-day record of 35.03 lbs. butter from 730 lbs. milk.

We offer several choice bulls, one month to a year old, out of high yearly record and A. R. O. cows, at very reasonable present day prices. Pedigrees and photos will be sent.

A. J. LASHBROOK, - - Northfield, Minnesota



Lakeside Farm Herd

The records of his dam, dam of sire, and dam of grandsire, average 31.33 butter 7 days, milk 548.84. This bull was 2nd prize winner in New York State Fair in class of thirty. His dam was also prize winner in same show. Send for pedigree. Herd under State and Federal supervision.

E. A. POWELL, Syracuse, N. Y.

"A Nigger in the Woodpile"

Look out for him, and if you are in the market for better dairy cattle take no chances but order your grade Holstein Cows, pure-bred cows, heifers and bulls from River Meadow Farms. A thirty-year-old reputation for reliability. Just now very favorable prices on high-grade Holstein cows in carload lots, and on pure-bred heifer calves and bulls. Write River Meadow Farms, Portlandville, N. Y.

"Otsego County leads in Tuberculosis Eradication"

Five Heifer Calves

All show animals by a 31-lb. sire out of A. R. O. cows of good individuality. Will sell one or the bunch at bargain prices as we are overstocked. Also bulls for sale.

C. G. BURLINGAME
Cazenovia, N. Y.

A LINE-BRED "41st" BULL CALF FOR SALE



SIR PIETERTJE ORMSBY BESS BURKE
Born Dec. 20, 1920

A real showy calf, straight as a line and of ORMSBY type

His dam and sire's dam are both daughters of SIR PIETERTJE ORMSBY MERCEDES 41ST, the only son of Spring Brook Bess Burke. His dam is on yearly test as a junior two-year-old and bids fair to go 800 lbs. The sire's dam made 28.93 as a 3-year-old and 26.82 as a 2-year-old.

THIS CALF WILL GROW INTO MONEY —SEND FOR PHOTOS, PEDIGREE AND FULL PARTICULARS.

E. C. Schroeder Farms

(Under Federal Supervision)

MOORHEAD, Minnesota

Holstein Bulls
At Farmers' Prices

We are not in the game to get rich but to help promote the breed by offering pure-bred bulls at the lowest prices, enough to cover raising. Write for prices and descriptive list. The Ormsby kind.

RAMSEY COUNTY HOME,

J. E. McMahon, Supt., North St. Paul, Minn.

"DUKE"

The only place you can buy sons of serviceable age sired by DUKE PIETERTJE KORNDYKE ORMSBY

The bull selling at the last Minnesota state sale for $33,000.00 is from the herd where he stood for three years prior to the sale. "Duke's" dam now has three records above 1,000 pounds, the last one was 1,190 pounds.

Now is the opportune time to buy one of these bulls as their sisters will be given every opportunity. Get a son now and be in line. Clean bulls from a clean herd. Prices reasonable. Write

EDW. H. ULRICH, Biscay, Minn.

Get A Calf

We have a grand bunch of youngsters on hand. Come and pick out a calf while you have a big choice. Grow him to suit you. Saves you money and we are selling them as cheaply as we can. Show calves that are backed by generations of official testing and careful breeding. Sons of DUTCHLAND CREAMELLE COLANTHA LAD No. 165049. His yearly daughters all average over 834 lbs. of butter at 26 months of age.

GRAHAMHOLM FARMS,
H. R. Searles, Mgr., Rochester, Minn.

M. & P.
Healthy Holsteins

A year ago we sold a bull calf to a Virginia breeder. The dam of that calf has just finished a year's record of 17,600 lbs. of milk, 800 lbs. of butter. Was he pleased? His letter states "The bull is growing nicely, and I am glad his dam made so good a year's record."

We supply this kind at moderate prices. Write

Markham & Puffer

Avon - New York

Choice at $100—Bulls Valued Up to $250.

Ready for service. T. B. tested by all three tests. Every one goes, to clean them out at once. A. R. O. dams and grandams. Sire's 15 nearest dams average over 30 lbs. Don't delay. Write now. Herd Federally tested.

HENRY J. KARPINSKI, Route 7, Oswego, N. Y.

THE MARK OF QUALITY



Count AND Ormsby Blood

To those breeders who are using sons of Count or breeding Ormsby blood this young bull should be especially attractive.

Sire:

Sir Ormsby Hengerveld Korndyke, son of Pietertje Maid Ormsby, 35.56 butter. His sire, Sir Korndyke Hengerveld De Kol, sire of 45 A. R. O. daughters, including Miss Korndyke Akkrummer Ormsby, 39.53 butter.

Dam:

Eureka Melissa Segis 21.93 lbs. butter, 7 days, and is finishing up the year well over 750 pounds. Eureka was sired by a full brother to King Segis Pontiac Count, "the marvel of all sires," her dam Eureka Melissa 25.08 lbs. butter by Paul Beets Walker, sire of 44 A. R. O. daughters.

Send for Pedigree

Write and get this bull's pedigree and study the blood lines carefully. Better still come to the farm at Blooming Prairie and see him.

Act Now.

OAK DALE FARMS

INCORPORATED

BREEDERS of HOLSTEIN FRIESIANS

Austin Minnesota

A BULL BARGAIN

Bull calf born July 19, 1920.
Sire's nine dams average over 1,000 lbs. butter in year.
Dam has over 500 lbs. butter in 263 days.
This calf is an excellent individual.
Straight top line. Price $500.

MANKATO HOLSTEIN FARMS
Marlow & Randall, Mankato, Minnesota.

BUY A BULL

That is going to increase in value. A bull that is going to be worth more money when you want to sell him than you paid for him. We have them. Do you need one? Send for the bull circular.

Flecks Farm, Faribault, Minn.

COME TO BISCAY

for your next purchase of pure-bred or grade Holstein cattle, mature or young stock. Large selection, also a few select male calves to offer. Located near station.

BISCAY SALES CO., BISCAY, MINN.

A Show Bull — Ready For Service



IOWANA ZUR PIETERTJE
Born Feb. 4, 1920.

At A Very Low Price

His dam is a 24-lb. cow that made 760 lbs. butter in 10 months (carrying calf 168 days). Per cent fat 3.66. She is a daughter of *Sir Johanna Fayne,* who now has 12-20,000-pound daughters. 24 average over 20,000.

Send for pedigree and price.

IOWANA FARMS, (Herd Under Federal Supervision) **Davenport, Iowa**

LIGHT COLORED 800-lb. BULL

Dam—a 4-year-old daughter of Sir Sadie Cornucopia, finishing a yearly record of over 800 lbs. She made 731 lbs. at 3 years. Sire—Woodcrest Sir Clyde, son of Alma Clyde (33 lbs. and 970 lbs.), and sire of 16 20-lb. 2-year-old daughters and two over 30 lbs. Bull was born May, 1920, is ¾ white and Federally tested. Reasonable terms.

W. B. BARNEY & SONS **Chapin, Iowa**

Bull of Ormsby Breeding

We offer Chief Segis Lyons Ormsby No. 280751 Born March 8, 1919, a grandson of Sir Pietertje Ormsby Mercedes 41st. His sire a 33-lb. bull; his dam a granddaughter of Sir Pietertje Ormsby Mercedes, who had more 1,000-lb. daughters than any other sire in the world. Also some splendid bull calves ready for service, from A. R. O. dams. Herd tuberculin tested. Write for prices.

Schermerhorn Farms, **Mason City, Iowa.**

A Son of LIEUTENANT RAG APPLE

from a 7/8ths sister to a 948-lb. junior two-year-old daughter of a 1,281-lb. cow. $100.00. Let us tell you about him. Serviceable.

BLUEBELL FARM, **Riceville, Iowa**

Serviceable Sons of Dutchland Aaggie Tidy Prince

I have three of these youngsters for sale, all ready for service and from A. R. O. granddaughters of S. P. O. M. Their sire is from a sister to Tidy Abbekerk Prince and already has a good list of tested daughters, including one above 36 lbs.

Write today for complete information.

E. J. BROSIOUS, - - **Stillwater, Minn.**

U. S. Soldiers' Home DAIRY

Washington, D. C.

offers for sale, at reasonable prices, from the first accredited herd in the United States, pure-bred Holstein-Friesian bulls from yearly tested dams. Herd free from tuberculosis for more than eight years. Latest combination test completed February 18, 1921, by U. S. Department of Agriculture.

Grandsons of Sir Pietertje Ormsby Mercedes

The sire is Sir Pietertje Ormsby Mercedes 22d a son of Minnesota's first 1000-lb. cow. These bulls are all nicely marked, straight top lines. Very good individuals from good A. R. O. dams. For pedigrees and prices, write

O. J. GROVER, - **GLYNDON, MINN.**

BULL CALF

Sire's dam, butter, 1 yr., 848 lbs.; her daughter, 1,055 lbs. Grandsire's dam, 987 lbs. at 11 yrs.; her full sister, 1,344 lbs.; another, same dam, 1,322 lbs. Dam, Miss Pietertje Alexina 3d, sister to Miss Pietertje Alexina 2d, 1,290.91 lbs. A dandy calf, priced right. Write quick to

McKAY BROS., - - **CADDOA, COL.**

Grandsons of Duchess Skylark Ormsby and of S. P. O. M. 38th.

for sale. These youngsters are from A. R. O. dams that are now making good yearly records. Write today for further information.

POPLAR HOLLOW STOCK FARM,
Bertram D. Scott, Prop., **Richfield Station**
Minneapolis, Minn.

Edinboro Lake Farm

Show Type HOLSTEINS Production

Six state yearly record champions 1918-19.

We offer bull calves by Sir Paul Veeman Hengerveld and Sir Ormsby Skylark Fredericka, out of yearly record dams with type.

Edinboro, Pa.

Bull Calf

advertised last week is sold. Here is another good one ready for light service. Sired by a 30-lb. bull. Dam a 14-lb. 2-year-old who will be tested again next spring. Priced so reasonable that you can't afford to be without him. $150.00 for immediate sale.

V. R. Holmes, **Anoka, Minn.**

REGISTERED BULLS

FROM TESTED DAMS

Sired by a 30-lb. son of Colantha Johanna Lad and a 26½-lb. son of Laura Piebe Ollie Homestead King. Well marked, straight individuals from two months to 2 years old. Priced to suit present conditions.

GEO. H. ELWELL,
Minneapolis, **Minnesota.**

SONS

of Sir Echo Sylvia Johanna —

7/8 Brother to the $106,000 Bull

From high bred fine individual A. R. O. cows up to 30 lbs. Several on test now. All good, straight individuals, backed by lots of milk and butter. Some are ready for service. Priced very low. Write for catalog.

(Herd Under Federal Supervision)

CHESTNUT HILL FARMS,
G. A. Burdick, Mgr., **Gibsonia, Pa.**

RICHLY BRED

HOLSTEIN BULL CALVES

out of A. R. dams and sired by our two richly bred herd sires — **King Piebe Ormsby Mercedes,** a 35-lb. son of Sir Korndyke Bess and every dam in pedigree over 22 lbs. and **King Pietertje Mercedes Ormsby,** a son of Sir Pietertje Ormsby Mercedes and out of a 19-lb. senior two-year-old dam.

Herd tuberculin tested. Write for information or visit herd.

P. FROST SPAULDING FARM CO.
C. L. Spaulding, Mgr., **Warren, Minn.**

ORIGIN FARM

HORNLESS HOLSTEINS, Registered and A. R. O. Animals, all ages, for sale. Federally Tested.

GEO. E. STEVENSON, Scranton, Penna.

HOLSTEIN FEMALES

Females of all ages for sale, priced very reasonable Mostly all bred to our 34-lb. sire, he a grandson of Count, from a sister of Piebe. One or a carload. Under State and Federal supervision.

BLACK & WHITE STOCK FARM, R. 3, **Melrose, Minnesota**

Fairhurst Herd

On the Accredited List

We offer young bulls, fine individuals and well grown. Sired by 33-lb. bull and from dams with records up to 30 lbs. Write for pedigree and price.

KITTLE BROS., **Holland, Ohio.**

Yearling Bull — Ready For Service

Here is a show bull whose sire is by a son of KING KORNDYKE HENGERVELD ORMSBY and out of a 37-lb. cow. His dam is backed by many yearly records. He is priced at half his value—$125.

G. G. Burlingame, **Cazenovia, N. Y.**

MISSOURI HEALTHY HOLSTEINS

"We'll Pay Your Car Fare Both Ways"

Second Annual Sale of

"Missouri Healthy Holsteins"

State Fair Grounds

Sedalia, Mo., May 24th, 1921

SHOW MAY 23. BANQUET AT NIGHT.

Every animal passed on by the committee. None over 8 years old. All guaranteed sound. 90-day retest.

36 Cows, 26 Heifers, 9 Heifer Calves, 11 Bulls

Yearly, Seven-day and Cow Testing Association Records.

Auctioneers—Mack & Ball **Wood in the Box.**

Sale Committee—Fisk, Davis and Long.

For Particulars Write

Mo. Holstein-Friesian Ass'n, SEDALIA, MISSOURI

Complete Dispersion of M. D. Buth's Herd

May 26, at Comstock Park, Mich.

65 Registered Holsteins Including 20 from Maryland Farm owned by Dudley E. Waters.

4 cows with records from 30 lbs. to 38.9 lbs. and 7 of their sons and daughters.

5 with records of 25 lbs. to 30 lbs. and their daughters.

40 females in calf to Glen Cilex King De Kol, (40-lb. bull).

16 daughters of Colantha Sir Korndyke Clothilde, with records up to 22 lbs. as 2-year-olds and 29 lbs. as 4-year-olds.

60—90-day retest.

Autos will meet street cars from Grand Rapids at Comstock Park.

M. D. BUTH, **Comstock Park, Michigan**

Central Mich. Sale May 23. Jno. M. Tobin's Dispersion May 24. Mich. State Sale May 27.

MR. CATTLE BUYER

We can supply you with good, healthy registered Holstein cows and heifers, singly or in car lots. We always have some very desirable young bulls for sale. It will pay you to look into our high class listings.

LENAWEE CO. HOLSTEIN BREEDERS' ASS'N, ADRIAN, MICH.
L. W. Harwood, Sales Mgr. **R. C. Curtis, Sec.**

The Pontiac Herd

"Where the Champions come from"

Offer Bull Calves sired by sons of *Pontiac Korndyke, Hengerveld De Kol, Pontiac Dutchland, or Admiral Walker Pietertje.*

Do you want a Pontiac in your herd?

PONTIAC STATE HOSPITAL, **Pontiac, Mich.**

THE TRAVERSE HERD

We have what you want in

BULL CALVES

the large, fine growthy type, guaranteed right in every way. They are from high producing A. R. O. ancestors. Dams' records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.

Traverse City State Hospital, - **Traverse City, Michigan**

A Grand Yearling Bull

Sired by a son of KING KORNDYKE SADIE VALE from a 32.74-lb. 3-year-old dam. His dam, a 22-lb. 4-year-old, is now on year's test. The second month on test she made 2,450.0 lbs. milk and 100 lbs. butter. Her sire a double grandson of KING SEGIS. She is closely related to the world's wonder cow, BEECHER WYTHE 2D.

A Federal Accredited Herd

Price $250.00

M. J. SEBERGER, **Schererville, Indiana**

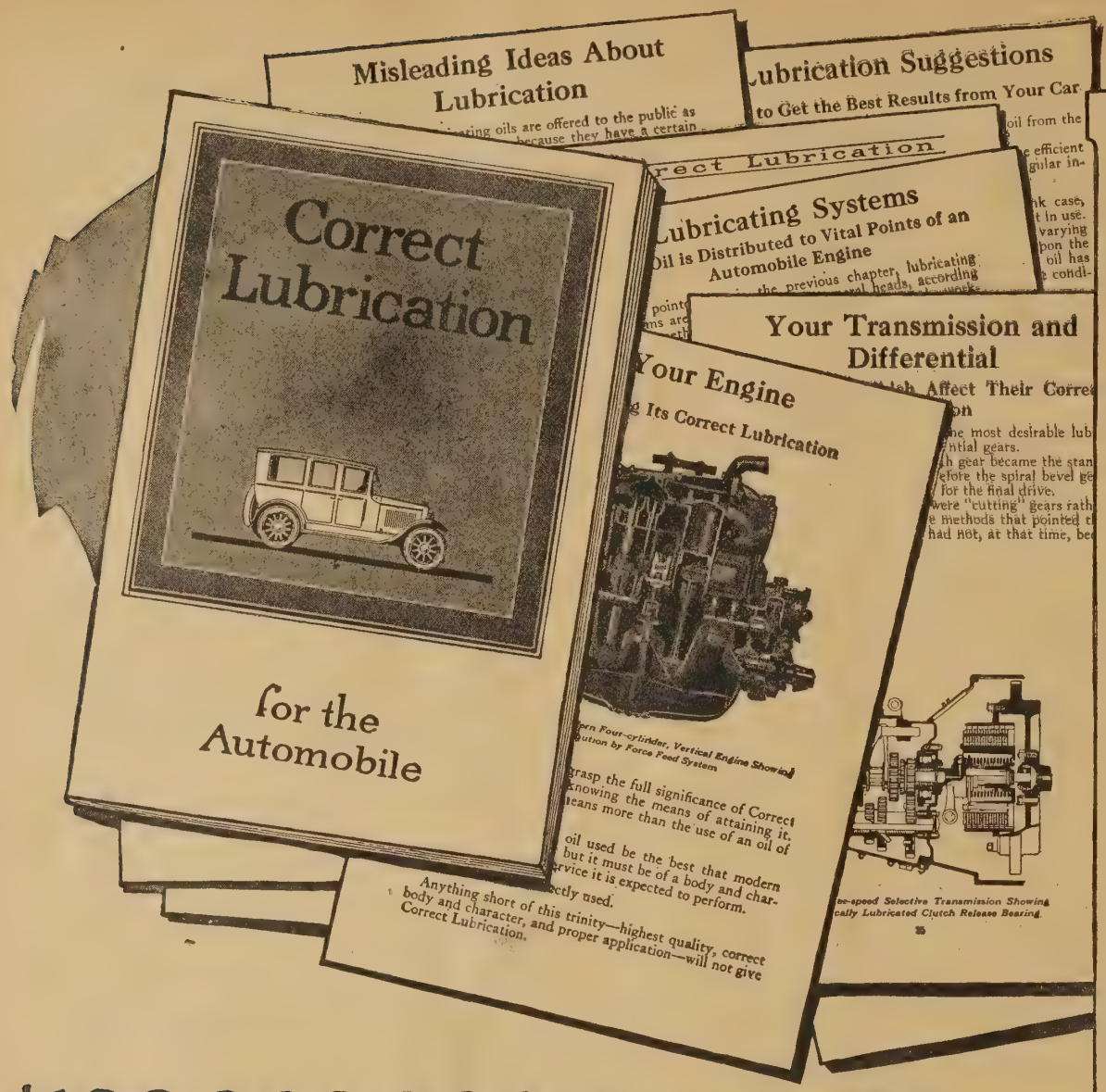
Holstein Bull Bargain

Royal Breeding—Splendid Individual

Carries 43¾% blood of Pontiac Korndyke, the greatest of all sires, 25% of blood of King Segis Pontiac and 12½% blood of King Segis. None better. 4 others ready for service. First $250.00 check gets him.

Wm. N. Osborn, **Wanatah, Ind.**

YOU CAN'T DO BETTER FOR THE MONEY. Bull calf born Aug. 17, 1921. Mostly white, a show bull and well grown. His 3 nearest dams average 28.47 lbs. Sire is a 32.7-lb. grandson of King of the Pontiacs. Send for pedigree and photo. Have only 2 other bull calves besides this one. C. I. REAMER, Prop., Utopia Dairy Farms, North Liberty, Ind.



$100,000,000 Repair Waste

Let this Booklet cut down your engine and chassis troubles and repairs

EVERY automobilist who wants to cut down repair bills should have this Booklet. It strikes its keynote in the opening sentence, "*One half of every dollar spent for automobile repairs is wasted!*"

Every year American motorists spend at least one hundred million dollars unnecessarily for engine repairs.

Our Booklet, "Correct Lubrication," diagnoses the cause of much of this immense national waste. It deals simply and scientifically with first causes.

It discusses causes of repairs, engine factors, lubrication factors, carbon formation. It describes oil tests—where they are important—where they mean nothing, or worse than nothing. It deals with transmission and differential lubrication, explaining why lubrication practice of a few years back is today obsolete—why old practice points to repair bills.

The temptation to use heavier oil in worn engines is dealt with. The Booklet points out the penalties which come from this dangerous practice.

* * *

You may think that you have no avoidable repairs. *So do millions of other motorists! And they are the very men who contribute to the hundred million dollar repair fund which represents sheer waste.*

Motorists need information on this vital subject. This information is provided for you in our Booklet, "Correct Lubrication." The 1921 edition is now ready. It contains the facts. They are simply presented—easy to get at, easy to read, easy to understand and *easy to apply immediately to your financial advantage.*

The Booklet is free. Send for your copy today. In writing, please address our nearest Branch.

GARGOYLE

Mobiloils

A grade for each type of motor

DOMESTIC BRANCHES: New York *(Main Office)* Philadelphia Detroit Minneapolis
Kansas City, Kan. Boston Pittsburgh Chicago Indianapolis Des Moines

Chart of Recommendations *for* AUTOMOBILES

(Abbreviated Edition)

GARGOYLE

Mobiloils

A grade for each type of motor

How to Read the Chart

THE Correct Grades of Gargoyle Mobiloils for engine lubrication are specified in the Chart below.

A means Gargoyle Mobiloil "A"
B means Gargoyle Mobiloil "B"
E means Gargoyle Mobiloil "E"
Arc means Gargoyle Mobiloil Arctic

These recommendations cover all models of both passenger and commercial vehicles unless otherwise specified.

Where different grades of Gargoyle Mobiloils are recommended for summer and winter use, the winter recommendation should be followed during the entire period when freezing temperatures may be experienced.

This Chart is compiled by the Vacuum Oil Company's Board of Automotive Engineers, and constitutes a scientific guide to Correct Automobile Lubrication.

If your car is not listed in this partial chart, consult the Chart of Recommendations at your dealer's, or send for booklet, "Correct Lubrication," which lists the Correct Grades for *all* cars.

NAMES OF AUTOMOBILES AND MOTOR TRUCKS	1920		1919		1918		1917		1916	
	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
Acason (2 ton)			A	A	A	Arc.	A	Arc	A	Arc.
" All Other Models	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Allen	A	Arc	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Apperson (8 cylinder)	A	A	A	A	A	A	A	A	A	A
" All Other Models					A	A	Arc.	Arc.	Arc.	Arc.
Atterbury (Model 8-E)	A	A	A	A						
" All Other Models	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Autocar (2 cylinder)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc.
Beck	Arc	Arc	Arc	Arc.	Arc.	Arc	Arc	Arc.	Arc	Arc
Briscoe (4 cylinder)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (8 cylinder)									A	A
Buick	Arc.	Arc	Arc	Arc	Arc.	Arc	Arc.	Arc	Arc.	Arc.
Cadillac	A	A	A	A	A	A	A	A	A	A
Chalmers (6-48)									Arc	Arc
" (6-40)									A	Arc
" All Other Models	A	A	A	A	A	A	A	A	A	A
Chandler Six	Arc.	Arc	Arc.	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chevrolet (8 cylinder)				A	A	A	A			
" (F. A.)				A	Arc	A	Arc			
" (F. B. and 1 ton)	A	Arc								
" All Other Models	Arc.	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Cleveland	A	Arc								
Columbia (Detroit)	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc		
Cunningham	A	A	A	A	A	A	A	A	A	A
D-E (3¼ and 2½ ton)	A	Arc.	A	Arc	A	Arc.	A	Arc		
" (5 ton)	A	A	A	A	A	A				
" All Other Models	Arc.	Arc	Arc	Arc	Arc	Arc	Arc	Arc		
Dodge Brothers	A	Arc.	A	Arc	A	Arc.	A	Arc.	A	Arc.
Essex	A	Arc.	A	Arc						
Federal (Model S-X)					A	A	A			
" (Special)					Arc.	Arc				
" All Other Models	Arc.	Arc.	Arc.	Arc.	A	A	Arc.	Arc.	Arc.	Arc.
Ford	E	E	E	E	E	E	E	E	E	E
Franklin	A	A	A	A	A	A	A	A	A	A
Gramm-Bernstein (5 ton)	A	A	A	A	A	A	Arc.	A		
" All Other Models	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.	Arc.
Grant (6 cylinder)	A	Arc	A	Arc	A	Arc	A	Arc.	A	Arc.
" (Com'l) (Model 12)			A	Arc.						
" (") All Other Models	Arc	Arc	Arc.	Arc						
Haynes (6 cylinder)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc.
" (12 cylinder)	A	A	A	A	A	A	A	A	A	A
Holmes	B	A								
Hudson Super Six	A	Arc.	A	Arc.	A	Arc	A	Arc.	A	A
" All Other Models									Arc.	Arc.
Hupmobile	A	Arc	A	Arc	A	Arc	A	Arc.	A	Arc.
Jordan	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc		
Kelly Springfield	A	A	A	A	A	A	A	A	A	A
King (8 cylinder)	A	A	A	A	A	A	A	A	A	A
Kissel Kar (Model 48)									A	A
" " (12 cylinder)					A	A	A			
" " All Other Models	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Koehler (Model M)	A	A	A	A						
" All Other Models	A	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Liberty	A	A	Arc.	Arc.	Arc.	Arc.	Arc.	Arc		
Locomobile	A	E	A	E	A	E	E	E	E	E
Madison (6 cylinder)			A	Arc.	A	Arc.	A	Arc	A	Arc.
" (8 cylinder)							A	A	A	A
Marmon	A	A	A	A	A	A	A	A	A	A
Maxwell	Arc	Arc	Arc.	Arc	Arc.	Arc	Arc	Arc	Arc.	Arc.
Mercer	A	A	A	A	A	A	A	A	A	A
M. H. M.	Arc.	Arc.	Arc	Arc.	Arc	Arc	Arc	Arc		
Mitchell (6 cylinder)	A	Arc	A	Arc	A	Arc	A	Arc.	A	Arc.
" (8 cylinder)									A	A
Moline-Knight			B	A	B	A	A	A	A	A
Nash (Quad)	A	A	A	A	A	A				
" (Model 671)					A	A				
" All Other Models	A	Arc.	A	Arc	A	Arc.				
National (6 cylinder)	A	A	Arc.	Arc	Arc.	Arc	Arc.	Arc	A	Arc.
" (12 cylinder)			A	A	A	A	A	A	A	A
Nelson	A	A	A	A	A	A	A	A		
Oakland (8 cylinder)									A	A
" All Other Models	A	A	A	A	A	A	Arc.	Arc.	Arc.	Arc.
Oldsmobile (4 cylinder)	A	Arc.	A	Arc.					Arc.	Arc.
" (6 cylinder)	A	A	A	A	A	A	Arc.	Arc		
" (8 cylinder)	A	A	A	A	A	A	A	A	A	A
Overland	A	Arc.	Arc.	Arc	Arc.	Arc	Arc	Arc	Arc	Arc.
Packard	A	A	A	A	A	A	A	A	A	A
Paige (6 cylinder)	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
" (Cont. Eng.)	Arc	Arc.	Arc.	Arc.	Arc.	Arc	Arc.	Arc	Arc	Arc.
" All Other Models	A	A								
Paterson	Arc.	Arc	Arc.	Arc	Arc.	Arc	Arc.	Arc	Arc.	Arc.
Peerless (8 cylinder)	A	A	A	A	A	A	A	A	A	A
" All Other Models					Arc	Arc	Arc	Arc	Arc	Arc
Pierce Arrow	A	A	A	A	A	A	A	A	A	A
" " (Com'l) (5 ton)	A	A	A	A	Arc	Arc	Arc	Arc	Arc	Arc
" " (") All Other Models	Arc	Arc	Arc	Arc	Arc.	Arc	Arc	Arc	Arc	Arc
Premier	A	A	A	A	A	A	A	A	A	Arc
R. & V. Knight	B	A								
Reo	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
ReVere	A	A	A	A	A	A	A	A		
Riker	A	E	A	E	A	E	E	E		
Rock Falls	A	Arc	A	Arc						
Saxon			E	E	E	E	E	E	E	E
Sayers Six	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc		
Sayers & Scoville (S & S)	Arc.	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Scripps-Booth (4 cylinder)					Arc	Arc	A	Arc	A	Arc
" (6 & 8 cylinder)	A	A	A	A	A	A	A	A	A	A
Selden (3½ ton)						A	Arc			
" (5 ton)	A	A	Arc.	Arc.	Arc.	Arc				
" All Other Models	Arc.	Arc.	Arc.	Arc	Arc.	Arc	Arc.	Arc	Arc	Arc.
Service (120-130-140-170-220)	A	Arc.	A	Arc.	A	A	A	A	A	Arc.
" All Other Models	A	A	A	A	A	A	A	A	A	A
Stearns-Knight	B	A	B	A	B	A	A	A	B	A
Studebaker	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Stutz	A	A	A	A	A	A	A	A	A	A
Templar	A	A	A	A	A	A				
Velie (Model 34)	A	Arc								
" (6 cylinder)	Arc.	Arc.	Arc.	Arc.	Arc	Arc	Arc.	Arc.	Arc.	Arc.
" (Com'l) (3½ ton)			A	Arc.	A	Arc				
" (") All Other Models	Arc	Arc	Arc	Arc	Arc	Arc				
Westcott	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
White (16 valve)			A	A	A	A	A	A		
" (3 ton)			A	A	Arc	Arc				
" All Other Models			Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Willys-Knight	B	A	B	A	B	A	B	A	B	A
Willys Six	A	Arc.	Arc.	Arc.	Arc.	Arc	Arc.	Arc		
Winton	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc

VACUUM OIL COMPANY

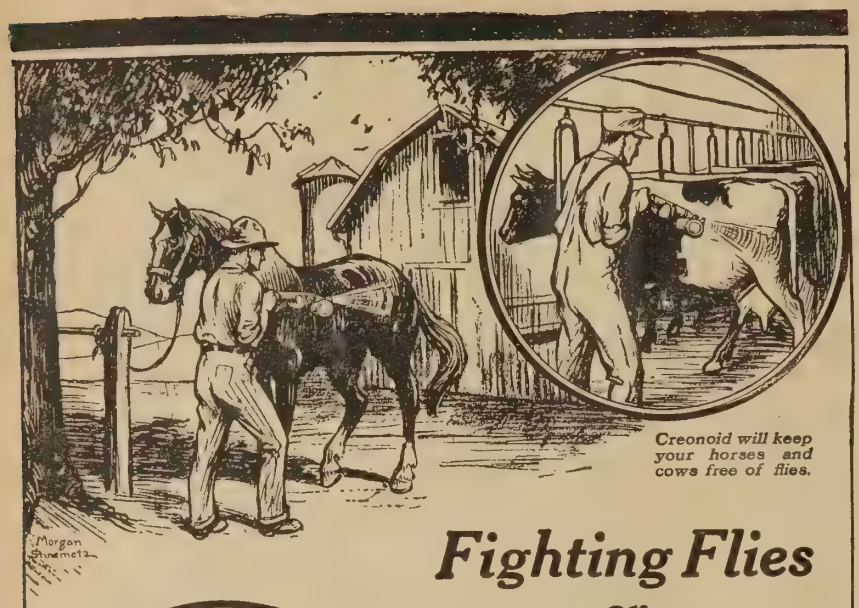
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HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING



Fort Atkinson, Wisconsin Volume LXI, No. 18 May 20, 1921



Creonoid will keep your horses and cows free of flies.

Morgan Shumetz

Fighting Flies or Pulling Plows



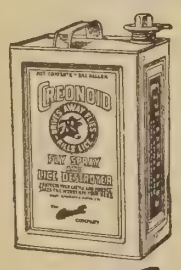


HORSES can do only a certain amount of work. The more energy they use fighting flies, the less they have for pulling plows and other farm work. So, if you want good hard work out of your horses, you must fight the flies for them.

That isn't merely horse-sense—it's a proved scientific fact.

Creonoid, sprayed lightly on the legs and bodies of the animals, will keep the flies away. No special apparatus is required. Any sprayer that throws a fine spray will do the work.

Creonoid is safe, lasting and does not gum the hair.



Painting rubbing post and spraying chicken roosts with Creonoid keeps away lice and mites.

CREONOID
FLY SPRAY AND LICE DESTROYER

Cow Spray: Creonoid is also unequalled as a fly spray for cows. When cows are free from the torment of flies they are contented and comfortable, digest their food properly, give more milk, and the lactation period is lengthened.

For Chicken Mites: Droopy, unhealthy, poor-laying hens are almost a sure sign that the chicken house is infested with mites. Creonoid will rid you of this pest. Your hens will quickly improve in appearance and will lay more eggs.

For Hog Lice: Lice suck the blood of hogs and keep them from fattening. Creonoid is a sure remedy. It means more pounds per hog and more profits.

You don't experiment when you use Creonoid. It is a well known product that has been on the market for many years.

Comes ready for use in 1 and 5 gallon cans and in 50 gallon barrels. Easy to apply, inexpensive, effective. If your dealer can't supply you, write to us. Ask for free booklet, describing methods of applying Creonoid.

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New York Chicago Philadelphia Boston St. Louis Cleveland Cincinnati
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From Fords to Holsteins

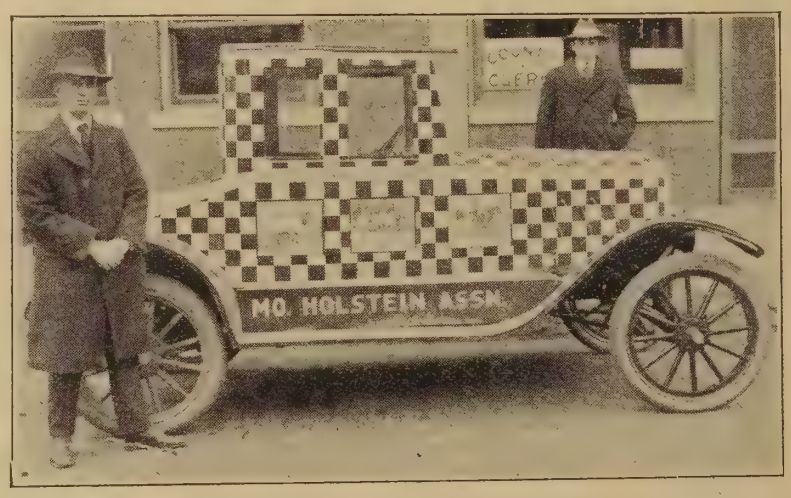
C. M. LONG, MISSOURI

THE Missouri Holstein-Friesian Association thinks that if Ford is going to make tin cows he should make them in the image of Holsteins and have therefore made him a pattern which we show herewith.

This is the car the association has provided for its fieldman. In addition to being painted black and white another novel feature is that large pictures of six Holsteins noted for their breeding, show ring performance, or production or all three, have been placed under plate glass around the sides of the car. These are used to advertise the breed and are used by the fieldman to demonstrate type and production when he meets the agricultural classes in the high schools throughout the state.

The Holsteins used are Tilly Alcartra owned by Morris & Sons of California; Oak De Kol Ollie Homestead owned by Iowana Farms, Iowa, and twice grand champion at the National Dairy Show; Ona Clothilde De Kol, the dam of four generations of 1000-lb. cows owned by Peter Small of Ohio; King Pontiac Hengerveld Fayne, the great son of King of the Pontiacs owned by Cold Stream Farm, Kentucky; and Echo King Sylvia, noted son of May Echo Sylvia and herd sire at Bell Farm, Pennsylvania; and Finderne Fayne Johanna Rue, the only living 1400-lb. cow.

The car will be on exhibition at the first annual Holstein show which will be held at Sedalia, May 23, the day before the association's second annual sale. The fieldman is getting great results in his calf club campaign, clubs ranging from thirty to seventy head have been organized in Johnson, Lafayette, Cole, St. Charles, St. Francis and Green Counties, and other counties are urging him to come and organize for them. Plans have been made at Springfield with the Chamber of Commerce and Farm Bureau to launch a fifty-thousand-dollar breeding campaign on the Pettis County plan.



Clean-up, Cheer-up Week

The American Jersey Cattle Club has designated the week of May 30th to June 4th as "Clean-Up, Cheer-Up Week" for Jersey breeders. "For one solid week," says the Club, "we ask the close co-operation of every state and local Jersey breeders' association, every regional field unit, and every Jersey breeder and every Jersey Scout in the taking up of some part of this universal boost. Let us shake off the lethargy of the 'reconstruction period,' roll up our sleeves, and make our business hum by work, hope, and enthusiasm."

State and local Jersey clubs are asked to arrange for prominent window displays in the stores of their communities, to send circular letters to their members telling about Jersey Week, to take part in local newspaper advertising campaigns, and to call a meeting of the breeders for that week, arranging an attractive program. Jersey breeders are asked to follow the plans laid down by the state and local clubs and to run advertising at least one day during Jersey Week to send in all possible registration and transfer papers, to get at least one new Jersey breeder started, to push the Jersey Scout organization, and the boys' and girls' Jersey calf clubs and to put at least one more Jersey on official test.

Valuing Milk in Wisconsin

HOARD'S DAIRYMAN:—I notice in a recent issue of the Dairyman that Wisconsin milk was valued at $2.56 during 1920. This was found in the report of the Crop Reporting Service, the figure for 1919 being $2.82. These were presumed to be the prices that the farmer received for milk during the past two years.

While I do not doubt the accuracy of this statement, yet I am led to wonder how the average Wisconsin farmer is marketing his product. I find that my Guernsey cows will return more than the figures given, even though their milk is sold as cream to a creamery. During 1919 I received, on an average, 67.22c net per pound of butterfat at my farm. In 1920, I received 66.86c per pound fat. On the basis of these prices, I received in 1919 $3.19 per cwt. and in 1920, $3.17 per cwt., the milk from my herd testing 4.75 per cent. If my milk had tested only 3.5 per cent, I would have received $2.35 in 1919 and $2.34 in 1920, which is only slightly under the figures given in the report previously mentioned.

In the above returns I have not credited my farm with the value of the skimmilk, which I figure was worth not less than 75c to $1.00 per hundred pounds in 1919 and not less than 50c to 75c in 1920. This skimmilk was used for feeding hogs and good grade dairy heifers.

If the crop report is correct, then it would seem to me that the much vaunted advantages of the condensery as a market for milk do not hold good in actual practice. The market which I have for cream is not the best market available in Wisconsin but it may be superior to that of some other men. None the less, the discrepancy between figures given is somewhat startling to me.

Wisconsin. J. S. CHARLES.

HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING

Volume LXI — FORT ATKINSON, WIS., MAY 20, 1921 — Number 18

EARLY SILO HISTORY IN THE U. S.

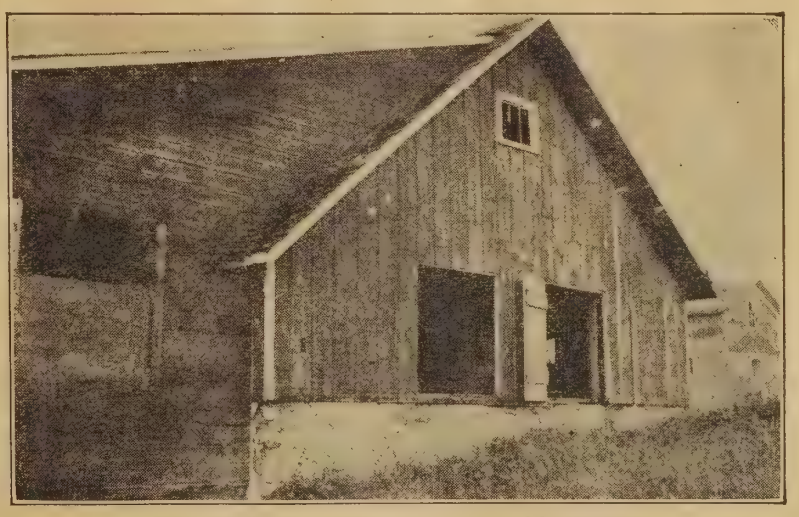
THE accompanying illustrations of two early Wisconsin silos bring up again the history of the silo and its development. In the files of Hoard's Dairyman of some thirty years ago, we find the following reference to the first silos built in America:

"Dr. Manly Miles, having learned about silos in France, in 1875 made two small ones that gave satisfactory results. Francis Morris of Maryland built the next one in 1876. These were the first American silos. Bailey of Massachusetts built a silo in 1880, and the next year Oatman Brothers of Illinois claimed to have built the first one in the West."

From conversation with men who were in the dairy business at that time, we find that probably the first silo in Wisconsin was built as the result of the publication of a government report in 1876 on the making of silage in European countries. The next year Mr. Levi P. Gilbert, residing on a farm near Fort Atkinson, decided to try out the recommendations made in this publication and, during the summer of 1877, he built what was probably the first silo in Wisconsin and one of the first in the United States. He cut a trench 8 ft. deep in a sharp crowned knoll by the use of a plow, a team, and a scraper. This trench was 8 ft. wide at the top and 5 ft. wide at the bottom. He built up the sides of the trench with boards and two-by-fours, leaving the earth to form the ends of the box or pit. This was built large enough to hold between two and three acres of corn. There were no silage cutters available at that time so it was ensiled in bundles and stacked somewhat above the ground level. After the filling was completed, the top and sides were covered with straw and dirt.

The late Mr. C. P. Goodrich, the veteran Wisconsin dairyman, told us shortly before his death that in November, 1877, he examined a sample of the silage from the Gilbert silo. He said: "This was the first silage taken from the first silo built in Wisconsin. It was quite sour and had a slight smell of alcohol, the corn having been quite immature when put into the silo."

What was probably the first above-ground silo built in Wisconsin was erected by Dr. L. W. Weeks of Oconomowoc in 1880. This silo was built of stone and grout to a depth of 12 feet, and had a superstructure of wooden walls, double boarded on the inside, that brought the entire depth to about 20 feet. It was 14 feet wide and 30 feet long, this in turn being divided lengthwise into three compartments. The bottom of the silo was three feet below the floor of the cow stable into which it opened.



THE FIRST ABOVE-GROUND SILO IN WISCONSIN

This silo was built in 1880 on the farm of Dr. L. W. Weeks in the town of Summit, Waukesha County, Wisconsin. It is 14'x30'x20'; divided into three compartments. The silo has been in use until recently, and the photograph from which this illustration is made was taken last summer. The farm is now owned and operated by Mr. Fred Pabst as a part of his large Holstein breeding establishment.

Mr. Stallard, former county agent of Waukesha County, interviewed one of the old residents who lived near Mr. Weeks. "I recall distinctly," he said, "that the silage from Mr. Weeks' silo was very good and that it kept well. The neighbors talked a great deal about the injury that this silage would do to the cows that ate it, that it would make their teeth fall out and eat out their stomachs. They laughed at Mr. Weeks but now every farmer thinks he must have a silo or he can't keep dairy cows."

The same year that Mr. Weeks built his silo another Waukesha farmer built one. This was Mr. John Steele who is still living and, in a recent letter to the Wisconsin Farmer, tells the following interesting story:

"My experimental silo was built in 1880 by using half of a root cellar. It held about 20 tons. At Oconomowoc on the day I got my cement to fix up my silo, the dealer told me that Mr. Weeks was filling his silo that day. I went over to see him do it. The corn was very green, but he was cutting it fine and packing it well. It was about ten days later before I got ready to fill mine.

"I got help and filled it in one day, covered it with double boards and put a foot depth of stone on the top. There was never better silage made. In 1881 I was a member of the assembly at Madison and served on the agricultural committee. Professor Henry wanted an appropriation to experiment on silage and sugar cane. I was the only man in the assembly that knew anything about silage, and that was very little. Secretary Bryant of the agricultural association had got a sample of Mr. Weeks' silage to show at the meeting and it was so different from mine that I was ashamed to show any. I did not know at that time that mine was really the better sample of the two.

"In 1881 I tore down my experimental silo and built my present one, but was late in getting it filled. Finally I filled it with about 100 tons, and covered it with double boards and over a foot of stones to press it down. There was never better silage. Next year I thought I would fill it with greener corn. One of my neighbors built a silo and we worked together on the job of filling. I let him fill his first, thinking that I was doing him a favor, but neither one of us had good silage, as it was too sour. I then found out that it did not pay to fill fast with too green silage. My silo stands here today just as good as it was 40 years ago, and it has been filled regularly every year since that time."

In 1882 a stone silo was built by Professor Henry on the University Farm at Madison. Various crops were ensiled, including corn, clover, and other grasses. "To store corn in a well built silo," said Professor Henry in 1886," is seemingly the best way of getting all there is in a corn crop at time of ripening. The only amendment that a quarter century of experience would make would be to omit the word 'seemingly'."

By 1886 there were something over a hundred silos in Wisconsin, at which time John Gould of Ohio came to Wisconsin to speak as a "silo missionary". His work was effective and the silo commenced to gain in favor, but it was not until the later nineties that the silo became generally popular. Since that time they have increased greatly in number until practically every man keeping twelve or more head of stock has at least one silo. The latest figures available indicate that Wisconsin has today something over seventy-five thousand silos, which is more than any other state can boast.

In connection with what has been said before, it may not be out of place to quote here what Professor F. W. Woll has to say about the origin and early use of silage. In his book on Silage, which was prepared some 25 years ago, he says:

"The history of the silo dates back to antiquity. Ancient writers speak of the practice of burying grain in underground pits to save it for future use or to hide it from their enemies, and the evidence at hand goes to show that semi-barbaric peoples in the different parts of the world have known and practiced this method. Green forage was preserved in the same way in the early history of the races of Northern Europe, notably in Sweden and the Baltic provinces, where the uncertainty of the weather and the low summer temperature rendered difficult the proper curing of the hay. It was not, however, until toward the middle of the present century that the practice of preserving green fodder by means of pits in the ground became more known. The method was especially practiced in Central Europe, where large quantities of green leaves and tops were

(Continued on page 768)



AN EARLY WISCONSIN SILO

Brown County claims to have been one of the pioneer counties in the State of Wisconsin in the construction of silos, one of the first silos being erected on the farm of Charles Schmidt in the town of Wrightstown. In 1883 Schmidt's father, an early settler, feeling the need for a silo put up the square building which still stands. The silo was used continuously up to 1899 when a round silo was erected in its place. The old silo has a wooden lining with an air space of eight inches and then another wooden lining with a layer of heavy paper. It is 16 feet square and does not in any way resemble one of the new silos now in general use. It is now being used as a straw barn.—R. A. KENNEDY, Wisconsin.



INTERIOR OF MR. WEEKS' SILO

From Calves to Cows in a Calf Club

J. P. EVES, IOWA

THE distribution of seventeen Holstein heifers in Fayette County on May 29, 1919, marked the organization of the first pure-bred dairy heifer club in Iowa. The county farm bureau and the county Holstein breeders' association co-operated with the Iowa State Dairy Association in its organization. Great care had been taken to secure as members only those boys and girls who could be relied upon to properly feed and grow out these heifers, which were from six to ten months of age at the time.

The calves were scored with the understanding that they would be scored again at the county fair in August, the farm bureau announcing the offer of a silver loving cup to the boy or girl making the greatest improvement on the score; the Fayette County Fair Association cooperating by offering an exceptionally strong premium list for club heifers, and providing a building for lodging and headquarters for the members during fair week. All plans worked out to make the exhibit one of the strongest drawing cards of the fair. The members had been given suggestions on feeding and fitting for the show at the time of a club tour a few weeks previous.

On May 26, 1920, the heifers were brought in to a show and sale which was to bring the club to a close. The heifers had been well cared for during the winter and showed splendid growth. Assistance was given in clipping each heifer previous to selling. It was arranged previously that all members who bought back their heifers should be carried along in an advance club. The interest and enthusiasm of the members were such that they were forced to buy back their heifers at a price that would have given them a handsome profit, in order to be able to continue in the club. All but three head were repurchased. Following the sale A. Hanson, Holstein breeder and banker of Oelwein, Ia., made the statement that he would give two $50 prizes; one to the boy or girl who would make the best seven-day record on his or her heifer, at the age of junior two-year-old, and the same for the one whose heifer would be senior two years old at the time of freshening.

It was unfortunate that all of the members were not so situated to be able to compete for these prizes. Many found it next to impossible for them to get testers when their heifers freshened. The two Stewart boys, Mike and Bob, ages 13 and 10 years, however, had the advantage that their father was doing other testing at the same time. They fitted their heifers for test, fed them during the test, milked them four times a day, with the result that records were made which I very seriously doubt



LINED UP AT THE 1920 SHOW AND SALE

have ever been duplicated on calf club heifers at this age. Mike's heifer, Miss Eliza Highland Johanna The Third, freshened at the age of two years and two months, and made a record of 17.2 pounds of butter from 326 pounds of milk, an average of nearly 47 pounds of milk per day. Bob's heifer, Miss Diana Butterboy Beets, freshened at the age of two years and ten months, produced 21 pounds of butter from 405 pounds of milk, an average of 58 pounds of milk per day. Incidentally the two club heifers dropped very fine heifer calves.

The Holstein heifer club work in Fayette County is continuing in a splendid way. Last June sixteen more heifers between six and ten months of age were distributed among sixteen new members. Plans are being developed now whereby a third club will be organized and calves distributed within the next two months.

Fayette County is making an exceptional success of the Holstein heifer club for a number of reasons. Paul Stewart, president of the Fayette County Farm Bureau, is one of Iowa's most successful breeders of Holstein cattle. He is an enthusiastic believer in club work and the importance of interesting the boys and girls in good pure-bred dairy heifers. All the breeders of the county are solidly behind the club work, offering free services of their herd bulls to all club members.

The real success of the work, however, can be attributed to County Agent Clyde Combs, who follows up the work and keeps in touch with the members during the year. I predict that these clubs will do much to establish Fayette County as one of the leading Holstein counties in Iowa. A number of new breeders have been started simply by the parents of club members becoming so interested in the heifers that they are purchasing pure-breds additional to the heifers owned by the children.



MIKE STEWART AND HIS CLUB HEIFER, MISS ELIZA HIGHLAND JOHANNA 3RD



BOB STEWART AND MISS DIANA BUTTERBOY BEETS WHICH HE HAS OWNED SINCE 1919

Seeing the Agricultural College Work

T. R. DANIELS, WISCONSIN

ONCE in a college generation, the University of Wisconsin holds an exposition in order to present in popular form a few samples of what science has contributed to agriculture and industry.

Such an exposition was held at Madison in April. Each of the eighteen departments of the Agricultural College was represented by a booth. By means of charts, soils, living plants, and animals, machinery, and expert demonstrators the work of the experiment station was visualized to the people of the state. Thousands of farmers attended the exposition to see the progress that had been in farming.

Maintain Soil Fertility

The soil is the greatest resource that the farmer has. It is fitting that the College of Agriculture should study the best methods of keeping up its fertility. The soil booth was an object lesson on the value of fertilizers to the farmer. The demonstration showed that the soil was not just a conglommeration of dirt; but when the soil is separated into the elements that make it up, a cubic foot of silt loam may contain 40 pounds of oxygen gas, 29 pounds of silicon, aluminum equivalent to a bar weighing 3.5 pounds, a 2-pound piece of iron, and a good sized chunk of carbon. The elements that the plant uses are present in very small quantities. A cubic foot contains .14 pound of nitrogen, .07 pound of phosphorus, and 1.5 pound of potassium.

Living corn plants were used to show how corn on peat soils responded to potash and phosphorus treatment.

Charts containing figures showed where oats grown on the University hill farm without fertilizer yielded 71.1 bus. Where phosphates were added, the yield was increased to 83 bus. an acre. The addition of a complete fertilizer increased the yield to 93.8 bus.

The benefits of liming the soil were visualized to the farmers by other plots of green plants.

Raise Pedigree Seed

Wisconsin grows more pure-bred seed grains than all the other states combined. This record was made possible by the untiring work of R. A. Moore, of the Agronomy Department. The agronomy booth vividly represented the enormous value of the pedigree seed trade. A continuous river of pure-bred corn, oats, wheat, rye, and barley was made to flow from Wisconsin to her numerous markets. Small colored electric lights flashed at frequent intervals to show the destination of the seeds. Wisconsin pedigree seeds are used in nearly every state and in most foreign countries.

One of Wisconsin's newest crops is the hemp crop. The industry has now reached the million dollar mark.

Animal Husbandry

Closely associated with plant production is the raising of farm animals. The animals were represented by popular types of dairy cattle, horses, sheep, swine, and baby beeves.

The dairy department and the cow testing department were each represented by a booth. The display showed why Wisconsin is the foremost dairy state. Seven machines for the testing of dairy products were on display. These machines were all invented by Wisconsin men. The Babcock milk test has revolutionized the dairy industry. The Farrington alkaline tablet acidity test is a simple way for butter and cheese makers to test the sourness of milk and cream. The Hart casein test makes it possible to tell how much casein there is in cheese. Butter must not contain over 16% water, so Mr. Farrington invented the butter moisture test. By means

(Continued on page 754)

TOP PRICES FOR MARKET MILK

Philadelphia Pays Producer Well and Sells the Consumer His Quart Cheap Without Strikes or Even "Rumors" of Milk Wars

MILK producers' associations the country over turn to the "City of Brotherly Love" for a lesson in the peaceable handling of market milk difficulties. The record of the Inter-state Milk Producers' Association with headquarters at Philadelphia is notable proof that milk can be marketed successfully without "war" and with very little of "rumors" of war.

Wherever milk producers meet to discuss their selling problems, the Keystone metropolis is held up as an example to be emulated. "In Philadelphia," it is commonly said, "producers and distributors work together without friction. The price to the farmer is high, the dealer's margin is small, and the cost to the consumer, low." A closer acquaintance with conditions than most of these commentators have, reveals the fact that, though selling difficulties are not unknown in the Inter-state Milk Producers' Association, its officers have been strikingly far-sighted in their policies and broad minded in their relations with the distributors and consumers.

The Inter-state Milk Producers' Association was organized in 1916 as a successor to the Milk Shippers' Union which has existed for seventeen years. At the meetings of this old organization the members and officers talked, settled upon a price, and went home—having no facilities for forcing the market in line with the price agreed upon; or for improving production or suiting it to the market. Since 1916 the Inter-state Association has grown to a membership of 12,500; 9,000 in Pennsylvania, 1,400 in Maryland, 1,400 in New Jersey, and 700 in Delaware. It has 217 local organizations and sells to 780 dealers. Besides the milk supply of Philadelphia, it sells principally to Harrisburg, Reading, Allentown, West Chester, Wilmington, Altoona, and Camden and Trenton. The association is financed by a one-cent deduction for each 100 lbs. of milk, which is made by the dealers to whom the farmer sells.

The first real strength of the producers' organization came with the appointment and subsequent investigations of the Tri-state Milk Commission, of which Dr. Clyde L. King was chairman. The first findings of this commission gave the producers' case so favorable publicity that the dealers discredited in the price controversy asked for an investigation. Later Dr. King was appointed milk expert for the Food Administration of Pennsylvania. At first the dealers refused to confer with the farmers but later joined with them in asking for Dr. King's appointment as arbitrator in milk price discussions, a position which he now fills in Philadelphia, Pittsburg, and Baltimore.

Especially fortunate for the producers from the beginning of the association was the election of F. P. Willits as president and the appointment of R. W. Balderston as secretary, which positions they have held continuously to the present time. Thoroughly conversant with the factors controlling milk prices, they have represented the farmer in the best possible manner. Perhaps the strength of this producer organization is well indicated by its ability to maintain an 8-cent f. o. b. Philadelphia price this season when milk in carload lots from outside points has been offered at prices materially lower.



OFFICERS AND EXECUTIVES INTER-STATE MILK PRODUCERS' ASSOCIATION

Sitting, left to right—H. D. Allebach, vice-president; Frank P. Willits, president; R. W. Balderston, secretary. Standing—N. F. Gotshall, field man; A. B. Waddington, R. F. Brinton. Members executive committee—Fred. Shangle, treasurer; A. A. Miller, editor Milk Producers' Review.

Stabilizing Prices

A study of milk prices for the ten-year period ending in 1916 shows that producers in the Philadelphia district received a slightly lower price than those in the New York, Chicago, and Pittsburg districts in January and December and a higher price in May, June, and July. Inasmuch as more milk is sold during the summer months the Philadelphia market for the year averaged with or above that in other cities. The Inter-state Milk Producers' Association, with the representatives of other milk interests, have agreed that a stabilization of prices throughout the year is beneficial to the industry. In order that stabilizing prices, by holding down values in times of shortage and keeping them up somewhat in times of surplus, might not tend to encourage summer dairying at the expense of winter dairies, a surplus plan has been put in use.

The Surplus Plan

In October, 1919, an agreement was entered into which divided the product into fluid milk and manufacturing milk and defined what should be called surplus. The quantity of milk delivered by a producer in October, November, and December, 1919, was taken as the basic quantity to be sold throughout the year except in May, June, and July, when it was agreed he could deliver 110% of that quantity at market milk prices, and in August, 105%. All milk over that quantity, which averages 12 to 15% of the total production, was to be sold on the basis of its butterfat at 120% of the price of New York 92-score butter. For example, if a producer marketed an average of 2000 lbs. of milk daily throughout the three months, October, November, and December, 1919, and his milk totalled 3000 lbs. in the following June, he could sell 110% of 2000 lbs. or 2200 lbs. at fluid prices and the remaining 800 lbs. at manufacturing prices. If butter averaged 50 cents for the month he would receive 120 per cent of $.50 or $.60 per pound for surplus fat or $2.40 per hundred pounds of 4 per cent milk for the 800 lbs.

Under this agreement the price announced monthly as "subject to change whenever warranted by market conditions" is continued until changed in a conference which may be called by distributors, manufacturers, or producers. As an illustration, the price list published for February, 1921, and which is in operation through May specifies that 3.5 per cent market milk f. o. b. Philadelphia is worth $3.48 per 100 lbs. or 7.6 cents per quart. The price on surplus is 5.6 cents per quart. Knowing the quantity of milk he can sell as fluid, the producer easily calculates his return from the milk he sells. A charge of 23 cents per 100 lbs. is allowed for running the country receiving station. This, in addition to the freight charges, is deducted from the f. o. b. Philadelphia price.

A comparison of Philadelphia milk prices with those in Chicago and New York is illuminating. The 1919 average for 3.5 per cent milk in Philadelphia was $3.88 per hundred and in Chicago and New York, $3.60 and $3.71 respectively. In 1920, New York led in the price secured for the producer, the year's average being $4.27 while $4.04 was paid in Philadelphia and $3.85 in Chicago.

Low Margin for Distribution

Philadelphia dealers enjoy a reputation for economical distribution which rivals that of the producers for "peaceable and successful selling of milk". They paid more for milk in 1919 than either Chicago or New York dealers and yet undersold them, charging an average of 13.59 cents per bottled quart when Chicago dealers taxed the consumer 14.16 cents and the New York distributors collected 16.17 cents. In 1920 the Philadelphia retail price was lower than in the other two cities, being 14.25 cents against 14.8 cents in Chicago and 16.5 cents in New York. Considering that the Philadelphia price to the producer is high, the narrowness of the margin for distribution is striking. During the present season when the producer price has been about 8 cents, the retail cost has been 13, leaving a margin of about 5.

There are a number of reasons advanced in explanation of the fact that the milk man of the Quaker metropolis carries milk so cheaply from the producer to the back porches of the city. In the first place the city has been largely apportioned so that the different retailing companies cover their routes with a minimum of overlapping. Also, they carry large loads, each wagon taking 400 to 450 quarts at a trip as compared with 300 or even 200 in some cities. The narrow margin has given the bulk of the city's milk business to five large dealers, which leads to greater efficiency of distribution than would be possible with a large number, each handling a small quantity. Since the Inter-state Association came into operation the number of dealers in Philadelphia has been reduced from 700 to less than 300 and President Willits stated at the American Farm Bureau Federation dairy conference in Chicago, May 3, that the number will likely be still further reduced.

Advertising Milk

Conspicuous in the activities of the Inter-state Milk Producers' Association is its interest in work other than that directly involved in selling milk. It has an important part in dairy council advertising of dairy products, sharing offices with the Inter-state Dairy Council and contributing liberally to its support. Beginning with December, 1920, the producers authorized a deduction of one cent from the price quoted for 100 lbs. of milk, for advertising purposes. A $100,000 educational campaign is now underway, financed half and half by producers and distributors. Already results have been secured in increased consumption which the association hopes will cut down the percentage of manufactured milk to even less than the present 12 to 15 per cent.

The Inter-state Association also serves its members by pointing out methods of bettering the market qualities of their product. As an example, as early as March a campaign was begun this year to encourage the cooling of milk.

Thus, the Inter-state Milk Producers' Association—which has never called a strike—serves its members: It sells milk by satisfying the public and the distributors in conference; it equalizes prices throughout the year so far as possible; it defines market milk and manufacturing milk, and makes separate prices for the two; and it engages in any other work besides selling which will improve market milk conditions. Through its activities it is a strong factor in making Philadelphia a city where "producers and distributors work together without friction, where the price to the farmer is high, the dealers' margin small, and the cost to the consumer low".

Southwest Alfalfa Injured

SANDERS SOSLAND, MISSOURI

SOME concern has recently developed among dairymen over the reports of extensive damage to the growing alfalfa crop in the Southwest and West as a result of the recent freezing temperatures and infestation by pea aphis and green bugs. Here and there consumers have been influenced to accumulate stocks of alfalfa for late spring and early summer needs by the discouraging crop advices from the more important producing regions, including Kansas, Oklahoma, and portions of Arizona and New Mexico. In other instances, the dairy trade has been placed somewhat in the dark as to the probable time for buying. Many inquiries have been received by dealers on the large Middle West markets from dairymen seeking advice as to whether continued delay in buying is advisable in view of the unfavorable turn in the crop situation.

Marketings of the new crop alfalfa from southwestern states are expected to begin four to six weeks later than normal this season as a result of the damage to the plant. In many sections of Kansas and Oklahoma, entire fields have been mown down, the plant having been killed by the freeze. Advices from producing sections indicate that practically no first cutting will be gathered in Kansas or Oklahoma. Even the growing plant in the far southwestern states, including New Mexico and Arizona, which ordinarily is cut the latter half of April and often available in commercial channels around the opening of May, has been stunted in growth and will be late in moving this year. No important movement of new crop alfalfa is expected out of New Mexico until the middle of May or possibly as late as the opening of June, while the trade in close touch with the crop situation in Oklahoma and Kansas manifests doubt as to whether important marketings can be expected before the middle of June. In Kansas City, the largest alfalfa market, the first new alfalfa is usually received late in April or early in May. The movement from Nebraska also will be somewhat later than normal, though the plant there was not far enough advanced to be damaged materially by freezing temperatures during the early spring.

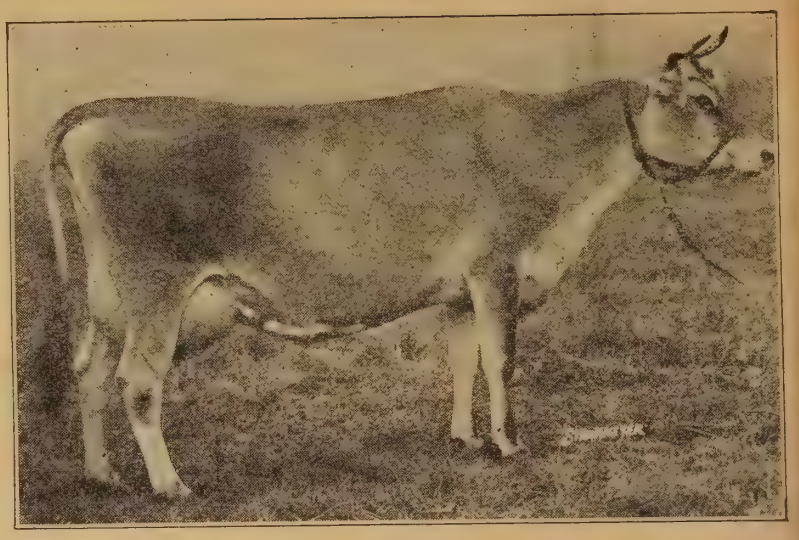
While serious damage has been suffered by the growing alfalfa plant in the Southwest, the market for the legume has not in any way reflected the discouraging crop situation. Nor is it probable that the trade will feel the effect of the comparatively heavy loss in tonnage of the first cutting during the remainder of the spring and probably well into the summer season. Under ordinary conditions, material damage to the crop and delay of four to six weeks in the movement would be reflected in a rather strained market. However, demand for alfalfa is of such an insignificant volume and stocks of old hay still in the hands of producers are of such a large quantity that the trade is not in a position to reflect bullishly the disappointing crop. The surplus stocks of alfalfa hay in Colorado and other western states, including Idaho, Wyoming, Montana and surrounding territory, are probably the largest on record for this period of the year. This more than offsets the loss in the tonnage of the first crop.

Despite the heavy holdings of alfalfa in the hands of western producers, the movement into commercial channels is extremely light, practically the smallest on record for the late spring season. The claim of producers is that they cannot afford to bale and haul their hay to loading stations on the basis of the prices being quoted. For this reason, more or less doubt prevails as to whether any material enlargement in the marketings can be expected during the remainder of the old crop year.

A new development which demands consideration of the alfalfa trade is the recent hay freight reduction of 7½ cents per 100 pounds or $1.50 a ton from Colorado common points to Kansas City, the Mississippi River, and Chicago authorized by the Interstate Commerce Commission. This is the first reduction in forage rates from the Colorado territory since the 35 per cent advance last August. Action of the carriers in reducing rates is naturally bearish on the market for alfalfa, tending to enlarge the movement of the legume from the producing sections of the West into the Middle West and East and South. Excessively high freight rates have been the most serious restricting influence in the loading of hay in the West, and, while the reduction is not sharp, it is sufficient to make for a material increase in the marketings. A further sharp reduction in freight tariffs is needed before alfalfa and other varieties of hay can move from distant points of production to consumptive channels on a normal scale.

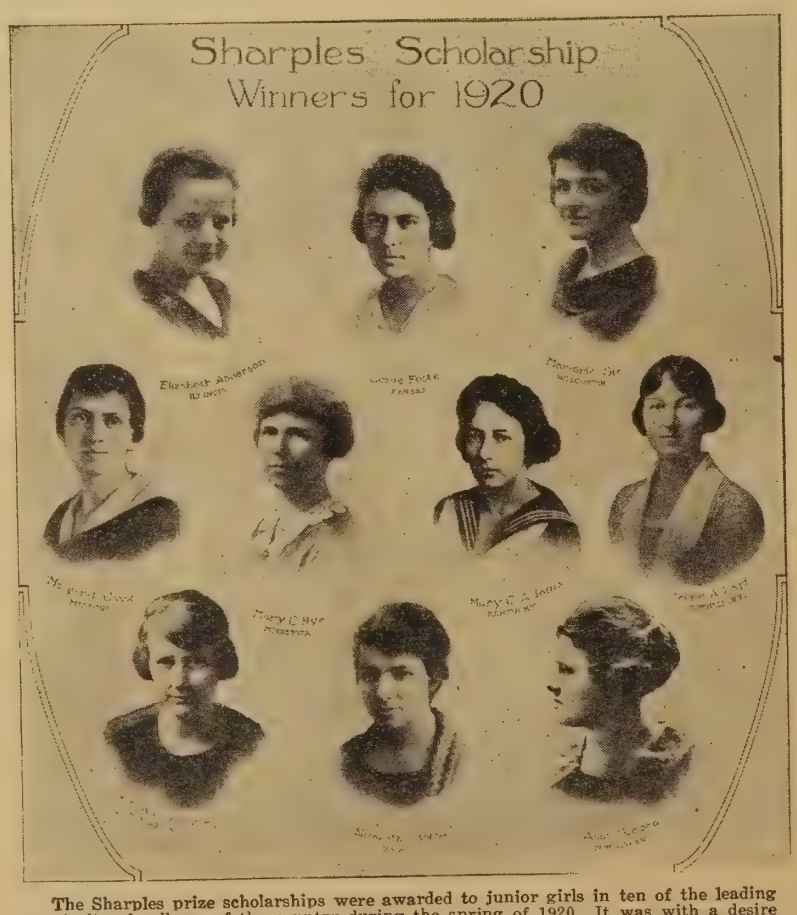
In a measure, the demand for alfalfa is being stimulated by the reduction in the rate schedule, but it is very improbable that the demand will broaden relatively more than the movement. Buying power of the consuming trade is remarkably light, and before buying of a generous volume can develop, observers of the trade recognize that the delivered cost of alfalfa must decline to more nearly a natural parity with bran and shorts, the coarse grains and other feedstuffs. And the "wonder plant" must undergo a radical readjustment in price before such a parity is witnessed. Another of the discouraging factors in connection with the demand situation is the serious position of the cotton belt, one of the most important buying outlets. Disappointingly low cotton prices and the resulting serious credit strain have forced a sharp curtailment in the consumption of hay, as well as other feeds. In this connection, it is significant to note that bankers in many sections of the South are advising their customers that after July 1 no money will be loaned for the purchase of feeds of any kind, making a strong effort presumably to force home production of feeds instead of the single crop, cotton. If the southern bankers are successful, alfalfa and other feed markets will feel further the restricted demand from the cotton belt.

Choice alfalfa hay on the Kansas City market is bringing around $23 to $24 a ton, with some quotations as high as $27 a ton, but these prices are deceptive in view of the insignificant movement. With a normal run of hay, the market would doubtless undergo a sharp readjustment. Dealers generally expect new crop alfalfa to sell around $12 to $14 a ton on the early movement in Oklahoma, basis loading stations, and about $15 in New Mexico. Late in June prices are expected to fall to around $10 low in Kansas and Oklahoma, particularly if weather conditions are favorable until that time.



JAP'S MERTHA LASS, JERSEY COW BRED BY MERIDALE FARMS, NEW YORK, AND SOLD IN THE FARM'S FIRST ANNUAL SALE TO T. S. COOPER, PENNSYLVANIA, FOR THE TOP PRICE OF $6,600

She has lately completed a record of 16.523 lbs. milk, 867.68 lbs. fat and is the fifth daughter of The Imported Jap to make enough fat to exceed 1,000 lbs. butter.



The Sharples prize scholarships were awarded to junior girls in ten of the leading agricultural colleges of the country during the spring of 1920. It was with a desire of encouraging young women to take a more active part in the development of the dairy industry that Mr. P. M. Sharples made possible these scholarships. Each scholarship amounted to $500 and the conditions imposed were taken care of by faculty committees in each of the institutions, the only provision being that the scholarship would be awarded to a young lady in the college who would take special work along dairy educational lines during her senior year and agree to devote at least one year following graduation to public service work.

Upper row, left to right: Elizabeth Anderson, Illinois; Conie Foote, Kansas; Marjorie Six, Wisconsin. Middle row: Margaret Cassel, Missouri; Mary C. Nye, Minnesota; Mary C. Adams, Kentucky; Irene A. Zapf, New York. Lower row: Verna L. Weaver, Indiana; Elizabeth Storm, Iowa; Anna Morgan, Pennsylvania.

Vermont Butter Scoring for 19

The first of the monthly Vermo educational butter scorings wh will be conducted throughout the ye was held April 14 at the Lamo Valley Creamery. It was a big d for the buttermakers, some who tended the scoring coming fr creameries at a distance of o fifty miles. Buttermakers, cream managers, and other representati from about twenty creameries w present at the contest to see the b ter from their own factories sco for quality and note the compari with butter from other plants.

The Lamoille Valley Creame which is the largest butter manuf turer in the New England Sta making more than one million pou of butter annually, displayed a lo co-operative spirit and spared no pense in entertaining their gue Mr. B. C. Jennings, president of creamery, obtained Mr. Clifton Lea erd of the W. H. Learnerd & Co. b ter dealers in Boston to assist in ju ing the butter and to give the butt makers first hand information as the quality of butter that best s the Boston market. In a brief talk about 75 people present, Mr. Learn laid especial emphasis upon the imp tance of the buttermakers scor their own butter before it is ship to the dealers and in case there sho be a lot off in flavor, the shipm should be so marked that the dea can handle such butter through a ferent channel.

Mr. V. R. Jones, Dairy Manuf turing Specialist, briefly outlined main features of holding most of butter scorings at the creameries that the buttermakers have the portunity of meeting other but makers in a social way and study the methods used in judging butte well as obtaining the criticisms the judges at the time the butte scored. Mr. Jones pointed out from 70 to 75% of all the milk cream handled at all the factories Vermont was made into manufactu products of which about one-hal made into butter. A high quality milk and cream is essential in mak the highest quality butter, and he

vised that milk and cream be graded and paid for on a quality basis. There should be a premium paid for first grade fat of 5 to 10 cents per pound.

Twenty-seven creamery and two farm dairy samples of butter were entered. Four creamery samples did not comply with fat or moisture standards and are not included in the averages given.

The average commercial score on 23 creamery samples was 90.35; composition score, 94.36; and the average combined score was 91.69. The average composition of these samples was: fat 82.76 per cent, water 14.32 per cent, salt 1.92 per cent, and curd 1 per cent. The butter in general was uniform in color and no samples were scored off for mottles. The chief criticism on flavor was the lack of a clean and pleasant aroma necessary to high scoring butter. No samples showed metallic or fishy flavors. A list of all samples scoring over 90 is given below:

Creamery Samples

Creamery	Score
Mt. Mansfield	93.73
Lamoille Valley	93.59
Chelsea (C. M. Story)	93.40
White River Valley	93.25
Milton Co-op. Co.	93.16
Marshfield (C. Lily)	92.66
Jersey Star	92.64
Green Mt.	92.49
Missisquoi Valley	92.39
Strafford	92.29
Lyndonville Cry. Association	92.25
Gulf Road	91.97
Elgin Springs	91.83
Caspian Lake	91.66
Gold Brook	91.40
Granite City	91.33
Mad River Valley	90.81
Deerfield Valley	90.77

Vermont. H. B. ELLENBERGER.

Ayrshire Association Loses Two Prominent Members

In the death of H. R. C. Watson of Vermont and J. Henry Meyer of California, the Ayrshire Breeders' Association has lost two of its prominent members.

Mr. Watson is the last of the charter members of the Ayrshire Breeders' Association. He was a pioneer in milk record work, and owned the famous cow, Duchess of Smithfield, whose production of 10,000 lbs. of milk in a year was given much publicity about 1880.

Mr. Meyer owned Elkhorn Farm in California, where he has developed a herd whose foundation stock was secured from Willowmoor Farm, Highland Farm, and from Canadian herds. Elkhorn Ayrshires are among the leaders on the Pacific Coast.

Thirteenth Silver Medal Bull

Gedney Farm Girl's Oxford, the thirteenth silver medal Jersey bull, is the second sire of this breed to have this honor from the Quechee Farm of Vermont. Thirty-three of his daughters on Register of Merit test have finished 45 records, which average 8,613 lbs. milk, 437 lbs. fat.

This bull was a consistent winner on the Island of Jersey before imported, and his get in this country have been show ring winners. Minerva of Belleview 3rd, by this silver medal bull, was grand champion cow at the Vermont State Fair for three consecutive years.

To Improve Indiana's State Farms

J. C. ALLEN, INDIANA

A BIG step toward putting the farms connected with the various penal, correctional, and benevolent institutions in Indiana on a better basis has been taken by Governor Warren T. McCray by calling a conference of superintendents and farm managers of all the institutions at the Indiana State Penal Farm with representatives of Purdue University.

"We want to increase the production of the farms, if it is possible, by putting them on a more efficient basis and make them do all they can in cutting down the maintenance costs of these various institutions," said Governor McCray in speaking at the meeting. The governor pointed out that the state itself is one of the biggest, if not the biggest, farmer in the state, having more than 11,000 acres scattered in a number of counties for the support of the institutions represented at the conference.

The meeting resolved itself into a round table discussion with the farm managers, gardeners, dairymen, swine men, and others from the institutions giving their experiences and receiving suggestions on how to improve this practice or that one from Director G. I. Christie and members of the staff of the Agricultural Experiment Station.

As a result, several of the men made plans for building up of dairy herds, improving their methods of gardening and live stock raising, and putting into practice various systems used in one or more of the institutions. Dehydration of food instead of canning was one of the important topics brought out. This system is being used successfully by the Indiana Boys' School and a similar meeting was arranged for next October at this institution. Governor McCray states that such conferences will be held twice a year in Indiana during his administration.



Governor W. T. McCray, superintendents and farm managers of the various state institutions, and representatives from Purdue Agricultural Experiment Station inspecting the dairy herd at the Indiana State Penal Farm. The object was to gather ideas and secure methods that will be helpful in the management of dairy herds at the other state institutions.



"The milker has always been ready to do its duty at milking time without any grudge. It has done its work well, milked clean and absolutely kept up the milk flow." —WILLIAM GRIEBE.

A Hired Man That Milks Thoroughly and Satisfactorily

PERFECTION is the hired man that milks your cows thoroughly and satisfactorily. That means, good milk flow, uniform milking, and clean milking at all times.

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Perfection will milk your most valuable cows thoroughly and to your entire satisfaction.

It uses the same gentle action as the calf, a gentle suction followed by a *downward* squeeze followed by a period of rest. That is why cows like the Perfection and give their milk down freely.

It's an easy task for one man to thoroughly milk 24 cows in an hour's time with the Perfection. This is your opportunity to increase your herd or to milk the same herd with less labor and always get a thorough, satisfactory job of milking.

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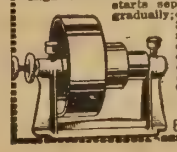
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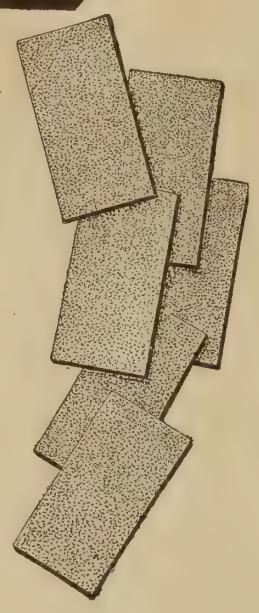


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Cow Testing Associations

RECORDS, PRICES OF FEEDS, FAT, AND MILK

Following is the summary of reports received during the week and up to the time of going to press of this issue:

State	Association	Tester	Month	No. of cows tested	No. of cows producing over 40 lbs. fat	Fat production of high cow	Owner
Mo.	St. Louis County	Jas. E. Comfort	April	217	28	62	St. Stanislaus Seminary
Ill.	1st Rock Island Co.	J. C. McCormish	"	352	20	65.3	Midvale Farm
"	1st Kane County	Ralph J. Young	"	863	88	75.1	A. E. Howard
"	Lake County	A. Christianson	"	473	131	88.2	H. H. Schroeder
"	Tri-County	Edgar Booker	"	376	67	73	Lillian A. Ralston
"	Effingham County	F. D. Kasserman	"	229	35	66	Ferd Wente
Minn.	Pioneer	H. C. McMurray	"	1168	150	87	Mornel Farm
Wis.	Wood Co. No. 2	H. M. Kuckuk	"	413	36	65	Geo. Emmel
"	Unity	Carl D. Smith	"	326	41	54.7	Roy Justman
"	Rock Prairie	W. J. McKee	"	575	73	90.5	Wehenger & Son
"	Polk County	F. Christopherson	"	367	57	66.6	Ray Eastlund
"	Fort Atkinson	Wm. Seales	"	505	64	94.5	W. A. Stark
"	Wausau—Marathon	Nander M. Nelson	"	426	52	68	F. J. Bandy
"	Byron	A. Miller	"	567	140	106.7	A. E. Tullidge
"	North Crandon	Chas. Stevers	"	278	3	49.2	C. J. Rasmussen
Iowa	Winneshiek County	Carl Wennes	"	200	12	53.4	C. C. Pilgrim
Pa.	Avondale—W. Grove		"	250	20	55.3	Arthur Townsend
"	Uwchlands		"	386	38	73.6	Gilbert Smedley
"	Juniata County	Karl A. Fettig	"	294	25	57.8	D. Q. Adams
N. J.	Salem County	F. A. Tuoti	"	440	54	72.1	Chas. R. Hires
Idaho	Bonner County	C. O. Miller	"	190	30	65.6	W. V. Alverson
Wash.	Clallam County	C. A. Robinson	"	529	138	74.5	G. L. Hanghawant
Calif.	Kings Co. No. 1	Wm. G. Maxfield	March	1231	163	96	Post Card Ranch
Ill.	Macoupin County	H. R. Fletcher	April	305	46	69.6	Eilers & Citro
Iowa	Monona—Farmersburg	Ernest Lihn	"	352	44	84.7	W. J. Allert
Wis.	Stratford Co-op.	J. R. Heim	"	297	31	67.3	H. R. Keller

Association Notes

St. Louis County, Missouri:—Pure-bred Holstein bulls and one or more silos are being used by all members. A calf club composed of over 70 members has been formed in St. Charles County, which is in connection with the St. Louis County Association. In April market milk sold for $3.25 per cwt. and certified milk for $6. The creamery paid 48c per pound for fat. Milk retailed for 15c per quart and butter for 55c per pound. Alfalfa hay sold for $25 per ton; ensilage, $10; cottonseed meal, $42; bran, $30; linseed meal, $45; corn and cob meal, 65c per bushel; crushed oats, 62c.

First Rock Island County, Illinois:—During April, market milk testing 3 per cent sold for $2.12 to $3.29 per cwt. The creamery paid 45c per pound fat. Milk retailed for 10c to 15c per quart; butter, 45c per pound; cheese, 50c. Choice grade Guernsey milk sold for 25c per quart. Feed prices are: Prairie hay, $14 per ton; alfalfa, $24; clover, $20; silage, $6; bran, $23; cottonseed meal, $33.30; oil meal, $40; gluten, $48; corn, 60c per bushel; oats, 35c; barley, 85c.

First Kane County, Illinois:—Two pure-bred sires have replaced grades and this leaves but one scrub sire in the association. One member has installed watering cups and another is increasing the capacity of his barn. The highest herd average thus far this year was obtained this month. Market milk sold for $2.35 per cwt.

Lake County, Illinois:—One member bought a splendid bred Holstein bull calf at the Pabst sale. Another member did some seven-day work during the month and 3 cows of the 4 tested made better than 20 lbs. butter. Market milk testing 3.5 per cent sold for $2.35 per cwt.

Tri-County, Illinois:—A total of 36 unprofitable cows and three inferior herd bulls have been disposed of within the last 10 months. A new modern dairy barn is being built at the Jacksonville State Hospital. During April market milk sold for $2.54 per cwt. The creamery paid 32c per pound for fat. Milk retailed for 12c to 14c per quart; butter for 45c to 50c per pound.

Effingham County, Illinois:—Two unprofitable cows have been sold. There is but one grade bull in the association. There are six registered herds and nine tuberculin tested herds in the association. Market milk sold for $2.20 per cwt. The required test was 3.5 per cent and 4c were paid for each point above. The condensery paid $3.88 per cwt. for milk, and the creamery, 40.4c per pound for fat. Milk retailed for 14c per quart; butter, 60c per pound; cottage cheese, 20c.

Wood County No. 2, Wisconsin:—One pure-bred Brown Swiss bull and two pure-bred Holstein bulls were bought. One milker was installed, making ten in the association. Nine cows were sold for dairy use. Market milk sold for 36c per gallon. The average test required was 3.5 per cent. The condensery paid 52½c per pound for fat; the creamery, 42c to 44c; cheese factory, 53c to 56c. Milk retailed for 9c per quart; butter for 37c per pound, and cheese, 30c. Bran cost $24 per ton; corn, $25; middlings, $24; oil meal, $42.50; oats, $31; mixed hay, $12 to $18.

Unity, Wisconsin:—Market milk sold for $1.90 per cwt. Milk retailed for 10c per quart; butter for 35c per

CP BABCOCK FOUR BOTTLE MILK **Tester** PRICE EACH **$6.95**



Every dairy man needs this outfit. Points out the "boarder cow". Enables him to buy cows with his eyes open and to check up his creamery, etc. Tells him how to regulate feed to increase production. Highly recommended by U. S. Department of Agriculture, County Agents, etc.
Free with each testing machine: 4 test bottles, 1 acid measure, 1 pipette, 2 brushes, 1 bottle acid and Instruction Sheet giving complete information about testing milk and cream.

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pound; cheese, 30c. Beet pulp sold for $40 per ton; cottonseed meal, $48; barley, $30; corn, $25; gluten, $48; hay, $12 to $14; silage, $8; bran, $22 to $27; oats, $29.

Rock Prairie, Wisconsin:—Two herds were tuberculin tested, ten head were condemned and four head were sold for beef. During April market milk testing 3.5 per cent sold for $2.35 per cwt. Milk retailed for 12c per quart, butter for 44c per pound, cheese 30c to 35c.

Fort Atkinson, Wisconsin:—During April the condensery paid $2.10 per cwt. for milk testing 3.5 per cent. Four cents were paid for each point above the required test. Milk retailed for 10c per quart. Alfalfa sold for $24 per ton; clover hay, $20; marsh hay, $12; silage, $6; corn, $20 to $23; bran, $26 to $30; brewers grains, $42; oil meal, $48; cottonseed meal, $48; oats, 50c per bushel.

Wausau—Marathon, Wisconsin:—More grain is being fed since prices have gone down and better production has been the result. The value of records was proven when one of our members sold 7 grade Holstein cows for $800; whereas, $75 is considered a very good price in this section when no records can be shown. Milk testing 4 per cent sold for $2 per cwt. Five cents were paid for each point above. The creamery paid 47c per pound for fat and the cheese factory 43c. Milk retailed for 11c to 13c per quart; butter, 40c per pound, and cheese for 28c.

North Crandon, Wisconsin:—This association has finished its first year's work. It was organized with 29 members and cheese factory employing tester two days per month. Twenty members finished the full year's test. The high cow for the year was a grade Holstein owned by Henry Peterson. She produced 11,678 lbs. milk containing 476.75 lbs. fat. Mr. J. A. Dixon's herd was highest for the year. The herd average was 7,719.8 lbs. milk, 393.71 lbs. fat valued at $488.53; feed cost, $150.60; net profit, $337.93, bringing a return of $3.17 for $1.00 expended for feed. Mr. Rasmussen was second with five cows averaging 7,014.4 lbs. milk, 337.37 lbs. fat; value, $834.40; feed cost, $442.06; net profit, $492.34; making a return of $1.88 for $1.00 expended for feed. Fifty unprofitable cows were sold to the butcher, 10 to farmers, and 4 pure-bred bulls were bought.

Juniata County, Pennsylvania:—Only one member does not use a registered bull one hundred per cent of the time but he will get one in the fall. Market milk sold for $2.75 per cwt. The condensery paid 60c per pound for fat. Milk retailed for 10c per quart; butter, 70c per pound; cheese, 40c. Silage was quoted at $6 per ton; hay, $20; corn stover, $8; corn and cob meal, $22.80; ground oats, $32.80; bran, $40; cottonseed meal, $50; oil meal, $50.

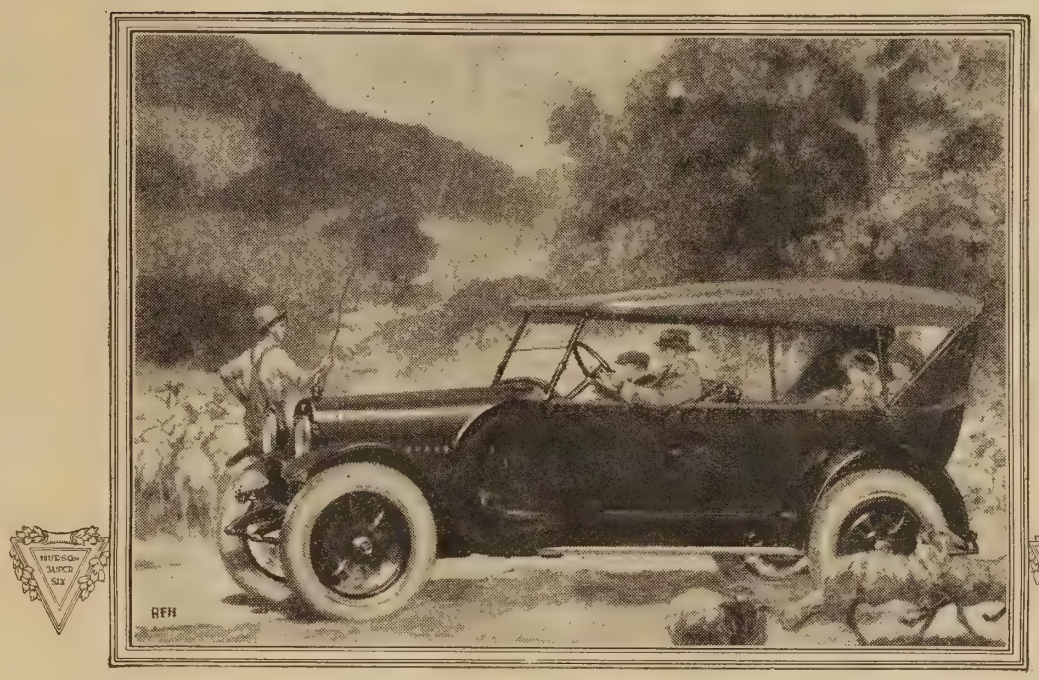
Salem County, New Jersey:—In the month of April milk sold for $3.28 per cwt. The required test was 3 per cent and 4c were paid for each point above. Hotel milk sold for 11c per quart. AA milk sold for 12c per quart and a bonus for each point over 5 per cent. Alfalfa sold for $26 to $30 per ton; clover $24 to $28; mixed hay, $18 to $25; corn and cob meal, $27; cottonseed meal, $44; linseed meal, $52; brewers grains, $43; gluten, $43; ground oats, $40; bran, $34; beet pulp, $45; corn meal, $35; silage, $8.50; molasses, $10 per barrel.

Bonner County, Idaho:—We now have 9 registered bulls and are making plans for more. We are blowing out stumps, getting ready for sunflowers. Will be putting up 20 new silos in Bonner County this year. Mr. Alverson has a son out of the only son of Duchess Skylark Ormsby at the head of his herd recently purchased from Waikiki Farm. During April market milk sold for $3.50 per cwt. The required test was 4 per cent. The creamery paid 44c per pound for fat. Milk retailed for 13c per quart; butter, 60c per pound; cheese, 40c. Bran sold for $34 per ton; oats, $42; corn, $42; barley, $46; linseed meal, $00; hay, $25; roots, $8; silage, $8. About 16 dairymen from Bonner County motored to Kootenai County on a silo excursion. After looking over various silos, they motored to Coeur d' Alene to a banquet, after which Mr. F. R. Cammack of the Idaho extension division gave a talk on silos and Mr. O. C. Miller on cow testing associations and benefits derived. As a result, Kootenai County will form a cow testing association soon and both counties are going strong for silos.

Kings County No. 1, California:—Ten boarders were sent to the butch-

(Continued on page 768)

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EDITORIAL COMMENT



MILK is the essential element in the diet of civilized peoples.—CLYDE L. KING.

SEVERAL counties in Southern Minnesota have formed a co-operative organization of the creamerymen for the purpose of standardizing and marketing their butter, buying creamery supplies, and promoting in general the interests of the creameries in these counties.

We look upon this as an important move for unless the co-operative creameries adopt a plan for standardizing their product and for marketing it in carload lots, they are likely to suffer in the future. The purchasers of butter desire a uniform product and the heaviest buyers will purchase a butter of uniform grade even though it does not score as high as lots of butter of various scores. What is needed is large production of uniformly high scoring butter in order to market it to best advantage. Not only will the price for butter be better but a material saving will be made in freight rates and other charges.

The co-operative creameries may well group themselves sectionally and then federate themselves into an organization as a whole for the purpose of producing a uniform grade of butter and marketing it co-operatively.

BONE MEAL FOR COWS

Farm animals improperly nourished are often found eating materials foreign to their rations. This is especially true of heavy milking cows for their milk production is making heavy demands upon their systems. If rations are not carefully balanced so that they will contain not only an adequate supply of protein, carbohydrates, and fats, but mineral matter as well, abnormal appetites are developed, indicating malnutrition.

Professor T. L. Haecker, who for many years was professor of animal nutrition at the Minnesota Experiment Station, kept a supply of bone meal on hand because he felt that there were periods in an animal's life when the ration needed more soluble ash than is ordinarily supplied in our common feedstuffs. When a considerable portion of the cow's ration was made up of corn he observed that there was a larger demand for soluble ash and he supplied this in the form of bone meal. It was his experience that by adding a little bone meal to the ration the abnormal appetites of the cows disappeared. It would seem, from the evidence that has been coming from various sources, that the feeder may well consider supplying at least the heavy milking cows with some mineral matter; finely ground bone meal carries the substances which the ordinary feedstuffs may lack. It must be borne in mind that milk is rich in mineral matter and in order to supply it we have often felt that the addition of bone meal or some other substance rich in these elements is advisable for heavy working dairy cows.

TAXES DIVIDE FARMS

Large estates in England are being divided into farms cultivated for profit. In commenting upon this, the Farm and Home says:

"From various parts of the country reports continue to come of historic houses changing hands or of large landed proprietors being compelled to reduce the size of their estates, owing to the increasing pressure of taxation on them. The breakup of estates often means that farmers become owners, often against their inclination. Without going into the desirability or otherwise of the change from tenancy to ownership in farming, what is now happening is the outcome of the modern idea in government in which extravagance in expenditure is regarded rather as a virtue than as a vice."

The division of these large estates that the men who till the soil may become owners of farms will be, in our opinion, of much benefit to the agriculture of England. There is a stability for nations in ownership which should be encouraged and fostered by governments. The reasons given for its division of these estates are not attractive, of course, as we appreciate when we pay our taxes. However, it may be somewhat comforting to know we are not the only nation enjoying high taxes.

Here is another statement the Farm and Home makes which indicates England has much the same problems in her agriculture as we: "The only remedy is for agriculture to organize itself in a solid phalanx from land owner to laborer, and make itself a force which cannot easily be injured. This, we are persuaded, may be done by co-operation." It is further stated that when farmers operate in separate units they are helpless but when organized upon a co-operative basis they may gain the strength and unity necessary to prevent disaster, not only to agriculture but to the nation. There is no question but that agriculture, not only of England but of this country, must be organized in order to not only serve itself but that it may help in directing effectively national affairs.

POWER OF CO-OPERATION

The strength of co-operative societies, when properly organized, is shown in the power they are wielding in Russia under the Bolshevist government. It has been reported by a representative of the Russian co-operative societies that the Bolshevist government cannot break down these enterprises. In other words, they have become stronger than that government. This is a commendation of these co-operative societies and a condemnation of the government by an arbitrary minority as now exists in Russia. It is most unfortunate for any nation when a part becomes stronger than the whole.

The movement in this country to establish co-operative manufacturing and selling enterprises for all classes of farm products, if organized upon the right basis, will become a powerful agency for improving agricultural conditions. We have faith that our government will never become of such a character as to be dominated by a bolshevist minority of radicalism or special privilege and thereby so weakened as to make these co-operative enterprises stronger and more efficient than the government itself. It is desirable that agriculture be organized upon a co-operative basis that the farmer will be able to direct his own affairs and to market his products to best advantage.

In accomplishing all of this, it will not be necessary to destroy all the agencies which are now handling farm products, for a large per cent of them fill an economic place. The only objections raised at the present time are against institutions which are performing no particular function but claim their percentage in the cost of handling farm products. It is the purpose to eliminate all useless institutions or those that charge too much for their service in order that farm products may be manufactured and marketed more economically. There is no destructive motive back of the effort upon the part of farmers in organizing agriculture upon a co-operative basis. Neither is there a desire to build an institution which is stronger than the government, but strong enough to serve agriculture well and to prevent economic losses in the handling of farm products.

WILL INCREASE PROFITS

The rapid decline in the prices of dairy products emphasizes the necessity of weeding out poor producing cows, of improving the quality of dairy products and advertising their food value. The uneconomical dairy cow not only causes a loss upon returns for feed consumed but she supplies a sufficient quantity of product which assists materially in depressing the price of dairy products. There is only one way to treat a cow of this character and that is to send her to the butcher.

The poor quality of dairy products is a large factor in decreasing consumption. When the consumer purchases butter, cheese, or milk which does not appeal to his palate, he lessens his consumption of these products. It is not overestimating facts when we state that people will eat from 10 to 50 per cent more dairy products when of high quality than if they are of poor quality. Further, good quality dairy products cultivate a taste for such foods which is an advantage to the dairy industry.

The splendid food value and importance of dairy products are not fully appreciated. But where this information is made known to the consumer a marked increase in consumption follows. Three prominent factors stand out before the dairy industry: Better dairy cows, higher quality dairy products, and advertising them that the consumer may know their food value. They should be given more attention than they have had, for they are of the greatest influence upon the dairy industry. They are the factors which dairymen and their organizations have under full control.

BETTER MARKETING

Elsewhere in this issue we publish a brief outline by Professors B. H. Hibbard and Theodore Macklin of the Wisconsin College of Agriculture for an improved system of marketing farm products. Their suggestions are sound and offer a substantial basis to those desiring to improve the system of marketing farm products.

There is a deep interest everywhere on the part of those engaged in agriculture to get their products in the hands of the consumer at less cost. This is commendable. The methods advised by some are of doubtful value, and we surmise that many plans have come from people who do not appreciate that it is a tremendous job to improve our marketing system so that an appreciable saving will be made.

A farmer recently purchased a 10-lb. roast at a local meat market, carried it to his automobile, and took it home. A woman from the city came to the market and bought a pound of beefsteak and ordered it sent to her home. This farmer holds that he should have bought his meat cheaper than the woman who ordered it delivered. He was informed of another market that made a discount when people carried their parcels. To this suggestion he said, "I do not like that market and I prefer to trade at the one from which I buy." This reply shows one of the reasons for preventing the development of what some people would term an ideal system of marketing farm products or any other kind of commodities. In short, our system of marketing various products is an outgrowth of the demand of the people. We believe certain improvements can be brought about so that the producer will get a larger share of the consumer's dollar but the opportunity for improvement is nowhere near as large as some would have us think. Personal preference and desires have a large bearing upon shaping the methods of distributing commodities. Not every person is seeking the greatest efficiency, but desires his personal tastes satisfied.

Substitute Silage Crops

As our clover is nearly all frozen out, what can I put in my silo? Can millet be used for silage? How would sunflowers do? Where should they be planted and how?

Foxboro, Wis. H. D.

Millet will make a fair grade of silage and is used for that purpose in many sections. It should be cut when the stems contain considerable moisture and before the seed commences to get hard.

Clover and timothy make an excellent silage crop, even better than clover alone. Oats and Canadian field peas are also a good substitute silage crop. These are sown at the rate of a bushel and a half each per acre, seeding the peas from 2 to 3 inches deep, depending on the character of the

soil. This crop should be cut for silage when the oats are in bloom and the pods are just beginning to form on the peas.

Sunflowers are considered to be an excellent crop for silage, but men have had varying results. In some cases the silage does not seem to have been of as high quality as in others. The best information we can get, however, indicates that silage made from sunflowers yields a larger tonnage per acre and makes a very satisfactory feed, being only slightly inferior to corn silage for feeding dairy stock. Most men state that their cattle like it quite as well as they do corn silage.

Sunflowers for silage are planted in the same manner that corn is planted. The variety most generally recommended is the Mammoth or Giant Russian, although in North Dakota there is the recommendation that the Black Beauty and White Beauty are quite satisfactory.

The amount of seed required per acre will vary according to the closeness of the rows and the nearness of the plants in the rows. When used alone, it will take from 6 to 8 lbs. of seed per acre but when seeded with corn from 3 to 5 lbs. will be sufficient. Professor Boss reports that in Minnesota they have planted sunflowers between May 15 and 25, using 16 to 20 lbs. of seed per acre with rows 36 to 42 in. apart and plants 2 to 5 inches apart in the row. The seed may be planted with the corn planter or with the regular drill with the spout stopped so as to seed in rows 36 to 42 in. apart. Where the ground is reasonably free of weeds, it will be found preferable to plant the sunflowers as closely together as when planting corn for silage. Under this system of planting, the stalks will not be inclined to grow so large or become quite so woody.

If sunflowers are to be harvested at the same time the corn is harvested, we would generally prefer to plant them two weeks later than corn. If it is expected to ensile them alone, without reference to the corn, then they may be planted at the usual time for corn.

Food Value of High and Low Testing Milk

What are the comparative values per quart of milk testing 3.5% fat and milk testing 5% fat? That is, I would like to know how much more a quart of 5% milk is worth than a quart of 3.5% milk when butterfat is worth 60c. There are many people that want the richer milk but they cannot seem to understand why the farmer ought to have a cent or two more for the better milk.

LaCrosse, Wis. E. H.

There is always difficulty in comparing nutritive values of different foods on the basis of commercial values. In the case of milk of different tests we are compelled to compare the muscle building qualities of protein with the heat, energy, and fat vitamine quality of the milk fat. The two are not alike and it is difficult to formulate any fixed rule for payment. Entirely aside from the question of food value, it is difficult to sell consumers on this idea. The palatability and attractiveness of the richer milk are, perhaps, the largest inducements in overcoming the bargaining value of the lower priced products.

In comparing the food value of milk of different tests, possibly the cheese factory method of payment most nearly represents the truth insofar as any arbitrary rule can be applied. The solids in milk other than fat increase as the fat percentage increases, but not in the same ratio, and the higher testing milk contains a somewhat larger percentage of solids not fat than the lower testing milk. For instance, in 100 lbs. of 3.5 per cent milk, there are 3.5 lbs. fat and 8.26 lbs. solids not fat, while in the 5% milk there are 5 lbs. fat and 9.17 lbs. solids not fat. In other words the 5 per cent milk contains 1.5 lbs. more fat and nearly one pound more solids not fat, or two and one-half pounds more total solids. However, it has been found that adding six-tenths per cent to the actual test of the milk will give a fairly accurate basis for paying for milk according to its cheese value.

Applying this system to milk of the tests given, we would assume, for instance, that there were 5.6 lbs. of fat in 100 lbs. of 5 per cent milk and 4.1 lbs. in 100 lbs. of 3.5 per cent milk. Multiplying these two by the average price for fat given (60c) would make 3.5 per cent milk worth $2.46 per hundred pounds and the 5 per cent milk worth $3.86, the 5 per cent milk being worth nearly 37 per cent more than the 3.5 per cent milk. As there are 46.33 quarts of milk in 100 lbs., this would mean that the 3.5 per cent milk would be worth 5.31c per quart and the 5 per cent milk would be worth 7.25c per quart.

On this basis of figuring, the consumer might well afford to pay 13½c (or, to be exact, 13.7c) per quart for milk testing 5 per cent when 3.5 per cent milk costs him 10c per quart, as the food value is 37 per cent greater. When other prices prevail for 3.5 per cent milk, merely add 37 per cent to get the value of 5 per cent milk. If 3.5 per cent milk retails for 8c, the 5 per cent milk is worth 10.96c; if the 3.5 per cent milk retails for 12c, the 5 per cent milk is worth 16.44c. Comparative prices for milk of other tests can be found by the same method described in the previous paragraph.

Another method of applying the "plus six-tenths" is to disregard the empirical valuation of butterfat and work back from the retail sale price of average testing milk. This gives the same price figures as the method previously outlined, but affords, perhaps, a more logical comparison.

Assuming that the average test of milk sold is 3.5 per cent and that it sells at retail for 10c per quart, what can the consumer afford to pay for 5 per cent milk on the basis of its food value? In working out this problem, it is necessary to find the price per hundred pounds of this grade of milk, divide by the number of pounds fat in this milk plus six-tenths, multiply by pounds fat in the higher testing milk plus six-tenths, and then reduce to the quart basis.

At ten cents per quart, 100 lbs. of 3.5 per cent would be valued at $4.633. To the 3.5 lbs. fat in this hundred pounds of milk we add the factor six tenths, making a total of 4.1. Dividing the price per hundred ($4.633) by 4.1 gives $1.13 as the value of one unit in the hundred pounds of the 3.5 per cent milk. In the 100 lbs. of 5 per cent milk there are 5 lbs. fat and adding the six-tenths factor gives a total of 5.6 units. As one unit is valued a $1.13, the 5.6 units would be valued at $1.13 times 5.6, or $6.328. This is the value of 100 lbs. of 5 per cent milk, which divided by 46.33 (the number of quarts in 100 lbs.) gives us 13.68 cents as the value per quart of 5 per cent milk when 3.5 per cent milk sells for 10 cents. On this basis of figuring the consumer can well afford to pay 3½ cents more per quart for the higher testing milk.

Still another method of comparison would be a computation on the basis of the contents of total nutrients in the same manner as "total digestible nutrients" are computed in the tables used in making rations for live stock, the fat being multiplied by 2½ to make a proper comparison with the protein and carbohydrates. On this basis there is .37 lb. total nutrients in a quart of 3.5 per cent milk, while a quart of 5 per cent milk would contain .47 lb. total nutrients or 2.7 per cent more than the lower testing milk. If the quart of 3.5 per cent milk sells for 10 cents, then the consumer would be justified in paying 2.7% more for the 5 per cent milk, or 12.7 cents per quart. Like figures for milk of different tests or different basic prices can be computed in like manner.

This last method gives consideration only to the total nutrients, and does not take into account the greater palatability of the higher testing milk and the yellow color, if Guernsey milk, that so appeals to the eye of the consumer.

Controlling Crow Damage

HOARD'S DAIRYMAN:—Answering the inquiry of "J. S." concerning control of depredation by crows:

A much more effective, simple, and safe protection than poison is coating the seed corn with coal tar. Heat about a teacupful of coal tar until it bubbles, remove to a safe distance from a flame, and thin by the addition of an equal quantity of a good grade of gasoline. Pour immediately over the seed corn and stir until every kernel is coated. A cupful of the mixture will be sufficient to treat a half bushel of corn. If the corn is still sticky after drying, stir in a small quantity of fine commercial fertilizer, ashes, or road dust. I have used this method the past three seasons and where used have lost no corn by crows even though they destroyed up to one-third of a neighbor's untreated seed. In fact, last season crows destroyed 75% of my untreated replanting where the first planting of tarred corn was unmolested. The only objection to this method is a slight difficulty in running the corn through the planter plates on account of the less-freely-flowing, sticky, tarred corn. The use of plates a size larger than used for untreated corn will compensate for this tendency.

A neighbor eliminates this difficulty and claims equally good results by substituting turpentine for the tar. Use it undiluted, about two tablespoonfuls to a half bushel of seed. Stir well to coat every kernel. The turpentine will dry easily and will be unnoticed except for odor.

I see no reason why these methods could not be successfully used in the Far West to prevent depredations from Mongolian (Chinese) pheasants.

Morrisville, N. Y. A. L. B.

Three-horse Evener

On page 539 of the issue of Hoard's Dairyman for April 15th, is found a drawing of three-horse evener to be used on a two-horse wagon. The point I do not understand is "chain or rod to center of rear axle". To turn around to the left, I fail to understand how this can be done with this rod so attached. My idea is to reinforce the offset by bolting to pole a half circle attached to the pole in such a manner as to not interfere with raising or lowering pole.

Sandusky, N. Y. R. E. C.

A three-horse offset hitch on a two-horse wagon is a makeshift at the best and will throw some side draft into the wagon and cause the pole to pull sideways, but the rod or chain extended to the rear axle will reduce this to a minimum.

Have you ever tried to pull a wagon with one horse; anchoring the evener back to the front axle with a stay chain? You will get exactly the same results at the end of the pole as by using the method he suggests.

It will obviously be difficult to turn to the left with the offset hitch offset to the left hand side and to turn to the right with the hitch turned to the right hand side. I neglected, however, to state that if the evener does swing too far forward in turning to the left, it can be stayed back to the axle with the stay chain.

The only really satisfactory way to hitch three horses to a wagon is to put in a double tongue or hitch one at the end of the pole by means of proper equalizers. F. W. DUFFEE.

Wisconsin College of Agriculture.

Sandwich Cheese

In "The Market Reporter" for April 16, 1921, is the following statement: "The new style, referred to as Sandwich cheese is becoming very popular and in certain markets is being taken by trade accustomed to buying Longhorns or Young Americas."

Will you kindly give me the complete details for making this cheese and state what the appearance, texture, number of holes, and flavor of such cheese of the highest score should be?

Belgrade, Mont. H. H.

Professor J. L. Sammis, of the Wisconsin Dairy School, has given us the following reply to this inquiry:

"The new style of cheese called Sandwich cheese is a good grade of American cheese made in the usual manner by pressing it in large blocks and after curing, cut up into 5-lb. pieces, which are then covered with tin foil and packed in boxes for the trade.

"The tin foil prevents the cheese from drying out and also this cheese reaches the consumers practically free from mold and very uniform in condition; no rind is present on the surfaces of the pieces, and after the tin foil is removed, every particle is fit for food.

"The term 'sandwich cheese' is simply a trade name applied to this style and suggests a possible use to which the cheese may be put rather than a difference in the method of manufacture. The style in which it is packed for the market, however, is a new departure and is proving quite attractive to the trade.

"I am not informed as to whether or not one or more of the features of the packing process or package is protected by patents."

In addition to Mr. Sammis' statement, we would say that there is, at the present time, being put upon the market by the Kraft people a patented cheese which, we understand, is made by grinding old cheese and then mixing and pasteurizing it, adding to it a certain quantity of butter and then placing these in special square containers or oblong containers. This type of cheese is said to be in large demand, but we understand that the process is patented and cannot be used generally.

Hoard's Dairyman

Fort Atkinson, Wisconsin
Founded 1885 by W. D. HOARD

W. D. HOARD & SONS CO., Publishers
H. L. HOARD, A. R. HOARD, F. W. HOARD
EDITORS
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C. L. BURLINGHAM

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Subscription in United States and Mexico $1.00 per year; 3 years, $2.00; Canada, $1.50 per year.

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All foreign countries in the Postal Union $2.50 a year; not in the Postal Union $3.00, including postage.

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Entered at Fort Atkinson, Wis., as second class matter.

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In March, 124 dairy herds in Oregon were on official test. Six of these were Ayrshires, 15 Guernseys, 15 Holsteins, 66 Jerseys, and 2 Shorthorns. The highest seven-day record completed during the month was made by the Holstein cow, Queen Ocean Rideau, owned by W. T. Phy. This record was 635.8 lbs. milk, 21.8 lbs. fat. This cow made 6.25 lbs. of fat in two days on semi-official test. Two other cows in the state exceeded this two-day fat production. Both were Jerseys: Birdie's Owl of MLP owned by Wm. L. Ladd, making 7.12 lbs., and Flossie May St. Mawes, owned by Albert Johnson, 6.258 lbs.

Coming Events

May 23—Missouri State Holstein Association first Annual Show of Sale Cattle at Sedalia, Mo.

June 1—American Jersey Cattle Club, annual meeting, New York City.

June 1—Holstein-Friesian Association of America, annual meeting, Syracuse, New York.

June 9—Ayrshire Breeders' Association meets in Springfield, Mass. Secretary, J. G. Watson, Brandon, Vt.

June 22-25—Tuberculosis Eradication Conference, State House, Boston.

American Guernsey Cattle Club Reports Favorable Year's Work

THE report of the past year's work of the American Guernsey Cattle Club made at its annual meeting in New York City May 11 is highly satisfying to all those interested in pure-bred dairy cattle. Secretary W. H. Caldwell, in his resume of the club's activities during his twenty-seventh year of service, voiced the optimistic opinion that "the interests of the Guernsey were never in a more promising condition than now" and predicted that "intelligent, hard, cooperative work with full faith in the future will mean a better business for the breeds and breeders."

President Robert Scoville characterized the club as a "service corporation" and called the attention of the members to the marked freedom of the Guernsey herd book and the Advanced Registry from errors and to the organization's progressive stand on important matters since its beginning. He drew attention to the service being offered members through the new extension plans being developed through the work of four territorial fieldmen.

In the election of officers James Logan Fisher of Pennsylvania was chosen president-emeritis; Mr. Scoville was re-elected for the fourth time; J. A. McSloy of Canada and Gage Tarbell of New York were made vice-presidents; and W. H. Caldwell, who has served the club since the World's Fair in 1893, was elected to begin his twenty-eighth year as secretary-treasurer. C. L. A. Whitney of New York and D. D. Tenney of Minnesota were elected to the board of directors.

A provision was adopted to permit the identification of imported animals of the breed by tattoo marks in the ear, the only previous method being by hoof brands.

H. G. Hall of Ohio was expelled from the club's membership for fraudulent registration and for changing registration papers.

The chief discussion of the meeting concerned the establishment of a "farmer's class" in Advanced Registry testing. The proposed division is for a 305-day record made in one lactation, to be started within 30 days of the cow's freshening, milkings to be made only two times a day, and the cow to carry a calf 205 days of the test period. Objection to this class was made on the claim that it will not fill the purpose for which it is intended, that of making a class open to men not able to compete in the present divisions, and that it fails to give the Guernsey cow credit for her persistency of production. A popular suggestion made was that only cows milked by their owners or by minor members of their families be accepted for entry in the class.

So much sentiment favored the formation of the class that a motion was carried to refer the question to the directors for further consideration and adoption.

There was a gain of 6.7 per cent in registrations for the past year over those in the year ending April 1, 1920. A total of 20,724 registrations was made; 7,893 bulls and 12,861 cows. There was a marked gain over the transfers two years ago though the number was slightly less than for last year; that for 1918—19 being 16,158; for 1919—20, 20,819; and for 1920—21, 19,929. Eleven bulls and 645 cows were imported last year.

The present club membership is 1,012, the new members for the year being 120. The membership makes up only 8 per cent of the number of breeders, and a campaign will be made to increase this percentage.

In the Advanced Register 2,336 cows are on test, a gain of 10.9 per cent over the previous year. These cows are owned by 569 breeders which is an increase of 21.8 per cent. During 1920—21 a new breed champion was developed in Countess Prue whose production was 1,103.28 lbs. fat.

During the fiscal year the club's total income was $251,200.71 and the disbursements, $250,142.24. The present assets of $127,728.71 exceed the liabilities by $51,090.38.

Emmadine Guernseys Make $300 Average

In the dispersal of the Emmadine Guernsey herd of New York on May 10, forty-eight animals sold for an average of $302. The top price of $2,025 was paid for Masherlette of Harbor Hill 2nd by Chilmark Farm of New York. This four-year-old cow is second in Class FF with a record of 12,602.2 lbs. milk, 634.3 lbs. fat. The second high value, $1,225, was reached by another four-year-old daughter of Glenburnie Galore, Linden Girl III. G. E. Russell of Ohio was purchaser. A third daughter of this bull went to Harbor Hill, New York, for $750. The only other sale for more than $500 was that of Emmadine Masherlette, a granddaughter of Imp. Masher's Galore to Chilmark Farm for $700. A. E. Tower of Pennsylvania paid $500 for Criterion's Buttercup of Sunnyside.

An Appeal for China

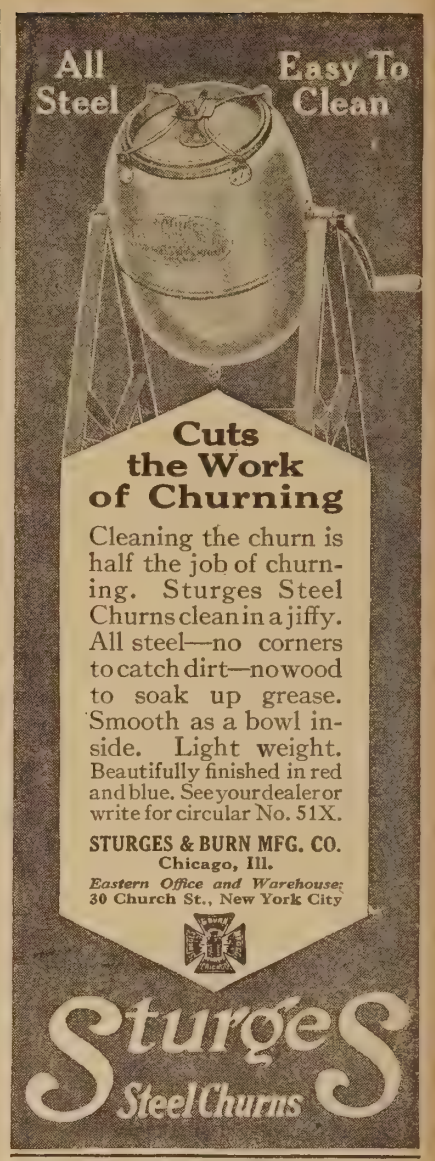
To all Wisconsin county agents and farm bureaus is going an urgent appeal from the Wisconsin Farm Bureau Federation to enlist the co-operation of farmers and dairymen in the cause of China's starving millions. Other middle western states gave hundreds of carloads of corn for Central European relief. Wisconsin, not a corn state, could not share in this praiseworthy benevolence.

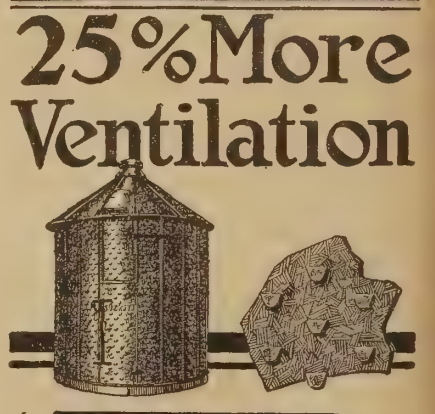
But Wisconsin, rich in dairy products and knowing not the meaning of famine as a personal matter, now has the opportunity to come to the aid of our stricken friends across the Pacific. Lack of time and difficulties of shipping make it impractical to transport dairy products to China. Therefore another and very practical method has been devised.

Every Wisconsin farmer and dairyman may contribute in cash the equivalent of one morning's milking, this money to be deducted from his milk check at the end of the month.

Pledge blanks for all creameries and condenseries, furnished by the Wisconsin Committee for China Famine Fund, will be offered to these factories for the patrons in order to place their agreement upon a strictly business basis. The creameries, cheese factories, and condenseries will mail such moneys immediately to the treasurer of the committee, the Central Wisconsin Trust Company, Madison, Wis., which forwards all funds to New York, whence it is cabled to Peking. Grain is then purchased in Manchuria and rushed to the stricken areas.

DANIEL W. MEAD, Chairman,
Wis. Com., China Famine Fund.





Washington, D. C., Weekly News

[SPECIAL TO HOARD'S DAIRYMAN]

Washington, May 9—The fight made by Senator Hiram Johnson against the confirmation of the nomination of D. H. Blair of North Carolina to be Collector of Internal Revenue, still delays the confirmation and leads, in some quarters, to a belief that the nomination may be withdrawn, and some other appointee named by the President.

The controversy has points of interest, but to the dairy industry they are overshadowed by the continued absence of authority in the commissionership to whom an appeal can be made to settle the neutralizer butter ruling. The evidence of strong pressure to cancel the ruling continues, but no progress is being made of any kind, and even the effort to clarify the matter by congressional action is at a standstill, awaiting the action of the new commissioner.

⚜

Canadian dairy interests, represented by D'Arcy Scott, are seeking tariff concessions in Washington at this time, Mr. Scott having been here and in conference with Senate and House members for some weeks. Mr. Scott is asking for closer commercial relationships to be brought about by reciprocity arrangements and so far as butter is specifically concerned proposes that instead of the six-cent duty provided for in the pending emergency tariff, that a four-cent rate be substituted for the present two-cent rate, and promises that if this be done, or if it be authorized under later reciprocal agreements, that Canada will make a similar rate for American butter in the Canadian markets. He points to the six million pounds of Canadian butter shipped into the United States last year, and the large shipments into the eastern provinces of Canada from the United States, as the basis for his request for reciprocity.

⚜

Some other legislation of general agricultural interest is being rapidly advanced. Representative Volstead took advantage of the regular calendar call of bills last Wednesday to move the final passage of the collective bargaining bill, and after a heated two-hour debate forced a final vote, and the passage of the measure with but 49 votes out of the five hundred members of the House, in opposition. It has now gone to the Senate where the Judiciary Committee has jurisdiction.

The House Committee on Agriculture reported favorably the rewritten Tincher wheat futures bill, changed to meet the suggestions made by Secretary of Agriculture Wallace. This bill restricts future trading to "contract markets" to be designated by the Secretary of Agriculture, who is also given power to supervise the rules and operation of such markets, and cancel designations. Strictly gambling operations, puts, calls, indemnities, etc., are subject to a twenty per cent tax which practically is prohibitive. There was no substantial opposition to this measure in the committee hearings.

Packer control bill hearings have advanced to the point where there is substantial agreement by farmer organization representatives and packer representatives on an amended form of the Haugen bill, or else the Williams bill—the farm bureau bill—which is very similar. Some members of the committee are still urging a more drastic bill—the McLaughlin bill—which is identical with the Norris bill in the Senate, and practically a rewrite of the old Kenyon-Anderson measure. However, even this measure has been changed in the Senate, changing the independent Commission of three, provided for in the original bill, to a single live stock commissioner to be a member of and subsidiary to the Secretary of Agriculture as the executive authority. This is the committee amendment to the bill in the Senate, upon which a favorable report was predicated last Saturday. Even thus changed, the bill contains much more drastic control provisions than the Haugen or the Williams bills in the House. The amended Norris bill is likely to pass the Senate, and the Williams bill to pass the House, and final legislation to lie somewhere between these two measures. Packer influence will seek to hold the legislation as near as possible to the Haugen or the Williams bills.

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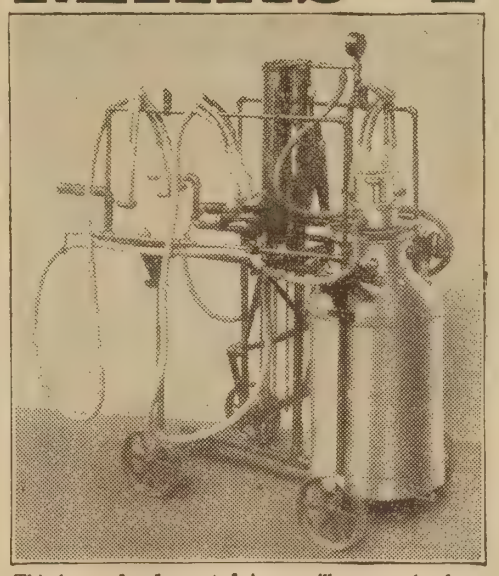
There are indications that cold storage legislation will be the next matter taken up by Chairman Haugen and the House Agricultural Committee. The two features of the Haugen bill, which has already been introduced and referred are the plain marking section, and the restriction of time in which perishable commodities may be held in storage, to 12 months. There are many representatives of the dairy industry who oppose the original provisions of the bill, as applied to butter and cheese; they assert for example, that shipment of the products in refrigerator cars should not be considered as bringing them within the rule, so that they must be labeled "Cold Storage" when offered for sale. This was the source of the opposition raised to last year's bill by the California dairy and poultry interests. Still others say that making it necessary to label good storage butter—which has deteriorated little if any during the months from May or June to December or January or even later—with the "Cold Storage" label will interpose a further handicap on butter in competition with oleo which, although made from oils of uncertain age, and worse condition before the processing process which makes them into oleo material, can be handled and sold without passing through storage sufficient to bring it within the labeling rule. There is, of course, some merit in this last contention. An answer is that instead of letting down the bars for storage butter to be sold in competition with fresh made butter, the remedy should be in more strict inspection of the plants in which and the materials of which vegetable margarines are made—not now subject to inspection at all under the Bureau of Animal Industry—and the stricter enforcement of labeling rules respecting the use of words, phrases, names, and designs or illustrations which mislead the buyers as to the real character of the nut margarines.

Pure-breds in Alabama and Arkansas

The census report for 1920 gives a total of 6,108 pure-bred dairy cattle in Alabama, consisting of 1,475 males and 4,633 females. By breeds the numbers were: 4,608 Jerseys, 1,142 Holsteins, 46 Guernseys, and 312 other breeds.

In Arkansas there is reported a total of 6,950 pure-bred dairy cattle, consisting of 1,501 males and 5,449 females. By breeds the numbers were: 4,627 Jerseys, 2,001 Holsteins, 19 Guernseys, and 303 other breeds.

Milks 4 Cows at Once



This is our hand-operated 4-cow milker; we also have a 2-cow milker ($123) on which we offer a free trial (exchangeable for 4-cow milkers), and gasoline engine and electric power milkers.

the Milking Machine Sensation of 1921

Costs Half; Does Double Work

(Twice the work of our 1920 model)

The *new* PAGE *4-cow* Milker—operated by hand—no gas engine—no electricity—one man milks 4 cows at once. Little work—quickly done—easiest of all machines to handle—easiest, by far, to clean; the most wonderful advance in milking machine manufacture.

We also have a 2 cow milker, only

$123!!

30 Days Free Trial!

In every locality in which we have no dealer, or agent or sales-manager, we will send *one* machine on 30 days' free trial and at our rock-bottom price, direct from the factory; to the first responsible farmer who asks for it. No deposit; no C. O. D. 30 days full free trial, you alone to decide. *ACT QUICK!*

After trial, if satisfactory keep the machine on our IRON CLAD Guarantee.

Costs Nothing to Install—Not a cent of installation expense—no engine, no motor, *nothing! Just* the machine for small herds. If you want power, get our electric or engine power outfits at $225 and up.

You milk right into your own ordinary milk can; no extra pails; no pipes; no pulsators; no tanks. Amazingly easy to clean.

Guaranteed to do the work.

Guaranteed to save time.

Guaranteed—the last word in sanitary milking (one creamery wrote us that the most sanitary milk came from farmers using the PAGE Milker).

And—

Guaranteed:

Action alterable to suit every cow separately. Instantly adapted to any cow according to her disposition and how easily or how hard she milks.

Book on Milking Sent Free!

This book is full of *important* information for the man who is thinking of getting any kind of a milking machine—**Get Posted!**

Burton Page Co., Dept. 9625
661 West Lake Street, Chicago, Ill.

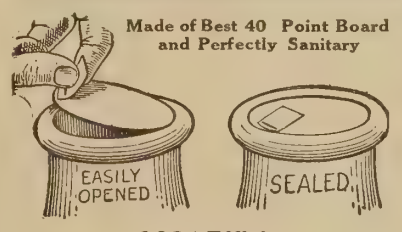
Please send me your free book on milking. Also description of your new model PAGE 4 cow Milker, and your engine and electric power models. Also details of your 30-day free trial offer on the 2 cow, hand operated model.

Name.....

Address.....

Number of cows .....
If you have a milking machine now give name of make

The New Certified Depressed Handle Cap



Made of Best 40 Point Board and Perfectly Sanitary

100% Efficiency

Packed in Tubes for Use in Capping Machines

Ask your Jobber or write for Prices and Samples

American Dairy Supply Company, 318-32 Maine Ave., S. W., Washington, D. C.

The Ideal Milk Cooler



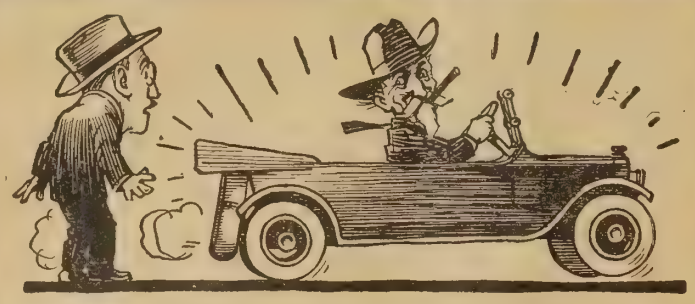
This apparatus has been, and now is, the best low priced MILK COOLER AND AERATOR on the market—extra large cooling surface, simple, strong and durable, ice chamber easy of access—easy to clean and easy to operate—adapted to use with either ice or running water. It has been in use *more than twenty years and all improvements added to date.*

Ask for descriptive circulars and prices.

OAKES & BURGER CO.

(Established in 1873). Cattaraugus, New York

Lowe Brothers



The Colonel Fooled Me Again This Time He Did It With His Car

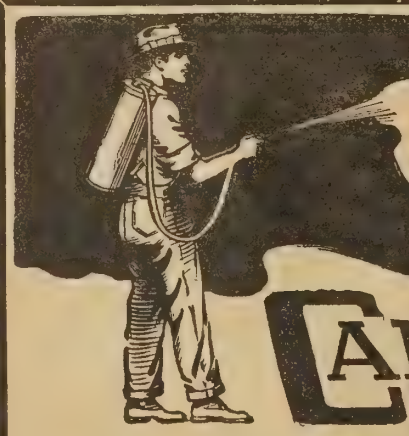
Friday night I saw him down in front of Perkins' hardware store with his car. We kind of joshed him a bit about how the old car was growing grey like his whiskers. With that, he smiled and said: "Just you wait."

Sunday morning—only two days later—he whizzed by with that car a beautiful jet black and shining like a bottle. Saw him at church and all I could get out of him was: "Did it myself. If you don't believe it, ask Mrs. Colonel. She got a lot of new furniture out of a can of Lowe Brothers Vernicol and I got that new car out of a can of their Automobile Color Varnish. If I can do it, so can you."

And by Jimminy, I did. If I can do it, so can you. It's sold by the best dealer in each town.

The Lowe Brothers Company
491 EAST THIRD STREET, DAYTON, OHIO
Boston New York Jersey City Chicago Atlanta Memphis
Kansas City Minneapolis Toronto
Factories: Dayton Toronto

Paints



Paints and also Disinfects Dries White

CARBOLA
The Disinfecting White Paint

That Whitewashing Job

—in Poultry Houses, Stables, Pig-Pens or Cellars—

which you know you ought to do, no matter how much you dislike it, can be done quickly and easily, at a saving of time, labor and money, and any day it is convenient for you, if you will use CARBOLA instead of whitewash.

Carbola Takes the Meanness Out of the Job and Gives You Much Better Results Besides.

Carbola is a white paint and a disinfectant combined, in powder form, that is ready to use as soon as it is mixed with water—no waiting or straining. It will not spoil even after it is mixed, so you can keep it on hand ready to use when wanted or on a rainy day. You can apply Carbola with a brush or a spray pump to wood, brick, cement, stone, plasterboard, tar paper, etc., or over whitewash. It will not clog the sprayer and does not flake or scale off the way whitewash does. One gallon, which is made with a pound of the powder—costing you 10 to 12½ cents—covers 200 square feet.

Carbola is neither poisonous nor caustic—harmless to the smallest chick or to stock that licks a painted surface. It gives walls, ceilings and partitions a smooth, white finish, increases the light, improves the appearance, kills contagious disease germs and mites—makes buildings clean, sweet-smelling and sanitary. It is used and recommended by thousands of poultry, dairy and breeding farms and by many agricultural colleges and experiment stations. Give it a trial—you never will regret it.

AS A LOUSE POWDER for use on cattle, poultry, horses, hogs, dogs, etc., the dry Carbola powder will be found most satisfactory. It costs about one-third less than other brands and gives sure results. Apply it as you would any other louse powder.

Your hardware, paint, drug or seed dealer has Carbola or can get it. If not, order direct—prompt shipment by parcel post or express.

10 lbs. (10 gals.) $1.25 and postage **20 lbs. (20 gals.) $2.50 delivered** **50 lbs. (50 gals.) $5.00 delivered**
200 lb. bags $18.00 **Trial package and booklet 30c postpaid.**

Add 25% for Texas and Rocky Mountain States

CARBOLA CHEMICAL CO., Inc., 299 Ely Ave., Dept. H, Long Island City, New York

Seeing the Agricultural College Work

(Continued from page 744)

of the ice cream over-run test, the percentage of air incorporated into ice cream can be detected. Other machines on display were the milk sediment test and the Wisconsin curd test.

Fighting Diseases

The health of animals and plants must be carefully guarded. How this was accomplished was graphically depicted by the bacteriology, veterinary science, and plant pathology booths.

In the booth of the bacteriology department, many farmers saw living germs for the first time. Thousands of them could be seen moving about. How those germs were caught on gelatin plates was demonstrated. It was but another step to show how they were introduced into bottles. In that form they are shipped to the farmers to inoculate the soil for the growth of alfalfa, soy beans, red clover, and other legumes. Each legume requires a different kind of bacteria. At a cost of $7,000, the bacteriology department was able to distribute legume bacteria to the farmers that would have cost $28,000 if purchased commercially. Charts mounted above canned goods showed how harmful bacteria may be destroyed or checked. Some methods to kill bacteria are: the use of heat, drying, excluding air, use of acids, and salts. Freezing will check their growth. The information spread by the bacteriology department has been the means of increasing the growth of legumes, extending the canning industry, and preventing disease.

By the use of mounted specimens, the veterinary science department showed how contagious diseases attack the organs of the body. How hog cholera attacks the intestines, and how tuberculosis affects the lungs was demonstrated. "Eradicate tuberculosis" was the slogan of the department. More than $9,000 worth of tuberculin was distributed, free, by the department during the past year. Through the efforts of this department, much of the tuberculosis-free area of Wisconsin was made possible.

Agricultural engineering can best be presented to the public in popular form by action. Its booth was a model barn. Model barn plans are sent out by the department to thousands of farmers every year. Necessarily, the space was too small for the operation of machinery, so the work was depicted by continuous moving pictures. Land clearing was demonstrated with the use of dynamite and the stump-puller. Organizations under the supervision of the engineering department are clearing 150,000 acres of land this summer. Moving pictures of tiling and power machinery were also flashed on the screen.

Work Together

Much has been said about keeping the young people on the farm. How the economics department is helping to solve this problem was illustrated in its booth. The original map of the social survey of Walworth County was on display. Pictures of model community buildings, community clubs, and other social activities were exhibited. The University sends out much material to aid the people of the state in their social center meetings.

The agricultural economics department visualized its work by presenting figures showing the rapid growth of farmers' co-operative organizations. Co-operative creameries, cheese factories, and shipping associations are a few of the different kinds. The Wisconsin Cheese Federation receives cheese from 120 factories that are supplied by 3,000 dairy farmers. The federation supplies 350 wholesalers who ship to 14,000 retailers that sell to 4,667,000 consumers.

Several other departments were represented by booths. The cross section of agricultural activities would not be complete without including them. The department of horticulture had a miniature model farm and orchard. An attractive home, a good garden, well pruned orchards, convenient farm buildings

SALE ANNOUNCEMENTS

May 23—Holsteins. Central Michigan Breeders' Sale at East Lansing, Mich.
May 24—Holsteins. John M. Tobin Dispersion.
May 23-24—Holsteins. Missouri State Holstein Association Show and Sale at Sedalia, Mo.
May 24—Guernseys. Marathon Co. Guernsey Breeders' Ass'n. Second Annual Consignment Sale at Wausau, Wis. F. E. Fox, Waukesha, Wis., Sales Mgr.
May 25—Holsteins. Salem—Cumberland 2d Breeders' Consignment Sale.
May 25—Guernseys. Portage Co. Guernsey Breeders' Association Annual Consignment Sale of Registered Guernseys at Amherst, Wis. R. K. McDonald, Sec'y. F. E. Fox, Waukesha, Wis., Sale Manager.
May 26—Holsteins. Dispersion of M. D. Buth Herd at Comstock, Mich.
May 26—Brown Swiss. First National Consignment Sale, Peoria, Ill. Wm. S. Dunn, Mgr., Middleburgh, N. Y.
May 26—Guernseys. Portage Co. Guernsey Breeders' Association Annual Consignment Sale of Registered Guernsey males and grade females at Amherst, Wis. R. K. McDonald, Sec'y. F. E. Fox, Waukesha, Wis., Sales Manager.
May 26—Holsteins. Marshfield, Wis. Holstein-Friesian Breeders' Ass'n. of Wisconsin, L. L. Oldham, Sec'y., Madison, Wis.
May 26—Jerseys. Greene County, N. Y., Jersey Cattle Club Consignment Sale at Cairo, N. Y.
May 27—Holsteins. Michigan Holstein-Friesian Breeders' Assn. Sale at Grand Rapids, Mich. H. W. Norton, Jr., Secretary, Lansing.
May 27—Holsteins. Outagamie County Holstein Breeders' Ass'n. Sale at Appleton, Wis. Edw. O. Mueller, Sec.
May 28—Holsteins. Sullivan Bros., Marengo, Ill.
May 28—Holsteins. Unity Breeders' First Annual Consignment Sale at Unity, Wis.
May 31—Registered Guernseys. Barron Co. Guernsey Breeders' Ass'n. 3rd Annual Consignment Sale, Barron, Wis.
June 1—Holsteins. Dispersion of Fairview Stock Farm's Herd at Anderson, Ind. O. L. Janney, Owner.
June 1, 1921—Holsteins. Central Wisconsin Holstein Breeders' Ass'n. 13th Semi-annual Consignment Sale at Marshfield Sales Pavilion, Marshfield, Wis. R. A. Peterson, Wisconsin Rapids, Wis., Sale Mgr.
June 1—Guernseys. Quality Sale, Chippewa Valley Guernseys, at Eau Claire, Wis. G. R. Ingalls, Sale Mgr.
June 2—Guernseys. Clark County Guernsey Breeders' Annual Consignment Sale at Owen, Wis., C. E. Beck, Manager.
June 2-3-4—Holsteins. Second Co-operative National Sale at Syracuse, N. Y.
June 3—Guernseys. Fond du Lac Co. Combination Sale. Charles L. Hill, Mgr.
June 4—Guernseys. Folly Farm Guernseys at Fond du Lac, Wis. Chas. L. Hill, Mgr.
June 7—Guernseys. The Southern Wisconsin Guernsey Breeders' Ass'n. Sale, Ft. Atkinson, Wisconsin.
June 8—Guernseys. Complete Dispersal Sale of the Chas. Govin herd of Menominee, Wis., at Waukesha, Wis. F. E. Fox, Sale Mgr.
June 9—Holsteins. First Annual Bred Heifer Sale, Thorp, Wisconsin. W. H. Krause.
June 9—Holsteins. First Annual Sale, Holstein-Friesian Co-operative Association of New Jersey, Trenton, New Jersey. J. W. Bartlett, Secretary, New Brunswick.
June 9—Guernseys. Waukesha County Guernsey Breeders' Ass'n. Eighteenth Semi-Annual Sale of Registered Guernseys at Waukesha, Wis. F. E. Fox, Sec.
June 9—Guernseys. Massachusetts Guernsey Breeders' Sale. Leander F. Herrick, Sale Mgr.
June 10—Holsteins. Loyal, Wis. R. M. Jenks, Sale Mgr.
June 14—Guernseys:—Minnesota Guernsey Breeders' Annual Sale, State Fair Grounds, St. Paul. L. V. Wilson, Secretary.
Oct. 19—Holsteins. Chester Co., Pennsylvania, Holstein-Friesian Breeders' Guaranty Consignment Sale. C. J. Garrett and F. C. Brinton, Jr., Mgrs.
Oct. 19—Guernseys. Michigan State Sale of Registered Guernseys at Lansing, Mich. F. E. Fox, Waukesha, Wis., Sale Mgr.
Feb. 21-22, 1922—Holsteins. Iowa Holstein-Friesian Association's Annual Sale.

were ideas that the visitor could not miss.

Economic entomology was well represented. How the department combats harmful insects and encourages the beneficial kind was demonstrated. The beekeeping industry is now tenth in importance in Wisconsin.

Armistice Queen, the hen with a year's record of 284 eggs, was exhibited by the poultry department. The pile of eggs on the one hand and the balanced ration on the other told the story.

Manufactured products were seen in the manufactured products booth. The variety is almost too numerous to mention. Canned goods, butter, cheese, hemp cloth, and dozens of other products show how manufacturing is dependent on agriculture.

Domestic Science Improves the Home

Home economics is probably the biggest single department of the Agricultural College. What would agriculture be without the home? That is the question that the Home-Ec booth brought out. Cooking, sewing, decoration, meal and wardrobe planning were a few of the activities demonstrated by that department.

One room was devoted to the economic status of the American working girl. The wardrobe of the girl with a small wage, and that of a girl with a comfortable wage was compared. The charts above the wardrobes told the story. The girl with the small income had 88 cents left at the end of the week for health and pleasure. The girl with the comfortable income had a better living and $2.50 left for health and pleasure.

Next to this room was a model rest room. It was decorated with things that could be made in the home. Many farmers' wives appreciated the efforts of the Home-Ecs to make them comfortable.

Teaching Agriculture

If the facts discovered by agricultural scientists were locked up in a vault, the people would not benefit thereby. And so it was fitting that the great disseminators of agricultural facts should each be represented by a booth: the Agricultural Extension, Agricultural Education, and Agricultural Journalism Departments.

The Agricultural Extension is the people's school. Its teachers are the county agents, home demonstrators, and boys' and girls' club leaders. How the Agricultural College reaches the people directly was explained by "live wire lines" connecting the college with the people by means of county agents and home demonstrators. Information in almost any form is given by these "live wires". The rapid growth of boys' and girls' club work was demonstrated by charts containing the records, and by actual demonstrations in the Extension booth.

Agricultural education has spread rapidly to the high schools of the state. The purpose of the Agricultural Education Booth was to show in a vivid way how the College of Agriculture functions in making agriculture practical for high school students. Most of the agricultural high schools have teachers who are university graduates.

The large mass of people get their knowledge by reading and applying what they read. Agricultural journalism is the department that furnishes that means of education. The Department of Agricultural Journalism has compiled more than 460 different bulletins, besides the circulars and articles to farm papers that it has sent out. Students of the department may be found on all the leading farm papers. When it is considered that nearly every farmer takes a paper it can readily be seen how wide is the influence of the department. Advertise, name your farm, publish farm news, are some of the progressive methods that are being urged by the department.

The entire exposition can be best characterized by the words of Gov. John J. Blaine. "It is not a cheap or showy affair in any respect. It is altogether a substantial undertaking. I was delightfully surprised at its magnitude and its purpose."

Jersey Cattle Notes

For week ending April 29:

Number of animals registered: Bulls, 252; cows, 778; total, 1,030. Number of transfers recorded: Bulls, 175; cows, 638; total, 813.

"As ye sow, so shall ye also reap."



More Money Whether You • Sell or • Feed Your Hay

THE amount of nutrition in the hay determines its grade—its value in dollars and cents. The way the hay is cured determines the amount of nutrition. Air-cured hay retains its nutrition—it is the best hay—the moisture evaporates through the stems—no loss of leaves—no sun-scorching of hay. It requires no extra tools or labor to air-cure hay. Instead of using a sweep rake or sulky, you merely use the

JOHN DEERE

DAIN SYSTEM RAKE

The Rake With the Inclined Frame

With this rake you can follow the mower closely, rake while the leaves are still active, and place the hay on clean stubble in medium-sized **loose, fluffy** windrows through which the air circulates readily, the bulk of the leaves inside and the stems outside. The hay is not sun-scorched, but is air cured—the ideal way—"Nature's Way" of curing hay.

The Dain System rake does this most successfully because it **is the rake with the inclined frame.** The frame is low at the front end and increases in height toward the rear—its capacity increases as the volume of hay increases. The frame being low at the front end and set slightly ahead of the tooth bars causes the hay to come up against the frame and pitch forward into a loose windrow, placing the leaves inside and the stems outside; most of the moisture evaporates with no loss of leaves or foliage.

Unusually big range of tooth adjustment to suit varying field conditions; **curved teeth** properly speeded to pick up all the hay gently but positively—no threshing of leaves.

In case of rain, you can, with this rake, turn the windrows upside down as often as necessary, always keeping the windrows loose.



FREE BOOKS—"John Deere Dain System Rake"—fully describes this system of air-curing hay.

"Better Farm Implements"—114 pages, illustrates and describes briefly the entire line of John Deere farm tools—a reference book you will be proud to keep on your table. Write today, address John Deere, Moline, Illinois, and ask for package DS-414.

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Lakeville, Connecticut.

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15% More Milk

Milk is 87% water, and cows cannot give their greatest yield unless they have plenty of water constantly within reach. Farmers who use Libbey Bowls report an increase of 15% to 20%, which soon pays for the bowls.

Libbey Automatic Water Bowls

are the most sanitary and successful ever invented. Each bowl controls its own water supply, operated entirely by cow, and may be put at different heights, or in any stall or pen. No float tank required. Cannot overflow; cannot get out of order. Almost no water left in bowl to become stagnant. They save labor and feed and increase milk. Prevent spread of contagious diseases, as each cow has her own bowl and no water can pass from one to another, as with old-style bowls. Very simple and easy to install. Write for circular and prices, also FREE DAILY MILK AND FEED RECORD.

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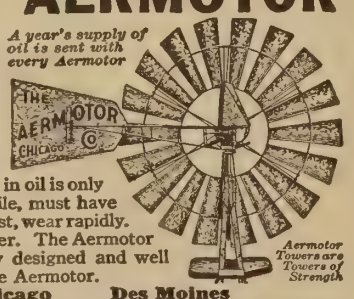
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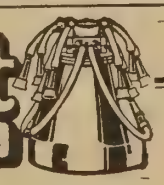
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DAIRY MARKET NEWS

Butter Markets Show Tendency to Steady

(Report by U. S. Bureau of Markets.)

Declining butter markets at this season of the year sometimes cause prices to drop faster than the actual supplies of butter warrant. Everyone is so intent on keeping cleaned up in order to avoid taking losses on unsold stocks that a slight increase in buying may find the market almost bare of offerings.

The wide spread in prices between Chicago and eastern markets was largely the result of an uneven distribution of receipts. Creameries shipping butter that has not been contracted for prefer to ship to the nearest market at this season even if prices are not so high.

Prices were at their low point on Friday and Saturday, and while there was considerable difference of opinion as to the future course of the market, many thought that neither present stocks on the market nor anticipated arrivals were heavy enough at the moment to force a further decline. Some looked for another little buying spurt and perhaps some recovery in prices although reports from all sections point to a continued increase in production.

The average wholesale prices on 92-score butter at five of the principal markets for the week ending May 7, 1921, and the corresponding week a year ago were as follows:

	Week ending May 7 1921	1920
	Cents	Cents
New York	36.6	62.0
Chicago	30.9	60.2
Philadelphia	37.4	62.2
Boston	37.0	63.1
San Francisco	30.5	53.0

The receipts of butter at these markets were 11,208,973 lbs. as compared with 7,973,661 lbs. a year ago and 10,217,766 lbs. a week ago.

April Milk Prices

[From Report by U. S. Bureau of Markets]

Table I represents a comparison of the net prices received during April by producers in 3,066 local markets for fluid milk (test 3.5%) f. o. b. local shipping point or distributor's plant.

Table I—Producers' Prices by Geographic Sections

Sections	Range of prices per cwt.	Comparison of average prices 1921 Mar.	1921 Apr.	1920 Apr.
United States	$1.54–$4.65	$2.64	$2.62	$3.25
New England	2.21– 4.20	3.33	3.32	4.03
Middle Atlantic	2.14– 3.22	2.43	2.41	2.90
E. No. Central	1.80– 3.03	2.45	2.41	3.10
W. No. Central	1.54– 3.02	2.65	2.60	3.33
South Atlantic	2.48– 4.65	3.68	3.31	4.48
E. So. Central	1.95– 3.49	2.21	2.11	3.52
W. So. Central	2.10– 4.36	3.61	3.36	4.38
Mountain	1.92– 2.91	2.48	2.36	3.01
Pacific	2.60– 3.40	3.01	3.02	3.34

Table II shows for certain representative city markets the prices of standard grade milk (Grade B, Test 3.5%) received by producers f. o. b. city and paid by consumers during the month of April.

Table II—Producers' Prices

	Producer receives per cwt.	Consumer pays per qt.
Birmingham, Ala.	$3.11	$.20
Phoenix, Ariz.		.12.—15
Little Rock, Ark.	3.20	
San Francisco, Calif.	3.60	.15
San Diego, Calif.	3.67	.17
Denver, Colo.	2.45	.12
New Haven, Conn.	4.18	.16
Washington, D. C.	4.18	.16
Jacksonville, Fla.	4.79	
Atlanta, Ga.	2.93	
Chicago, Ill.	2.88—2.93	.14
Indianapolis, Ind.	2.28	.13
Des Moines, Ia.	2.45	.13
Topeka, Kans.	2.25	.12
Louisville, Ky.	2.30	.11
New Orleans, La.	3.74	.16
Baltimore, Md.	3.20	.14
Boston, Mass.	3.74	.15½
Detroit, Mich.	2.50	.13
St. Paul, Minn.	2.90	.12
Kansas City, Mo.	3.22	.13—.14
St. Louis, Mo.	3.02	.14
Butte, Mont.	2.45	
Lincoln, Nebr.	1.92	.11
Carson City, Nev.	2.91	.10
Trenton, N. J.	3.48	.13
New York, N. Y.	3.31	.15
Raleigh, N. Car.	4.40	.20
Fargo, N. Dak.	2.68	.13
Cleveland, Ohio	3.10	.14
Cincinnati, Ohio	3.15	.14
Oklahoma City, Okla.	2.10—2.45	.15
Pittsburg, Pa.	3.14	.14
Philadelphia, Pa.	3.48	.13
Providence, R. I.	3.74	.15
Sioux Falls, S. Dak.	3.00	.12
Memphis, Tenn.	3.49	.17
San Antonio, Tex.	3.25	.17
Salt Lake City, Utah	3.14	.12½
Burlington, Vt.	2.50	.13
Richmond, Va.	4.34	.13
Seattle, Wash.	2.85	.13
Spokane, Wash.	3.25	.14
Wheeling, W. Va.	3.14	.16
Milwaukeee, Wis.	2.25	.10

The prices quoted for producers are for milk testing 3.5 per cent and delivered f. o. b. city, from which must be deducted the various transportation costs in order to get the actual price paid the producer at his railway station. In certain cities the prices given apply only to that portion which is considered as the producers' average production, the surplus being handled either by the producers' associations or the dealers at somewhat lower prices. Detailed information as to the selling arrangements between producers and dealers in various markets may be secured by writing Division of Dairy Products, Bureau of Markets, Washington, D. C.

The prices given in Table II have been compiled on the comparative basis of milk testing 3.5% fat, different cities varying from 3% to 4% as the basic fat requirement on which prices are fixed. Certain markets pay on a straight price per pound fat, but most of them set a price per hundred pounds milk of a certain test and then add to or deduct from this price a certain number of cents for each one-tenth per cent in test above or below the

Carload Prices of Hay and Feed at Important Markets May 7

(In dollars per ton)

Commodity	New York*	Philadelphia	Baltimore	Pittsburgh*	Cincinnati*	Buffalo	Atlanta	New Orleans*	Memphis*	Chicago*	Minneapolis*	Kansas City*	St. Louis*	Omaha*	Los Angeles
HAY															
Timothy and clover:															
No. 1 Timothy	30.00	24.00	.....	22.50	20.25	21.00	29.00	29.00	26.50	22.00	19.00	†19.50	26.00	.....	.....
No. 1 Clover, mixed	27.00	....	18.50	17.00	16.50	.....	29.00	.....	.....	17.00	†16.00	†15.00	21.00	.....	.....
No. 1 Clover	23.00	.....	15 50	16 00	14.00	.....	.....	.....	.....	16.00	†16.00	†14.00	21.00	.....	.....
Alfalfa:															
No. 1 Alfalfa	.....	.....	.....	.....	20.00	.....	‡30.00	30.00	28.50	23.50	†20.00	†22.00	28.00	20.00	22.00
Standard Alfalfa	.....	.....	.....	.....	18.00	.....	‡28.00	28.00	26.50	21.00	†18.00	†19.00	25.00	17.50	.....
No. 2 Alfalfa	.....	.....	.....	.....	13.00	.....	‡26.00	25.50	24.00	17.00	†16.00	†15.00	22.00	11.00	.....
FEED—Bagged															
Wheat Bran:															
Spring	26 00	25 00	26 50	23.50	22.00	21.50	28.00	.....	.....	19.25	15.00	.....	.....	.....	.....
Soft Winter	.....	28.00	27 50	25.50	23.00	.....	28.00	.....	21.50	.....	.....	.....	20.00	.....	.....
Hard Winter	.....	25 00	.....	24.00	22.00	.....	28.00	24.00	.....	.....	.....	17.00	19.50	15.50	.....
Wheat Middlings:															
Spring (Standard)	25 00	23 75	25.50	22.50	22.00	20.50	30.00	.....	.....	18.25	14.00	.....	.....	.....	.....
Soft Winter	.....	29 00	26.50	28 00	26.50	.....	31.00	.....	.....	.....	.....	.....	24.50	.....	....
Hard Winter	.....	26.00	.....	28.00	.....	.....	30.00	.....	26.00	.....	.....	.....	23.50	19.00	.....
Rye Middlings	.....	22.00	.....	20.00	20.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
High protein meals:															
Linseed	36.50	.....	.....	34.00	36.00	29.50	.....	.....	.....	31.00	29.00	31.00	33.00	32.50	.....
Cottonseed (41 per ct)	.....	38 75	.....	35.00	.....	.....	.....	33.00	29.00	36.00	.....	33.00	34.00	.....	.....
Cottonseed (36 per ct)	36.00	36.00	.....	33.50	31.25	.....	26.50	32.00	27.00	32.50	.....	.....	31.00	.....	31.00
No. 1 Alfalfa me'l (med)	.....	.....	30.00	.....	24.00	.....	.....	28.00	22.50	21.50	.....	18.50	21.00	.....	29.00
Gluten feed	34.12	33.71	38 00	30.93	29.80	.....	.....	.....	.....	26.50	.....	.....	29.50	.....	.....
Hominy feed (white)	30.00	29 00	29.00	26.00	25.00	.....	.....	29.00	.....	23.50	.....	.....	22.50	18.00	.....
Ground barley	.....	40 00	.....	.....	38.00	.....	.....	.....	.....	29.00	.....	28.50	.....	.....	.....
Beet pulp	32 50	28.50	29.00	25.80	27.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	30.00

*Hay quotations represent average of cash sales at these markets. †Nominal. ‡From Alabama.

Straw:—Prices for straw are practically unchanged. Receipts are light and demand fair. Prices are quoted as follows: Wheat straw—Philadelphia $17, Pittsburgh $15, Baltimore $14, Cincinnati $12, Chicago $11.50, Omaha $8, Kansas City $8.50. Oat straw—Baltimore $15.50, Pittsburgh $15, Minneapolis $10, Chicago $12.50, Omaha $9. Rye straw—New York $21, Philadelphia $19, Pittsburgh $15.50, Chicago $13.50, Baltimore $17.

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basic test. The most usual allowance is from 3 to 5 cents for each one-tenth per cent or "point" as usually called.

The prices paid by consumers given in Table II are for average testing milk delivered in quart bottles. It is the grade of milk most generally sold in these cities and in nearly all cases is for pasteurized milk.

To reduce the prices per hundredweight, given in these tables, to either a gallon or a quart basis divide by 11.63 or 46.33 respectively.

Prices at County Shipping Stations

Prices paid during April per hundred pounds for standard grade milk (Grade B, 3.5%) at the dealers' country receiving stations or at producers' railway shipping points, as also prices f. o. b. city, are given in Table III.

Table III—April Producers' Prices Per Cwt. F. O. B. City and at Country Stations

	F. O. B. city	At country stations*
Bridgeport, Conn.		$2.21
Hartford, Conn.	$4.22	3.86
New Haven, Conn.	4.18	3.84
Washington, D. C.	4.18	2.67
Chicago, Ill.	2.87	2.35
Baltimore, Md.	3.20	
St. Louis, Mo.	3.02	
Newark, N. J.	2.83	2.30
Trenton, N. J.	3.48	2.91
Buffalo, N. Y.	2.68	2.14
New York, N. Y.	3.31	2.35
Cleveland, Ohio	3.10	
Cincinnati, Ohio	3.15	2.35
Pittsburgh, Pa.	3.14	2.25
Philadelphia, Pa.	3.48	2.88
Harrisburg, Pa.	2.94	
Wilkes-Barre, Pa.	2.72	2.30

*For freight zone to which these prices apply see the March report appearing in our issue for April 15, 1921.

Retail Prices

Table IV gives for a few cities the retail prices of special milk, certified milk, cultured buttermilk, cottage cheese, and cream testing 18 to 20 per cent butterfat.

Table IV—April Retail Prices to Consumer

Cities	Special milk per qt.	Certified milk per qt.	Buttermilk per qt.	Cottage cheese per lb.	Light cream per ½ pt.
	Cts.	Cts.	Cts.	Cts.	Cts.
Boston	19	26.5	10	25	15.5
Buffalo	14	28	9	14	20
Baltimore			14		
Chicago	23	25	10	15	16—17
Cleveland	20	32	15	15	20
Colorado Spgs.	15				11
Des Moines	15	25	9	15	13
Jacksonville	28		12	30	25
Louisville		24	11	20	11
Milwaukee	13	25		13	11
Minneapolis		23	15	12	12.5—14
New York	18	28	11	10	20
New Orleans	20	30	14		18
Philadelphia	15—17	28	12		16
Pittsburgh		24			16
Richmond	16		14		14
San Francisco		25	15	20	16
Spokane			9		15
Salt Lake City	15		7	20	15
St. Louis	20	25	14	14	18
Wash., D. C.	16	30	14	15	15—20

New York Butter Market

NEW YORK CITY, MAY 10:—Regular operators and speculators are now seriously considering the possible effect of Danish butter importation on the butter stored during the coming months. For some time, there has been a feeling in the market that little Danish butter would be shipped to this country in the future. That feeling was based on the suppositions that the emergency tariff bill, which bears a duty on butter of 6c, would be passed and become operative in the very near future, and that European demand would be such that Denmark would have no butter to ship to this country. Of late, there have been rumors that the Danes have found the European demand inadequate to absorb all their surplus of butter and the fact has become established that a small shipment of Danish butter is now on a boat destined for this country. That butter will reach this port about the third week of this month.

The Danes are disappointed in the demand for their butter in England. It was thought that when the British government relinquished control of the trading in butter that individual handlers of butter would purchase Danish butter freely, and such was the case at first. However, those dealers who bought large quantities of the butter have found that the butter did not move as freely as they anticipated and they were forced to curtail their purchases, thereby leaving the Danes with a large surplus of butter on their hands. The fact that the British government contracted with Australia and New Zealand for enormous quantities of butter early in the year is responsible for the slow movement of the Danish butter in England. At the present time, England has a supply of fully 50 million pounds of butter which originated in the Antipodes. Because of the surplus which they

(Continued on page 760)

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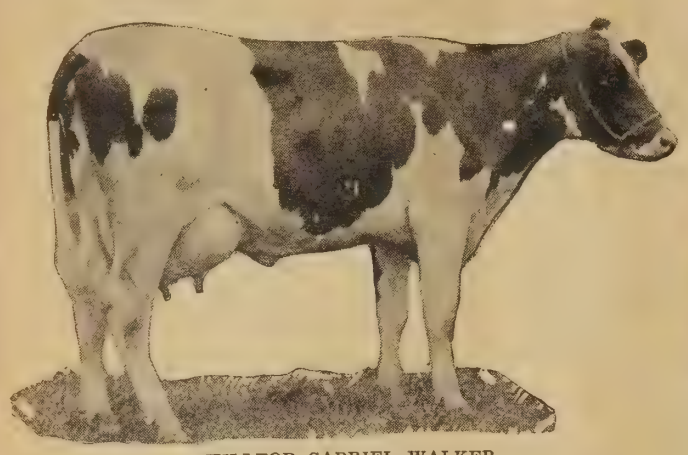
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Quarter of a Hundred 30-lb. Cows, 50 From 30-lb. Dams
Foundation Animals — The Breed's Best

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WOODLAWN DAIRY, Lincoln, Nebr.
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Some of the Offerings:

A son of the world champion two-year-old for 60-, 90- and 100-day milk production. The dam, after three months, is still producing over 80 lbs. per day.

A son of King Model from Pietertje Fayne Johanna, twice over 32 lbs., with 34.54 lbs. at four years.

A yearling daughter from a 33-lb. daughter of the first 40-lb. cow.

A yearling granddaughter of the first 40-lb. cow from a 37-lb. three-year-old.

Three beautiful daughters of the famous King of the Ormsbys, one from a full sister to the former world champion first calf two-year-old.

A yearling daughter of Judge Segis from a 33-lb. dam with over 1100 lbs. of butter and 26,000 lbs. milk in a year.

A 30-lb. daughter of a 30-lb. cow and sister to the $27,000 bull.

A 33-lb. cow that produced the world champion 29-lb. two-year-old. This cow will finish with over 1000 lbs. in a year.

A full sister to the world champion 29,000-lb. four-year-old, Hollywood Lilith Bonheur, in calf to Judge Segis.

A 20-month-old son of Judge Segis from the world champion 42-lb. two-year-old, also with three records over 30 lbs. Second dam a 42-lb. cow.

A maternal sister to Cascade Fleta Johanna, the 30,000-lb. four-year-old.

Four daughters of Champion Echo Sylvia Pontiac, three of them from 30-lb. dams with 30-lb. grandams, and these three all in calf to Alcartra King Sylvia, the $50,000 son of Tilly Alcartra.

A 30-lb. two-year-old with over 200 lbs. butter and 4100 lbs. milk in 60 days. In calf to Champion Echo Sylvia Pontiac.

A bull backed by four direct generations of 700-lb. dams and seven 700-lb. cows. One of the richest May Echo bulls ever bred.

A 35-lb. cow with over 100 lbs. milk in a day. A show cow.

A 32-lb. cow with over 900 lbs. of butter in a year and in calf to the only son of Jemima Johanna of Riverside.

An 1136-lb. cow with over 24,000 lbs. in a year. Sired by Prince Aaggie Mechthilde, a son of Calamity Show Mechthilde 2d with 1108 lbs. butter and 25,598 lbs. milk in a year.



"Where the Cu
So far as he
There is core
And sweet, o

Sale will be Held —

New York State Fair Grounds
Thursday, Friday and Saturday

OPERATIVE

AL SALE

— June 2-3-4

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SELECTED FROM SEVENTY-FIVE LEADING HERDS OF THE UNITED STATES AND CANADA



PIETERTJE MECHTHILDE WALKER
A 31-lb. 3-year-old daughter of a 30-lb. dam bred to a son of the only 1000-lb. milk producing cow. Consigned.

Several 1000-lb. Cows — Many From 1000-lb. Dams

Guaranteed Healthy — 60-Day Retest



there is Arcadia.
ence prevails,
ent, humility
y life."

Some of the Offerings:

A 30-lb. daughter of King of the Pontiacs from a granddaughter of Tidy Abbekerk Prince.

A 32-lb. cow with 766 lbs. of milk, her dam a 40-lb. cow.

A son of a 32-lb. daughter of a 40-lb. cow, sired by a son of a 36-lb. cow.

A 26-lb. two-year-old granddaughter of a 36-lb. cow in calf to a son of a 37-lb. cow.

A ten-month-old son of Ormsby Korndyke Lad from a 31-lb. daughter of King Segis De Kol Korndyke.

A 33-lb. daughter of King Segis Hengerveld from a 25-lb. dam.

A daughter of King of the Pontiacs from a 36-lb. dam.

A 36-lb. daughter of King Quality that produced over 719 lbs. butter as a four-year-old, making a sensational yearly record.

A maternal sister to a 43-lb. cow in calf to a son of a 43-lb. cow.

A 31-lb. and 700-lb. milk producing daughter of Prince Hengerveld Pietje, in calf to a son of a 37-lb. cow.

A son of Sir Aaggie Mead De Kol from Ormsby Korndyke Armyn, a 1200- and 26,000-lb. daughter of Ormsby Korndyke Lad.

A granddaughter of May Echo Sylvia. Seven nearest dams average over 700 lbs. milk. The highest of any heifer in her state.

A yearling daughter of Ormsby Korndyke Lad from a daughter of Sir Prilly Segis.

A daughter of King Segis Pontiac Konigen with 825 lbs. butter and 18,475 lbs. milk in 334 days as a three-year-old.

Two daughters of King Segis Pontiac Konigen in calf to Dutchland Creamelle Korndyke Lad.

A daughter of Avon Pontiac Echo in calf to Sadie Vale King.

A daughter of K. P. Lilith Boon, she a 33-lb. full sister to the dam of King Segis Pontiac Count.

Two yearling daughters of King Segis Pontiac Count, both from great dams.

Daughter of Sir Ormsby Hengerveld Korndyke, only living son of Pietertje Maid Ormsby.

Four granddaughters of a 35-lb. cow.

A daughter of Princess Evertje De Kol 4th with 1181 lbs. butter and 25,966 lbs. milk in a year.

Some of the Offerings:

A daughter of Flint Hengerveld Lad from the famous Flint Pauline with her yearly record of 1209 lbs. butter and 30,347 lbs. milk. Her dam is the eighth highest milk record cow the breed has produced.

A 30-lb. three-year-old granddaughter of Maplecrest Pontiac Application, the highest record daughter of Pontiac Aaggie Korndyke.

Two cows in calf to Echo Sylvia King Model, whose three nearest dams are 36-lb. cows.

A two-year-old with four 1000-lb. sisters—her dam, Maplecrest Pontiac Application with 1044 lbs. in a year—in calf to a 1000-lb. sire.

A granddaughter of a 1400-lb. cow from an 800-lb. Ona heifer, two nearest dams both 1000-lb. cows.

A son of the world champion yearling milk producer for 7 days to one year.

A daughter of a 30-lb. two-year-old sired by a full brother to the first 44-lb. cow.

The highest record daughter of King Pontiac Champion —38 lbs.

A 36-lb. cow bred to a May Echo Sylvia grandson.

PROGRAM *of the* WEEK
of ANNUAL CONVENTION

May 31—Judging State Herds for $500 prize.
Luncheon at Wait Farms.
Visit Cornell University.

June 1—Annual Convention.

June 2—Opening of National Sale — State Fair Grounds.

June 3—National Sale, Continued.

June 4—Closing of National Sale.

Under Direction of —

New York State Holstein-Friesian Ass'n

E. R. Zimmer, Secretary, Syracuse, New York

America's Quality Herd

See These Splendid Animals

In

The National Sale

Syracuse, N.Y. June 2-3-4

The Highest Record Cow

SIRED BY KING PONTIAC CHAMPION

PABST CYNTHIA with 38.13 lbs. of butter and three records of over 30 lbs., also with a recently completed very creditable ten months record. She is the highest record daughter of her famous sire, King Pontiac Champion. She is also the highest record cow in the entire sale. Her dam, a 29-lb. cow, has over 20,000 lbs. of milk and over 800 lbs. of butter, third dam also a great producing dam. Pabst Cynthia, a very handsome individual has produced a 25-lb. two-year-old daughter and is due to freshen about ten days after the sale to the services of Echo King Sylvia, famous son of May Echo Sylvia. This is the first time in the history of the breed that anyone has ever had an opportunity to buy a daughter of King Pontiac Champion in calf to a son of May Echo Sylvia. We suggest to those breeders wanting a grandson of May Echo Sylvia from one of the very great daughters of King Pontiac Champion that they be sure to give consideration to Pabst Cynthia. By reason of her superb quality and record, together with her splendid breeding, she will afford her buyer no small measure of pride in ownership and will doubtless deliver to him an offspring that will more than fully repay him for her purchase price.

Son of a 1200-lb. Four-year-old

KING VALDESSA PONTIAC TRITOMIA, a June 1920 son of King Valdessa Pontiac, former Bell Farm herd sire and son of the breed's first 40-lb. heifer, Mabel Segis Korndyke. This young bull's dam is Polly Douglas Fayne, with 32 lbs. of butter and 600 lbs. of milk as a four-year-old and now finishing her year with approximately 1,200 lbs. butter and 24,000 lbs. of milk. She realized $4,700 in the recent Brentwood Sale, being purchased by Bellwood Farm. Her dam is a sister to the dam of Aurora Fobes Fayne De Kol 3d with a record of over 1,100 lbs. in a year. Remember in this calf, you get not only a son of a 1,200-lb. dam, but you buy also a brother to Echo King Sylvia that is heading our herd.

THE BELL FARM is sending only these two animals. They are believed to be and of course are guaranteed absolutely right in every respect. Should they be otherwise, most certainly we should not want you to have them. Not only have they been subjected to the ophthalmic, intradermal and subcutaneous tests, but they are also free from abortion as proven by blood tests. They are as near right as science can determine, and it is the policy of Bell Farm to have interested buyers know as much of its animals as we do ourselves.

BELL FARM Coraopolis, Penna.

Pure-Bred Holstein Heifer Calves

Two six-weeks-old heifer calves sired by a 31-lb. bull, one evenly marked and the other three-fourths white. They have good straight top lines. They are from heifers giving 40 lbs. milk daily. Will sell these two at $80.00 each, will ship C. O. D. subject to inspection. One two-weeks-old by the same sire three-fourths white, from cow giving 60 lbs. milk daily. $75.00. Will also ship C. O. D.

A 16-MONTHS-OLD BULL from a R. of M. 25-lb. dam at $200, and we will ship him on approval. He is three-fourths white in color and will weigh around 1,100 lbs. He is sired by a son of Korndyke Segis Johanna 127123, whose dam is Pabst Carnation 201218, with 32.34 lbs. of butter from 443.00 lbs. of milk. His own dam has 25.11 lbs. of butter from 507.00 lbs. of milk at 4 years, and at two years old, she made 21.28 lbs. of butter and 399.40 lbs. milk. This fellow has a good straight top line, a large middle, and we guarantee him a good, sure breeder.

Yohn Stock Farm, Watertown, Wis.

World's Greatest White Collies



They will herd your stock, guard your flock and rid your place of vermin. A playmate for the children and a household companion. Largest breeders of white collies in the world.

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OTTAWA

1½ H-P Pulls 2½ H-P, NOW ONLY $38.50



10 Years Guarantee; 90 days trial. FREE—Complete Engine Book. Wonderful bargains. Get my prices before you choose any engine. Write today. OTTAWA MFG. CO. 1521 King Street, Ottawa, Kansas.

$7.50 After 30 Days Free Trial

The Belgian Melotte Separator—with the wonderful Self-Balancing Bowl. No other like it.



30 days' free trial—then, if satisfied, only $7.50 and a few easy payments—AND—the wonderful Belgian Melotte Separator is *YOURS.*

No Money Down!

Catalog tells all—*write.*

Caution! U. S. Bulletin 201 shows that vibration of the bowl causes *cream waste!* The Melotte bowl is *self-balancing.* Positively cannot get out of balance therefore cannot vibrate, Can't remix cream with milk. *The Melotte has won 25 Grand and International Prizes.*

Catalog FREE

Write for new Melotte catalog containing full description of this wonderful cream separator and the story of M. Jules Melotte, its inventor. Don't buy *any* separator until you have found out all you can about the Melotte and details of our 15-year guarantee which is infinitely stronger than any separator guarantee. Write TODAY.

Runs so easily, bowl spins *25 minutes* after you stop cranking unless you apply brake. No other separator needs a brake. Bowl chamber is *porcelain lined.*

The Melotte Separator, H. B. Babson, U.S. Mgr.
Dept. 2855, 2843 W. 19th Street, Chicago, Ill.

Send for Catalog

FARM WAGONS



High or low wheels—steel or wood—wide or narrow tires. Wagon parts of all kinds. Wheels to fit any running gear. Catalog illustrated in colors free.

Electric Wheel Co., 31 Elm St., Quincy, Ill.

When writing advertisers please mention Hoard's Dairyman.

New York Butter Market

(Continued from page 757)

have on hand Danish dealers are offering butter for future shipment at a price of 30c landed in New York and are asking for bids. That would lead one to believe that even better prices will be offered a little later.

Butter receipts have increased fully 18,000 packages or fully 40% during the past week. However, a high percentage of the increase is centralized butter, about 20 cars of that butter having been shipped to this market from Chicago during the past week. Reports indicate that actual increases in production are about 15%. In spite of the added receipts, there has been scarcely enough butter of high quality to supply the demand. Consumption of butter is exceedingly high at the present time as the consumer is taking kindly to the lowered retail prices of butter. Some of the chain grocery stores are evidently using butter as a lead as they are selling it at 36c. That very naturally gives impetus to buying. Very little butter is carried over in wholesale stores from day to day. In fact, many wholesalers are finding it very difficult to piece out their supplies in such a way as to satisfy their regular buyers.

On Wednesday of last week, prices fell ½c, and that was followed by declines of 1c and ½c on Thursday and Friday respectively. Since Friday there has been no change in quotation even though the strength of the market has varied considerably. Established quotations are: Extras (92 score), 36c; higher scoring than extras (93 score or higher), 36½@37c; firsts (90—91 score), 34@35c; firsts (88—89 score), 32@33c; and seconds (83—87 score), 28@31c.

W. B. LIVERANCE.

Cheese Prices Reach Low Level

(Report by U. S. Bureau of Markets.)

While further declines on the cheese markets were not so generally looked for during the week ending May 7, as they had been several weeks previous, they were not entirely unexpected as dull trading had removed all support from the markets and lower prices were inevitable in order to avoid a glut. The week opened with sales on the Plymouth, Wisconsin, Cheese Exchange a full 1½c under those of the previous Monday, bringing prices to a point lower than they have been since the summer of 1915.

At the close of the week business was generally more active at Wisconsin primary markets and the surplus of Daisies and Twins was being rapidly cleaned up by a fairly heavy export demand. Wisconsin dealers feel that if the market can hold at about its present level for a time trading will soon become much more active.

The average wholesale prices on American cheese (style Twins) for the week ending May 7, 1921, and for the corresponding week a year ago were as follows:

	Week ending May 7 1921	1920
	Cents	Cents
New York	17.8	29.5
Chicago	15.2	28.4
Boston	17.5	30.5
San Francisco	12.4	23.2
Wisconsin	14.5	27.8

The total receipts of American cheese at these markets were 4,436,700 lbs. as compared with 4,050,160 lbs. a week ago and 3,410,364 lbs. a year ago.

Cheese Prices for April

"Going down, down, down," expresses the cheese market for some time, but it was reserved for April to see prices decline to prewar levels. During the month on Wisconsin Boards Twins declined 4½ cents and Longhorns declined 7 cents, with still further declines early in May.

The daily quotations of the U. S. Bureau of Markets show the following average prices for American cheese (style Twins) for the three large markets in April, 1920 and 1921:

	Average price April 1921	April 1920
	Cts.	Cts.
Wisconsin Boards	18.22	29.01
Chicago	18.05	28.14
New York	24.10	29.00

Longhorns averaged 18.73 cents on the Wisconsin boards as compared with 30.32 cents in April a year ago.

Butter Prices for April

The butter market for April showed a decline of about three cents from the March average but this does not tell the whole of the sad story. From the first of April to the last butter declined 16 cents in Chicago, 14 cents in New York, and 12½ cents in Boston and Philadelphia. During the first four days in May prices have advanced somewhat, but the market is not strong.

The following table is compiled from the daily quotations of the U. S. Bureau of Markets and covers the average wholesale prices for April, 1920 and 1921, on 92-score butter (extras), as also the receipts at these several markets:

	Av. Price April 1921	April 1920	Receipts April 1921	April 1920
	cents	cents	tubs	tubs
Chicago	43.64	64.24	193,501	137,914
New York	45.60	71.46	193,202	104,598
Boston	46.42	69.08	51,746	49,449
Philadelphia	47.02	71.42	54,449	39,523
Total receipts			489,898	331,484
Receipts since Jan. 1			1,687,277	1,533,414

Ninety score butter averaged 41 cents for April on the Chicago market with centralized butter at this market selling for 43.3 cents. Jobbers' prices on extras sold to retailers during April averaged 45.2 cents in Chicago and 48.6 cents in New York.

Dairy Markets

CHICAGO, May 13—Butter—Creamery, extras, 31c; standards, 29½c; dairy firsts, 25@30c; seconds, 18@23c.

Eggs—Ordinary, 19@20c; firsts, 21½@22c.

Cheese—Twins, 15@15½c; Young Americas, 17½@18c.

MILWAUKEE, Wis., May 13—Butter—Creamery, tubs, 31c; prints, 32c; extra firsts, 29@30c; firsts, 27—28c.

Eggs—Miscellaneous receipts, country candled, cases included, 22@22½c; cases returned, 21@21½c; seconds, 17@18c; checks, 16@17c.

Cheese—Twins, 13@13½c; Daisies, 14@14½c; Young Americas, 14@14½c; Longhorns, 13½@14c; Brick, 15@16c; Limburger, 20@22c; Swiss, loaf, 48@50c; block, 30@31c.

NEW YORK, May 13—Cheese—Steady; state milk, common to specials, 14½@19c.

Butter—Weaker; receipts, 15,991 tubs; creamery, extras, 35½c; state dairy tubs, 22@35½c; Argentine, 20@28c.

Eggs—Unsettled; receipts, 56,199; nearby white fancy, 34c; nearby mixed fancy, 24@32c; fresh firsts, 25@30c; Pacific coast, 26@35c.

Clark County, Wisconsin, Sells Holsteins

Clark County, Wisconsin, Holstein breeders held their first annual sale May 3, at Owen, selling 58 head for $12,950, with $700 the top price for a bull and $600 the highest for a female.

Ernest Schoettler bought the highest priced bull, a 6-month-old son of King Korndyke Haidee Ormsby from a 19-lb. dam now on year test, consigned by Philip Mattes.

The top female was a 23-lb. granddaughter of Sir Korndyke Pontiac Artis from a 23.35-lb. granddaughter of Sarcastic Lad. She was consigned by Albert Zenzel and purchased by F. B. Harper.

Mack & Krause did the selling with F. H. Everson in the box. J. Wuethrick was sale manager.

The following list includes those entries selling for $200 or more and buyers:

John Wuethrick, Wisconsin	
Princess Rosetta Posch Ormsby	$550
Princess Pride De Vries	430
Ernest Schoettler, Wisconsin	
King Korndyke Haidee Ormsby 2d	$700
Sam A. Wilson, Wisconsin	
Brookside Aaggie Netherland 2d	$310
Spot Aaggie De Kol	220
F. B. Hafner, Wisconsin	
Jewel Star Pontiac	$600
Plain View Homestead Pauline	200
Earl Tompkins, Wisconsin	
Sunshine Burke	$380
Athalend Dale Lady	205
Nick Scherer, Wisconsin	
Sunshine Burke 3d	$300
Fayne Pride Gerben	210
Phil Mattes, Wisconsin	
Falls Brook Steinser Pietertje	$340
King Pietertje Ormsby of Crows Roost	275
Jacob Anderson, Wisconsin	
Woodward Farm Mary	$405
Lily McKinley Segis	295
Plain View Homestead Lula	200
O. L. Carteron, Wisconsin	
Lily Johanna De Kol Banostine	$220
Makis Korndyke Johanna	250
W. H. Krause, Wisconsin	
Fink Empress Johanna McKinley	$300
Piebe Colantha Posch Lass	390
C. O. Jorenby, Wisconsin	
Frances Wa Wa Terzool 2d	$290
Athaland Queen	250
Athalend Princess	225
H. E. Williams & Son, Wisconsin	
Catalogue No. 33	$310
Herman Sely, Wisconsin	
Beets Pontiac Korndyke	$290
Lynn Harsh, Wisconsin	
Fannie Colantha Cream Pot	$500
Ed. Karlen, Wisconsin	
Clover Hill Daisy Colantha	$500
Imig Brothers, Wisconsin	
Wa Wa Pontiac Grace	$370
C. A. Foster, Wisconsin	
Tomah Lucy Hengerveld De Kol	$390

Last Call —

TO

Wisconsin's

Northern State Sale

Marshfield, Wis., May 26

70 Registered Holsteins

Clean, Well-Bred, Good Individual Holsteins That Any Breeder Would be Glad to Own.

This Sale is under the auspices and management of the Holstein-Friesian Breeders' Association of Wisconsin. It is the result of a desire to populate the Dairy Empire of Northern Wisconsin with the best foundation stock that we could get together. The cattle entered are such as only a state sale can bring out. Breeders can ill afford to spare them but state pride is a big lever and we used it to get them. Get your catalog from Sec. Oldham.

Make your plans now to attend. You will find it well worth your while.

The cattle will be sold subject to the usual state sale health and breeding guarantees.

Wisconsin Holstein Breeders' Ass'n

241 Washington Bldg., Madison, Wis.

Hollywood Farms'

Consignment

TO THE

National Sale at Syracuse, June 2-3-4

A Splendid Daughter of Hollywood Lilith Palmyra

SAFE IN CALF TO JUDGE SEGIS.

She is Hollywood Lilith Rosa Bonheur. She made 20.5 lbs. butter in 7 days at 3 years 20 days and has now finished 5½ months of her semi-official test at a good rate.

Her full sister, Hollywood Lilith Bonheur made 31.59 lbs. in 7 days, 1,174.35 lbs. butter and 29,822 lbs. milk (world record) in a year as a 4-year-old.

Her sire has 25 A. R. O. daughters, 2 holding world records for milk, 6 above 31 lbs. butter in 7 days, 3 above 35 lbs. and one with 38.9 lbs.

Her two nearest dams both have good semi-official records as have many of her sisters.

An Excellent Son of Judge Segis

from Glen Alex Queen De Kol, world record 42-lb. cow that has 3 times made over 30 lbs. and that is from a 42-lb. dam. She has a 30-lb. 2-year-old daughter and one with 22 lbs. as junior 2-year-old. Judge Segis now has 43 A. R. O. daughters and more to come. His sons and daughters suit us; they will, we are sure, suit you.

Hollywood Farms

Hollywood, Washington

Unity Holstein Breeders'

FIRST ANNUAL

CONSIGNMENT SALE

40 HEAD — May 28th — 40 HEAD

Commencing at 12 o'clock.

This is our first sale and we are making every effort to make it a quality sale from every standpoint. In the list of offerings you will find as much, or more, quality, individuality and breeding as you have seen in any sale of its size. You will find A. R. O. daughters of high record bulls and out of A. R. O. dams up to 27 lbs. Ten of the females are bred to a 30-lb. son of S. P. O. M. 43rd, several bred to a 31-lb. grandson of Duchess Skylark Ormsby. Also some splendid large cows bred to a 29-lb. bull. Several splendid heifers from 8 months to 18 months old. A 2-year-old bull sired by a 32-lb. sire and out of a 26-lb. 4-year-old that is on yearly test. A fine bull calf out of a 22-lb. dam, a good one; another 3-month bull calf from a 21-lb. dam and sired by a 1,000-lb. bull. There are two daughters of 27-lb. cows. A daughter of Piebe Laura Ollie Homestead King (a show heifer). A daughter of a full brother to Count. Space will not permit mentioning all the good things. All the usual guarantees go with all cattle. See catalog.

TERMS: Cash, or 10% down and balance six months' time on approved notes bearing 7% interest.

Auctioneers—Mack, Krause, Cook F. H. Everson in the Box

For Catalogs write W. E. MORGAN, Unity, Wis.

Sullivan Brothers'

Fifth Annual Sale

May 28, Marengo, Ill.

Registered AND Grade Holsteins

There will be daughters of King Segis Pontiac with records of 20 lbs. to 27 lbs. as 3-and 4-yr.-olds.

Several 2-year-old heifers bred to good sires.

40 Heifer Calves 3 weeks to 6 mos. old, most of them from tested dams.

15 Registered Bulls.

100 Grade Holstein Cows.

If You Want Good Holsteins—Be There.

Write for details.

Sullivan Brothers, Marengo, Ill.

HOARD'S DAIRYMAN JUNIORS

A DEPARTMENT FOR THE DAIRY FARM BOY

Jimmy and Bob Again

The Turn in the Road

"What would you say, Bob, if I told you that I am winding up my agricultural studies this semester," Jimmy broke forth one April evening as the two sat on the opposite sides of the old study table, occupying the center of their room.

"Well, it would depend upon why you were quitting," Bob answered quickly, glancing up from the opened page before him. "If it were for a good purpose that you could justify, I probably would say, go ahead, that's the thing for you to do, but if you have just lost faith in yourself, I'd say stick."

"I've got all the faith I ever had and then some," he quickly returned, "and I also have a real good reason for saying to you that this is the last semester in the study of agriculture for me, that is I think it is, the way I feel tonight. I've had this feeling for some time, too, and ever since being on the winning team of that debate I have been getting more and more discontented. I can go through with this all right and go back home to the farm as we have planned all along and be successful, too, and for that reason I hate to quit. But somehow I feel that I would like to go into the study of law. I guess my preparation for debating has turned me in that direction. Why, I can already picture myself winning cases for my clients," he smiled. "Yes, law has made a special appeal to me, particularly the platform side of law. But if I do make the change, I shall always be interested in the problems of agriculture and I think that it is just as large a field to work in as I ever did. My opinion hasn't changed there a bit. But I've practically made up my mind to make the change and I wanted you to know it. And when you are in need of the services of a good lawyer, you'll know where to get him," he smiled at Bob in his old time way.

Bob was listening intently. He had been expecting something like this from Jimmy for it had appeared to him more than once of late that his chum was fast drifting into other channels to which a college training points the way. In several of their recent conversations Jimmy had casually dropped remarks that led him to believe there were other fields that his mind was evidently exploiting, and so now he found himself quite ready to face his friend in whatever arguments the conversation might involve.

Jimmy had continued his membership in the Agricultural Literary Society with the same active interest with which he had started two years ago. In fact he was now considered its leader by all the other members. He had won in several of the debates against other university organizations of like nature, at least this is the credit that was accorded him. And when it came to a finishing fight which the average debate involves Jimmy, with his clear thinking and platform finish, usually furnished the element which makes the decision for the judges an easy matter. He had not only supported his college literary society by taking active part in each of its meetings, but he had really made a conscientious effort to develop himself in the art of platform oratory. He had studied in the Department of Public Speaking such courses as would contribute to his training along this line.

And when it came to the try-outs to select a team for the intercollegiate debate with the University of Minnesota, Jimmy was the first selected to represent his institution. This came as neither a surprise to himself nor to the student body, for he was recognized as the best debater in the university. The question to debate had been, "Resolved that the Fordney tariff bill would benefit the American farmer." Jimmy was on the side representing the affirmative. From the time of his selection for the team up to the evening on which the event occurred, he stole all the time he could from his studies to prepare himself. He scanned the papers daily to find there any trace of opinion, public or official, that might aid his argument. He had correspondence with some of the officials at Washington and also with some of the leading farmers of the country. He ransacked the city libraries for references, drawing from them all the books that he was entitled to at any one time, and he never wasted the opportunity to talk both sides of the question with those from whom he could secure an audience. He was out to win, no matter what the cost to his studies and to his sleeping hours. And when the evening came to win or lose, he enthusiastically remarked to a group of his fellow students: "I can lick them alone."

And he did. At least that is what the audience whispered among themselves as he wound up the arguments for his side of the question. It was apparent from the time he took the platform to the moment when time was called on him, that he was master of the situation. He flayed his opponents with masterful rebuttals which brought applause upon applause from the packed house. It would have been difficult indeed to have pictured him in this position but two short years back when he and Bob left the farm to enter the university to study the science of agriculture, then what would be termed a green, raw recruit, fresh from the farm, discontented when he compared his lot with Bob's. But in spite of the disadvantages which he had always claimed for himself, he came with those qualities that go to make men; yes, and more than that, powerful men. The responsibility that the elder Greene had placed upon his young shoulders in helping to earn the family bread had left its imprints. He was regarded by the faculty of the university as one of the most responsible students the institution had and so what to him had meant nothing more than hard work as a boy on the farm, had now really become an asset to his developing career. He had inherited a keen mind and the two years of consecutive college training had shown its possibilities. Of health, he had come with an abundance, and as he stood there on the platform that evening, his entire being radiated the strength and vigor that only rich red blood can give—a young giant in both strength of mind and body.

And the one thing, which as a boy of fifteen he had always deplored—plain looks—had given way to what others were now terming a strong, masterful face. It was indeed quite true. Nature had been good to him, for any wrong that had been done him in his youth—if it could be termed such—was certainly undergoing repairs as he was entering into his young manhood.

His firm jaw and square, dimpled chin bespoke the youthful power for which he was known. The cat-like greenness of his big penetrating eyes had given way to the grayness of steel, and were it not for the softening effects of the heavy auburn eyebrows, stretching above with hardly a break as they crossed the distance between them, they would be considered hard, cold eyes. The freckles, always reminding one of little deserts in the promised land, had almost disappeared, leaving a soft, glowing complexion that was even the envy of the fairer sex who considered it their good fortune to know him.

The pug in his nose had somewhat unpugged, and what was left blended so nicely with the contour of its surroundings that one would be almost inclined to regard it as an attractive nose. The stubbornness in his red hair, now more brown than red, had been reduced to submission and unlike most of the other college boys who combed their hair straight back, he adhered strictly to a left-sided part.

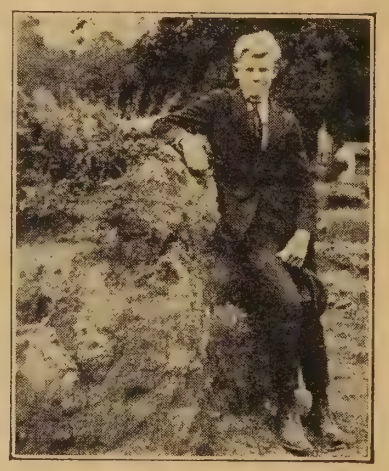
And from all this solidarity of feature, there radiated the warmth of a generous smile which, when at its best, reduced his eyes to mere slits and from whose corners there twinkled the merriment of which their hard, gray color had cheated them. In this face there was pent up all the hope and enthusiasm for a successful career that was ever expressed in boyish features. Jimmy had found himself and all of this had happened in the first two short years of his college life.

"And if I do make a change," Jimmy continued on the evening which the conversation took place, "I wouldn't want to take any of the credit that might follow for me in a successful career in the law business. But I do believe that I have found myself—no not exactly that," he hesitated. "I mean that from the inspiration and guidance of some of these college profs, I have been able to do this. And so I have made up my mind, Bob, that this is my last semester in the study of scientific agriculture. I have threshed this all out with myself during the past two months and now my mind's made up I feel lots easier. It's going to be mighty hard, old man, to leave you and the cow college," and his voice showed considerable feeling as he spoke. "I hate to think of not returning to the old farm with you, Bob, when all is over down here," he continued, "but I guess that's going to be the case." Up to this point, Jimmy had been staring steadfastly up at the ceiling as he spoke, apparently disliking to confront his bosom companion with the announcement he had just made. But suddenly he concluded by arising from his chair and placing himself directly in front of his listener, saying as he did so, "I know you will object, Bob, but tell me what you really think of what I am going to do."

As was always his custom when confronted with a problem to decide or an opinion to be given, Bob straightened up and cleared his throat, a habit which more than



JIMMY



BOB

OUR TWO HEROES AS THEY APPEARED IN CALF CLUB DAYS



"I WAS BACK IN CLUB WORK AGAIN, THE YEAR YOU RAISED BETSEY."

once had been the occasion for the remark from those who knew both, "a chip off the old block".

"It's hard for me to say anything, Red; I think that you have said about all there is to be said. I am not surprised in the least from what I have observed this entire year, and especially since the inter-collegiate debate. It was plain to me, then, that you were slipping—no that's not the word, for if you are choosing the thing you want to do and for which you are best fitted that wouldn't be slipping—but rather acting wisely. So we'll take for granted that your decision is for the best as much as I dislike to think of it. I think, myself, that you are probably doing the best thing, for you certainly have developed into a fine speaker and, with the pace you are setting for yourself, there is no telling what the future has in store, for you have demonstrated that success will attend you in whatever you undertake. It's what I always have predicted for you ever since we started in club work. It was there that you first showed the determination that is winning for you the distinction that you are now enjoying.

"But it is hard, Red, to say the least, when I stop to think of how we had the past linked up with the future—our growing up in the same community, attending the same little white school, graduating in the same class from high school, going through college together, and planning to return to that community to work in the cause of better rural conditions. But if it must be the way you have decided, I'll have to make the best of it and as you have said that if ever I am in need of a lawyer, I'll know where to find one who can win for me," he concluded with a far away look in his eyes.

"What about yourself, Bob?" Jimmy interrupted, as if to terminate the conversation about his decision. "Have you ever thought of other fields since being here?"

"Indeed I have. You don't think that I've been asleep on the job, do you? But it has always been the same conclusion—the farm is the place for me. I love it, with all its open beauty and fine people. I want to do the thing where I will be of the most good, Red, and farming's that thing. My mind is just as firm today on that point as it was in the beginning and I'm proud of it."

A long silence followed in which each was deeply engaged in his own thoughts about the future. Jimmy was the first to interrupt with, "A penny for your thoughts, Bob".

"Not on your life," Bob answered. "I'm thinking things that money can't buy, but I'll tell you free of charge," he smiled good-naturedly. "I was just trying to repeat to myself Edwin Osgood Grover's creed for the country boy, you know the one I mean; we both learned it when we were in the club work."

"Do you still remember that?" Jimmy shot out. "Gee that is a fine thing, Bob. It made a great impression on me, but I can never remember things like that. Let's see, how does it go?"

"I've got it," proclaimed Bob, and before Jimmy could get the words out of his mouth asking for it, he had started to repeat, 'I believe that the country which God made is more beautiful than the city which man made; that life out of doors and in touch with the earth is the natural life of man. I believe that work is work wherever I find it, but that work with Nature is more inspiring than work with the most intricate machinery. I believe that the dignity of labor depends not on what you do, but on how you do it; that opportunity comes to a boy on the farm as often as to the boy in the city; that life is larger, freer, and happier on the farm than in the town; that my success depends not upon my location, but upon myself—not upon my dreams, but upon what I actually do—not upon luck, but upon pluck. I believe in working when you work, and in playing when you play, and in giving and demanding a square deal in every act of life'."

"That surely sounds good, Bob," Jimmy almost shouted in his enthusiasm. "For a minute, I was back in club work again, the year that you raised that Betsey calf. Wouldn't you like to see her now?"

"Wouldn't I though," answered Bob, "yes, and Star Face, too. You remember how I hated to see them go way off to Texas! Ah, those were the good days, Jim, when we didn't have to worry ourselves with decisions like you are making tonight. But I suppose this is something that comes into the life of every man who is going to be a success. He must decide the goal toward which he heads his ship, and when once decided, he should steer straight for it."

"Yep, I guess you're right, Bob, and it kind of means the parting of the ways, doesn't it? Do you know that when you were quoting that creed a moment ago, it almost undid the decision I have made. It brought back with such force so many pleasant thoughts that I was almost convinced that I am doing the wrong thing to make the change. I am beginning to think that you repeated it just to make me feel homesick, you old rascal, because you surely did, and if I could leave here and never come back, I'm sure of where I'd end; that would be right at home on the farm. But since my training here has developed some talents that I didn't realize I had and has pointed the way to a field more to my liking, I feel that I have done right in deciding the matter as it has been done, and let us hope that it will never be regretted."

"Well, we've been sitting here for an hour now, Red, and we haven't started to study yet," Bob hinted.

"Don't know as that is any cause for worry, old man," Jimmy laughed back. "Studying isn't half as important as deciding things the way we have tonight. We'll get back to them on time, Bob, don't worry about that. You'll be an honor student in your class, even if you should take tonight off," he added a little sarcastically.

As a matter of fact Bob's name had appeared in the daily Cardinal, the student paper, but a few days back, heading the list of honor students in his class. The recognition was based upon scholarship and grade points and he ranked the highest in his class. Bob had always done his school work first and when there was time left, he took it for interest in other things. Jimmy, on the other hand, was not as consistent about his studies. If the outside activities needed his time, he was there, so he could not be expected to have the high scholarship that Bob had made for himself. Both had won distinction; Bob, by leading his class; Jimmy, on the platform and football field, for he was about as active in that sport as he was in the art of debating. But we would not want you to think that Jimmy was not a good student. In fact, with all the time he spent in student activities, he was a little above the average.

"Well, the change you are making means that you will be in school longer than I will," Bob remarked. "Looks

(Continued on page 766)

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Hardwood cut-over land, silt loam, clay sub-soil. Neither sandy nor gravelly; close to town; good roads; good schools; in the heart of the dairy country. You deal directly with the owners. No agents and no commissions. Easy terms. Also improved farms. Write for map and Booklet No. 4. NORTH WESTERN LUMBER CO., Land Department, Stanley, Wisconsin. 1*

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New York State greatest farm bargains. Great land, wonderful markets. Send for free list. FRANK J. BASLOE, Herkimer, New York. 17-3

Wealthy Western New York Farms! Maps, lists, information free. NEW YORK FARM AGENCY, Westfield, New York. 18-spl.

For Sale—130-acre dairy farm, buildings new, on lake shore in Barron County, Wisconsin. W. A. HANCE, Freeport, Illinois. 18-*

For Sale—2,000 acres fine hardwood timberland, birch, white ash, maple, white pine, spruce. Sawyer County, Wisconsin. Logging would pay handsome profit. Land delightfully situated for stock ranch. Two trout streams, six springs. W. A. HANCE, Freeport, Illinois. 18-*

For Sale—128 acres, 120 tillable, 8 acres in woods and pasture, 14 acres in apples 35 years old. No waste land, fences all good, barn well watered by wells; frame house, steam heat, pressure tank in cellar, bath; basement, barn 40x80, barn 32x35, shed 24x70, slate roofs, garage, blacksmith shop 18x26. This is an A1 farm. Buildings in first class condition. In Finger Lakes Region. F. W. LONG, Geneva, N. Y.

270 acres equipped, income $6,700. In splendid apple and general farming section, prosperous neighbors, healthful surroundings; convenient advantages; fertile machine-worked fields; 30-cow wire-fenced pasture; 500 cords wood selling handily $10 cord, fine 300-tree apple orchard, other fruit, good 9-room house overlooking nearby village, 60-foot barn, silo, garage. Retiring owner's price $8,300 includes horses, cows, poultry, swine, machinery, etc., easy terms. Details page 8 Illustrated Catalog 1100 Bargains. Free. STROUT FARM AGENCY 150 DL Nassau St., New York City, N. Y.

Farms near New York City. Dairy, grain, potato, fruit, poultry. 752 pictures sent free. SLOCUM FARM AGENCY, 141-T Broadway, New York City 18-4

Riverside Farm; income $3,300, 6 horses, 9 cows and heifers, bull, calves, 80 poultry, 3 brood sows, boar, cream separator, up-to-date machinery, tools, etc., included: 200 acres in choicest farming country, convenient advantages, short drive city; 140 acres tractor-worked fields, cut 2 tons hay acre; 30-cow wire-fenced pasture; 1,000 cords wood; lots of plums, berries; good 2 story house, delightful shade, glorious landscape and river view; 16-cow barn, granary, poultry house, etc. To settle affairs $11,500 gets all, less than one-third cash, easy terms. Quick action wins. Other farms described our new bargain catalog. Free. A. W. COWLES, Altoona, Wis.

For Sale—A finely equipped farm stocked with high class federally tested pure-bred Holstein cattle. JOHN FRANTZ, Earlville, New York.

For Sale—Your choice of any forty acres of a tract of 2,000 acres rich cut-over lands in Price County, Wisconsin. Prices $20 to $30 an acre, $500 cash down, balance ten years. Special price all cash buyers. B. B. CLARKE, Madison, Wis. 18-2

For Sale—Section rich clay land Taylor County, ten miles from county seat, good roads, well watered, rural delivery, school adjoining tract. Newly fenced with woven and barbed wire. $10,000 worth of timber on tract. Good pasture for 100 head of stock. Price $50 an acre. Reasonable payment down, balance long time, six per cent. Will take small farm Southern Wisconsin in trade. B. B. CLARKE, Madison, Wis.

MILK BUSINESS

Wanted to buy retail milk business. Would consider partnership. Have experience. Address BOX 758, care Hoard's Dairyman.

DAIRY FOR SALE

Will furnish 100 cows, half of everything else and give half. Will sell tools, horses, tractor, car and half of the crops. Will move off now or this fall. Barn for eighty cows, drinking cups, three large silos. 80 acres corn, 50 of oats, 50 of alfalfa. 400 chickens. Have milking machine. Will give terms on all to right man. State particulars and how many in family in first letter. FRANK ROGERS, General Delivery, Leavenworth, Kans. 17-2

AGENTS WANTED

Representatives wanted to write hail and cyclone insurance every township in the Northwestern states. Little experience necessary, good commissions. Write quick. ST. PAUL MUTUAL HAIL AND CYCLONE INSURANCE COMPANY, 805 Pioneer Bldg., St. Paul, Minnesota. 12-12

Yes Sir, we have a special opportunity for you during spare time, an opportunity to do some good work in your neighborhood, for the betterment of dairy farming, that will pay you in cash for the effort you put forth. Write for our "Special Opportunity Getting Together" folder. Address HOARD'S DAIRYMAN, Fort Atkinson, Wis. 2-tf

Agents Wanted—Mason sold 18 sprayers and auto washers one Saturday. Profits $3.00 each. Square deal. Write RUSTLER COMPANY, Johnstown, Ohio. 11-spl

MACHINERY

For Sale Cheap—A small lot of standard make Swedish Cream Separators, 400 pounds capacity, $29.00, 500 pounds capacity, $34.00, 700 pounds capacity, $39.00. These are all new machines, wonderful bargains. THOMAS TAFFEE, Box 355, Lansing, Mich. 18*

One Waterloo Boy 12-20 tractor good as new. One Grand Detour Jr. 3-bottom plow, new. Two 16-inch pulverizers new. H. C. KARSTEN, Huntley, Illinois. 10*

For Sale—10-20 Titan Tractor in first-class shape. 3-14 inch John Deere gangs. Plowed 60 acres. JOHN STURN, R-1, Beaver Dam, Wis. 17-2

For Sale—2 unit Hinman Milker, 160 Ampere Delco battery, 3 motors. Good as new. D. OFFRINGA, Ames, Iowa. 18-1

For Sale—Two unit Hinman Milker complete for twenty cows. SLOMAN BROS., Pawnee, Ill.

For Sale—No. 5 Chilly King Milk Cooler with porcelain stand. Outfit DD, used only three months last year, in A-1 condition. Cost $200.00, first check for $135.00 takes it. C. D. ROWAND, Sidell, Ill. 18-2

For Sale—Perfection two double-unit milker complete with pump, tank aid pipe line for 22 cows. In A-1 condition, used only 3 months. Am discontinuing dairying. Will accept Liberty Bonds in payment. J. R. DAVIDSON, Laurens, Iowa.

Perfection two double-unit milker. Complete with pump, tank and pipe line for 36 cows. Will sell or trade for registered Guernsey heifers or calves. F. C. VEHRENKAMP, Bangor, Wisconsin. 18-2

One double-unit Pine Tree Milker, complete with piping for twenty head, nearly new, $200. H. A. NEWMAN, R-7, Kent, Ohio. 18-3

For Sale—New three-unit Hinman Milker, complete with reduction-gear, extra pail and teat cups, and other equipment for installing in large barn. Never been uncrated. Price $250. Address E. ANDERSON, care Iowa Sales Co., Chamber of Commerce Bldg., Cedar Rapids, Iowa.

PRINTING

Hoard's Dairyman Art Department designs your letter head free. Just tell us your breeds of stock. Book of 5,000 Farm, Ranch and Cottage names 25 cents. Ask for samples of letter heads, envelopes, shipping tags, cards, milk tickets, etc. Poor stationery is more of a damage than a help. Be sure and give correct post office address, including state. Address HOARD'S DAIRYMAN, Art Dept., Fort Atkinson, Wisconsin. 8-tf

SEEDS

Seed Corn—Eureka ensilage, ninety-day Silvermine, Riley's White 52-day, Johnson, Reid's, $3.50 bushel; five bushels, $3.00 per bushel. HAMMOND SONS, Rockport, Indiana. 16-*

MISCELLANEOUS

Maple Syrup, first quality and lowest priced, direct from our farm. HILLCROFT FARMS, Walton, Delaware Co., New York.



Advertising in this department is 7c per word. Remit in advance.

POSITIONS WANTED

Single man wants position on dairy farm. Experienced and reliable. Address BOX 750, care Hoard's Dairyman. 17-2

Position wanted by farm or estate manager. Life experience, general farming, gardening, fruit, poultry, pure-bred stock, certified dairying, modern methods, development work. Best of references. American and married. Particulars on receipt of your proposition. Address FARM MANAGER, 4463 North Uber St., Philadelphia, Pa. 17-2

Experienced dairy farm manager who has for years run large dairy farm with considerable profit, is open to a proposition from a large concern to start or manage dairy industry. Western part of country where such could be successful preferred. Write offer. Address BOX 744, care Hoard's Dairyman. 17-2

Have you an important dairy farm you want to have managed by competent, working superintendent? If so, write me—salary or shares. Western state preferred. Address BOX 745, care Hoard's Dairyman. 17-2

Position wanted—Married farmer and dairyman. No children. 40 years of age. Know the business thoroughly. Salary or shares. ART SHADRON, 89 S. 24th St., Kansas City, Kansas.

If a man with twelve years' experience at general farming and raising pure-bred cattle can help solve your problem, write me. Am thoroughly experienced in advanced registry work and prefer to assume the management of a plant where such work is being done or contemplated. Your inquiry is assured a courteous reply. Address BOX 64, Lexington, Mass.

Position wanted as herdsman. Several years' experience, best reference. T. B. DRIVER, 95 E. High St., Detroit, Mich.

Experienced dairyman wishes position on dairy farm. Married, 36 years old. A-1 references. State conditions in first letter. Address BOX 753, care Hoard's Dairyman.

Position Wanted—By experienced creameryman, testing, separating, buttermaking, pasteurizing. Also care of boiler and machinery. WM. SWETIN, care Fitchome Farm, Aurora, Ill.

Wanted—Position by practical stockman and farmer. Experienced in all lines farming, handling men and tractor farming, good with all kinds machinery. Wife experienced in running farm boarding house. Can give good reference. Address BOX 756, care Hoard's Dairyman. 18-2

Wanted Position—By reliable married man on farm, or clearing cut-over lands. E. L. BROWN, 114 S. Madison Ave., Ottumwa, Iowa.

Position wanted as manager on stock or dairy farm by married man with one child. Lifetime experience and agricultural college graduate. Wife experienced buttermaker. Address BOX 759 care Hoard's Dairyman. 18-2

Position Wanted—Young married man as assistant herdsman, with Guernsey herd. Experienced in handling milk, calf raising and A. R. feeding. For particulars and references, address BOX 760, care Hoard's Dairyman. 18-2

HELP WANTED

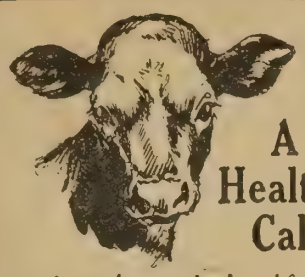
Wanted—Railway mail clerks' $135 month. Write for list positions. FRANKLIN INSTITUTE, Dept. L115, Rochester, New York. 16-4

Wanted at once—Good, reliable, single man or boy who can and is willing to do anything about farm. $30.00 per month and board. CRYSTAL SPRING STOCK FARM, Littlestown, Pa. 16-3

Wanted—A competent man to bottle milk in small modern dairy. CLOVER LEA FARMS, Austin, Minnesota. 17-3

Help Wanted—Working farm manager for 300-acre farm fifty miles from Chicago. Farm to be run on business basis. Manager must be familiar with machinery, tractors, and all things pertaining to successful farm, and able to farm economically. Must have good references. Address BOX 743, care Hoard's Dairyman. 16-3

Wanted—Man to work in milk-house, washing bottles and bottling milk. Must know how to make butter and cottage cheese. Give reference. Good wages. RYANS DAIRY, Kewanee, Ill.



A Healthy Calf

—is the result, not only of good feeding, but of **protection** against germ infections, such as scours.

Experience has taught the wise cattle man to rely upon a good safe disinfectant. A bottle of B-K is his helpful agent. When used internally it destroys germs, acts as an anti-acid and sweetens the stomach, heals inflamed membranes, relieves irritation, restores healthy action. B-K contains no poison, acid or oil and may be given freely in the milk and drinking water.

Never be without B-K—You will surely need it—and, it is always ready. Sold everywhere.

GENERAL LABORATORIES
Madison, Wisconsin

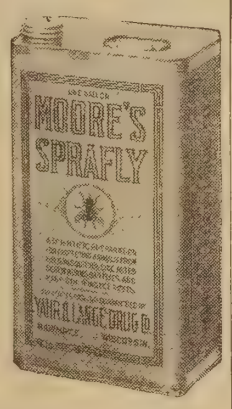
Send for free trial and bulletins on Contagious Abortions, Calf Scours and others.



B-K Bacillus-Kill

1 Gal. and 5 Gal. Pkgs.

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Protects cattle and horses from flies. Allows them to feed in peace. Is easily applied with a sprayer. Saves double its cost in extra milk. An oily liquid, it spreads quickly, sticks fast, and goes far. Absolutely harmless, and satisfaction guaranteed.

Ask your dealer for **MOORE'S SPRAFLY**

Put up in 1-gal. cans only.

Manufactured by
Yahr & Lange Drug Co.
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We have weanling boars of the best type and most popular breeding from $20.00 up crated F. O. B. Glenwood, with registration papers. Write for booklet with full information and our guarantee to satisfy.

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DOG DISEASES
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Kill All Flies!

THEY SPREAD DISEASE

Placed anywhere, DAISY FLY KILLER attracts and kills all flies. Neat, clean, ornamental, convenient and cheap. Lasts all season. Made of metal, can't spill or tip over; will not soil or injure anything. Guaranteed.



DAISY FLY KILLER at your dealer or 5 by EXPRESS, prepaid, $1.25.
HAROLD SOMERS, 150 De Kalb Ave., Brooklyn, N. Y.

Guaranteed Hubam Clover
Annual White Sweet Clover

This is the new clover discovered by Prof. Hughes. All the 1920 crop of seed is exhausted. But seed of an early strain planted in Texas since Xmas has reached maturity. You can get it in time to raise a crop yet this year. Make big profits growing seed for yourself and neighbors. Order from **The Henry Field Seed Co., Shenandoah, Iowa, or direct from The Grower** Who Guarantees. The price is $5.00 per pound.

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Learn to be an Auctioneer

Taught by the practical method. By our plan you study at home and receive a part of the commission while learning. Enroll now and be ready for the fall business. Write for our free catalog. Address

Kissling's Auction School of America, Columbus, Ind.. Dept. F, William C. Kissling, President.



Advertising in this department is 7c per word. Remit in advance.

HELP WANTED

Wanted—Herdsman for dairy herd. Must be single man, educated and of good habits, experienced in feeding and in A. R. O. work. Must have good disposition, be willing to work and capable of handling men. State age, experience and wages expected. Give references. ANIMAL HUSBANDRY DEPARTMENT, University Farm, Morris, Minn.

Wanted—Experienced, reliable test milker. Must understand feeding and care of cows under A. R. test. $60 and board. GOSSARD BREEDING ESTATES, Martinsville, Ind.

Position wanted as herdsman on modern up-to-date pure-bred Holstein farm where A. R. O. work is done. I have four years' experience in this work. Can raise calves and handle milking machines. Will be open for position about June 20th. State full particulars in first letter. Will go anywhere. Also partner wishes position as tractor driver, or would do general farm work. State wages and make of tractor. Address BOX 755 care Hoard's Dairyman.

Wanted—Experienced test milker to make yearly records. Splendid opportunity with great cows for right man. Good pay. Bonus for high records. Write experience and references. Address BOX 754, care Hoard's Dairyman.

Wanted—Married herdsman, Hollander preferred, must be Protestant, no man with children will be considered. Pure-bred Guernseys, part on test, balance going on test as they freshen. Barn strictly modern, also modern creamery with four rooms on second floor used by herdsman as living quarters. Write in full giving age of both, experience, references, wages expected and when can come. Address ROOM 216, 9 South Clinton St., Chicago, Ill.

Wanted—Single man to work in dairy. Must be good hand milker and know how to manage cows, barn and milk house. Must furnish reference. PURE MILK DAIRY, Bristol, Va.

Wanted—Girl or woman to assist with general housework on farm. State wages. MRS. ROY DOLPHIN, Livingston, Wisconsin. 18-2

Wanted—Experienced single herdsman for testing and breeding of a high class small herd of Guernseys. Also an assistant and milker. Address BOX 757, care Hoard's Dairyman. 18-2

Wanted—Married man small family, boy large enough to help milk, on modern dairy and grain farm. 50 cows, Sharples milkers. School ¼ mile. Hard road, six miles to Springfield. Must be industrious, understand dairying. Will hold position open for good man. State wages expected, references in first letter. EARL JOHNSON, R. R. 2, Springfield, Ill.

Herdsman open for position. Handled largest herds in U. S. Please state proposition and wages. Address BOX 752, care Hoard's Dairyman.

Wanted—Experienced man on dairy and general purpose farm. State experience, age and weight in first letter. O. PAUL SCHWEFEL, Oakfield, Wis.

Minnesota Holstein Breeders Meet

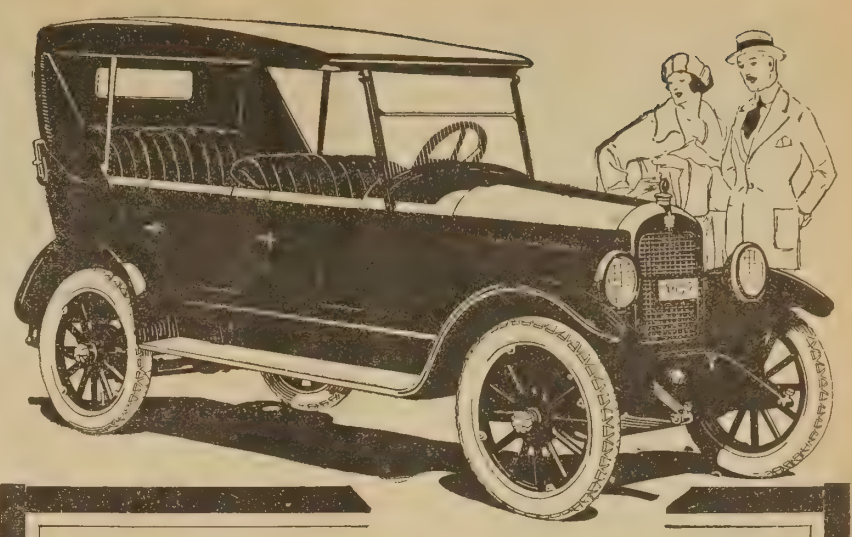
"The best meeting we ever had," was Secretary Scott's description of the Minnesota Holstein Breeders' annual meeting held May 3 at Faribault, and he was right in his statement. It was an exceptionally good meeting with an attendance well above that of any previous one.

Blue Earth County alone supplied nearly 100 automobile loads and while they were not all Holstein breeders they were all Mankato boosters who got what they came for—the promise for the 1922 state meeting and sale at Mankato.

In addition to the routine business the association dues were raised. Hereafter each member pays fifty cents per head for the number of pure-breds he owns with a $10.00 minimum membership fee and $5.00 the minimum fee for grade breeders.

The major portion of the afternoon and evening was devoted to the entertainment provided by Rice County and be it known, the men of that county qualify as A-1 entertainers. One hundred cars took the visitors for a tour of the Holstein herds of the county with a splendid banquet and program at Carleton College for the wind-up.

The milk campaign work of the Dairy Division is bringing big results this season. Miss Hoover, milk campaign specialist, is just home from the latest campaign, at Wheeling, W. Va., where she reports the usual success, and special interest among the children of the public schools. A feature was a "milk parade" arranged for a public demonstration. Hundreds of girls from the schools took part, companies being specially costumed to represent the various uses of milk in the diet, and its food and health protective and growth promoting value. This "milk parade" is to be given in Washington, in the early future, if Miss Hoover can work out her plans and is to be filmed here for general use in the educational films being made by the Department.



Sturdy, Stylish, Comfortable
Costs Little to Run

That is the verdict of thousands of farmers who are driving Briscoe cars. The 1921 Briscoe is the best car built today, and the nearest Briscoe dealer will prove it to you.

BRISCOE
The Trustworthy Car

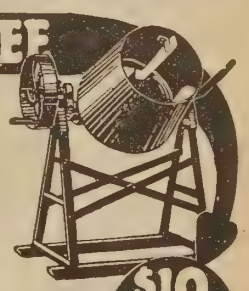
Put the Briscoe to any test you choose—hill-climbing, bad roads, quick get-away. See how far it will go on a gallon of gas. See how comfortable it is, even over the roughest going.

It will give you more car-value per dollar than any other car made, bar none. Prove it for yourself.

Free booklet on request.

Brisco Motor Corporation
Jackson, Michigan

Try This Mixer—30 Days FREE



RIGHT now is the time to get your KWIK-MIX Concrete Mixer—Special Easy-Payment-Offer and reduced prices for this month only.

Before you buy any concrete mixer or start mixing with a shovel, let me send you the wonderful KWIK-MIX Concrete Mixer on 30 days' free trial.

Post yourself on latest, most up-to-date mixer before you go ahead. Don't take chances spoiling a job with hand-mixed concrete. Get a KWIK-MIX and be sure of a perfect mix. Saves time, labor, contractors' profits---pays for itself on first job.

The original reverse-action mixer---loads from one side---close up to pile of material---dumps finished mixture other side into wheel-barrow or directly into forms. This new improvement saves a great amount of time and labor---yet KWIK-MIX costs less than the ordinary mixers.

Steel frame---built for hard use---yet light and easy to move. Capacity, three cubic feet a minute---hand or belt power---fully guaranteed.

KWIK-MIX CONCRETE MIXER

$10 AFTER 30 DAYS TRIAL

Easy Payment Send no money. Most liberal terms ever offered on a mixer. Pay only $10 after 30 days' trial, balance $10 per month for four months. Two per cent discount for cash. Write for full particulars.

BADGER WIRE & IRON WORKS
1007 Cleveland Ave., Milwaukee, Wis.



FILTER YOUR MILK

THE CHAPMAN STRAINER AND FILTER COMBINED

will remove dirt, hair, bacteria, blood corpuscles and other substances which a strainer only cannot catch. This will greatly improve the quality and flavor of the milk and prevent it from souring quickly. It can be quickly taken apart for cleaning. Price each $2.50. Postage 30c extra. Cotton and gauze at extra prices here given. Dairy Special Sterilized Cotton 50c a lb.; in lots 25 lbs. or more, 45c.

Dairy Special Sterilized Gauze 8c a yard; in lots 100 yards or more, 7c a yard.

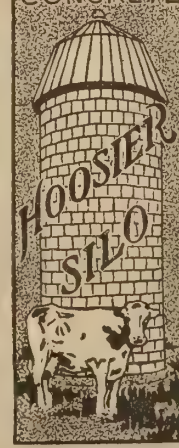
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Write for Big, Free Catalogue.

The Creamery Package Mfg. Company
68 W. Kinzie St., Chicago



The Genuine CHAMPION Cools Milk
Operates quickly, easily, cheaply. Saves its cost in one week. Halts bacterial growth. Removes odors. If your dealer cannot supply you, write for special offer. Folder free.
Champion Milk Cooler Co., Dept. D, Cortland, N.Y.

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Complete Silo Service

Suit your own requirements with a HOOSIER SILO. Best value on the market, at prices allowing you big savings.

Glazed or unglazed vitrified tile; reinforced every course of blocks; proof against wind, fire and frost; continuous doors with double sealing clamps, doors set flush with inside wall to insure even settling of ensilage. Built to last for generations.

Hoosier Wood Silos in fir and pine, hinged doors. Cement stave silos, puddled process, sealed and poured joints. Choose the type you need—but be sure it's a HOOSIER SILO.

Build all farm buildings of hollow glazed tile—cheaper, more practical last forever. The modern way to build.

Write for literature, prices and special agents' proposition.

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For every road and every load—the Kelly Caterpillar

There are some types of truck tires that do very well in certain sizes and in certain kinds of service, but there is only one type that is equally good *on all sizes of trucks, in every kind of service.*

The resiliency of the Kelly Caterpillar, its ability to get traction and its consistently great mileage place it absolutely in a class by itself.

Whether you use light trucks or heavy, whether your tire problem is one of getting traction under difficult conditions or merely one of finding tires that will last, there is a size of Caterpillar that will answer every demand the truck may put upon it, at a lower cost than any other type of tire you can buy.

Kelly-Springfield Tire Co.
GENERAL SALES DEPARTMENT,
1710 Broadway, New York

"You may be Sure"
says the Good Judge



That you are getting full value for your money when you use this class of tobacco.

The good, rich, real tobacco taste lasts so long, you don't need a fresh chew nearly as often—nor do you need so big a chew as you did with the ordinary kind.

Any man who has used the Real Tobacco Chew will tell you that.

Put up in two styles

W-B CUT is a long fine-cut tobacco
RIGHT CUT is a short-cut tobacco

Weyman-Bruton Company, 1107 Broadway, New York City

When Writing to Advertisers, Mention Hoard's Dairyman

Jimmy and Bob Again

(Continued from page 762)

as though you had wasted some time by staying in this college as long as you have."

"I should say not," retorted Jimmy. "These two years have been mighty important ones for they have made me open my eyes and take advantage of all the good things about us. Why these two years are going to make a lawyer out of me," he laughed, "and besides their influence has extended farther than that. You don't see how I figure that, do you, old man?" he said, noting the puzzled expression spreading over Bob's face.

"Hardly," Bob replied. "I don't see that it has concerned anyone but yourself."

"Well, then, let's just take an inventory of their influence," he replied, "and I think there will be no doubt left in your mind as to their value. First, we will credit them with having been all important to me in leading me to find myself, to say nothing about the fund of important information which I also have to my credit. I'd say that every one ought to have this information about the most important of all occupations, and I don't doubt but as a lawyer I will have plenty of opportunity to use some of the things I have learned these two years. It certainly makes one appreciate the problems of production and gives him a much broader viewpoint of what life really means.

"And think what it has meant to the rest of my family! I'll just tell you if I hadn't written those letters home to dad, he'd never had his eyes opened the way he has. Since I've been down here, we've had an entire outfit of new buildings on our place, everything up-to-date. Our herd of cattle is practically all pure-bred now and they are taken care of the way they should be, and no one appreciates it more than dad himself, either. We're growing all pure-bred grains and corn, too, and the Greene farm has more acres of alfalfa now than the Ramsey farm, if I'm not mistaken. And all the crops are grown in a strict rotation now, too; corn, then a small grain seeded to clover and timothy, then hay, and last pasture and back to corn. Yes, and dad's using lime now, and I happen to know that he and Hank Peters bought a carload of that stuff this winter, and Jerry's got it all spread on the land by this time, ready to seed another piece to alfalfa next spring. That's what I call progress," he proudly concluded, "and you can just bank on it, all of this wouldn't have happened if I hadn't been down here these two years. So you can just credit all of this to the time spent in the agricultural college, along with what it has meant to me. And probably fifteen or twenty years from now, it will be Secretary of Agriculture Ramsey and Senator Greene," he joked good-naturedly. "That would be great, wouldn't it, Bob," he reflected, "and you never can tell what will happen when a fellow gets to going. Anyway, we're headed in the right direction."

"Yes, but have you stopped to think of what your dad and Jerry are going to say when they know what you've done?" Bob inquired.

"Oh, dad will storm about it for a while," he replied "and of course it will almost break Jerry's heart. He was so set about the two of us running the farm. But he'll get over that and 'twill give him a better opportunity, too, if he has the farm to himself. Anyway, I have to live my own life, and one can't afford to sacrifice too much just to please the other fellow. I'll break the news to them all the week I am at home for spring recess. Dad's not an old man yet and he won't be leaving the farm for some time to come. I can justify my act and that is all there will be to that and next fall yours truly begins the study of law."

"But what about Jerry?" Bob asked with some concern. "When will he start in college? Will he have to wait longer now just because you will not be through in two more years?"

"No, Jerry will come down here at the same time as we had planned for him," he firmly replied. "Isn't going to make the least bit of difference, and he is going to study agriculture as we had planned. Jerry's cut out for a good farmer, and he'll be one, too. He won't change his mind the way I have; he's got too much sense for that and after he thinks it all over, he won't be blaming me, either. You know he always has been just a little skeptical about my returning to the farm ever since I left home. No, everything will turn out all right," he tried to convince himself, well knowing, however, that there would be a great deal of dissatisfaction when his folks found out. "I'll tell you one, though, who will take my part," he emphatically added, "and that is ma. She's always had a lot of confidence

in me and she will think it is great to have a lawyer in the Greene family; that'll sound pretty big to her ears—God bless her," he added, as he broke into a hearty laugh.

Ten Bulls' Eyes in the Present Agricultural Marketing Situation

Organization is essential to marketing improvement. There is a growing need of a consolidation of local marketing units on a community basis. This should enable each concern doing business to be of such size and efficiency that it may render essential marketing service at minimum costs and hence handle products for a smaller portion of the consumer's dollar.

The consolidated local units should be federated into a distributing or sales system in order to enable each local unit to gain benefits from a system sufficiently large to be capable of building markets and standardizing prices as far as that is economically and competitively possible.

This would be done by

Building up adequate financing arrangements.

Storing seasonable surplus for sale in deficit producing periods.

Obtaining adequate supply and demand facts concerning markets the country over.

Providing necessary and adequate connections through which products may be sold constantly.

Advertising to expand markets and create or engage a stable consumer demand, and

Placing adequate premium upon quality production to guarantee consumers a supply of what they want and farmers the best obtainable returns for their efforts.

Through such organization commodities should bring what the market will afford, recognizing:

That cost of production facts will enable a farmer to know what to produce and what not to produce.

That by no means yet discovered can cost of production be made the direct basis of price in a competitive industry.

That organization need not result in monopoly, but rather in the development of efficient marketing machinery.

That the farmer is entitled to all that the market will afford, but such is not obtainable without organization.

B. H. HIBBARD.
THEO. MACKLIN.

AYRSHIRES

THIRD NATIONAL AYRSHIRE SALE



SPRINGFIELD, MASS. JUNE 7 1921 50 HEAD

FOR CATALOGUE ADDRESS
ARTHUR H. SAGENDORPH
BOX 373
SPENCER, MASS.

Two Registered Ayrshire Bulls

ready for service. Also a few heifers and bull calves. Herd tuberculin tested. A. R. O. breeding.
Herman Ihde, **Neenah, Wis.**

SWINE

Cedar Crest Farms

have never possessed a finer lot of
BERKSHIRES
than at present. Let us name you prices on fall and spring boars and young gilts.
J. K. Dering, Owner, **Lake Villa, Ill.**



MORE PORK IN LESS TIME

Duroc-Jersey hogs have a tendency to put on great amounts of pork at an early age. They are easy-feeding animals, and raise large families. These hogs were introduced less than 50 years ago, and yet in 1918, 51% of all the hogs marketed in the country were "Duroc-Jerseys." They are uniformly red in color. Increase your profits by raising Duroc-Jersey hogs.

Write for "DUROC-JERSEY HOGS ARE PROLIFIC AND PROFITABLE"—sent free to hog-raisers by the largest swine record association in the world. Over 12,000 members.
The National Duroc-Jersey Record Association. **Dept. 300** **Peoria, Ill.**

Hampshire Records Lead All Others



Clay Robinson & Co. sold them—Swift & Co. bought them at $4.50 above the top of the yards—Of all the big type breeds they were the youngest and biggest

GRAND CHAMPIONS OVER ALL BREEDS INTERNATIONAL 1920.

The hog that dresses out a higher percentage of high priced meat with a less percentage of lard. Hampshire means the greatest economy in production.
The largest for their age and the only carload of spring pigs to show in the heavy weight class.
For information and literature on the best of breeding stock, address,

E. C. Stone, Secretary, 409 Wisconsin Ave., Peoria, Ill.
AMERICAN HAMPSHIRE SWINE RECORD ASSOCIATION.

MIDDLESEX MEADOWS FARM

OFFERS
Two outstanding AYRSHIRE BULL CALVES for sale for immediate shipment

No. 1—MIDDLESEX WHITE CHANCELLOR 25273, born September 17th, 1920.
Sire—Cavalier's Netherall Chancellor 21216, who sired the winning bull calf at this year's National Dairy Show.
Dam—White Heather of Highland 42752, who stood 2nd in the aged cow class at the same show (this year's National) and who has two good Roll of Honor records.

No. 2—MIDDLESEX MANCHESTER, born March 10th, 1921.
Sire—Auchenbrain Toreador (Imp.) 24761, record priced bull of the breed and Grand Champion at Maryland, New York, Connecticut, and New Jersey State Fairs this year.
Dam—Bida Clinton 31489, who has three A. R. records that average 11,000 lbs. of milk, 453 lbs. of fat, 4.17%; and whose two-year-old daughters will have records of over 10,000 lbs. of better than 4.00%.

Both bulls have excellent individuality, and are fit to go into any show ring and hold their own. They should develop into extra good herd sires. Prices reasonable—we **KNOW** you can't get as good as these two for any less money elsewhere.

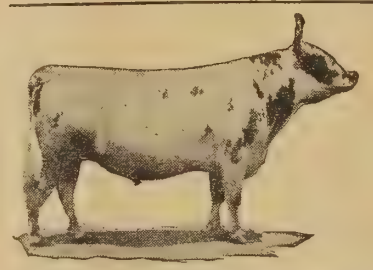
A. Henry Higginson (Owner). **W. R. COUTTS, (Supt.)**
South Lincoln, Massachusetts

Monstone Farm Ayrshires

"Production — Size — Individuality"

Bull calves out of dams with A. R. records of 10,000 lbs. (and better) of 4% milk—Winners in show ring—Sired by Lessnessock Gem's Good Gift Imp.—Winner in show ring and proven prepotent sire—Weight 2,250 lbs. in breeding condition—Whose dam made 8,930 lbs. milk, 4.05% fat, in *56 weeks* (Scotch record)—Sire's dam 10,342 lbs. milk 365 days (Scotch record)—Prices $100 to $1,000. If you want class and a square deal, correspond with us. We can supply your wants at your prices. Nothing but the best. Herd Federally tested.

MONSTONE FARM, John Chalmers, Manager, **IPSWICH, MASSACHUSETTS**



We Have For Sale

the well bred Ayrshire bull, Bargenoch "Drexel" (18474) Imported. Bred by John Logan, Bargenoch, Scotland. Born Feb. 2nd, 1919. Color white and red. Sire, Bargenoch Magnificent (9579). Sire of Bargenoch "Royal Champion" sold at Bargenoch sale, 1919, for $7,267.00.

Dam, Bargenoch Victoria (37003). Scotch record: 9,221 lbs. milk, 4.23% fat in 43 weeks; 11,070 lbs. milk, 4.50% fat in 47 weeks.

BARCLAY FARMS, John Cochrane, Manager, **ROSEMONT, PENNSYLVANIA**

Delchester Farms Ayrshires

Tell us your wants and we can supply them at prices you can afford to pay.
Aged cows, bred to Glenury, an A. R. son of Finlayston.
Aged cows, bred to Rena's Baron of Highland, an outstanding son of Baron's Best of Bargenoch.
Heifers, bred to these two great sires.
Young heifers.
Bull calves.
All the above stock carries some of the best producing blood of the breed with A. R. ancestry on both sides.

Herd free from tuberculosis
DELCHESTER FARMS
Edgemont, Del. Co., Penn. - Thomas W. Clark, Supt.

Weymouth Farms

"Ayrshires of Quality"

All cows on Advanced Registry Test. Herd Tuberculin Tested.

We can supply you a herd sire of choicest breeding.

MARTIN A. TOWLE, Mgr.
NORTH WEYMOUTH, MASS.

Linndale Farm Ayrshires

"Are bred for Production"

Bull calves out of A. R. cows and sired by sons of World Record cows, for sale.

Our { Breeding, Conformation and Prices } are right.

See what we offer before you buy.

JOHN LINN & SONS,
Manhattan. **Kansas.**

BLACKBURN FARM

Home of Addington's Champion

Grandfathers—Nox'emall and Finlayston.
Father—Rena's Champion—17 A. R. daughters
Mother—Addington Queen 3d—Two mature records each over 19,000 lbs.
Fully Accredited Tuberculosis Free Herd.
SEWICKLEY, **PENNSYLVANIA**

Ayrshire Stock

of all ages for sale. Satisfaction guaranteed
L. W. McCONNELL, **Wellington, Ohio**

Ashbrook Farm Offers

Ten Heifers of this Type and Age For Sale



STRATHGLASS GARDUM SNOWDROP

Also the first prize bull calf at the Eastern States Exposition by Foulton Ambassador. This will make someone a good herd.
L. E. ORTIZ, Prop., **Morris Plains, N. J.**

World's Champion AYRSHIRES

200 head Fully Accredited, Tuberculosis Free for 3rd consecutive year. 100 records average 13,454 lbs. milk. Many cows weigh over 1400 lbs. For large, healthy, productive Ayrshires, address:
Penshurst Farm, **Narberth, Pa.**

FOR SALE

Registered Ayrshires

Cows and Heifers. One bull fit for service. Also some choice young bulls and heifer calves. Best of Breeding.
Dan Haurahan, **Oconomowoc, Wis.**

Pure-bred Ayrshire Cattle For Sale

Best of breeding. Calves sired by a Grandson of Brown Kate, record 1,080 lbs. butter in year.
Wm. Nisbet & Sons. Richland Center. Wis.

Early Silo History in the U. S.

(Continued from page 743)

available every fall in the sugar beet districts; also green forage, such as Indian corn fodder, green clover, grass, etc., was treated by this method; the fodder being placed in pits ten to twelve feet square, or larger, and as many feet deep; these were often lined with wood and puddled below and at the sides with clay. The fodder was spread evenly in the pits, and well trampled down; when the pit was full the whole was covered with boards and a layer of earth one to two feet thick; such pits would hold nearly ten tons when full. It is stated that the silage thus obtained 'remained green and was well liked, even by sheep'. This practice slowly spread; in the sixties over 2,000 tons of Indian corn was thus made into silage annually in a single small German province where dairying is an important industry.

"One of the earliest advocates of the practice was M. Reihlen of Stuttgart, Germany. His communications on the subject gave an impetus to a large amount of experimentation and study along this line, both among German and French farmers. The French farmer, Auguste Goffart, whose name by most writers has been connected with the origin of silage, in 1877 published his book, 'Manual of the Culture and Siloing of Maize and Other Green Crops,' which book is the first monograph on the subject ever published, and embodies the experience and results of twenty-five years' study of the problem by the author. While Goffart has no claim to priority in inventing the method of siloing green fodders, he perfected and applied it on a large scale, and in publishing the results of his experience brought the subject to the general attention of farmers; he may, therefore, justly be called the 'Father of Modern Silage'.

"The earliest mention of the subject in the United States was through accounts of European experience in our agricultural press; the first complete description of the system was given in a paper on 'The French Mode of Curing Forage', published in the annual report of the United States Department of Agriculture for 1875. Goffart's book was translated in 1879, by Mr. J. B. Brown of New York; this translation, as well as Dr. J. M. Bailey's "Book of Ensilage", published in 1880, first made the subject of silos and silage more generally known among American farmers and the system soon found its enthusiastic followers in the United States. The first silo built in the United States is said to be that erected by Mr. F. Morris of Maryland in 1876."

Association Notes

(Continued from page 749)

er. Two new members started official testing. A pure-bred sire replaces the last scrub, making this association now 100 per cent pure-bred sires. Two milking machines were installed.

Macoupin County, Illinois:—We now have one hundred per cent pure-bred sires. Several members are ready to start semi-official testing. During April market milk testing 3.5 per cent sold for $2.28 per cwt. Three cents were paid for each point above. Milk retailed for 12c per quart.

Monona—Farmersburg, Iowa:—During the year just completed 99 cows were sold and 13 registered bulls were bought. Four men replaced beef cattle with dairy cattle, 4 bought foundation females for registered herds, 6 herds tested for tuberculosis, 18 other herds have application in for testing. Ten new silos were bought, 316 cows were in milk 10 or more months, averaging 6,250 lbs. milk and 260.93 lbs. fat. One hundred and six cows produced over 300 lbs. fat, 14 over 400 lbs. fat, and one over 500 lbs. W. J. Allert owns high fat cow, Blackie, a grade Jersey. She is seven years old and produced 9,522 lbs. milk, 518.3 lbs. fat, profit above feed cost $189.64. S. J. Littie owns high milk cow, Mary, a grade Holstein. She produced 11,217 lbs. milk, 398.9 lbs. fat, profit above feed cost $158.40. Two cows made over $200 profit above feed cost, 142 others went over $100 profit above feed. There were 483 cows tested during the year which produced 2,543,969 lbs. milk, 104,947.1 lbs. fat at a feed cost of $30,238.41, giving a feed cost for 100 lbs. milk of $1.19 and 28.8c for one pound of fat. While there was not a cow tested in Clayton County in April, 1918, we now have four cow testing associations organized in the county.

Stratford Co-operative, Wisconsin:—During April milk testing 4 per cent sold for $2 per hundred pounds. Six cents were paid for each point above. The cheese factory paid 59c per pound for fat. Milk retailed for 10c per quart and butter for 54c per pound. Bran sold for $26 per ton; oil meal, $42; Balanced Ration, $48.

BROWN SWISS



BETTY OF LAKE VIEW

Breed Brown Swiss Cattle

They prove their superiority over other breeds when subjected to trying conditions on the farm, by keeping in good flesh and filling the pail while other cows grow thin and reduce their yield. You can prove this to your satisfaction.

BROWN SWISS CATTLE BREEDERS' ASS'N
IRA INMAN, Secretary, Beloit, Wis.
William B. Hale, Pres., Aqueduct Bldg., Rochester, N. Y.

JUBILEE FARM
Box 747, Peoria, Illinois.
All Females Withdrawn from Sale Until After the
ILLINOIS BROWN SWISS BREEDERS' ASSOCIATION SALE
MORTON, ILL., APRIL 21
and
FIRST NATIONAL CONSIGNMENT SALE
PEORIA, ILL., MAY 26
A number of line-bred bulls for sale.

JERSEYS

JERSEYS—DUROCS
Just one bull old enough for service and a few young calves. Hood Farm breeding.
F. R. Constance & Sons, Waupaca, Wis.

POLLED JERSEYS
Breeders' names and Spillman's "Inheritance of the Poll Character in Cattle" mailed free.
CHAS. S. HATFIELD, Secy, R4, Box 5, Springfield, Ohio.

Register Merit Jersey Herd
At Head, Mona's Jacoba Premier grandson: Pogis 99th of Hood Farm. Dam, Mona's Jacoba, record 806 lbs. butter: Granddaughter Jacoba Irene, young stock; St. Lambert breeding for sale. R. C. Green & Son, Albion, Wis.

Ten Splendid Jersey Bulls
Good type, 6 to 18 months old. Heifers bred and open. Hood Farm Torono, King Sappho King, Loretta D. Bright Prince, etc. blood lines. Free from abortion. Dams are in the R. of M. or on test. Accredited herd.
Address: J. Q. Emery & Son, Edgerton, Wis.

JERSEY BULL
14 Months Old
From Register of Merit Dam
With record of 416 lbs. fat, age 3 years, 2 months, carried calf 247 days. 7 nearest dams of this bull are in Register of Merit with good records. Solid dark color and a very good individual. Price $140.00.
P. G. WARMINGTON, Honey Creek, Wis.

HERE'S YOUR OPPORTUNITY
Bull calf born March 4, 1920, sired by a grandson of Majesty's Western King and out of a R. of M. daughter of Ibsen's Chief. For full pedigree and price write
E. E. HILL & SONS, Tomah, Wis.

Valley Farm is Offering
Several bulls, 6 to 12 months old, from R. M. cows. Sired by Golden Maid's Viscount and Kilda's Royal Majesty, two of the best Island bred bulls living. At prices to sell. Write
FRED STUBLEY, Black Earth, Wis.

Hillcrest Jerseys
Bull calf born March, 1920. Sired by Imp. grandson of Golden Fern's Noble. Priced right for quick sale. Write
ROLLIE VANDERVORT, TOMAH, WIS.

Jersey Bull
Age 4 Yrs. 6 Months
Ella's Golden Prince
Grandson *Noble of Oaklands*—Dam, Hood Farm breeding, tested at age 13 years, 722 lbs., 13 ozs. fat. Large, strong, excellent type, solid color. Price, $300.00. Picture and pedigree on request. Heifer, 2 years, 5 months old, milking 6 months, bred to *Ella's Golden Prince.* Solid dark color—good size and type. Price $200.00. Heifer, 1 month old. Sire, *Ella's Golden Prince.* Dam, Eminent, Majesty, and Oxford blood. Excellent type, solid color. Price, $75.00.
H. A. Blackwood, Weldona, Colorado

25 out of 80
OR
31¼ per cent of the highest record cows of the breed, at various ages from yearlings to mature cows
Bred or Their Sires Bred at Hood Farm
These 25 cows and heifers average 14,156.6 lbs. milk, 765.5 lbs. fat. Two out of the eighty Imported cows; seven out of the eighty sired by Imported bulls; 9 or 1⅛ per cent Imported or sired by Imported Bulls.
A Sophie Tormentor Bull
at the head of your herd means increased production and profit. Four-generation pedigree on request.
HOOD FARMS, Inc.
Lowell - - Mass.

Montpelier Jerseys
Three young bulls ready for service. Trace three times to Oxford Lad. Fine typy individuals. Right in every way.
Montpelier Manor Farms, Laurel, Md.

The Elms Jersey Farm
A few young cows, bred heifers and unbred heifers, for sale at from $150 to $250. Write for pedigrees and descriptions.
Thos. T. Bacheller, Jr., Mgr.
Forest Lake, Minn.

INCREASED PRODUCTION GUARANTEED
We guarantee any Jersey bull we sell to increase the average production of any herd
OR MONEY REFUNDED
YOU TAKE NO CHANCES. Our guarantee insures increased production and profit. Bulls for sale, ready for service.
AYREDALE STOCK FARM
F. W. Ayer, P. O. Box 713, Bangor, Maine.
N. B. Write us the size and producing ability of your herd, and we will describe and price a bull guaranteed to increase their production.
By mentioning "Hoard's Dairyman" we will know you are asking for a guaranteed bull.

Meridale Jerseys
Second Annual Sale
Thursday, June 2nd, 1921
Eighty-two head are catalogued for sale, —all imported Jerseys, personally selected on the Island by Mr. Butler and Mr. Dutton. The blood of Sybil's Gamboge, The Cid and Rower predominates in the offering. An exceptional lot of Island prize winning and butter test cows are included, among them the celebrated two-year-old Spring Carnation, First-Over-Jersey, Royal Show, September, 1920. Write for catalogue.
Special Sleeping Car Service from New York City, night of June 1st. Make reservation in advance through us.
AYER & McKINNEY
MERIDALE FARMS MEREDITH, NEW YORK

Dispersal Folly Farm Guernseys

OWNED BY R. H. DONNELLEY, LIBERTYVILLE, ILL.

AT THE SALE PAVILION

Fond du Lac, Wis., June 4th

Forty-one Head of as High Class Guernseys as will be Offered at Public Sale this Year—Thirty-seven Females, Four Bulls

The herd bull is Allenwood King Regent 23641 the average record of whose dam and grandam is 822.24 lbs. fat. Most of the heifers in the herd are sired by this bull, and out of the following list of cows that will be sold in the sale. All the cows in the herd are either in the Advanced Register or are now under test. They are:

Imp. Corrina of Sarnia 52766	6,289.8 milk	315.11 fat	Class G.
	10,636.3 milk	542.37 fat	Class A.
Imp. Cynthia of Sarnia 52771	7,287.5 milk	379.54 fat	Class G.
Now under retest.	Will make over 450 fat.		
Imp. Mable of Sarnia 35609	8,013.1 milk	365.18 fat	Class A.
Imp. Constance of Sarnia 53727	8,188.1 milk	401.62 fat	Class F.
	11,057.9 milk	518.00 fat	Class A.
Imp. Lady of Tamworth 33123	7,950.2 milk	332.87 fat	Class E.
	12,355.8 milk	519.04 fat	Class A.
Agnes of Sarnia 34514	7,373.1 milk	325.30 fat	Class G.
Doris of Sarnia 49019	6,625.6 milk	334.37 fat	Class G.
	10,964.6 milk	611.81 fat	Class A.
Folly Princess 59287	11,085.7 milk	481.33 fat	Class B.
Folly Daisy 66497	8,878.5 milk	416.89 fat	Class G.
On retest Class B, 221.10 lbs. fat in 107 days.			

Folly Suzzette 76253	On test Class E, 489.94 lbs. fat in 330 days.		
Folly Laura 76254	10,270.3 milk	572.09 fat	Class GG.
Eighth place in Class GG.			
Jupiter's Tidy of Ingleside 38748	12,610.0 milk	556.89 fat	Class C.
May King's Nantaska of Ingleside 36574	7,601.9 milk	403.98 fat	Class F.
	10,109.0 milk	514.59 fat	Class A.
Queen of the Hollyhock's 3rd 61429	8,380.3 milk	461.64 fat	Class E.
Langwater Queen Mab 55282	9,216.5 milk	440.20 fat	Class D.
Fillmore's Topsy 51107	9,694.6 milk	494.53 fat	Class F.
Bella's Golden Lassie 63198	On test Class C, 441.79 fat in 311 days.		
St. Austell's Daybreak 81406	On test Class C, 355.53 fat in 166 days.		
Mavoureen of Pencoyd 69700	11,186.9 milk	593.91 fat	Class DD.
Fifth in Class DD.			

Here it will be noted are daughters of Masher 63, Alderney Raymond, Don Diavolo of Linda Vista, Langwater Pencoyd, Langwater Advocate, Pencoyd's Golden Secret, Selma's Glenwood, Knight Errant, May King of Ingleside, and other A. R. sires almost as well known. Folly Farm herd is on the Federal Accredited List.

If you want to buy the best money will buy come to this sale. Every animal sold guaranteed a breeder.

For Catalogs Address Charles L. Hill, Sale Manager, Rosendale, Wisconsin

Fond du Lac County and Winnebago County Guernsey Breeders' Association Joint Sale at Fond du Lac on June 3rd.

FOURTH SEMI-ANNUAL JOINT SALE OF THE

Winnebago and Fond du Lac County Guernsey Breeders' Ass'ns

Fond du Lac, Wis., June 3, 1921

SALE PAVILION 10:30 A. M.

57 High Class Females

9 Excellent Bulls

Among the bulls are sons of Erma's Dolly, 676 lbs. Class F, Beauty of Lindenwood, 618.89 lbs. fat and she out of Beauty Eagle, 846.31 lbs. fat and other cows with large records or now making large records.

Over half of the females in the sale are either Advanced Register cows or are out of Advanced Register cows.

Cows and heifers in this sale are either sired by or are in calf to some of the greatest bulls of the breed, including Cherub's Prince, Dairymaid's Nonpariel of Iowa, Pencoyd Leader, Langwater Kinglike, Pencoyd Crackerjack, Queen's Golden, Jessy Rose's Pride of Iowa, Sunkiston, Superb of Edgemoor, Rex's Champion of Maple Hill, Langwater Leader, Langwater Islander, Brookmead's Patriot, Langwater Frenchman, Goldseeker of Anna Dean Farm, and many other bulls either of great breeding or themselves A. R. sires of note.

The joint picnic of the Fond du Lac County and Winnebago County Guernsey Breeders' Associations will be held at Lone Tree Farm owned by Victor F. Lawson, Green Lake, Wis. on June 2nd.

We hope to make this the biggest Guernsey picnic of the year, as many breeders will want to see the wonderful estate of Mr. Lawson and the splendid herd of over 100 Guernseys.

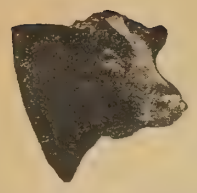
This with the two sales at Fond du Lac on June 3rd and 4th will make a series of Guernsey events that you cannot afford to miss.

Visitors will also have an opportunity to visit Corium Farms that is only ¼ of a mile from the Fond du Lac Sale Pavilion and there see Prospect's Rose des Houards, and Cherub's Prince both winners of Senior Champion at 1919 National Dairy Show, and highest priced cow and bull of the breed. Corium Farms will show many others almost as noted, and opportunity will be afforded visitors to visit other farms adjacent.

The cattle in the sale will all be guaranteed breeders, and sold subject to 60-day retest.

For Catalogs Address Charles L. Hill, Sale Manager, Rosendale, Wis.

Folly Farm Dispersal Sale at Fond du Lac, June 4th, 1921



Economy in Production ← **GUERNSEYS** → Quality of Products



The Guernsey is a medium sized cow that produces with greatest profits large quantities of milk and butterfat of the highest quality. She is exceptionally gentle and responds promptly to good feed and care. Send for our free literature.

THE AMERICAN GUERNSEY CATTLE CLUB, BOX H46, PETERBORO, N. H.

ANNOUNCING

THE Second Annual *Minnesota Guernsey Breeders' Association* State Consignment Sale and Meeting June 13th and 14th, Minnesota State Fair Grounds, St. Paul, Minnesota.

L. V. WILSON, *Secy.*,
University Farm,
St. Paul, Minnesota.

Other announcements later

Clark County Guernseys

Third Annual Consignment Sale

Owen, Wis., June 2nd, 1921

45 — Registered Guernseys — 45

Most of the offerings are young cows and yearling heifers. Also about 12 heifer calves under 6 months of age. Here will be your chance to get those calves for that boys' calf club. A few choice bulls of serviceable age. 50% of the stock is out of Federal Accredited herds. Those not out of accredited herds will be tested before sale day, and sold subject to a 60-day retest. The association has pleased in the past and endeavors to please the Guernsey buying public by holding clean and honest sales. You will be surprised when looking through the catalog of the choice animals that are consigned by the breeders to convince the public that we have good Guernseys. Plan to be with us.

Auctioneers: Krause and Lemanski. G. R. Ingalls in the box.

For Catalog address C. E. Beck, Owen, Wisconsin

Follow the Great Wisconsin Guernsey Sales Circuit

Tilden Farms Guernseys

FOR SALE: Several typy, May Rose bulls out of A. R. cows and sired by Hope's May Rose of Maple Hill (35903), whose dam is a class leader with 776 pounds of butterfat at 3 years. Also several choice pure-bred females and a few excellent grade cows. Herd on Federal Accredited list.

TILDEN FARMS
James H. Murphy, Mgr. Delavan, Wisconsin

The Mixter Farms

For Sale at farmers' prices,—**bull calves** sired by May Rose bulls and out of May Rose dams with records of 500 to 700 lbs. fat. Also a number of producing females—animals that will be a credit to any herd and prove profitable in dollars and cents.

Write us before purchasing elsewhere. Mixter Farms have bred over 3,000 pure-bred Guernseys. **J. S. Clark, Supt., Hardwick, Mass.**
300 Guernsey Females.

BANKER FARMER EXCHANGE — RELIABILITY QUALITY — of WISCONSIN BANKERS' ASSOCIATION

GUERNSEYS FOR SALE

Pure-breds { 70 Cows; 61 Heifers and Heifer Calves; 162 Young Bulls and Bull Calves
Grades — { 116 Cows; 115 Heifers and Heifer Calves

Other Live Stock: Breeders are listing with us other dairy cattle, beef cattle, horses, sheep, and swine. Write us if you want stock. We will answer promptly.

BANKER FARMER EXCHANGE,
D. H. Otis, Director. 1822 Chadbourne Ave., Madison, Wis.

HONESTY PRIDE OF BIRCHFIELD 44580



Sire — Langwater Warrior 26509
Dam — Langwater Honesty 49479
10,536.9 lbs. milk, 517 lbs. fat, at 2 yrs. and 5 months

We are now offering a few splendid sons of Honesty Pride of Birchfield. From cows with A. R. records or now on test. Everyone is a straight backed, growthy, vigorous youngster. These young bulls will put type and production in your herd. Prices range from $150 to $300.

Quality Guernseys **HIGHLANDS** *Tuberculin Tested*

NYE H. FREEMAN, Herdsman, Linwood, New York

Thorn Hill Farm Guernseys



Have several well bred young Guernsey bulls for sale at reasonable prices. All my own breeding. May Rose and Glenwoods, out of A. R. cows with records from 500 to 750 lbs. of fat. Write for sales list to

AUGUST ZIESING, Deerfield, Ill.

Do You Want A Guernsey Bull

Closely related to Pergue's Crescent A. R. with a record of 13,316.9 lbs. milk and over 582 lbs. fat in Class EE and dropping two calves within the year, entitling her to second place in her class? Some excellent young bulls closely related to Pergue's Crescent ready to head your herd. Write for descriptive circular, or come and see them.

Ernest W. Sass, Box H, Streator, La Salle County, Illinois

Iowanola Guernseys

We are offering

A Very Fine Son

born July 25, 1920, out of Imp. Kitchener's Express 43925, his dam has 592 lbs. of fat, and out of Franseca of Homa Della who has 12,855.2 lbs. of milk and 640.09 lbs. of fat in Class D. This is a very typy calf and should appeal to any one in need of a bull. Correspondence solicited.

MOUNTAIN BROS.,
Carrier 403, Des Moines, Iowa.

642 Pounds Fat

is the average on the A. R. daughters of Bellfounder, the sire of Countess Prue, the World's Champion Guernsey and My Fancy, eighth in Class A.

We offer bull calves carrying 15%—50% of this consistently high producing blood.

Prices $225.00 to $600.00.

The demand is keen; write today.

FALCON'S FLIGHT FARMS,
Litchfield, Connecticut.

Hillswold Farm

Shrewbury, Mass.

Registered Guernsey bull calves for sale. Dams in Advanced Registry and tuberculin tested. Prices right, and animals guaranteed to suit. **W. A. Cloues, Mgr.**

Guernsey Bulls

All ages, sired by a son of Beda's May King, out of dams who are daughters of Governor of the Chene (1297) P. S., Langwater Raritan, Prince Charming and others. Write for prices.

Peter Simon. Elba, Minn.

Homestead Farm

Offers for sale bulls from 11 to 13 months of age from A. R. dams. Also a few young bull calves of excellent breeding, and three A. R. cows. Write for sale list or come and see them.

JAMISON BROS., Appleton, Wis.

Harbor Hill Guernseys

Masher's Galore 8572 A. R.

Increased the Average Production Credit of 12 A. R. daughters out of A. R. dams by 181 lbs. We offer his double grandson out of another daughter also making a better record than her dam.

C. H. Hechler, Superintendent
Box 30, Roslyn New York

Guernsey Bulls

Our last 9 official records average over 510 lbs. fat, including all ages. Our herd sire has 8 A. R. daughters, including one with 572 lbs. fat in Class GG. His three nearest dams average 822 lbs. fat. Send for pedigrees and prices on young bulls with this backing.

Folly Farm, Box 587, Libertyville, Ill.

Guernsey Bulls For Sale

Polly's Anchor No. 42845, born August 24, 1916, and Imp. Bluebird of Lakeside No. 45329, born June 15, 1917. Good, straight bulls, very gentle and sure breeders.

For Sale by
RADISSON FARM, ANOKA, MINN.

GRASSLAND FARMS GUERNSEYS

Choicely bred males and females for sale. (The natural increase of the herd.)

Herd federal tested for tuberculosis. Send for sales list. Satisfaction guaranteed.

Taconic, Conn., Litchfield Co., (C. N. E. R. R.)

Langwater Traveler

Carries 50 per cent blood of Imp. King of the May, greatest bull of the breed.

His dam is Langwater Lustre, A. R. 806.10 lbs. fat, fifth cow in Class C. She is the second highest testing daughter of King of the May. His sire is Langwater Holliston, sire of Langwater Levity, sold for $6,000.00 and leading cow in Class EE. Traveler's daughters are averaging over 500 lbs. of fat with their first calves. His first daughter to freshen will be a class leader in FF. We offer some excellent bull calves by Traveler out of May Rose cows with fine records. Federal Accredited Herd.

CHICONA FARM GUERNSEYS
A. L. Glie, Prop., Chinook, Washington.

Major Oliver S. Johnson



The Dairy Auctioneer

Tipton, Ia.

"Maj. Johnson has conducted twenty-five Sales for me"—Dr. M. B. Wood, Mankato, Minn.

When writing advertisers please mention Hoard's Dairyman.

Quality Sale—Chippewa Valley Guernseys

Wednesday, June 1st, Eau Claire, Wis.

51—REGISTERED GUERNSEYS—51

The Chippewa Valley Guernsey Sales Association announce their Third Annual Consignment Sale for June 1st, 1921. The Sales Committee has been unusually fortunate in securing a very uniform lot of Guernseys for this sale. Exceptionally high class bulls are used in the Chippewa Valley herds, the result being a splendid offering.

The Chippewa Valley Breeders offer such animals as:

MOLLY OF CITY VIEW A. R. 7993, milk 6512.90 lbs., butterfat 367.96 lbs. at 4 years. Sire, Bell Buoy of Linda Vista (A. R.) sire of 17 A. R. daughters.

PATIENCE OF SYLVANITE A. R. 7948, milk 8603.2 lbs., butterfat 422.55 lbs. at 3 years. Dam, Mary of Windermere A. R. 7110, milk 9363.2 lbs., butterfat 589.2 lbs.

ATLASTA GIRL A. R. 4465, milk 6947.5 lbs., butterfat 360.27 lbs. at 2 years. Sire, Langwater Frenchman (A. R.) sire of 16 A. R. daughters. Dam, Gobang of Briarbank A. R. milk 8008.3 lbs., butterfat 452.19 lbs. at 3 years.

BUTTERMAID OF EXCELSIOR FARM 79602 (A. R.) butterfat 475 lbs. at 4 years. Two full sisters on official test.

ST. CROIX CATHERINE 107284. Sire, Imp. Clara's Sequel 29414 (A. R.) sire of 35 A. R. daughters with records up to 831.0 lbs. butterfat at 4 years.

IMP. ACTRESS MARY NO. 49312, sired by Polly's Pride A. R. sire of 5 A. R. daughters. Dam is a daughter of Ivy Leaf (A. R.).

FOUR DAUGHTERS OF ATLASTA BILL 33903, whose sire has full sister with record of 612.53 lbs. butterfat at 2 years.

TWO DAUGHTERS OF ADA'S DOUGLAS 28961 (A. R.) sire of 3 A. R. daughters, whose dam is Dora's Ada A. R. milk 14,052.1 lbs., butterfat 751.10 lbs.

ONE DAUGHTER AND ONE SON of Evelyn's Lila A. R., 436 lbs. butterfat Class EE.

RADCLYFFE OF PENCOYD'S DU CHARM 108262. Sire, Radclyffe of Pencoyd 26950 (2 full sisters have records of 609.97 lbs. at 3 years, 460.68 lbs. at 4 years). Dam, Nugget's Queen Ann A. R. 8324, milk 8758.8 lbs., butterfat 405.4 lbs. Class BB.

HALLOWE'EN'S SUNBEAM NO. 63794. Sire, Jethon (A. R.) sire of 5 A. R. daughters. Dam, Bel Air's Hallowe'en A. R. milk 8559.6 lbs., butterfat 462.0 lbs.

LILY OF ELK MEADOW NO. 96575. Sire, Imp. Raymond of La Houguette 17654 (A. R.) sire of 3 A. R. daughters.

IMP. MIGNON'S STAR NO. 40386, sired by My Star A. R. sire of 6 A. R. daughters.

TWO DAUGHTERS OF ESTABA, who is by Lily Ella's Squire (A. R.) and out of Frau 2d A. R., 442.53 lbs. at 3 years.

PICOTTE'S LILY OF BONNIE BRAE NO. 77911. Sire, Picotte of Bon Ayre 28371 (3 daughters on test). (By Langwater Demonstrater A. R. sire of 32 A. R. daughters.) Dam, Lily's Edina of Home Farm A. R. milk 11875.4 lbs., butterfat 555.79 lbs.

STRANFORD'S JEANIE OF CHIPPEWA 66607. Sire, Stranford's Glenwood of Pinehurst 6th A. R. sire of 4 A. R. daughters with records up to 772.99 lbs. butterfat at 4 years.

ROUGE'S PRINCE OF THORN HILL 45069. Sire, Dairymaid's Rouge of Iowa 24845 (A. R.). Dam, Princess of Thorn Hill A. R. milk 11,751.2 lbs., butterfat 736.65 lbs. (10th place Class AA.)

Auctioneers: Love, Benjamin, Lemanski. F. E. Fox in the Box.

Chippewa Valley Guernsey Sales Association,

G. R. Ingalls, Sales Mgr. Eau Claire, Wis.

(Advertising service by F. E. Fox, Waukesha, Wis.)

Menomonie Guernsey Farm

Offers at an

Absolute Dispersal Sale

51 Registered Guernseys

JUNE 8th, 1921 WAUKESHA, WIS.

CHAS. O. GOVIN, Owner, Menomonie, Wis.

This fine herd of Guernseys was founded in 1909, foundation stock being imported from the Island of Guernsey. Good herd sires have been used, and very fine young cows and heifers are to be sold.

Thirteen daughters of Imp. Gay Lad of Lone Pine No. 17684, who is a son of Imp. Raymond of the Preel IV (A. R.) sire of 17 A. R. daughters, and out of Imp. Daisy des Paysans A. R. milk 12,601.3 lbs., butterfat 551.22 lbs.

Junior Herd Sire—Ramee's Ace of Waukesha 65073, sired by Aviator of Edgemoor 49387, he by the great prize winner, Imp. Itchen May King, Grand Champion National Dairy Show, 1920. Dam of Ramee's Ace is Forest's Ramee of Hawthorn A. R. milk 9420.7 lbs., butterfat 483.5 lbs. at 2 years.

OTHER OFFERS INCLUDE:

IMP. GOLDEN DUVAUX IV 26934, sired by Imp. Galaxy's Sequel (A. R.) sire of 48 A. R. daughters.

IMP. GLORY OF THE ISLE NO. 40669, sired by Maria's Hero (A. R.) sire of 3 A. R. daughters.

IMP. CHOFFIN'S ROSE 26943, sired by Nicholby (A. R.) sire of 5 A. R. daughters, records up to 762.8 lbs. butterfat.

IMP. ORANGE BLOSSOM OF THE ISLE NO. 40067, sired by Imp. Fancy's Star (A. R.) sire of 4 A. R. daughters.

IMP. TOPSY III OF THE FOULON NO. 26944, sired by Sir Marcus (A. R.) sire of 7 A. R. daughters with records up to 661.98 lbs. butterfat.

Auctioneers—Love, Benjamin, McGuire

Send for catalog to

F. E. Fox, Sales Manager, Waukesha, Wis.

(Note—Remember Annual Consignment Sale at Waukesha on June 9th.)

Waukesha County Guernsey Breeders' Ass'n

Eighteenth and Semi-Annual Sale of

Registered Guernseys

Waukesha, Wis., Sale Pavilion June 9

FIFTY REGISTERED COWS AND HEIFERS, AND A FEW CHOICE MALES have been selected for the offering of the Waukesha County breeders.

All animals have been carefully selected, and will be sold subject to sixty-day retest. Positively no by-bidding.

Among consignments listed by members are:

ROYAL'S PRIDE OF MAPLE HILL 96685, sired by Langwater Royal 4th. Full brother to three class leaders. Dam, Lady's Pride of Maple Hill A. R. Milk 12,031.8 lbs., butterfat 618.98 lbs. at 3 years. Three full sisters have records of of 576 lbs., 776 lbs., 731 lbs.

DOLLY'S MAY KING OF CEDAR LAWN 51030. Dam is May King's Dolly of Ingleside A. R. Milk 13,955 lbs., butterfat 644.86 lbs.

KING OF THE MAY'S FERN 98898. Dam is Fern's Beauty of Pinecliff A. R. Milk 16,917.2 lbs., butterfat 744.29 lbs.

CHRISTABEL'S ROSE OF WAUKESHA A. R. Milk 8,923.4 lbs., butterfat 494.43 lbs. at 3 years.

MABEL B. OF GUERNSEY HILL 36107. Dam has record of 13,511 lbs. milk, 572.5 lbs. butterfat and full sister has record of 595 lbs. butterfat.

One daughter of LANGWATER HAYES ROSIE'S KING OF THE MAY A. R. Sire of 16 A. R. daughters, records up to 797.7 lbs. butterfat.

GOVERNOR'S ROSETTE OF WALNUT RIDGE, on test, making 50 lbs. butterfat at 3 years.

Two daughters of GOVERNOR McKERROW, a son of Imp. Governor's Whimsome A. R. Sire of 5 A. R. daughters.

One granddaughter of Dolly Bloom of Langwater A. R., 632.34 lbs. fat.

One granddaughter of Beauty Eagle A. R. 846.3 lbs. butterfat.

Two daughters of Madge's Chene's King of Anna Dean Farm, whose dam has record of 619.57 lbs. butterfat.

One daughter of Hopeful of Edgemoor, winner of many prizes, and by Imp. Itchen May King A. R.

SHORELAND BUTTERCUP 10837. Dam has record of 9,281.5 lbs. milk, 397.39 lbs. butterfat at 2 years.

Auctioneers: Love, Benjamin, McGuire.

Write for catalogue to

F. E. FOX, Secretary, Waukesha, Wisconsin

(Note: Remember dispersal sale of Chas. O. Govin herd of Guernseys at Waukesha June 8th.)

MR. GUERNSEY BREEDER

we are offering bulls of May Rose, Glenwood and Yeksa breeding out of A. R. cows. Our records range from 450 lbs. to 864 lbs. of fat; ages from 2 months up to serviceable age for $100 and up.

Can spare a few fine females.

CORIUM FARM, F. J. Rueping, Owner, Fond du Lac, Wisconsin

Guernseys

Best May Rose breeding. Both sexes and all ages from an Accredited Herd. Write your wants and send for lists.

E. S. Person, Minot, N. D.

Guernsey Females

bred to an outstanding son of Ne Plus Ultra, one of the greatest sires of the breed. Fifty head from which to select.

MEADOWLAND FARM. Litchfield, Conn.

When writing advertisers please mention Hoard's Dairyman.

GUERNSEYS

2 Guernsey Bulls

No. 1—A son of Bob Rilma's Monogram, whose dam and sire's dam have records averaging 887.5 lbs. fat. His dam, a daughter of Langwater Hambro, made over 400 lbs. fat in Class G., 10 months old and well grown.
No. 2 is from a 519-lb. cow and sired by a son of Lord Waukesha from a 717-lb. 13-year-old dam. They're priced right and they must be as represented.
Write me for further information.
RALPH TRATT, Whitewater, Wis.

Wern Farm Guernseys

I am offering for sale 20 head of choice Grade Guernsey springers coming with first and second calf. Also have two bulls highly bred along May Rose lines just ready for service, that I will sell. For full particulars, write, wire, or come and see the stock.
Wern Farm, Waukesha, Wis.

Guernsey Bulls

GET A BULL, with Langwater, Pencoyd, May Rose or Haye's Cherub breeding. Prices reasonable, quality considered. Grades in limited numbers.
Fox River Valley Guernsey Breeders' Association,
Harry Leppla, Secy. Appleton, Wis.

Mound City Farm Guernseys For Sale

May King's Reputation of Mound City (63800) born Dec. 3, 1919.
Sire—May King's Vrangue of Ingleside (15430). Dam—Alma Ethel, three records namely 495 class G, 621 lbs. class AA and 704 lbs. class A. Alma's King of Mound City (63801) born Dec. 23, 1919. Sire—Cinderella's King of Mound City (40476). Dam—Alma Lehigh (43704). 340 lbs. fat class G, 648 lbs. fat class A. Rose's May King of Mound City (63802). Born March 19, 1920. Sire—May King's Vrangue of Ingleside (15430). Dam—Rose of Little Platt (55717) record of 667 lbs. fat in class AA now fourth in her class. Some younger bulls of equal breeding.
Chas. A. Wilkins, Platteville, Wisconsin

SARNIA FARM GUERNSEYS

We are offering several very high class bull calves, 1 to 10 months old, nearly all out of A. R. cows. Send for sale list and circular giving pedigrees and pictures of the herd sires. Place your order now for bred heifers from 1920 importations.
Charles L. Hill & Son, - Rosendale, Wis.

14 GUERNSEY BULLS

10 Heifers or A. R. Cows
your choice out of 75 head. All born and raised in our own barns. Herds accredited and guaranteed free from abortion, non-breeders and calf scours.
11 years of State and Federal testing without ever finding a single reactor or having a single case of abortion or a single non-breeder. $10,000 reward to anyone who can disprove the above statements.
No better GUERNSEYS anywhere at any price. Send for bargain sale list.
MATH. MICHELS & SONS, Fond du Lac, Wis.

A May Rose Bull

He Will Suit You

He is Gumption of Koshkonong Place, ready for heavy service and as straight as a line. His sire is Anton's King Cecil, one of the best May Rose bulls in the state. His dam is Gladness of K. P. (414.68 lbs. fat Class G), a daughter of Gilt Edge of K. P. (15 A. R. daughters).
Write me today about him.
A. R. HOARD, Fort Atkinson, Wisconsin

Guernsey Bulls

Special Low Prices

Guernsey bulls by Beauty Eagle's Bonny Boy 42893, he by Bonny Boy of Riverdale 29070 (noted show bull), and out of Beauty Eagle 18117, 846 lbs. fat, or a son of Glenwood's Champion 15639 (24 A. R. daughters) out of daughter of Langwater Demonstrator 16451. Splendid high producing dams. Send for sale list.
LA BELLE KNOLL FARM, Oconomowoc, Wis.

Pleasant Acres Guernsey Farm

Is Offering For Sale

Bull calves of May Rose breeding from 3 to 14 months old. The dams of these calves either have A. R. records or are now on A. R. test.
Clyde E. Fruit, R. 1, Waukesha, Wis

OPPORTUNITY! Consigned to the Portage Co. Sale — Amherst, Wisconsin, May 25.
Gold Ollie's Secret, high class 3-year-old bull sired by an A. R. son of Imp. Golden Secret of Lilyvale. Dam—Gold Ollie, A. R. 551 lbs. and 3 daughters average 566 lbs. 2 splendid young A. R. cows. Sons and daughters of Craigamoor Golden Noble whose first A. R. daughter will make over 600 lbs. Class G. May 25, Amherst, Wis.
L. E. Gordon, Jr., Nelsonville, Wis.

A Real Buy — Serviceable May Rose Bull

Sire: A son of Langwater Steadfast, 19 tested dams average 714 lbs. fat. Dam: A splendid daughter of Gov. of the Chene, with 526 lbs. fat, Class D.
This fellow is a top-notch individual and full of pep. Priced to sell. Don't overlook this bargain.
Federal Accredited Herd.
Norwind Farm, Sheboygan, Wis.

HOLSTEINS

For Immediate Acceptance—

Three young bulls ready for service—Holsteins.
No. 1—Sire a 30-lb. bull. Dam a 27.5-lb. cow. Price $300.00.
No. 2—Sire 30-lb. bull. Dam 23-lb. 3-year-old. Price $250.00.
No. 3—Sire 30-lb. bull. Dam 16-lb. cow. Price $100.00.
King of the Pontiacs breeding, well grown and good individuals. Send for extended pedigree.
R. F. JOHNSON, Assumption, Ill.

Whitehurst Farms

BULLS FOR SALE FROM SEMI-OFFICIAL DAMS. Priced Right.
A. F. Randolph, Prop., Canton, Ill.

Edinboro Lake Farm

Show Type HOLSTEINS Production

Six state yearly record champions 1918-19.
We offer bull calves by Sir Paul Veeman Hengerveld and Sir Ormsby Skylark Fredericka, out of yearly record dams with type.
Edinboro, Pa.

SONS

of Sir Echo Sylvia Johanna —

7/8 Brother to the $106,000 Bull

From high bred fine individual A. R. O. cows up to 30 lbs. Several on test now. All good, straight individuals, backed by lots of milk and butter. Some are ready for service. Priced very low. Write for catalog.
(*Herd Under Federal Supervision*)
CHESTNUT HILL FARMS,
G. A. Burdick, Mgr., Gibsonia, Pa.

ORIGIN FARM

HORNLESS HOLSTEINS, Registered and A. R. O. Animals, all ages, for sale. Federally Tested.
GEO. E. STEVENSON, Scranton, Penna.

Fairhurst Herd

On the Accredited List

We offer young bulls, fine individuals and well grown. Sired by 33-lb. bull and from dams with records up to 30 lbs. Write for pedigree and price.
KITTLE BROS., Holland, Ohio.

A $1000 Bull for $500

Count Segis Lyons 281218—Our Jr. Sire 2 Yrs. Old
His sire, King Lyons, nine 30-lb. daughters. His dam Julia Lyons Pontiac, a 24-lb. 3-year-old granddaugher of King of the Pontiacs. His 7 nearest dams average 30.27. His 15 nearest dams average 28.28. He is 7/8 white, gentle and sure, will put you on the Holstein map. Terms to purchaser if desired. Several other high record service bulls $100 values up to $250. All animals tested in February with triple test.
Henry J. Karpinski, R-7, Oswego, N. Y.

No Blots for Thirty Years

Is the
Record of the River Meadow Farms
We are proud of our record, as it is the reward of clean dealing, and a Satisfaction Policy. Our customers know they are safe in buying of such a firm. From 400 head their wishes can be fully realized. Pure-bred and Grade Holsteins, any age. Highly bred Holstein bull calves can be purchased now from
RIVER MEADOW FARMS,
Portlandville, New York.
"Raise your herd average"

Yearling Bull — Ready For Service

Here is a show bull whose sire is by a son of KING KORNDYKE HENGERVELD ORMSBY and out of a 37-lb. cow. His dam is backed by many yearly records. He is priced at half his value—$125.
G. G. Burlingame, Cazenovia, N. Y.

Guaranteed Consignment Sale

Ohio Guernsey Breeders' Ass'n

Tuesday, June 7, Columbus, State Fair Grounds Ohio

50 Heifers Choice Individuals from the tops of Ohio's Leading Herds — six to twenty months of age — popular blood lines, straight backs, long, deep bodies — high producing and A. R. Dams.

Every Animal a Guaranteed Breeder or Money Refunded

10 Bulls All ages — some ready for service — fashionable blood lines, individually right. Breeding potency guaranteed — A. R. backing equal to the best.

Sale starts at 10:30 a. m.

Sold subject to Sixty-(60)-day Tuberculin Retest.

Write now for Catalog to James E. Harper, Field Sec'y, Chagrin Falls, O.

Southern Wisconsin Guernsey Breeders' Sale

June 7th

Fort Atkinson, Wis.

70 Head of Select Guernseys from the oldest and best known Guernsey herds in Southern Wisconsin will be sold at this sale.

Such distinguished herds as are owned by Hoard's Dairyman, A. R. Hoard, Ralph Tratt, S. A. Merriman & Son, W. A. Munn, and the Tilden Farms will be represented by some of their best specimens of the Guernsey breed.

Among the 70 Head to be Sold will be Found:

An A. R. daughter of Princess Deasie's Son, Junior Champion Bull at the Wisconsin State Fair, 1915. His two nearest dams average 788.69 lbs. fat. His dam is Princess Deasie (687.80 lbs. fat) former Class Leader; she is a daughter of Imp. Queen Regent IV. (889.57 lbs. fat).

Two full sisters—daughters of Sir Snowdoun, sire of 8 A. R. cows that average 403 lbs. fat, 8,024.80 lbs. milk at an average age of 2½ years. "One of the best sires ever at the head of the W. D. Hoard Herd."

Granddaughters of:

A. Selma's Glenwood—a great son of Selma of Pinehurst (762.88 lbs. fat) the first cow of the breed to make four records of a year's duration each.

B. Glenwood Boy of Haddon—sire of the great producer, Dairymaid of Pinehurst, who holds second place in Class B with her record of 910.67 lbs. fat and second in Class E with her record of 860.26 lbs. fat.

C. Glenwood's Stranford—sire of 3 A. R. cows from 649 to 739 lbs. Out of a 725-lb. cow.

Write to James H. Murphy, Sale Mgr., Delavan, Wis., for Circulars and Catalogs

Wisconsin Live Stock Adv. Co. Service

"SPOT"



Elf Aaggie Fayne Johanna
Milk 27949 lbs.
Butter 1001 lbs.

Breeders of Holstein Cattle

2 WORLD } RECORD COWS IN OUR HERD
4 STATE }
Holstein Bull Calves For Sale
A Few Exceptional Individuals Ready for Service
Write for Bull Sale List
LISLE FARMS CO., LISLE, ILL.

Fairview Stock Farms' Dispersal

Sale of
60 Registered Holstein-Friesian Cattle



June 1, 1921
11 A. M.
At Kirk's Sale Barn
Anderson, Ind.

35 cows in milk. Foundation stock of all ages. Daughter of King Belle Segis, a 32-lb. sire, and bred to a 33-lb. sire. Daughter of Ensign King Segis, a 33-lb. sire. Daughter of A. R. O. cows with superior breeding. Foundation cows that you never have a chance to buy except in a Dispersal Sale. A. R. O. bulls of serviceable age, sired by 32-lb. and 33-lb. sires. Herd sire, Ensign King Segis, a 33-lb. bull.

Herd Tested Under State and Federal Supervision

Auctioneers: Purl Dean, Delno Dresback, Hecter Kirk. W. F. Andres in Box.

Keith Hoover, Sales Manager. O. L. Janney, Owner, Alexandria, Ind.

MISSOURI HEALTHY HOLSTEINS

"We'll Pay Your Car Fare Both Ways"

Second Annual Sale of

"Missouri Healthy Holsteins"

State Fair Grounds

Sedalia, Mo., May 24th, 1921

SHOW MAY 23. BANQUET AT NIGHT.

Every animal passed on by the committee. None over 8 years old. All guaranteed sound. 90-day retest.

36 Cows, 26 Heifers, 9 Heifer Calves, 11 Bulls

Yearly, Seven-day and Cow Testing Association Records.

Auctioneers—Mack & Ball **Wood in the Box.**

Sale Committee—Fisk, Davis and Long.

For Particulars Write

Mo. Holstein-Friesian Ass'n, SEDALIA, MISSOURI

Complete Dispersion of M. D. Buth's Herd

May 26, at Comstock Park, Mich.

65 Registered Holsteins Including 20 from Maryland Farm owned by Dudley E. Waters.

4 cows with records from 30 lbs. to 38.9 lbs. and 7 of their sons and daughters.
5 with records of 25 lbs. to 30 lbs. and their daughters.
40 females in calf to Glen Cilex King De Kol, (40-lb. bull).
16 daughters of Colantha Sir Korndyke Clothilde, with records up to 22 lbs. as 2-year-olds and 29 lbs. as 4-year-olds.
60—90-day retest.
Autos will meet street cars from Grand Rapids at Comstock Park.

M. D. BUTH, **Comstock Park, Michigan**

Central Mich. Sale May 23. Jno. M. Tobin's Dispersion May 24. Mich. State Sale May 27.

MR. CATTLE BUYER

We can supply you with good, healthy registered Holstein cows and heifers, singly or in car lots. We always have some very desirable young bulls for sale. It will pay you to look into our high class listings.

LENAWEE CO. HOLSTEIN BREEDERS' ASS'N, ADRIAN, MICH.
L. W. Harwood, Sales Mgr. **R. C. Curtis, Sec.**

THE TRAVERSE HERD

We have what you want in

BULL CALVES

the large, fine growthy type, guaranteed right in every way. They are from high producing A. R. O. ancestors. Dams' records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.

Traverse City State Hospital, - Traverse City, Michigan

Holstein Bull Bargain

Royal Breeding—Splendid Individual

Carries 43¾% blood of Pontiac Korndyke, the greatest of all sires, 25% of blood of King Segis Pontiac and 12½% blood of King Segis. None better. 4 others ready for service. First $250.00 check gets him.

Wm. N. Osborn, **Wanatah, Ind.**

YOU CAN'T DO BETTER FOR THE MONEY. Bull calf born Aug. 17, 1921. Mostly white, a show bull and well grown. His 3 nearest dams average 28.47 lbs. Sire is a 32.7-lb. grandson of King of the Pontiacs. Send for pedigree and photo. Have only 2 other bull calves besides this one. C. I. REAMER, Prop., Utopia Dairy Farms, North Liberty, Ind.

The Pontiac Herd

"Where the Champions come from"

Offer Bull Calves sired by sons of *Pontiac Korndyke, Hengerveld De Kol, Pontiac Dutchland, or Admiral Walker Pietertje.*

Do you want a Pontiac in your herd?

PONTIAC STATE HOSPITAL, Pontiac, Mich.

BULL CALF

Sire's dam, butter, 1 yr., 848 lbs.; her daughter, 1,055 lbs. Grandsire's dam, 987 lbs. at 11 yrs.; her full sister, 1,344 lbs.; another, same dam, 1,322 lbs. Dam, Miss Pietertje Alexina 3d, sister to Miss Pietertje Alexina 2d, 1,290.91 lbs. A dandy calf, priced right. Write quick to

McKAY BROS., - - CADDOA, COL.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

Third Michigan State Sale

Grand Rapids

Friday, May 27th, 1921



CREST FARM JOHAN PAULINE
At 3 yrs., 11 mos., butter, 7 days, 34.91 lbs.; milk, 504.3 lbs.
At 2½ yrs., butter, 365 days, 735 lbs.; milk, 16,500 lbs.

Every One a Choice Individual and Fully Guaranteed — Selected from Clean Herds under State and Federal Supervision

Sale includes:

A 34.9-lb. Senior three-year-old daughter of a 26-lb. two-year-old.

A 30.6-lb. cow.
A 30.5-lb. cow.
A 30.38-lb. cow.
A 30.24-lb. cow.
A 30.06-lb. cow.
A 29.42-lb. cow.
A 28.92-lb. cow.
A 27.7-lb. cow.
A 27.44-lb. cow.
A 27.27-lb. cow.
A 27.25-lb. cow.

And thirty others from 20 to 26.6 lbs.

A 27.65-lb. junior four-year-old daughter of a 29-lb. cow.
A 27.34-lb. daughter of a 29.79-lb. cow.
A daughter of a 32.27-lb. cow.
A daughter of a 31.2-lb. cow.
A daughter of a 30.5-lb. four-year-old.
A daughter of a 30.29-lb. cow.
Five daughters of 29-lb. cows.
Twenty-seven daughters of 20- to 27-lb. cows.

Only 5 Bulls — But Every One a Real One

Two sons of Echo Sylvia King Model—one from a 25-lb. three-year-old dam, the other from a 30-lb. cow.
A son of King Flint from a 30-lb. cow.
A 30-lb. grandson of Beauty Pietertje Prince 3rd.
A 29-lb. son of King Ona Champion.

Attend this sale and select healthy Michigan Holsteins for foundation stock.

Remember, all the best guarantees—you take no chances here.

The Michigan Holstein-Friesian Ass'n

H. W. Norton, Jr., Sec., Old State Block, Lansing, Mich.

Michigan Sales:
Central Michigan Breeders, East Lansing, May 23rd
Martin Buth Dispersion, Grand Rapids, May 26th
Third Michigan State Sale, Grand Rapids, May 27th



The Count-Piebe Combination



KING SEGIS PONTIAC COUNT
"The Marvel of All Sires"
Whose daughters have broken more World's Records than the daughters of any other sire.

PIEBE LAURA OLLIE HOMESTEAD KING
"The Present Day Sensation"
The only bull in the world with five 20,000-lb. two-year-old daughters.

Will Triple Your Milk Check Because It Will Put Production Into Your Herd

And more than triple the price you are getting for your calves. Because it combines individuality with production, it has given us thirty cows at Arden Farms that have **each produced $1,000 worth of milk per year. Do you want that kind?**

We Offer
Sons of "Count" from Daughters of "Piebe"
Sons of "Piebe" from Daughters of "Count"

We have the finest line of young bulls we have ever raised at ARDEN FARMS, priced in accordance with present financial conditions. LIBERAL TERMS GIVEN IF DESIRED.

J. M. Hackney, 602 Merchants Bank Building, St. Paul, Minnesota

MINNESOTA HOLSTEINS

"The Home of the Ormsbys."



MISS KORNDYKE AKKRUMMER ORMSBY
30-lb. 4-year-old, 39.67 lbs. butter at full age.
(Owned and developed by J. B. Irwin.)

BARGAINS IN BULLS

A few richly bred choice young bulls ready for service,

on the bargain counter for a clearance sale.

Let us give you a good individual well bred at a very low price while they last. Tuberculin tested. Guaranteed in every respect and ready to ship. Come and see them.

Woodlake & Clover Farms,
JOHN B. IRWIN, Sta. F, Minneapolis, Minn.

Registered Cows and Heifers

We have on hand more females than we usually carry so are able to offer some good ones for sale. A number have A. R. O. records and most of them are from tested dams. Bred to a yearly record sire and themselves backed by yearly producers.

Address correspondence to Axel Hansen, formerly with John B. Irwin.

MINERAL SPRINGS STOCK FARM, - - SAVAGE, MINNESOTA
Stuart—McIntyre—Hansen, Owners.

Address correspondence to Axel Hansen, formerly with John B. Irwin.



LORD BOBS KORNDYKE PONTIAC

Echoland Farms

Offer For Sale

Lord Bobs Korndyke Pontiac

He is a show bull and a good sire.

His Sire—Roberts Abbekerk Pontiac is an excellent individual and a bull that has won first at many of the leading shows, and by a good son of King of the Pontiacs. His dam is a 29.37-lb. cow from the 33.79-lb. sire, Sir Gerben Pauline. This bull will make a real herd header for some small breeder and we know he will please as an individual. For price and description write

EGIL BOECKMANN, White Bear, Minn



Lola Segis Pontiac Homestead

the highest record bull in southern Minnesota, heads our herd. His sire, Piebe Laura Ollie Homestead King, has more daughters that as 2-yr.-olds have produced 20,000 lbs. milk in a year than any other. His dam, a 34-lb. 4-year-old daughter of King Segis Pontiac Count, has 3 records averaging 33 lbs. and has made over 1,000 lbs. in 1 year. We have a few serviceable bulls and younger from A. R. O. dams for sale.

Clover Lea Farm, W. W. Walker, Owner. Austin, Minnesota



Sir Walker Segis Homestead

The best show bull and son of the great bull, PIEBE LAURA OLLIE HOMESTEAD, out of a "COUNT" daughter, BEAUTY BEETS WALKER SEGIS, world's greatest heifer, with two yearly records over 25,000 lbs. milk and 1,000 lbs. butter in heifer form, and a seven-day record of 35.03 lbs. butter from 730 lbs. milk.

We offer several choice bulls, one month to a year old, out of high yearly record and A. R. O. cows, at very reasonable present day prices. Pedigrees and photos will be sent.

A. J. LASHBROOK, - - Northfield, Minnesota

Grandsons of Sir Pietertje Ormsby Mercedes

The sire is Sir Pietertje Ormsby Mercedes 22d, a son of Minnesota's first 1000-lb. cow. These bulls are all nicely marked, straight top lines. Very good individuals from good A. R. O. dams.

For pedigrees and prices, write

O. J. GROVER, - GLYNDON, MINN.

Grandsons of

Duchess Skylark Ormsby and of S. P. O. M. 38th.

for sale. These youngsters are from A. R. O. dams that are now making good yearly records. Write today for further information.

POPLAR HOLLOW STOCK FARM,
Bertram D. Scott, Prop., Richfield Station
Minneapolis, Minn.

Are You Fooling

around with a bull that is a he-cow and nothing more? Are you going to keep on using him? We have a bull circular that we would be glad to send you. A *Bull* circular.

FLECKS FARM Faribault, Minn.

6 Good Cows For Sale

THE MINNESOTA KIND

They are all by a 36-lb. sire, are bred to a son of King Korndyke Colantha Ormsby, and are due to freshen this fall and winter. They are from 3 to 5 years old and absolutely straight and right. Lack of barn room forces us to sell. Write or come and see them.

E. J. Brosious, - Stillwater, Minn.

A LINE-BRED "41st" BULL CALF FOR SALE



SIR PIETERTJE ORMSBY BESS BURKE
Born Dec. 20, 1920

A real showy calf, straight as a line and of ORMSBY type

His dam and sire's dam are both daughters of SIR PIETERTJE ORMSBY MERCEDES 41ST, the only son of Spring Brook Bess Burke. His dam is on yearly test as a junior two-year-old and bids fair to go 800 lbs. The sire's dam made 28.93 as a 3-year-old and 26.82 as a 2-year-old.

THIS CALF WILL GROW INTO MONEY —SEND FOR PHOTOS, PEDIGREE AND FULL PARTICULARS.

E. C. Schroeder Farms
(Under Federal Supervision)
MOORHEAD, Minnesota

Holstein Bulls At Farmers' Prices

We are not in the game to get rich but to help promote the breed by offering pure-bred bulls at the lowest prices, enough to cover raising. Write for prices and descriptive list. The Ormsby kind.

RAMSEY COUNTY HOME,
J. E. McMahon, Supt., North St. Paul, Minn.

Bull of Ormsby Breeding

We offer Chief Segis Lyons Ormsby No. 280751 Born March 8, 1919, a grandson of Sir Pietertje Ormsby Mercedes 41st. His sire a 33-lb. bull; his dam a granddaughter of Sir Pietertje Ormsby Mercedes, who had more 1,000-lb. daughters than any other sire in the world. Also some splendid bull calves ready for service, from A. R. O. dams. Herd tuberculin tested. Write for prices.

Schermerhorn Farms, Mason City, Iowa.

A Show Bull — Ready For Service

At A Very Low Price



IOWANA ZUR PIETERTJE
Born Feb. 4, 1920.

His dam is a 24-lb. cow that made 760 lbs. butter in 10 months (carrying calf 168 days). Per cent fat 3.66. She is a daughter of *Sir Johanna Fayne*, who now has 12-20,000-pound daughters. 24 average over 20,000.

Send for pedigree and price.

IOWANA FARMS, (Herd Under Federal Supervision) Davenport, Iowa

LIGHT COLORED 800-lb. BULL

Dam—a 4-year-old daughter of Sir Sadie Cornucopia, finishing a yearly record of over 800 lbs. She made 731 lbs. at 3 years. Sire—Woodcrest Sir Clyde, son of Alma Clyde (33 lbs. and 970 lbs.), and sire of 16 20-lb. 2-year-old daughters and two over 30 lbs. Bull was born May, 1920, is ¾ white and Federally tested. Reasonable terms.

W. B. BARNEY & SONS Chapin, Iowa

Five Heifer Calves

All show animals by a 31-lb. sire out of A. R. O. cows of good individuality. Will sell one or the bunch at bargain prices as we are overstocked. Also bulls for sale.

G. G. BURLINGAME
Cazenovia, N. Y

"DUKE"

The only place you can buy sons of serviceable age sired by DUKE PIETERTJE KORNDYKE ORMSBY

The bull selling at the last Minnesota state sale for $33,000.00 is from the herd where he stood for three years prior to the sale. "Duke's" dam now has three records above 1,000 pounds, the last one was 1,19 pounds.

Now is the opportune time to buy one of these bulls a their sisters will be given every opportunity. Get son now and be in line. Clean bulls from a clea herd. Prices reasonable. Write

EDW. H. ULRICH, Biscay, Minn

Get A Calf

We have a grand bunch of youngsters on hand. Com and pick out a calf while you have a big choice. Gro him to suit you. Saves you money and we are sellin them as cheaply as we can. Show calves that ar backed by generations of official testing and carefu breeding. Sons of DUTCHLAND CREAMELLE CO LANTHA LAD No. 165049. His yearly daughters a average over 834 lbs. of butter at 26 months of ag

GRAHAMHOLM FARMS,
H. R. Searles, Mgr., Rochester, Minn

A BULL BARGAIN

Bull calf born July 19, 1920.
Sire's nine dams average over 1,000 lbs. butter in yea
Dam has over 500 lbs. butter in 263 days.
This calf is an excellent individual.
Straight top line. Price $500.

MANKATO HOLSTEIN FARMS
Marlow & Randall, Mankato, Minnesot

Bull Calf

advertised last week is sold. Here is anothe good one ready for light service. Sired by 30-lb. bull. Dam a 14-lb. 2-year-old who wi be tested again next spring. Priced so rea sonable that you can't afford to be without hi $150.00 for immediate sale.

V. R. Holmes, Anoka, Minn

REGISTERED BULLS

FROM TESTED DAMS

Sired by a 30-lb. son of Colantha Johann Lad and a 26½-lb. son of Laura Piebe Olli Homestead King. Well marked, straight ind viduals from two months to 2 years old. Price to suit present conditions.

GEO. H. ELWELL,
Minneapolis, Minnesot

RICHLY BRED

HOLSTEIN BULL CALVES

out of A. R. dams and sired by our two richly bre herd sires — **King Piebe Ormsby Mercedes**, a 35-l son of Sir Korndyke Bess and every dam in pedigre over 22 lbs. and **King Pietertje Mercedes Ormsby**, son of Sir Pietertje Ormsby Mercedes and out of 19-lb. senior two-year-old dam.

Herd tuberculin tested. Write for information visit herd.

P. FROST SPAULDING FARM CO.
C. L. Spaulding, Mgr., Warren, Minn

HOLSTEIN FEMALES

Females of all ages for sale, priced very reasonabl Mostly all bred to our 34-lb. sire, he a grandson o Count, from a sister of Piebe. One or a carload Under State and Federal supervision.

BLACK & WHITE STOCK FARM, R. 3, Melrose, Minneso

COME TO BISCAY

for your next purchase of pure-bred or grade Hol stei cattle, mature or young stock. Large selection, also few select male calves to offer. Located near statio

BISCAY SALES CO., BISCAY, MINN

A Son of LIEUTENANT RAG APPLE

from a 7/8ths sister to a 948-lb. junior two-year-ol daughter of a 1,281-lb. cow. $100.00. Let us te you about him. Serviceable.

BLUEBELL FARM, Riceville, Iowa

Washington — Ramsey
Breeders' Sale

70 CHOICE HEAD HAND-PICKED **70**
Minnesota Holsteins

State Fair Grounds **May 25th** 10 A. M.

A carefully Selected Lot of Cattle Chosen from some of the Leading Herds of the State, Including Those Owned by Sen. J. M. Hackney, St. Paul; W. S. Moscrip, Lake Elmo; Ramsey County Home, N. St. Paul; E. J. Brosious, Stillwater; Long Lake Live Stock Co., St. Paul; E. A. Heifort, Stillwater; Dr. Egil Boeckmann, White Bear Lake; University Farm, St. Paul, etc.

Cows with large long-distance records bred to JOHANNA BONHEUR CHAMPION; a daughter of SIR ORMSBY HENGERVELD KORNDYKE, the son of "MOTHER ORMSBY" bred to KING SEGIS PONTIAC COUNT; a daughter of PRINCE HENGERVELD SEGIS bred to "COUNT"; a number of outstanding heifers bred to the son of the World's Champion 305-day cow, JENNIE NUDINE UILKJE; a daughter of KING WOODCREST KORNDYKE bred to SIR PIETERTJE ORMSBY MERCEDES 43D; heifers bred to the $20,000 bull, SIR PONTIAC SEGIS ORMSBY; a daughter of COOKDALE COUNT bred to SIR P. O. M. 43D; a daughter of SIR KORNDYKE BESS bred to KING PIETERTJE ORMSBY PLEDGE; and others of the same sort too numerous to mention.

TYPE RECORDS QUALITY BREEDING

This is one of the important sales of the Spring Season. Send for your catalog now.

Minnesota Holstein Breeders' Ass'n
SALES MANAGERS

406 Market Bank Building, Minneapolis.

Loyal Holstein Breeders'
Semi-Annual Sale
Loyal, Wis., June 10 65 Top Notch Holsteins

Watch next week's issue for complete information.

R. M. JENKS Sale Manager, Loyal, Wisconsin

Catalogs Ready June 1

HOLSTEIN COWS

We offer for sale a number of cows, heifers, bulls and calves of all ages. Some sired by King Korndyke Veeman whose two nearest dams average over

WISCONSIN STAR STOCK FARM,

HEIFERS and BULLS

37 lbs. butter in 7 days and bred to King Sadie Vale Walker who is a son of the youngest 29-lb. cow in the world. Come and see them or write to

ED. M. SCHULTZ, Hartford, Wis.

Bull Calves
by
SIR BESS ORMSBY FOBES
out of

Cows with 7-day records now on semi-official; two-year-olds milking as high as 70 lbs. and mature up to 92 lbs.

LINDEN LAWN STOCK FARM

B. W. RABENHORST, Jefferson, Wis.

Serviceable Bulls For Sale

Sired by Pabst Pontiac Hengerveld, a son of King Pontiac Champion from Pabst Hengerveld Colanthus (31.5 lbs. butter in 7 days, 1,057 lbs. in a year.

These are nicely marked, well grown youngsters out of good producing dams. Several are ready for service, others are younger.

Write today.

John Alexander, Baraboo, Wis.

Cows and Heifer
A Few Good Bulls

Because I am overstocked, I am offering some very good registered females for sale. They either have A. R. O. records or are from A. R. O. dams.

Can also offer some excellent young bulls by a 33-lb. sire and from A. R. O. dams with records up to 28 lbs.

Every animal sold is guaranteed to be as represented.

Write or come and see for yourself.

J. D. McDonald West Salem, Wis.

ORMSBY BULL - Born Feb. 28, 1919

Sire, King Ormsby Pontiac De Nijlander, whose two nearest dams average over 30 lbs.

Dam, Aaltje Hengerveld Tritomia Segis. A. R. O. 17 lbs. at 3 yrs., next dam 29.68 in 7 days. Color light, fine individual. Ready for service. Price $300.

Fairview Stock Farm Whitewater, Wis., W. G. Marshall, Prop.

Good Holstein Calves

Bargains for the next 60 days. Grade heifers. Purebreds either sex. Order your Duroc-Jersey pigs to be shipped at three months old. Pairs or trios not akin.

J. C. BOLGER, Waterloo, Wis.

Sir Pietertje Ormsby Mercedes 41st

is proving to be one of the very best sons of S. P. O. M. His sons and daughters have wonderfully good type. His daughters are making remarkably good 7-day and long time records.

We Have a Few Sons For Sale

from dams with mighty good records. A few are just about ready for service. One of them will suit you.

Write us for complete information.

Gustave Pabst's Hollyhock Farms

Fred J. Southcott, Manager Dousman, Wisconsin

Unity Holstein Breeders'
First Annual
40 HEAD—Consignment Sale—40 HEAD
May 28th, Commencing at 12 o'clock

This is our first sale and we are making every effort to make it a quality sale from every standpoint. In the list of offerings you will find as much, or more, quality, individuality and breeding as you have seen in any sale of its size. You will find A. R. O. daughters of high record bulls and out of A. R. O. dams up to 27 lbs. Ten of the females are bred to a 30-lb. son of S. P. O. M. 43rd, several bred to a 31-lb. grandson of Duchess Skylark Ormsby. Also some splendid large cows bred to a 29-lb. bull. Several splendid heifers from 8 months to 18 months old. A 2-year-old bull sired by 32-lb. sire and out of a 26-lb. 4-year-old that is on yearly test. A fine bull calf out of a 22-lb. dam, a good one; another 3-month bull calf from a 21-lb. dam and sired by a 1000-lb. bull. There are two daughters of 27-lb. cows. A daughter of Piebe Laura Ollie Homestead King (a show heifer). A daughter of a full brother to Count. Space will not permit mentioning all the good things. All the usual guarantees go with all cattle. See catalogue.

Auctioneers—Mack, Krause, Cook F. H. Everson in the Box

For Catalogs write W. E. MORGAN, Unity, Wis.



Yearly Records
Choice Young Bulls

from one to fourteen months old for sale. Sired by Cloverlawn Johanna Piebe whose five nearest dams average 1,070 lbs. of butter, 23,809 lbs. of milk a year. Herd numbers 140 head, forty cows with yearly records. State exactly what you want.

JOHN PULS, - HARTFORD, WISCONSIN

Send For Our Bull Sales List

Three bulls of serviceable age—four others will be old enough for service in a month or two—others three months old and older. Almost all of them sired by SIR ORMSBY BEAUTY PONTIAC SEGIS, the son of a 37-lb., 1112-lb. three-year-old daughter of KING SEGIS PONTIAC COUNT.

If it will be of an accommodation to the purchaser, we will accept a six months' note in payment, WITHOUT INTEREST, or will accept payment on installment plan basis.

Pinehurst Farms Co., Sheboygan Falls, Wis.

$100 to $200 Buys A Bull From A Good Record Dam

Am offering several for those prices sired by a 26-lb. bull and from A. R. O. dams with records up to 25.46 lbs.

Write at once. They'll go fast.

H. W. Crawford, R. 5, Campbellsport, Wis.

1000---HERD---1000
Quality Holsteins
GRADES AND PURE-BREDS

Just now we have a splendid lot of grade heifers. Write for our pure-bred bull list.

Jefferson County Holstein-Friesian Breeders' Association,

A. F. Gafke, Secretary, Jefferson, Wis.

OLD DEERFIELD HERD

For Sale—Holstein Bulls 4 to 7 months old. Sired by King Piebe Korndyke Johanna No. 210876. Prices $50 to $60.

Young cows $200 to $300. Some $175 and up. Reg., transferred f. o. b. cars my station.

CARL FOLL, R. F. D. Deerfield, Wis.

Holstein
CATALOG
Prices

These prices include compiling of pedigrees.

STYLE I.

A 6x9 inch book bound on the end.
$3.25 a page, 500 books
$3.55 a page, 700 books

STYLE II.

A 6x9 inch book, bound on the end. Good quality paper.
$3.75 a page, 500 books
$4.15 a page, 700 books

STYLE III.

A 7x10 inch book, bound on either end or side. Good enameled paper.
$4.25 a page, 500 books
$4.75 a page, 700 books

Wisconsin Live Stock Advertising Company

Pioneer Bldg., Madison, Wis.

GREENBUSH FARM
Registered Holsteins

Canary Mercedes Champion II No. 318082 recently made 29 lbs. of butter from 512.5 lbs. of milk in 7 days. Now on yearly work. Her bull calf, sired by a 32-lb. bull is for sale. Write for complete information in regard to this well bred younster to

GREENBUSH FARM

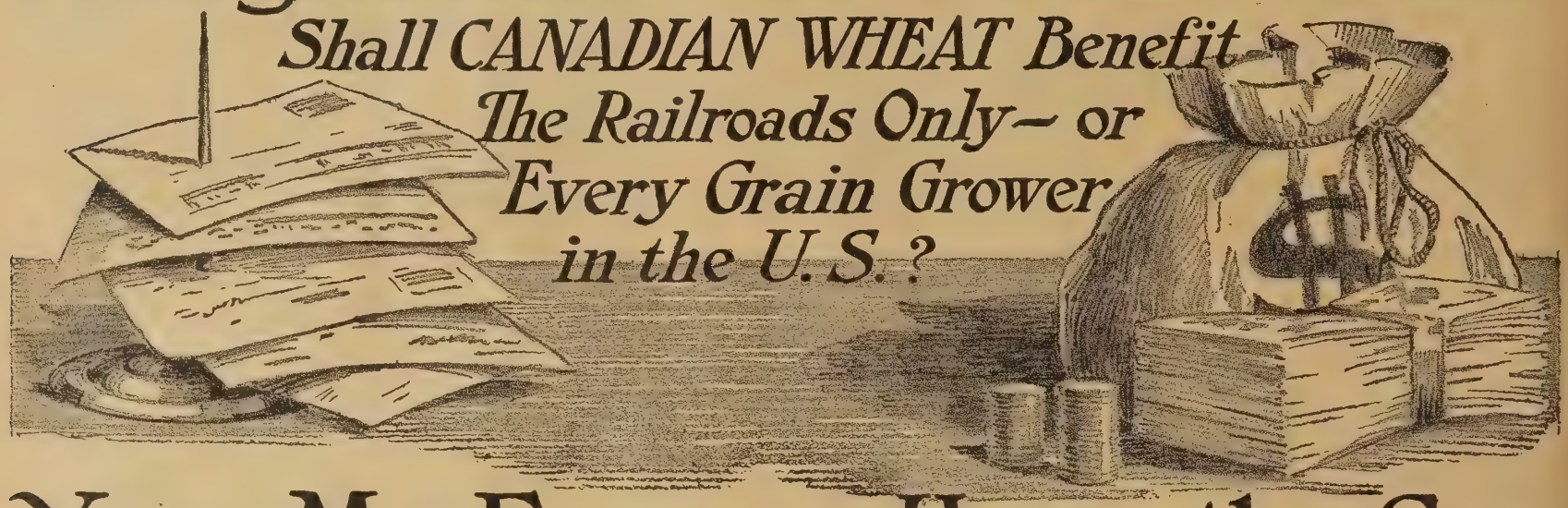
R. Turano, Herdsman, Glenbeulah, Wis.

I-N-V-E-S-T-I-G-A-T-E—Pure-bred Holstein bulls sired by Wisconsin 3-year-old at National Dairy Show 1920. Herd tuberculin tested. Pure-bred Duroc pigs sired by Great Wonder Sensation.

RIDGEHURST STOCK FARM,

Glen C. Ramsey Ft. Atkinson, Wis.

Freight Bills—or Dollar Bills



You, Mr. Farmer, Have the Say

EACH year, Canada routes 120,000,000 bushels of wheat, or about 60% of her export, through the United States on its way to Europe. The United States gets the freight charge return—***and no more!*** This wheat passes through our ports to turn the wheels of foreign mills—***to depress the world price for wheat and to lower yours.***

No tariff can change this condition. The one factor that determines whether you are to receive much or little for the wheat you grow is the world price level which is fixed in Liverpool, England, and which varies with the supply of wheat in the world market. The average amount handled in the world market is 650,000,000 bushels—of which Canada supplies almost a third. Therefore, if any part of Canada's wheat can be kept out of the world market, the natural result will be an increase in the price you get for your wheat, at home and abroad.

The millers of this country, who are the farmer's best customers, buying about 80% of his wheat each year, have suggested a plan to stop Canadian wheat in transit, mill it in American mills, by American labor—and export it as flour under American brands. If this plan is adopted it will mean—

More U. S. wheat milled at home—More money for your wheat—More and cheaper dairy feed—More fertilizing elements for U. S. Farms—More work for American labor.

To accomplish this, let the American Miller buy Canadian wheat, pay the the duty and when he exports the same amount of flour, give him back the duty. The flour MUST go abroad—otherwise he loses the duty he has paid.

THE first thing this plan will do will be to increase the use of American wheat in American mills. If the miller is to get back the duty he pays on each 100 pounds of Canadian wheat **he must export 100 pounds of flour.** But the 100 pounds of Canadian wheat makes only **70 pounds of flour.** Therefore, he must use 43 pounds of American wheat to make the total 100 pounds of flour which he must export in order to get his duty back. As the farmer gets more for his wheat from the American miller than he does in the foreign market, every additional pound of wheat used at home will help to raise the price of wheat.

DAIRYMEN!

You, Especially, Will Be Winners

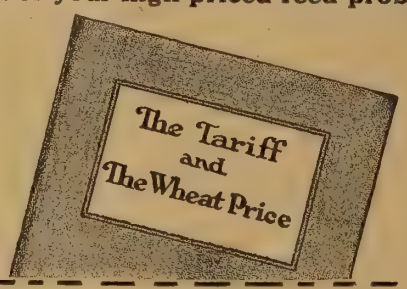
The marked decrease in the amount of United States flour exported during the past few years represents an annual reduction in the supply of mill feeds in this country of 300,000 tons. **That is the big reason for the high price you pay for feed today.**

Here's where you gain under the plan proposed. Each million bushels of imported wheat milled and re-exported as flour would leave in this country 9,000 tons of dairy feed in addition to the 4,000 tons produced from the enforced use of domestic wheat. **Thirteen thousand tons of dairy feed available for every million bushels of Canadian wheat milled!** Enough to produce 5,000,000 gallons of milk. **This increased supply would most certainly reduce the price you pay for feed.**

The milling of Canadian wheat, therefore, is the big step toward the solution of your high-priced feed problem.

Congress is working on the Tariff NOW---Act Quickly

A note to your Congressman and United States Senator will help to establish this draw-back privilege on Canadian wheat. Write them at once—they are working on the Tariff now. Or, if you wish more complete details, write us for the booklet—"The Tariff and the Wheat Price" which tells the whole story.



Every farmer, and especially every dairyman, will find a message of vital interest in this booklet! ***Write today.***

Association of Northwestern Millers' Organizations and New York State Millers' Association

ASSOCIATED MILLERS,
1304 Garland Bldg., Chicago, Ill.

You may send me, free of charge and without obligation, the book "The Tariff and the Wheat Price."

Name

St. or R. F. D.

P. O. State

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Reading Room
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HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING

LIBRARY



Fort Atkinson, Wisconsin Volume LXI, No. 19 May 27, 1921

89 cents a day-

A FARMER of Mound Valley, Kansas, recently replaced his old cream separator with a De Laval. Immediately, with the same amount of milk, his cream checks jumped from $1.37 to $2.26 per day—89c a day gain, or $324.85 a year.

This is only one instance of thousands where a De Laval has checked waste and added to its owner's profits. You may be losing even more than this; you may be paying for a De Laval and not getting it by using a cream-wasting separator or by hand skimming.

There never was a time when a De Laval Separator would pay for itself sooner, or when it would make you more money than now. There are over 2,500,000 De Laval Separators in use the world over, because they save the most cream and serve the longest time.

See your De Laval agent now about getting a new De Laval—or write us for full information. The De Laval Milker, like the De Laval Separator, is a quality product. Send for full information.

The De Laval Separator Company

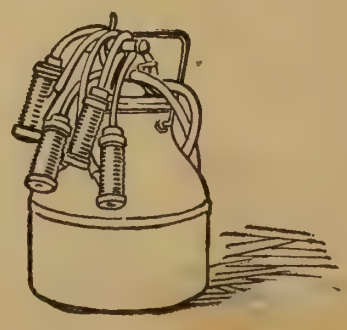
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Sooner or later you will buy a

De Laval

Cream Separator or Milker



HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING

Volume LXI — FORT ATKINSON, WIS., MAY 27, 1921 — Number 19

THE FARMER AND HIS BUSINESS

M. H. WATSON, KANSAS

WHY is it that no one is satisfied with his business? The lawyer admires the life of the farmer. The soldier admires the life of the merchant. The farmer says, "Oh! that I had the advantages of the city." And then suppose that these men were given a chance to change. No, they would not do it. They are already following the course for which they are best fitted by Nature or the course of greatest opportunity.

Do these words remind you of something you once read in your school days? Well, it does not matter. They are as true now as they were when they were first written long years ago. You and I are farmers. Shall we examine the charges which we make against our business? We will probably go on farming all the rest of our lives anyway and it would be a splendid thing if we could be happy, enthusiastic farmers.

I am ready to take down the complaints: "The returns are too meagre", "The farm is no place for an ambitious man", "The sacrifices and hardships are too great", "Physically the farmer is almost worked to death and there is little chance to develop some of his other faculties", "The farmer lives an unsocial, selfish life, doing little for anybody but himself and his family", "Everybody imposes on the farmer. He carries on his own poor back the burden of civilization. Some day his back will break and then down goes everything".

Have you ever heard or made any other charges? I would gladly add them to my list. On account of the indiscriminate way in which the charges were poured in upon me, I will draw them out in any order I choose and when I am through you may check them up if you care to, and see whether I have slyly evaded any of them.

Hardships and Sacrifices

First let us see about the hardships and sacrifices. "The farmer is a working man. He wears overalls". Are overalls a hardship? Not to me, if they are respectable overalls. "He must face the elements heat, cold, rain, snow, mud." A vigorous man would rather meet these things than endure close confinement in a store or office. Better for him, too. "He is so closely tied down to his work." Between morning and evening chores, he is freer to spend his time as he chooses than most of his equals in other walks of life. "He seldom hears a good lecture or sees a good play". Yes. "And a visit to the old family home back East has already been postponed too long". I understand. "And there are daily self denials that his family must make." Well, it is idle for us to contend in an honest discussion of this matter that the farmer has no hardships to endure, no sacrifices to make. The average farmer is not a pampered weakling shielded from all that is hard. But he is a real man and he carries a man's load. Many of the things that are grumbled about are trifling and unimportant. The real sacrifices can be made courageously, willingly. We can take satisfaction, even pleasure, in standing where our strength is being tested. In later years, as we look back over the road that we have traveled, the hardships we have endured will strengthen and cheer us.

Making the Man and His Business Fit

It is the unused and undeveloped powers of a man that do more than any other one thing to make him dissatisfied with his work. I would suggest two remedies for this: First: strive to so arrange and modify your farming that as the years go by your business will become more and more nearly an ideal business for you. In this respect a farmer is a very independent man. I doubt whether any other profession is quite as free to choose and specialize. If you know what you want and persevere you can do much to eliminate the unsatisfactory things and develop the things in which you are most interested.



IVAN HUFFMAN OF INDIANA CULTIVATING 16 ACRES A DAY WITH A TRACTOR

My second suggestion is that you should have a hobby. If you are of a mechanical turn you ought to have a good little shop well supplied with tools. At times you can get away from your cares and the things you do not like and do some cabinet work or clock repairing or blacksmithing. If you are something of an athlete and understand the games, it might be your side-issue to keep in touch with baseball and football. Read all you can about them and go to see a real game once in a while. May be you can do a little coaching at your local high school. Music is a splendid hobby for some men, especially if a good choir or band can be kept up. You understand what I mean, don't you? Have some small, secondary employment that will supplement your real business and make you enjoy your real business better. In times of care and stress it will give you rest; in times of dullness and monotony it will help you to be cheerful.

The Farmer and Society

Is the farmer selfish, doing nothing for anyone but himself and his family? He sometimes feels he does too much for society, produces most everything, and gets small pay for doing it. And then, at other times, when he is looking at the matter from a little different angle he says to himself, "I'm so tied down by my business that I don't do much for anybody." The world has such great unsupplied needs that we ought to contribute all of our time and money that we can spare. We ought to contribute a little, even if we can't spare it. There is another reason why we ought to give. We cannot live wholly for ourselves and be happy.

Does everybody impose on the farmer? No. That is mostly talk. We all take advantage of the law of supply and demand in our buying and selling and we have no right to complain when others do the same. Natural conditions and our own unsystematic buying and selling often spoil our markets. There is profiteering and there is manipulation of markets, but the remedy for most of our economic evils can best be worked out not by the government but by ourselves.

The Returns

And now we come to the meagre returns. We do have lean years and hard times. We will admit that. But consider the good things of life that we enjoy. We live out of doors in a beautiful world. Our lungs are not lined with a coating of coal soot. We have good water to drink, sleep well at night, have the best of milk, butter, eggs, fruit, and vegetables. Who has a better chance to enjoy his children than the farmer? Those little boys that wear out overalls and shoes with such alarming rapidity would as gladly go to town with father in the wagon or take a ride with him on the plow as do the most delightful thing your imagination could suggest. They live in a fresh, bright world, full of love and confidence, and they are eager to share it. Life can offer things that are covered with more tinsel, but has she anything really better than the simple joys that are a part of a farmer's reward?

Farming is not a get-rich-quick enterprise. Large fees, fabulous profits are not to be expected. But a well organized farm has many sources of revenue and these do not all stop immediately when the farmer lays aside his work temporarily for sickness or rest or pleasure. The faithful farmer may look forward with a good deal of confidence to a comfortable and dignified old age.

Farming has many problems to be solved. Some of these will be solved, not by the experiment stations and the agricultural press but by the common farmers. There are co-operative movements under way which need leaders of all ranks. Many of these leaders ought to come direct from the farms. Some of the social and spiritual needs of the farmers can be best understood and ministered to by their fellows in the ranks. There are places of importance in our national councils that will be filled by representatives from the farms. If the opportunity for distinguished public service may be regarded as one of the returns of a business, we must crowd this also into our list of "meagre returns".

Persistent Growth

There is no better way to make your business interesting than to keep it steadily progressing. Add a much needed building this year and a few pure-bred cows next year and some hog-tight fence the next year. Keep your work up in better shape this year than you did last. Do a better job of book-keeping and farm cost accounting than you ever did before. Cut away a little of the old mortgage and reduce your burden of interest charges. Surely a man who would follow this idea year after year would be both successful and enthusiastic. He would be respected by his neighbors and by himself. A winning player usually enjoys the game. And business is a game, a very interesting one.

I think I can hear someone say, "I would be very glad to build a new

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World's Largest Testing Association

THE Ferndale Cow Testing Association located in Humboldt County, California, is not only the largest cow testing association but is also one of the oldest in the United States to continue in successful operation.

J. W. Coppini, a successful Jersey breeder, is the secretary-manager of the association, and to his good management no little credit is due. The association has now started on its 13th year. Mr. Coppini states: "To the efficient work of the testers is due in a great measure the success of the association." The testers are C. A. Casanova, now on his eighth year with the association; Bruno Kaehler, now on his sixth year; and Carl Helgested, now on his fourth year.

This association tested as many as 4,546 cows last year and 106 members, owning from 2.to 150 cows, finished the year's work. Twenty herds comprising 532 cows were either sold during the year or discontinued testing; 4,014 cows finished their year's work with an average lactation period of 9½ months and with an average butterfat production of 334.03 pounds per cow. There are but very few associations anywhere that can equal this average production, and none that can both approach it in number of cows and height of production: 17 herds averaged from 400 to 495.76 lbs. per cow; 19 herds, from 350 to 400 lbs.; 38 herds, from 300 to 350 lbs.; 23 herds, from 250 to 300 lbs.; 6 herds, from 213 to 250 lbs.

These six low herds were all herds on test for the first time, and had not had a chance to cull out and breed up as had many of the other herds. The high cow of the association, "Speck", belonged to Nate Hauck, and produced 728.95 lbs. of fat. Seventeen cows produced over 600 lbs. of fat; 98 cows, over 500 lbs.; 628 cows, over 400; 1,541 cows, over 300 lbs.

Owner	Number cows	Ave. lbs. fat per cow
Nate Hauck	18	495.76
Peugh Bros.	2	495.26
Chris Diedricksen	8	479.80
Willsie Elliot	6	464.37
Rasmus Martin	2	432.70
John Enos	20	430.90
Chris Lorenzen	10	428.70
J. W. Coppini	13	426.20
Giles Briggs	14	425.90
S. B. Morrison	22	421.90
Wilbur West	12	421.70
Antone Enos	5	419.80
J. A. Genzoli	42	419.77
Frank Early	10	413.20
Peter Iverson	16	403.00
Jesse Peterson	41	401.12
L. J. Lindrum	43	400.30



HOW UNCLE SAM IS USING SCIENCE TO INCREASE THE NATION'S MILK SUPPLY

These eleven Holstein cows are probably the biggest milk producing eleven ever lined up side by side. They give an average of 20,000 lbs. milk apiece in 12 months, or a total of 220,000 lbs.

Herds producing an average of 400 pounds or over are shown in the accompanying table.

Although not quite in the 400-lb. class, the herd of C. S. Rasmussen made a very creditable average of 371.33 lbs. for 143 cows.

The large majority of the cows considered in this report are grade cows and their high production is directly traceable to the high class purebred sires that have been in use in Humboldt County for many years, and to the raising of heifers from the good cows found by the testing association work.

Of considerable interest is a comparison of the report of 1909 with that of 1920. In 1909, 581 cows finished their year in the association with an average production of 251 pounds of fat. This year the average of 4,014 cows was 334 pounds, a difference of 83 pounds of fat per cow. Based on the number of cows finishing this year that difference means a total of 333,162 pounds of fat, which, at the price of 70c per pound, the average price paid Humboldt County dairymen in 1920, amounts to $233,213. Even at present prices of 40c per pound for butterfat, this increase in average production means $133,264 per year to the 106 dairymen in the association, or an average of over $1,250 per year per man, as a direct result of cow testing association work.—C. V. CASTLE, Utah.

Freight Rates Are Part of Farmers' Troubles

THE address of Edgar Clark, Chairman, Interstate Commerce Commission, delivered before the executive committee and delegates of the American Farm Bureau Federation, Washington, D. C., April 15, 1921, contains information which is valuable for understanding our problems. He said:

"Industries are entirely inter-dependent. If the Florida man did not grow oranges, the railroad in the orange belt would be of no value. It he did not have the railroad, his orange tree would be of no commercial value. These matters must be considered not only from the standpoint of the present—the question of the movement of the crops of this year, but next year and future years must be considered. It is in the interests of the railroad that the fruit grower and the farmer should raise the largest crops possible, and should find a market for these crops. It is in the interests of the growers that there shall be efficient, well equipped railroads, able to provide a reasonable, adequate service when needed.

"The California lemon grower is unable to sell his lemons in the East at prices that will pay him to produce, pack, and ship his fruit. At first he blamed the freight rates, but as he looked further into the situation he found that the reason for this is the fact that the Sicilian lemon growers were selling their lemons in this country at $1.25 per box. That Sicilian grower has this advantage—he can take that $1.25 in our money back to Italy and it immediately is changed into a $5.00 bill. So in this particular instance the only way in which the California lemon grower can successfully compete is through the levying by Congress of an import tax that will give him a reasonable degree of protection. Then it may be that within a few years or a short time it will be possible to reduce that import tax.

Transportation Rates Not Only Clause

"I don't want to be understood as saying that I favor the growers taking advantage of the consumer. That isn't the great difficulty. The difficulty is the wide difference between the price that the grower gets and the price that the consumer pays. We have made it our business to inquire considerably out of our line in order to get a correct understanding of the situation.

"The facts are that the retail dealer in New York is paying just one-half what he paid last year, but his price to the consumer is identical with that of last year. Obviously the freight rate in that case is not what is preventing the grower from getting the price he got last year, and under those conditions we do not see where a reduction in freight rates would benefit the grower. This is because those who control the market will not pay any more than they are compelled to pay.

"The farmer is back to almost prewar conditions so far as the price he gets for his wheat is concerned, but we are paying the same price for the same loaf of bread.

"I venture these things to show that all of the trouble does not lie with the freight rates.

How Your Freight Bill is Divided

"Some things have been learned from the experiences of recent years with regard to the question of transportation. The serious war conditions were the cause of largely increased expenditures for operation of railroads, including very large increases in compensation to their employees. Before the war the general average of operating expenditures was in the neighborhood of 65% of the revenue—somewhere between 65% and 70%. Now it is a little over 92%. When I say the operating expenses I mean the actual expenses paid out for the operation of the railroad—the more substantial items being wages of employees, fuel, maintenance of way, maintenance of equipment.

"As soon as the railroads were taken over by the government during the war the operating expenses began to climb. The question of compensation of employees came up. A commission was appointed by the director-general, and it recommended increases that aggregated very large sums of money, and these increases were retroactive for some time before the decision was handed down. Shortly before that the director-general made what might be termed a 20% increase in rates. This was effective about half of the year, and the increase in wages was effective throughout the year. The result was a deficit. The increase in wages went on, but no further increase in rates was made, with the result that the government paid out of the treasury large sums to make up the deficit in the course of operating.

"After the return of the railroads to the owners there was a period of six months during which the government guaranteed them against any heavier losses, and it was understood by everybody that there would be a general readjustment in the rates. That was undertaken in a careful, methodical way. At first it appeared that there would be no occasion for increase in passenger fares, but an increase of 30% in freight rates which would produce the desired revenue. However, after careful consideration, more increased wages were awarded, which necessitated recasting figures and increasing passenger fares.

Half of the Roads Can't Earn Dividends

"For the first two or three months after these rates became effective it looked as though everything would work out as had been anticipated. Then for some reason or other the volume of business began to drop off and the ratio of expenses to income began to increase, and that condition has progressed until at the present time about 90% of our gross revenues is expended in operating expenses. There are not more than ten, and perhaps not more than six, individual roads that are earning the interest on their bonds. About one-half of the railroads are at the present time failing to earn their operating expenses and taxes.

"During the year ended December 31st, 1917, a little over 42 cents out of every dollar earned by the railroads was paid in compensation to employees. The amount thus paid during the year ended December 31st 1919, was 42 cents and during the year ended December 31st, 1920, 6 cents."

SPARE THE FLOWERS!

Withhold the devastating torch, that fires the forest bowers and sears with blighting, black'ning scorch the tender, op'ning flowers. Guard well the fragrant blossoms rare, of ev'ry rainbow hue, the ferny fronds and grasses fair, that bend with morning's dew. Disturb not springtime's songsters sweet, or wood-bird's cozy nest; the wee wren's sylvan, safe retreat let nothing cruel molest. Preserve God's glorious gardens green, unharmed by vandal hand, mar not a peaceful rural scene, in all the sunny land.

O ye who gaily wend your way, through forest, field, and glen; who spend the blythesome summer's day, far from the haunts of men, heart-cherish and in love protect kind Nature's varied charms, save them from thoughtless man's neglect and ev'rything that harms. Lest when ye come this way again, to view these places fair, ye find green groves and bush and fen, all birdless, bleak, and bare. That little children, following you, may through life's leisure hours, share lavish Nature's treasures, too: Please, tourist, spare the flowers!

Wisconsin. **A. S. Alexander.**

All Vermont Herds Tested In Eight Years

$200,000 Annual Appropriation Makes Possible Rapid Progress of Tuberculosis Eradication Work

VERMONT has a bovine tuberculosis eradication program which will test every herd in the state for the disease within eight years. Commissioner of Agriculture E. S. Brigham, who has led in the aggressive measures which the Green Mountain State has used against tuberculosis among its cattle, makes this estimate on the basis of the $200,000 annual appropriation voted by the legislature for this work in March. March 1, 1921, there were in the state 363 accredited herds containing 7,061 cattle; 1,361 herds containing 21,347 cattle had successfully passed one test; 2,234 herds with 39,241 cattle were under supervision; and 13,598 head in 1,154 herds were on the waiting list.

Vermont strongly favors state-wide use of tuberculin. The almost unanimous vote of the legislature for the appropriation bill is pretty generally echoed among the owners of cattle. Sentiment has not always been so favorable, however. Several years ago when Commissioner Brigham inaugurated his campaign against the disease, he met vigorous opposition, particularly when he ruled that no cattle could come into the state without first being tested—and then enforced the rule.

Much educational work has been done and the attitude of many has changed. In one instance a cattle owner who once led the opposition to appropriations for this work is now one of the strongest promoters of the test. Men who formerly lobbied against the state's subscribing to a measure which they testified was ruinous to the cattle industry now declare that the test is necessary before their cattle have selling value.

The Vermont policy has been against compulsory testing; no law requires that a herd shall be submitted to tuberculin examination. However, it is rapidly becoming true that the market demands tested animals; that a man may own an untested herd but he cannot find a buyer.

Application for Test

Before indemnities are paid for reacting cattle the owner must sign an application-agreement which necessitates continued effort to keep the herd clean, and which guarantees that the appropriations are used to advantage. For example, a man cannot receive payment from the state for reactors without testing his whole herd. Also, where indemnities have been paid, recovery can be made by the state if specified regulations are not carried out. The "terms" of the application are:

1. I will permit my entire herd, or any cattle of my herd, to be examined and tuberculin tested or retested at such times as considered necessary by the bureau or state officials.

2. I agree that no cattle shall be presented to the tuberculin test which have been injected with tuberculin within 60 days immediately preceding or which have at any time reacted to a tuberculin test.

3. If any of my cattle are condemned as a result of reaction to the tuberculin test or from physical evidences of tuberculosis, I agree to bear all the expense of slaughtering and disposing of such animals if they are slaughtered on my premises, or, if directed to do so, I will, at my own expense, drive such animals to my nearest railroad station, load them on cars, and bill the shipment as directed by the Commissioner of Agriculture of the state of Vermont, or his agent. This shall not be construed, however, as a waver of my right to hold reacting cattle for breeding purposes, as allowed in Section 505 of the General Laws.

4. I hereby agree to accept in full payment of all indemnity for cattle found diseased the amount authorized by the laws of Vermont.

5. I agree that all milk and other dairy products fed to calves in my herd shall be that produced by an accredited herd or, if from outside or unknown sources, it shall be pasteurized by heating to not less than 150° F. for not less than 20 minutes.

6. I will allow no cattle to be associated with my herd which have not passed a tuberculin test approved by the bureau or state officials. I will keep all new cattle separated from my herd, pending the application of a tuberculin test by an inspector of the said bureau or state or by a veterinarian authorized by the inspector in charge of tuberculosis eradication work in the state. I will notify the proper officials immediately, giving details of the identification, characteristics, and records of tuberculin tests of any cattle which may be added to my herd.

7. I will surrender any premises contaminated by tuberculosis animals, as indicated by a physical examination or a tuberculin test, to a thorough cleaning and disinfection, at my expense, under the direction or supervision of the bureau or state officials. I will comply with all reasonable sanitary measures and other recommendations for the control of tuberculosis.

8. When pure-bred or grade herds under this agreement have qualified in accordance with the "uniform methods and rules for tuberculosis-free accredited herds of cattle", they will be entitled to be placed upon the accredited register of the Bureau of Animal Industry, United States Department of Agriculture, and of the Department of Agriculture of the state of Vermont. Herds so qualifying will be classed as officially Tuberculosis-free Accredited Herds so long as the conditions enumerated on the back of this agreement are met.

(The conditions are those unanimously adopted by the United States Live Stock Sanitary Association and by representatives of pure-bred cattle breeders' associations, and approved December 23, 1917, by the United States Bureau of Animal Industry, with amendments adopted December 3, 1919.)

All three tuberculin tests are used, the subcutaneous, interdermic, and ophthalmic, depending upon the conditions under which the test is made. Increasing use is made of the interdermic because of the rapidity with which it can be applied.

Concerning the indemnities paid by the state, Commissioner Brigham says:

"We shall operate under our present law until June 1, 1921. This provides that the limit of appraisal for reactors is $100 for each grade animal and $150 for each registered animal. The state has the salvage and the state and federal governments pay 75% of the appraised value.

"On June 1, 1921, we shall operate under a new law which provides that the owner may dispose of reactors through licensed dealers to licensed slaughter houses where the animals are slaughtered under federal inspection, or he may dispose of them directly to such slaughter houses without the employment of dealers. The salvage will go to the owner and the state and federal governments will pay two-thirds the difference between the salvage and the appraisal value. The appraisal value will be subject to the limits above indicated."

Do You Want a Herd of Cattle Free from TUBERCULOSIS?

The STATE OF VERMONT and FEDERAL GOVERNMENT Will Help You

WHAT THE STATE AND FEDERAL GOVERNMENT WILL DO TO HELP YOU.

1. Send a competent veterinarian to your farm free of charge to apply the tuberculin test to your herd at least once a year until it has passed two tests without a reactor.

2. Appraise any of your animals reacting to the test at their market value, with a limit of $100.00 for each grade animal and $150.00 for each registered animal and pay you 75 per cent of such appraisal.

3. Send a competent inspector to supervise the cleaning up and disinfection of your premises if tuberculosis is found in your herd.

4. When your herd has passed two annual or three semi-annual tests without a reactor, it will be placed on the accredited register of the State and Federal Departments of Agriculture. You will receive an accredited herd certificate and cattle from your herd may be shipped interstate without further test for a period of one year.

5. Your herd, when accredited, will be listed in a booklet published by the U. S. Department of Agriculture and sent to all parts of the country. Buyers of tuberculin tested cattle will seek out your herd.

WHAT THE STATE AND FEDERAL GOVERNMENT WILL REQUIRE OF YOU.

1. That you submit your entire herd to examination and test at such times as are considered necessary by state or federal officials.

2. That you will allow no cattle to be associated with your herd which have not passed a tuberculin test approved by State or federal officials.

3. That you will thoroughly clean and disinfect your premises, if tuberculosis is found in your herd, under the direction of state or federal officials.

4. That all milk or dairy products fed to your calves shall be from cows which have passed an approved tuberculin test or shall be pasteurized by heating to not less than 150 degrees F. for not less than 20 minutes.

5. That you transport the veterinarian assigned and the inspector sent to supervise disinfection of your premises from the railroad station to your farm and return or to a neighboring farm if desired.

6. That you slaughter on your premises or drive to railroad station, load on cars and bill out any reactors found in your herd as directed by state or federal officials.

World's Largest Co-operative Creamery

J. A. Ruddick, Dairy Commissioner in the Canadian Department of Agriculture, furnishes information with reference to the production of New Zealand's creameries. Mr. Ruddick supplies these figures following a statement in Hoard's Dairyman some weeks ago that the co-operative creamery at Barron, Wis., is the biggest of its kind.

He shows that several co-operative New Zealand creameries exceed the output of the one in Wisconsin. Two of the largest of New Zealand's creameries are each producing over 1,700 tons of butter annually; that is, over 3,000,000 lbs. each. The heaviest output of the Barron creamery was 1,805,694 lbs. in 1920. The average of the eleven largest creameries in New Zealand is an output of 723 tons per year or 1,446,000 lbs.

The largest cheese factory in New Zealand last year produced 2,000,000 lbs. of that product and the next eleven largest averaged 1,288,000 lbs. In 1920 there were 153 creameries and 384 cheese factories in operation in New Zealand being a reduction of six creameries and four cheese factories as compared to 1919.

Gertie's Marjorie Glynllyn, owned by A. M. Hellings, is the new champion Jersey cow for her age of New Jersey. This Jersey produced 10,483 pounds of milk and 626 pounds fat, starting test at three years and three months of age.

Wisconsin's Champion Jersey

R. S. HULCE, WISCONSIN

WISCONSIN'S State Jersey butterfat record is 759.17 lbs. The cow holding the record is Trinket's Ebony L owned by K. T. Wiegand.

Mr. Wiegand took the short course in agriculture at the Wisconsin College of Agriculture several years ago and is today successfully conducting a dairy farm on an up-to-date business basis.

Trinket's Ebony L, from the standpoint of type, is a real dairy cow. She has three Register of Merit records all made in class AA. Her best record and the one entitling her to first place among the Jerseys in the state is 14,112.2 lbs. of milk containing 759.17 lbs. of fat made at 6 years and 5 months of age. While making this record, she had the use of a box stall for two months of the test and the remainder of the year occupied a stanchion alongside the other members of the herd.

Seven hundred pounds of fat is a large production for any cow.

Trinket's Ebony L has two other yearly records sufficiently good to make her prominent. Her daughter in milk has a production of 510.86 lbs. of fat at 2 years and 1 month of age, good evidence that Wisconsin's champion Jersey is not only an extremely good producer but a good reproducer as well.

Trinket's Ebony L was sired by Winnie Pedro's King and he in turn by King Sappho King. Her sire is a half brother to King Sappho Climax, the sire of the University of Wisconsin cow, University Kenna Climax, which has a yearly record of 746.76 lbs. of fat. It is a matter of regret to note that Winnie Pedro's King was sold for beef before any of his daughters were tested. His daughters have made fourteen records which average 548.4 lbs. fat.



TRINKET'S EBONY L, AT THE LEFT, AND HER SIX SISTERS
The seven have records averaging 10,720 lbs. milk, 555 lbs. fat.

Trinket's Ebony L and six of her sisters were a part of an exhibit at the 1919 Wisconsin State Fair, to show the value of using good sires. The exhibit was planned and was in charge of A. J. Cramer who is in charge of Wisconsin cow testing associations. The average yearly production of the seven cows was 10,720 lbs. of milk and 554.8 lbs. of butterfat.

Mr. Wiegand says of Winnie Pedro's King, "All of his daughters are strong cows with good quality, excellent udders and teats; they are easy milkers and good reproducers." What is such a sire worth to any breed? Without trying to answer the question, we can with pride point to Trinket's Ebony L and to the productions of her sisters.

Cottonseed and Linseed Meal Markets

SANDERS SOSLAND, MISSOURI

GOSSIP on markets reports "abnormal strength in the trade in cottonseed cake and meal". Handlers of other high protein feeds comment on the fact that "linseed cake and meal are extremely weak". Presumably the turn has come in the market for both of these important concentrates. Not so long ago the declining course of prices for cottonseed cake and meal was proceeding at a rapid pace, while the flaxseed by-product was commonly termed the strongest feed on the market, with the quotations far above a parity with other feedstuffs. Yet there is no distinct surprise over the reversal in the price movements. The trade is seeking light as to how far the changed trend in fluctuations will extend.

The position of the market for cottonseed cake and meal is uncertain. Export operators at the Gulf ports have provided the buying power in recent weeks that brought about the advancing tendency of prices. From the bottom level of the early weeks of April, the high protein feed has advanced $5 to $7 a ton. Prime cake and meal of 43 per cent protein content is now quoted around $26 to $27 a ton in Texas, about $25.50 to $26 in Oklahoma, and about $27.50, basis Little Rock and surrounding Arkansas points. Loose slab cake, the grade bought almost entirely by foreigners through their brokers at the Gulf, has recently sold up to $24 a ton in Texas and on a freight parity in other producing states. Even cold pressed cake, which has lagged more or less because of the abundance of rough feeds, is being held around $20 a ton in Texas and Oklahoma, more than $4 above the low point. During the same period linseed cake and meal have declined abruptly from a level around $43 a ton, basis Minneapolis, and about $45 to $46 at eastern export points, to approximately $27.50 to $29 at the northwestern producing center and about $30 at Buffalo and New York.

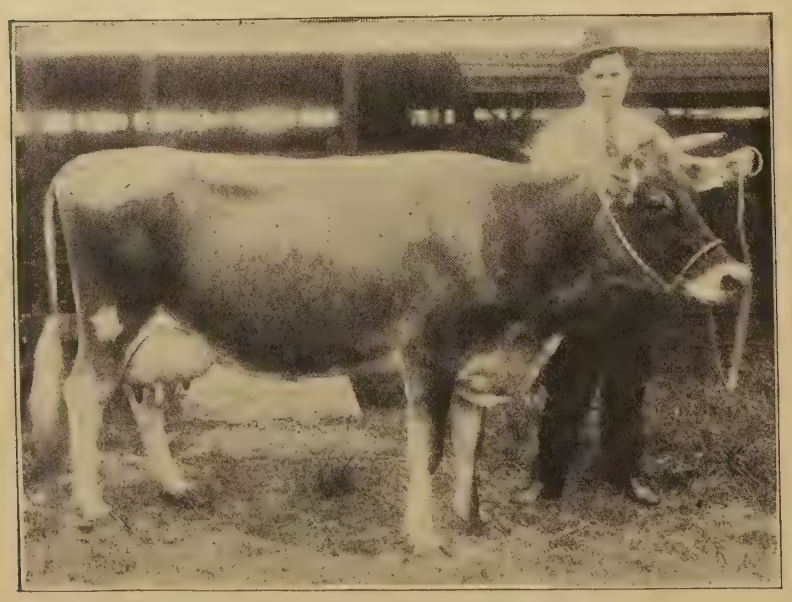
Before the bulge in linseed cake and meal to about $43 a ton in Minneapolis territory, prices had previously declined to around $35 to $36. The entrance of foreigners into the market, as in the case of cottonseed feed at the present time, created the bullish motive. For this reason, the trade is inclined to doubt whether the display of strength in the by-product of cottonseed mills is permanent. On the other hand, observers of the market recognize that the maintenance of buying by exporters at the Gulf can easily force a further sharp advance in prices, and it is common to hear that slab cake will soon be soaring above $30 a ton in Texas territory. The supplies of cottonseed cake and meal in domestic channels are extremely light, new production is limited, so it is apparent that no enormous power is necessary to maintain a strong position in these protein feeds.

Foreign buyers have been accumulating stocks for May, June, and even July shipment from the Gulf. No information is available as to the extent of the requirements of the Old World. The trade has only to guide itself in the action of the exporters in the linseed feed market. After forcing a sharp upturn, the result of heavy buying, they suddenly dropped out, the flaxseed feed having soared too far above a parity with cottonseed feed. Now the latter product, on the basis of about $32.50 to $33 a ton at the Gulf, is fully $3 above linseed feed at the Atlantic coast ports. Operators in feedstuffs markets and in other commodity trading, including the wheat market, have come to appreciate that the alert foreigners do not continue to "put up the market on themselves". And it is considered improbable that they will continue a powerful buying force in cottonseed cake and meal. This belief is strengthened by the fact that this is ordinarily not the season for heavy buying of cake and meal by Europe.

As to the domestic demand, the situation in cottonseed cake and meal and linseed feed is not unlike that of other products used in feeding operations. The demand is extremely light. The linseed feed trade is almost dormant, and even the extremely light production of northwestern crushing plants is more than is required by the consuming trade. Dealers are slow to take hold, recognizing the reluctance of feeders, and they are buying on a hand-to-mouth basis in very small quantities. The range trade in cottonseed feed, normally an important outlet for offerings, is virtually out of the market. Manufacturers of commercial fertilizer who, during the war, bought enormous quantities of meal are again receiving liberal quantities of potash from Germany and other sources, and consequently are taking negligible quantities of the feed. Commercial feed mixers manifest a lack of interest in the high protein feeds, attributed entirely to the almost stagnant demand for the so-called balanced ration commercial feedstuffs. Feedlot cattle operators in the central states, who are feeding corn generously, are moderate buyers of cake and meal, but this is the only domestic demand of importance.

Without foreign demand, it is therefore apparent that the market cannot maintain strength on cottonseed feed. This already has been demonstrated in linseed cake and meal. Of the two commodities, however, it seems that cottonseed feed is in the strongest position. Even on the basis of the advance in prices, no feed on the market offers protein units at as cheap a level as prime cottonseed cake and meal. A friendly attitude toward cottonseed cake and meal is advisable also because of the possibility of the entrance of grass cattle operators into the market for large quantities of cake with which to hasten maturity and to develop a harder finish on their stock. Still, the position of the cattle market is more or less discouraging to cattlemen and does not point to important buying for grass feeding activity. There was virtually none of this buying a year ago, and cattle today are considerably lower than at this time in 1920. The excellent condition of pastures over most of the country, too, is against this. Weather conditions, of course, should play an important part in the market movements.

Linseed cake and meal, it seems, have not yet struck bottom. The price is yet too far above a parity with corn to stimulate domestic demand and with the utilization of pasture spreading, buying power may fall off further. On the other hand, the trade should not overlook the light stocks in hands of the distributing trade, though this is offset in a measure by moderate accumulations at crushing plants. Production by flaxseed mills is being stimulated somewhat by the freer movement of linseed oil.



LOUISIANA JERSEY MAKES NEW HIGH RECORD

Golden Bar's Foxy Lass, a Jersey cow owned by A. J. Price, Louisiana, has completed a new high record for Louisiana, by producing in one year 12,955.8 pounds of milk, 686.65 pounds of fat. This is the highest official record that has been made by any dairy cow in the state.

Golden Bar's Foxy Lass is not the only good cow in Mr. Price's herd. He has 25 cows on official test, some of which are pushing the winner for state honors. Among these are Gussie's Foxy May with a record of 639.96 pounds of fat and Gussie's Dame Virginia which holds the state record for a three-year-old cow, with 456.29 pounds of fat. The herd's work is a demonstration that large production records of milk and butterfat can be obtained with good dairy cows in Louisiana when they are given the proper treatment.

Planning for the Silo

FRANK M. CHASE, KANSAS

NEWT Perry was a new member of the Cedar Valley Cow Testing Association. Having made his start in farming during the war, he was attracted by the big prices for grain and produced corn, wheat, and oats almost exclusively. After swallowing some heavy losses in the price smash of 1920, however, he decided to engage in a line of farming less hazardous as to both weather and markets, finally pinning his faith to dairying.

During the winter he had gotten together a respectable herd of grade cows, while the Better Sires Campaign, hitting his community at the psychological moment, caused him to place a registered bull at its head. For the time, his dairy equipment lacked just one important thing: he had no silo. This shortcoming the tester, Harry Kent, had noted the very day that Newt hailed him at the roadside to ask whether the association could take in another herd. To have a member of the association without a silo immediately became a challenge to Harry, and he decided on the spot to spread a little silage gospel at his first opportunity.

The warm days of an early spring had caused much discontent in the Perry herd. After a winter of dry hay and of dry grain feeds, the longing for the tender blades of grass, the warm, fresh air and freedom from stanchions grew stronger daily until, because of it, the milk flow was dropping seriously. This situation was bothering Newt a good deal when Harry made his first stop at the new member's. At the evening milking the production seemed lighter than ever, and the two men had scarcely left the barn after the chores were over before Newt put his problem before the tester.

"Most of my cows were fresh in the fall," said the proprietor, "and I was hoping that when warm weather came they would begin to increase their production a little. Instead their milk flow is falling off. Why is that, and what can I do to keep them from drying up entirely?"

"Your cows have a bad case of 'spring fever', Mr. Perry," Harry said. "They want grass and to get out of their cramped winter quarters. They have been wanting these so long and so much that they have grown restless from it, and this impatience is being reflected in the milk flow. I noticed you digging into those greens that Mrs. Perry had for supper as if they tasted pretty good. Cows, you see, have the same liking in the spring for green grass and something different from the winter rations that they have had so long."

"But I can't turn the cows out to pasture now," said Perry. "They'd ruin it with their tramping. There isn't much grass yet anyway."

"Certainly not," replied the tester. "The fact of the matter is that there isn't much that you can do now to help the situation. Often a change in the makeup of the ration, so as to make it more palatable or at least give it a different taste, will help some; I'll see what I can do about that before I leave. Then you can let the cows remain in the lot the greater part of these warm, sunshiny days, give them an extra good bed at night and try generally to make them as comfortable as possible. This helps to keep them more contented, even if they can't have the grass that they want so much.

"The big thing in handling spring slumps in the milk flow is to prevent them. After they have come the cows usually do not pick up a great deal until they actually are on green feed, and then don't increase their production as much as they would if the slumps never had occurred."

"How can these slumps be prevented?" asked Newt. "Believe me, I'm going to do it another year, if I can."

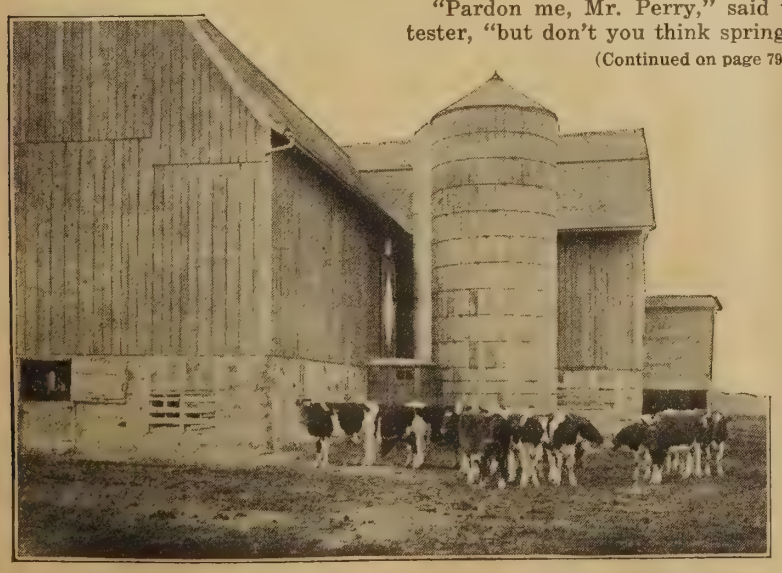
"As I said," the tester continued, "extra good care during the spring season and perhaps a change in the ration to increase its palatability will help a good deal. But that is far from all. The best preventive against spring milk slumps is silage. This is because cows that have this succulent feed all winter, of which they seem never to get tired, don't crave green feed in the spring so much as those that have been on dry and less appetizing rations. The cows, therefore, are less uneasy to get to pasture. You yourself, for instance, would be craving greens and vegetables far more than you do at this season if it was not for the fact that Mrs. Perry's shelves of canned fruit have supplied you with such food during the winter. The silo, you see, is the cow's fruit jar.

"Besides, you need a silo anyway. There simply is no other means by which you can get as much milk from your corn crop, pound for pound of dry matter, as in silage."

"I confess it does rather look as if I would have to have a silo," Perry replied, slowly. "I had put off thinking about it until summer, however. There'll be time enough then to put one up for use next winter."

"Pardon me, Mr. Perry," said the tester, "but don't you think spring is

(Continued on page 795)



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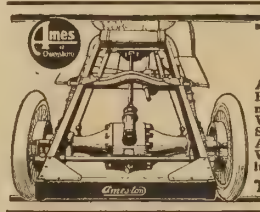
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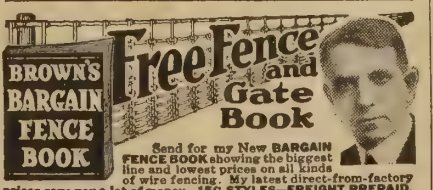
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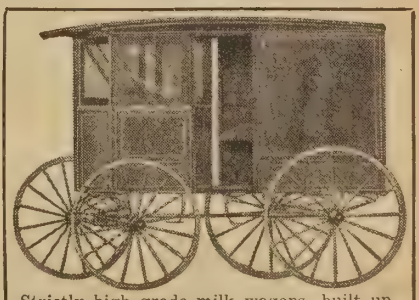
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Cow Testing Associations

RECORDS, PRICES OF FEEDS, FAT, AND MILK

Following is the summary of reports received during the week and up to the time of going to press of this issue:

State	Association	Tester	Month	No. of cows tested	No. of cows producing over 40 lbs. fat	Fat production of high cow	Owner
Ore.	Nehalem Valley	C. E. Lacy	April	504	139	72.6	W. K. Scovell
"	Smith—Umpqua	Millie Adams	"	218	83	88.0	W. L. Baker
Wis.	Monroe	Henry Auby	"	678	99	87.2	Barth & Sons
Ore.	Tillamook	N. A. Peters	"	926	573	116.0	Louis Weber
Ind.	Porter Co. Co-op.	Geo. Huitema	"	365	54	75.1	Thos. Keene
Wis.	Allenton—Kohlsville	L. M. Henderson	"	295	92	86.6	Wm. Pamperin
Penn.	Rutherford Co.	W. H. Oliver	"	103	32	78.6	Chas. Pearson
Ohio	Delaware Co.	Edw. L. Creager	"	141	25	88.3	A. H. Newhouse
Iowa	Dallas County	Don L. Chase	"	211	48	81.0	Leaverton & Son
Minn.	Hennepin County	Sidney A. Wallin	"	352	46	67.3	E. J. St. Martin
Calif.	Riverside Co. F. B.	E. Bahler	"	437	123	81.7	N. L. Browning
Wis.	Rosendale—Eldorado	R. G. Thurman	"	520	97	67.2	O. Zickert & Son
Iowa	W. Branch-Tri. Co.	R. B. Houser	"	228	23	73.5	R. W. Branson
Ohio	Allen—Putnam Co.	Lowell W. Lee	"	150	41	63.6	Hiram Schutz
Wis.	Racine & Kenosha Co.	H. F. Rockwell	"	482	55	62.8	M. Jansen
Wis.	Wilton	E. V. Doemming	"	491	86	72.9	C. C. Heath
Minn.	Blue Earth Co.	O. Erickson	"	280	104	86.1	Marlow & Randall
Wis.	Richfield	A. R. House	"	450	123	83.1	John Kroehler
Va	Loudoun Valley	W. D. Wermuth	"	461	46	59.5	L. Clarke Hoge
Ohio	Geauga Co.	C. M. McEwen	"	282	36	94.2	W. McLaughlin
Conn	Canaan	B. F. Dibble	"	240	46	78.7	S. H. Moseley
Kans.	Bourbon Co. Co-op.	T. A. Trull	"	345	26	54.6	Arthur Towles
Wis.	Marshfield—McMillan	E. E. Schroeder	"	372	38	58.6	Jos. See
N H.	Claremont & Lebanon	Enol C. Perry	"	425	25	60.0	J. W. Prontiss
N. D.	Jamestown	J. A. Barner	"	256	24	57.5	G. H. Knoble
Ore.	Columbia County	O. T. Johnson	"	199	23	71.5	Jake Dowling
Penn.	Kent Co. Co-op.	Mavoric Farmer	"		43	68.4	Mrs. Dora Gannon
Mass.	Southern Berkshire	F. A. Barbour	"	453	60	73.8	W. G. Chapin
Penn.	Lycoming	Floyd Mutchler	"	255	61	78.7	H. R. Paulhamus
Ohio	Ohio Valley	D. W. Harpley	"	251	50	69.5	Sumption & Son
Wis.	Mt. Hope	A. S. Hayford	"	318	27	66.7	Theo. Wehrle
"	Darien—Sharon	F. M. Barber	"	530	60	61.0	Aug. Henning

Association Notes

Nehalem Valley, Oregon:—Great advancement is being made toward obtaining pure-bred bulls to lead the various herds. The cheese factory paid 73c per pound for fat. Corn sold for $50 per ton; barley, $38; oil meal, $65; mill run, $35.

Monroe, Wisconsin:—The first month has certainly made a creditable showing. The entire membership has pure-bred bulls and, in the number of pure-bred and high grade cows, this association ranks among the highest in the state. Most of the members have their herds tested regularly. Some A. R. O. work is in progress and creditable records are made. Feed and milk prices varied considerably with the average prices for feed as follows: alfalfa, $20 per ton; silage, $7; oats, $30; barley, $30; oil meal, $30—$45; hominy, $28; bran, $20—$30. Due to the fact that the members are so widely scattered and the cheese factory takes a large share of the milk, the milk prices ranged from a flat rate of $1.10 at some cheese factories to $2.35 per hundred for 3.5 per cent milk and 4c a point at the condensery.

Tillamook, Oregon:—Several bulls and a number of cows and heifers were purchased at a sale of Jerseys. Three milking machines were installed and one discarded. The Guernsey breeders held a picnic at the Homer Mason ranch. Several good speakers were present and a good crowd was in attendance.

Porter County Co-operative, Indiana:—A few herds were turned on pasture in April but most of the herds were kept in until May 1st. Several members have their herds under federal supervision for tuberculin testing. Two unprofitable cows were sold and one pure-bred cow was purchased. During April, market milk sold for $2.35 per cwt. The creamery paid 41c per pound for fat. Milk retailed for 15c per quart and butter for 50c per pound. Silage was quoted at $5 per ton; alfalfa, $18; clover, $16; corn and cob meal, $18; corn meal, $21; oats, $24; bran, $30; cottonseed meal, $40; oil meal, $48; gluten feed, $42.

Delaware County, Ohio:—Three unprofitable cows were sold and one on her cow testing record to a former member of the association who sold his seven grade cows for this one pure-bred. Many farmers are feeding grain this spring. The creamery paid 48c per pound for fat. Bran sold for $1.50 per cwt.; oil meal, $2.65; cottonseed meal, $2.50; dried beet pulp, $32.50 per ton; clover hay $10; alfalfa, $15; oats, 35c per bushel; corn, $45c.

Dallas County, Iowa:—Two cows were sold for beef and six for milk. During April market milk testing 3.5 per cent sold for $2.45 per cwt. Five cents were paid for each point above. Feed prices: Alfalfa, $20 per ton; clover, $16; silage, $8; oil meal, $52; cottonseed meal, $48; bran, $36; corn, $35; oats, $26.

Rural, Pennsylvania:—Most of the dairymen have signed the pooling contract of the Dairymen's League. Farmers have been buying their supplies such as stock salt, barbed wire, etc., through the League at a neat saving. Market milk testing 3 per cent is selling at $1.94 per cwt. Feed prices: meal, $1.55 per cwt.; bran, $1.70; linseed, $2.50; cottonseed meal, $2.10; chop, $2.00.

Hennepin County, Minnesota:—Four members tested their herds for tuberculosis last month. Market milk testing 3.5 per cent sold for $2.33 per cwt. Five cents were paid for each point above. Milk retailed for 11c per quart and butter for 40c per pound. Bran sold for $16 per ton; barley feed, $18.50; corn meal, $21; oats, $21; oil meal, $36; silage, $6; clover, $16; alfalfa hay, $20.

West Branch-Tri-County, Iowa:—During April, market milk testing 3.5 per cent sold for $2.80 per cwt. Eight cents were paid for each point above. The creamery paid 43—47c per lb. for fat. Milk retailed for 15c per quart and butter for 40c per pound.

Allen-Putnam County, Ohio:—Nearly every herd is headed with a pure-bred bull. One of the members purchased a fine bull at the state sale. Of the 41 cows that produced over 40 lbs., 10 of them made above 50 pounds. Market milk testing 4 per cent sold for $2.40 per cwt. Four cents were paid for each point above. Milk retailed for 12c per quart; butter for 35c per pound and cheese for 30c. Corn sold for 60c per bushel; oats, 41c; barley, 70c; cottonseed meal, $2.00 per cwt.; oil meal, $2.20; bran $2.05.

Racine and Kenosha County, Wisconsin:—Most members are feeding balanced rations and are securing good results. Four pure-bred cows were purchased during the month. Market milk testing 3.5 per cent sold for $2.35 per cwt. Butter retailed for 48c per pound. Feed prices are as follows: Mixed hay, $20 per ton; corn and cob meal, $20; Unicorn, $50; alfalfa, $25; bran, $26; gluten, $45; oats, $25; oil meal, $46; barley, $26; cottonseed meal, $43.

Wilton, Wisconsin:—Two cows were disposed of over the block. This association has requested legislative support to prohibit the manufacture of bogus condensed milk containing cocoanut oil, etc., and we have received assurance from assemblyman to do so. The creamery paid 53c per pound for fat during April. Milk retailed for 9c per quart. Feed prices: Bran, $21 per ton; middlings, $20; alfalfa hay, $30; oil meal, $45; oats, 35c per bushel; barley, 60c.

Blue Earth County, Minnesota:—Several unprofitable cows were sold and several members purchased pure-bred Guernsey and Holstein females. Herds are being gradually turned out to pasture, but in order to keep up the milk flow, until it is more substantial, grain is being fed. Market milk sold for $2.50 per cwt. The creamery paid 56c per pound for fat. Milk retailed for 11c per quart and butter for 46c per pound. Bran sold for $20 per ton; oil meal, $48; silage, $6; hay, $10—$18; oats, 28c per bushel; corn, 40c.

Richfield, Wisconsin:—During the past month buyers from Michigan, Kansas, and Missouri have taken 3 carloads of pure-bred and grade Holsteins from our association. One member sold two pure-bred Holstein cows and one heifer calf for $700 and another member sold four grades and one pure-bred Holstein cow for $725. There were some unusually high prices here and this is where the testing association played its part. During April, market milk sold for $2.30 per cwt. The cheese factory paid 59c per pound for fat. Milk retailed for 10c per quart; butter, 42c per pound, and cheese, 45c. Bran was quoted at $24 per ton; gluten, $38; middlings, $20; oil meal, $41; oats, 31c per bushel; barley, 70c; corn, $1 per cwt.

Loudoun Valley, Virginia:—About 25 unprofitable cows were disposed of and 6 pure-breds bought this winter, besides several have increased their number of pure-breds from their own raising. During April, 3.5 per cent market milk sold for 30c per gallon. Feed prices are: Alfalfa hay, $30 per ton; clover or mixed hay, $20—$25; cottonseed meal, $36—$43; bran, $35—$40.

Canaan, Connecticut:—During April market milk sold for $2.19 per cwt. Bran sold for $31 per ton; middlings, $30; mixed feed, $33.50; corn meal, $31; ground oats, $37; gluten feed, $49; linseed meal, $48; cottonseed meal, $37; dried beet pulp, $38.50; stock hay, $30; ensilage, $6.

Bourbon County Co-operative, Kansas:—During April market milk testing 4 per cent sold for $2.44 per cwt. and 21c per gallon. The condensery paid 56¼c per pound for fat; the creamery, 35c. Milk retailed for 12c per quart and butter for 40c per lb. Feed prices: Bran, $20 per ton; cot-



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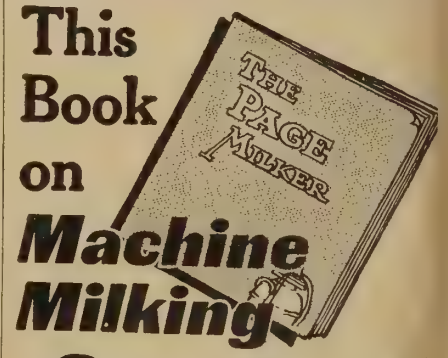
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No. of Cows.....
If you have a milking machine now give name of make.....

tonseed meal, $28.50; corn and cob meal, $15; ground oats, $18; silage, $4.

Marshfield-McMillan, Wisconsin:—This association reorganized in April with 26 members. Every member has one silo or more. Two scrub bulls are being used. Six members did A. R. O. testing during the winter. Daily milk records are kept by 14 members. The price for fat for April varied from 34 to 45 cents per pound at the local creameries and cheese factories. Milk retailed at 8 and 10 cents per quart.

Claremont and Lebanon, New Hampshire:—Due to low prices for dairy products, farmers are thinning out their herds, removing especially the poorest grades to make room for pure-bred heifers. At Lebanon the farmers recently got a carload of cottonseed and linseed at a saving of about $10 per ton. During April, market milk sold for $3.50 per cwt. The creamery paid 50c per pound for fat. Milk retailed for 12c per quart and butter for 55c—60c per pound. Bran sold for $33 per ton; cottonseed meal, $37.50; oil meal, $36.50; ground oats, $44; corn meal, $34; middlings, $43; silage, $9; mixed hay, $20.

Jamestown, North Dakota:—A cow testing association was organized in the territory tributary to Jamestown the latter part of March. We found some very good cows and hope to increase the number of 40-lb. cows by better feeding methods this month. Cattle are going out on grass now. Some of the association members are selling milk in Jamestown at $2.50 per cwt.; while others are selling butterfat at 30c per pound. Butterfat averaged 44c during April. A few bought oil meal and cottonseed at $3 during April, and the other grains were priced at: oats, 20c per bushel; barley, 35c; corn, 35c; alfalfa, $10 per ton; silage, $6; bran, $20.

Columbia, Oregon:—Since this association became organized eight months ago, 15 unprofitable cows have been disposed of. Nine pure-bred sires have come in the association and three pure-bred Jersey heifers. A large amount of grain feeding has been in practice with good increases in production. The creamery paid 28c per pound for fat and the cheese factory, 48c. Milk retailed for 40c per quart. Cottonseed meal sold for $42 per ton; cocoanut meal, $36; Mill Run, $32; pastures: bottoms, $2; semi-bottoms, $1.00—$1.50; uplands, 50c.

Kent County Co-operative, Michigan:—During April, milk retailed at 12c—13c per quart and wholesaled at 20c per gallon. Butterfat was priced from 49c—50c—60c. Feed prices: silage, $6 per ton; timothy hay, $14; clover, $16; alfalfa, $20; cottonseed meal, $45; oil meal, $50; ground oats, $30; Unicorn, $45.

Southern Berkshire, Massachusetts:—The last grade bull has just been disposed of and the association now stands 100 per cent pure-bred sires. During April, market milk testing 3 per cent sold for $2.21 per cwt. Four cents were paid for each point above. Milk retailed for 12c per quart. Bran sold for $36 per ton; gluten, $38; cottonseed meal, $42; oil meal, $38; corn silage, $8; hay, $20.

Ohio Valley, Ohio:—Two members of this association purchased a pure-bred bull at the Belmont County Jersey Club Sale and are expecting to build up a herd with him. Another member bought a heifer at the same sale and expects to add type and production to his already splendid herd of Jerseys.

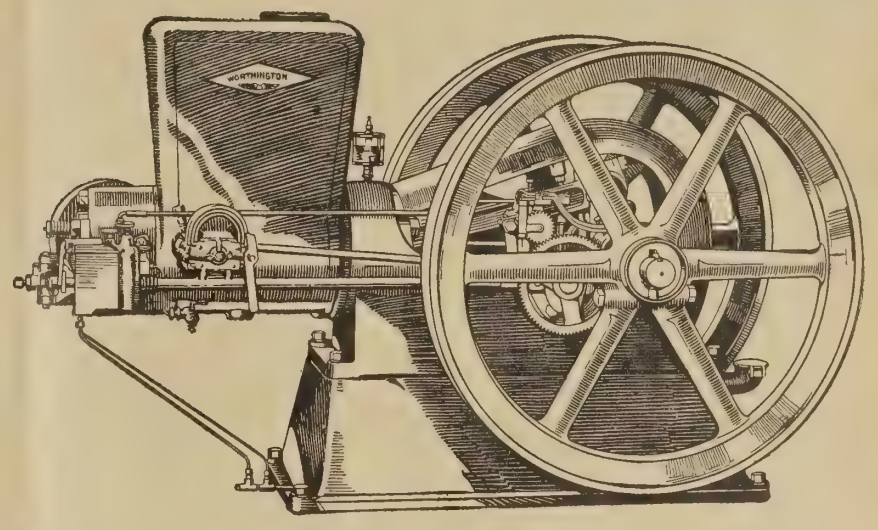
Mount Hope, Wisconsin:—In six months the members of this association have disposed of 13 unprofitable cows. Four more members are feeding balanced rations. The creamery paid 49c per pound for fat and the cheese factory, 47c. Milk retailed for 10c per quart. Bran sold for $22.50 per ton; ground oats, $25; oil meal, $47; hay, $16; silage, $7.50; pasture, $1.50 per month.

Darien-Sharon, Wisconsin:—A number of the barns look resplendent in their new coats of whitewash but very few farmers have turned cows out to pasture. One new member with a fine herd of 12 cows, by feeding a balanced ration, has raised his production from 9,187 lbs. milk to 13,112 lbs. Another member, owner of high herd last year, says he could not afford to be without testing if it cost him twice the present fee. A lot of tuberculin testing is being done this spring. Market milk testing 3.5 per cent sold for $2.35 per cwt. Four cents were paid for each point above. Bran sold for $25 per ton; mixed hay, $16; corn, $25; alfalfa, $30; straw, $8; silage, $6; oil meal, $38; oats, $34.

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Hope Guernseys Average $479

In the J. L. Hope Guernsey sale May 12, fifty-six animals brought an average of $479. A three-year-old daughter of Ne Plus Ultra, Florham Marigold, went for the top price of $4,100 to Florham Farms, New Jersey. Geo. W. St. Amant of Massachusetts paid the second price, $2,000, for Princess May of Linda Vista, by Beda's May King, and with a Class BB record of 12,232.7 lbs. milk, 627.48 lbs. fat. Mr. St. Amant also paid $1,450 for Follyland Joyous by Dimple Masher of Glenburnie and out of a daughter of Langwater Peerless. Imp. Bon Espoir XVII, by Imp. Clara's Sequel, went to Harbor Hill Farm, N. Y., for $1,600. Only one other animal reached the $1,000 mark—a bull calf, Florham Marquis, a grandson of Ne Plus Ultra and out of May Rose Maid, went to John Lloyd, Jr., of Pennsylvania.

Other animals selling for $500 or more are as follows with their purchasers:

Childs Frick, New York	
My Princess	$550
Imp. Sales Girl	750
Fannie IV of Lilydale	550
John Lloyd, Jr., Pennsylvania	
Gloria of Linda Vista	$625
S. M. Shoemaker, Maryland	
Ultra Select Rose	$625
Geo. C. Russell, Ohio	
Primrose of Linda Vista	$750
F. E. Hasler, New Jersey	
Florham Superior	$600
H. Swinglehurst, New Jersey	
Florham Rosa	$500
L. F. Loree, New Jersey	
Golden Cross Edna of Linda Vista	$525

EDITORIAL COMMENT



No family of five should buy meat until they have bought at least three quarts of milk.—PROFESSOR GRAHAM LUSK.

A FILLED MILK BILL

Congressman Edward Voigt has introduced a bill in the House of Representatives to amend the Pure Food and Drugs Act so as to make it unlawful to ship in Interstate Commerce any form of milk or cream which contains any fats or oils other than milk fats.

Mr. Voigt says that the object of this bill is to destroy the trade in certain brands of condensed and canned imitations and substitutes for milk which have been placed on the market in large quantities in recent years. These substitutes are made from skimmed milk and cocoanut or other vegetable oil or fat. These substitutes are offered in family size and also large cans and the unsuspecting public is served with the substitute in place of milk in hotels, restaurants, and boarding houses. It is also used in the manufacture of ice cream. The substitute looks like milk, tastes like milk, but is not milk. It is sold very largely to the poorer and foreign element of the population. They think they are buying milk. As a food for children, the substitute may be worse than worthless as it does not contain the elements for the promotion of growth in children and infants found in real milk. According to the United States Market Report the output of this substitute has increased over five thousand per cent between 1916 and 1919. It is estimated that in 1920 almost two and one-half million cases of this substitute were manufactured. Mr. Voigt says that the manufacture and sale of this substitute is not only a deception on the innocent consumer, but it is also a detriment to the dairying interests of the country.

LET US BE THANKFUL

It is well for us to lift our eyes from our own work and conditions and look about that we may see how others are being served. If we confine our vision too largely to our own conditions and brood too much over our own troubles and tribulations, we may get to thinking that our lot is the hardest.

Although we are passing through a period of readjustment when things are out of alignment, we must remember there is nothing fundamentally wrong with our country. It is only a matter of time before we shall again return to normal business conditions and prices of other commodities will be in keeping with prices of farm products. It is not well to take this period too seriously. We must accept it as a part of the results of the war and proceed to do our work courageously and with good cheer. The conditions on the farms in this country are so much better and we have so many more things to be thankful for that when we compare our conditions with war-worn Europe, we may well stop and ask ourselves, "Why do we complain of our own situation?"

Captain Charles Boettger, in command of the Polish-American liner "Gdansk", which plies between this country and Poland, said, as his ship slipped from her moorings at the Brooklyn Army Docks carrying the corn meal from 37,500 bushels of corn which is part of the gift of the American farmer to the hungry people of Europe:

"You farmers will never know what your help means to my people and the other people of war-worn Europe. You have never faced conditions such as they face now. I have seen families so poor they have had to clothe themselves in odd pieces of salvaged burlap. Food—they have none, save for the donations of you Americans and others more fortunate, doled out sparingly so that all may have a little something to quiet the gnawing pains of hunger."

This is not a condition which we like to feel exists in the world, but it is well to reflect upon the situation of these people in order that we may take the proper view of our own affairs. The farmers of this country not only have an adequate supply of food and clothing and good homes to live in, but means to own fifty per cent of the automobiles in this country. They are entitled to this luxury, for no class of people works more industriously or contributes more wealth to our nation than the farmers.

We must not permit ourselves, when other parts of the world are suffering for the want of food and clothing, to brood over our conditions when we are permitted to enjoy the pleasure of good homes, opportunity for service, plenty to eat and wear, and luxuries for recreation.

FILLED MILK COMPETITION

A group of farmers at Watertown, Wisconsin, has just received a convincing lesson of the meaning of the competition filled milk offers the dairy farmer, how it makes a market for the cocoanut cow and destroys a market for butterfat. They had heard that last year the makers of filled milk put on the market the equivalent of eight million pounds of butter to compete with the regular and usual supply, but their local problem drove the lesson home.

These farmers desired to get together to market their milk as cream in place of selling to a local condensery. A committee was sent to Milwaukee to interview ice cream manufacturers, expecting to find a ready sale. What they found put these men solidly in support of legislation forbidding the manufacture and sale of filled milk. They found these ice cream manufacturers were getting their supply of fresh cream from a condensery that was skimming the whole milk received from its patrons, selling the cream, and adding cocoanut oil to the skimmilk to make filled milk.

These Watertown farmers could not market their cream in the manner they tried because the cocoanut cow got in ahead of them. To make it even more effective, the factory making the product was located only fourteen miles distant from their own station.

There is much more to this filled milk proposition than competition; there is fraud and deception on the consumer. If more farmers, though, could have the close-up view these Watertown farmers had, their state legislature would be beseiged with requests to support the anti-filled milk bill and Congress would be somewhat more inclined to find reason for passing such legislation as proposed by Congressman Voigt.

BUREAU OF MARKETS

The Grain Dealers' National Association has come to the conclusion that the Bureau of Markets should be abolished because this department of government, they hold, has become an enemy of the independent grain dealer. They claim it is counselling the county agents in the various states to function as distributing agents. They also hold that scheming politicians are using the county agent as an entering wedge to get their hands in the treasury of the United States and that these county agents are displacing the commercial middleman with a political middleman. In fact, they declare it is socialism.

The Grain Dealers' National Association is confused in its reasoning. The county agent has nothing to do with the Bureau of Markets, and the Bureau of Markets has no jurisdiction over the county agent. The county agent is supported and directed by an entirely different department of the government. Along with his other manifold duties he assists farmers in forming co-operative marketing companies. He is an agent of the farmers and assists in doing the work the farmers desire to have done. He is supported, as announced by the Grain Dealers' National Association, by general taxation, but his work is to serve the farmers. It is reasoned that if he serves the farmers well he will be able not only to increase production but also facilitate the marketing of farm products. It seems to us that neither of these two groups is taking the right attitude toward the county agent.

We must increase the production of our acres and our herds and our flocks. This is the largest and the best way for the farmer to increase his profits. If there is an over-production, and no market can be found for all that the farmer raises, the best system is to reduce the number of animals kept, but the acres used and the animals kept should be required to give the largest returns in keeping with economic conditions.

The Bureau of Markets is performing a useful function in giving information concerning marketing conditions in the various trading centers of the United States. This service is extended to all, even the grain dealers. The county agent is extending a useful service to the farmers in assisting them to organize co-operative manufacturing and marketing associations. As long as these two agencies are serving their constituencies well, they are bound to continue in service. Co-operation is not socialism. Neither is the government in business because it gives its people useful information pertaining to markets and assists in forming co-operative enterprises for the more economical handling of farm products.

WHY SCRUB BULLS

Can anyone explain why there are more scrub bulls than pure-breds at the head of dairy herds? We are satisfied that "price" is not keeping dairy farmers from buying pure-bred bulls, for well bred bulls can be purchased at nominal sums. What is it, then, that keeps a great army of men from using animals that have been bred for centuries for a specific purpose? We believe it is a lack of understanding of the value of improved blood upon the part of men who keep scrub bulls. In many instances they do not have the desire for improving their conditions. No person ever made progress or improved his condition without effort and well laid plans. This requires thought and study which these men do not care to give.

Recently a number of well bred bulls sold for an average of a little less than a hundred dollars apiece and in a county where only 15 per cent of the bulls are pure-bred. One bull of exceptional type and out of a dam that had a good record sold for $45. The dairy farmers in that county are not awake to their opportunities nor do they appreciate that the present prices of bulls are rare bargains.

The man who owns a scrub should get rid of him and buy a real bull. There can be no pride of ownership in owning a scrub; no stimulating desire for improvement; and no enjoyment in looking forward to the development of his progeny. The scrub has a depressing influence for he offers no hope for improvement and little reward for the effort in caring for his get. The dairy farmer who desires to do better, who wishes to improve his herd, never had a better chance to purchase a pure-bred bull, at moderate prices, than at the present time.

Prices for Farm Labor

Will you please tell me the general wage paid dairy help, with board and room, and where house is furnished and man boards himself?

Raton, N. Mex. W. J. C.

Labor prices vary considerably from section to section and even from farm to farm. Much depends upon the local demand and within the locality, upon the efficiency of the labor hired, and the demand of the farmer for a higher or lower grade of labor. The average price for dairy farm labor will probably run from $40 to $50 per month at the present time. There are farmers who are paying as low as $30 and some who will be paying $60 to $70 or more per month.

In a survey made by the Wisconsin College of Agriculture in 1918, they found that where men

were hired for a full twelve months in the year, the wages in 8 different sections of the state ranged from $38 a month to $47 a month, the weighted average being $41.50 per month. Where men were hired merely for the cropping season, the wages ranged from $42 to $52, the average wage being $46.

As a general rule, married help will receive a somewhat higher monthly wage than single help but this is more a question of efficiency than of marital state. The rate of wages will also be gov erned somewhat by the extra supplies given to the married man. In many localities, it is the custom to supply the married laborer not only with his house and garden but also with a sufficient amount of milk for his family, with feed for his own poultry or with eggs from the farm flock, with a share of the animals butchered on the farm or possibly with one or two dressed hogs during the year, and with fuel. The man is also allowed sufficient land to grow such potatoes as he desires and has the use of a horse to cultivate the same, as well as for driving to town and other such purposes. In most cases, it is expected that the man will do the work on his own ground after hours.

Making Sweet Clover Hay

Sweet clover growers generally prefer the fall crop of the first year for hay, since the growth then is finer and the hay is of better quality than at any other time. The cutting from this crop is practically equivalent to first class alfalfa hay. On soil that is limed and inoculated, approximately a ton of hay per acre can be cut in September or early in October. A full crop of grain, together with an additional ton of hay when sweet clover is seeded with the grain, makes a very satisfactory return.

In the spring of the second year, the growth of sweet clover is more rank and somewhat coarser. It is more than likely that this crop is in most large use for hay but it is difficult to cure in many seasons because it should be harvested earlier than the usual hay crop and it is also inclined to be very heavy and succulent.

The proper time to cut the first crop the second season will vary considerably in different localities, depending much upon the rainfall, the temperature, and the fertility of the soil. In no event should the plants be permitted to show flower buds or become woody. In the drier sections, the best results usually are obtained by cutting the first crop when the plants have made a growth of 24 to 30 inches. On fertile, well limed soils, the plants often will not show flower buds until they are about 5 feet high. On such soils, it is very essential that the first crop be cut when the plants have made no more growth than 30 to 32 inches, if hay is desired which is not stemmy and if a second crop is to be expected.

It is not necessary to leave more than an ordinary stubble when cutting the sweet clover crop in the fall of the year of seeding. A stubble of four or five inches, however, will serve to hold drifting snow and will be of some help in protecting the plants from winter injury.

While the first crop in the second year comes from the crown buds, the new branches which produce the second crop of the second year come from the buds formed in the axils of the leaves on the lower portions of the stalk which constitute the first crop. These branches usually commence growth when the plants are about 24 inches high. In fields where the stand is heavy and where the lower portions of the plants are densely shaded, these shoots are soon killed from lack of necessary light. It is therefore very important when cutting this crop to cut the plants high enough from the ground to leave on the stubble sufficient number of buds and new branches to produce a second crop. In fact, the stand should be cut several inches above the young shoots or buds, as the stubble may die back from one to three inches if the plants are cut during damp or rainy weather.

When fields of sweet clover contain only a medium heavy stand and when the plants have made no more than a 30-inch growth, a five- to six-inch stubble usually will be sufficient to insure a second crop. When the fields contain heavy stands, it may be necessary to leave an eight-inch stubble. In semi-arid regions, where the plants do not make as rapid growth as in humid sections, they may often be cropped somewhat closer without injury.

If desirable, a second crop of hay can be cut in the early fall of the second year. When this is done, the crop which would otherwise mature seed, is cut while in the blossom. The grain binder is generally used in cutting this crop and the hay is shocked in such a way as to permit thorough curing. This hay is rather coarse for cattle, but is excellent feed for horses.

In the drier sections of the country or when the first crop of the year is cut for hay in the North Central states, the mower may be started in the morning as soon as the dew is off. The hay should remain in the swath until the following day, or until it is well wilted, when it should be raked into windrows. After remaining in the windrow for a day, it may be placed in small cocks to cure. Cocks made from hay that has dried to this stage will not shed water well and it is preferable to cover them with hay caps. It is considered important to make the cocks small enough to be thrown on the rack entire, as many leaves will be lost if it is necessary to tear them apart.

When sweet clover is permitted to dry in the swath, a large percentage of the leaves will be lost in windrowing and loading unless handled with the utmost care. Hay in this condition should never be raked while perfectly dry and brittle, but should be raked into the windrow in the early morning or in the evening when it is slightly damp from dew. It may then be hauled to the barn or stack after remaining in the windrow for a day.

One of the most successful methods for handling sweet clover hay, especially in regions where rains are likely to occur at haying time, is to permit it to lie in the swath until the plants are well wilted or just before the leaves begin to curl. The hay should then be raked into windrows and cocked at once. The cocks should be made as high and narrow as possible, as this will permit better ventilation. In curing, the cocks will shrink from one-third to one-half their original size. It may take 10 days to 2 weeks to cure sweet clover by this method, but when well cured, all the leaves will be intact and the hay will have an excellent color and aroma. When sweet clover is cocked at this time the leaves will cure flat and in such manner that the cocks will readily shed water during heavy rains.—Abstracted from Farmers' Bulletins 820 and 1005.

Cowpeas for Hay

Kindly advise me how many cowpeas to sow per acre on a light clay ridge soil for hay? What are best kind to sow? How much inoculation does it take per 100 lbs. and where can it be bought and at what price?

Festus, Mo. E. J.

For all around use in Missouri, the whip-poor-will cowpea is, perhaps, one of the best varieties. It is medium maturing and makes a good hay. When used for hay, cowpeas are best when drilled with a grain drill, using the oat cups and sowing from 4 to 5 pecks per acre. It frequently pays to sow more than this, some men putting in as much as two bushels. This makes a finer hay, but if the season is favorable a smaller seeding of three or four pecks is usually ample. It has been recommended, under very favorable conditions, every other cup of the grain drill may be stopped and the drill set to sow five pecks per acre, thus actually seeding at the rate of about two and one-half pecks.

The inoculating material may be secured from nearly all seed houses or possibly it may be secured from the College of Agriculture at Columbia. Prices for this culture vary, it usually amounts to about $1.00 for a sufficient quantity to treat one bushel.

Breeding Fees

I am taking on a few of my neighbor's cows to breed to my registered Holstein bull and would like to know what the custom is regarding payment for such service. It would seem to me that a contract should be signed by the owner of the cow, stating the time payment is due and the terms.

Geneseo, N. Y. L. E. D.

There is no formal written contract that is generally used where bull service is given to an outside herd. As a general rule, it is expected that the service fee will be paid when the cow is known to be safe in calf. This can easily be ascertained by the usual methods. In many instances, however, the service fee is not actually paid until the calf is born, the fee varying sometimes according to the sex of the calf. In the case of valuable pure-breds, however, the previous rule generally applies.

The rate of payment for service varies considerably, according to the quality of the animals mated and such special conditions as may prevail. Where it is purely a matter of accommodation between neighbors, the price is usually very moderate, ranging from, perhaps, $5 to $20, although in the case of extremely valuable animals, the fee may be in terms of hundreds of dollars.

Vetch for Green Manure

I have a field of clover sod to plow in the early fall to be planted to corn next spring. Would like to seed it to winter vetch this fall and turn it under next spring. What kind of seed would you recommend? Should it be seeded alone or mixed with winter rye?

Westby, Wis. C. S.

Where vetch is sown in the fall for a green manure crop to be turned under next spring, the variety used is winter vetch, or hairy vetch, as it is usually called.

Since vetch is a viney plant and without support grows close to the ground, it is a good plan to grow it with rye, seeding the two at the same time. To the regular rate of seeding rye, add from 25 to 40 lbs. of winter vetch. The crop should be plowed under next spring at least a week or ten days before corn planting time.

If the field is carrying a heavy clover sod this year and the soil is a good medium sand or clay loam it might not be necessary to follow the practice referred to above. However, if the soil is lacking in a humus content, the practice of green manuring with rye and vetch might very well be considered.

Silo Pits

I see you have a subscriber that wants to know about digging a pit for a silo. Last year I dug a pit 6 feet deep and put a wooden silo on top. The ensilage in that pit was perfect. The only damaged ensilage was where the wooden silo fit on the foundation and was due to leakage of air. One can throw the ensilage out of a six-foot pit easily; in fact, I do not see but one objection to putting all the silo under ground; that is, to find a way to elevate ensilage.

Terre Haute, Ind. J. H. S.

It is possible the trouble where the pit and the silo join can be overcome by plastering wood fiber around the bottom of the staves so as to make a more gradual slant into the concrete pit. If the cement shoulder extends into the silo more than an inch, it will probably be necessary to use stone and cement to make a plaster shoulder on which to apply the wood fiber plaster. If this is not done, the fiber plaster probably will not hold in place when put on too thick. The fiber plaster is also efficient for filling decayed spots in wood staves.

Butterfat Prices

What price was paid for butterfat for the months of November and December, 1920, and January, February, March, and April, 1921, at your local creamery?

Wadsworth, Ill. A. E. J.

The local creamery at Fort Atkinson paid the following prices for butterfat during the past six months: November, 66c; December, 57c; January, February, and March, 51c; and April, 46c. A cooperative creamery some four miles in the country paid the following prices: November, 60.5c; December, 49.8c; January, 52c; February, 53c, and March 51.3c.

In both cases cited above, the prices are net, meaning that it is the price the farmer receives at his door per pound for the butterfat in his cream, all charges for hauling, making, etc., being deducted before these prices are set.

Twin Calves

My best Jersey cow has recently given birth to twin calves—a bull and a heifer. Some say the heifer under these conditions will not breed, and a neighbor, who is a subscriber to your paper, also says you had an article on this subject stating the same facts.

Amelia C. H., Va. L. L. W.

It is very unusual that a heifer twinned with a bull will breed. Twins, where both are female, will breed and twin bulls will breed; also a male twinned with a heifer calf will breed. It is so unusual that a heifer twinned with a bull will breed that we consider it unwise to raise such an animal for the small chance that she will reproduce.

Hoard's Dairyman

Fort Atkinson, Wisconsin
Founded 1885 by W. D. HOARD

W. D. HOARD & SONS CO., Publishers
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Entered at Fort Atkinson, Wis., as second class matter.

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Coming Events

June 1.—American Jersey Cattle Club, annual meeting, New York City.

June 1—Holstein-Friesian Association of America, annual meeting, Syracuse, New York.

June 9—Ayrshire Breeders' Association meets in Springfield, Mass. Secretary, J. G. Watson, Brandon, Vt.

June 22-25.—Tuberculosis Eradication Conference, State House, Boston.

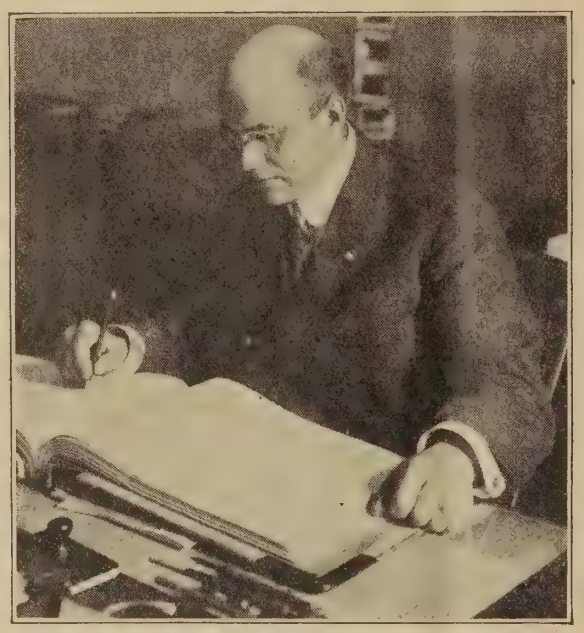
Cheese Moisture

The Wisconsin legislature has just passed a law which establishes a new standard for cheese manufactured in that state. The old standard required not to exceed 40% moisture, while the new standard provides that American cheese shall not contain more than 38 per cent moisture.

Rabild Leaves Dairy Division

Helmer Rabild, who has rendered a splendid service to the dairy industry during the thirteen years he has been a member of the Dairy Division, has tendered his resignation to become manager of the surplus plant of the Michigan Milk Producers' Association.

Mr. Rabild was born in Denmark and devoted his early years to dairy farming and the operation of creameries in that country. He graduated from a Danish agricultural college and took courses in dairying at the Michigan College of Agriculture, after he came to this country in 1900. He worked in Michigan, first as a helper and later as a buttermaker and manager. In 1905, when a new dairy law was passed in Michigan, he became the first dairy and food inspector. His special work was that of "trouble man" or "efficiency man" in connection with the difficulties in the operation and management of creameries. Through his suggestion to the commissioner, the first cow testing association in the United States was formed at Newaygo.



HELMER RABILD AT WORK ON THE RECORDS OF A COW TESTING ASSOCIATION WHICH ORGANIZATION HE HAS ABLY FOSTERED SINCE ITS INCEPTION IN THIS COUNTRY

Mr. Rabild became a member of the Dairy Division in 1908 and was placed in charge of cow testing association work. Then he took up the organization of bull associations. At the present time there are about 500 cow testing associations and 140 bull associations in the United States. In addition to this work he has had charge of other dairy extension projects under the department which include dairy production and manufacturing work in the South and West.

Mr. Rabild comes to his new position with large and successful experience, and we have no doubt but that his management of the new undertaking of the Michigan Milk Producers' Association will bring them success.

Wisconsin Holstein Breeders Meet

The annual meeting of the Wisconsin Holstein-Friesian Breeders' Association held at Milwaukee May 16, brought out a good attendance. The morning session was devoted entirely to the president's address and the report of Secretary Oldham.

At the opening of the afternoon meeting Professor L. J. Cole of the University of Wisconsin gave an interesting lecture on the occurrence of red and white calves from registered Holstein parentage, showing how they must occasionally be expected because of some of the early red and white Holsteins in Holland.

He was followed by John M. Kelly of New York, who very forcibly brought out the great lack of the present dairymen and cattle breed associations. The breeders and dairymen, producers of a fifth of the food products of the country, are themselves organized but they have provided no means of reaching that other very necessary member of the combination—the consumer.

With a business that employs approximately 5,000,000 people, that produces annually a product worth upwards of $2,500,000,000, and with from 20 per cent to 25 per cent of the children of the country actually suffering from a lack of dairy products, it seems strange that more effort is not directed toward the consumer, particularly when that lack of effort loses the dairymen of this country millions of dollars annually.

The people of this country will buy if you show them why they should—their consumption of luxuries proves it. Mr. Kelly urged intelligent advertising as the only real solution of the matter. He particularly urged Holstein men to back some form of Holstein milk advertising campaign.

At the business meeting following the program the following officers and directors were elected: Robert A. Ryan, president; Herbert Schroeder, vice-president; W. C. Leitsch, treasurer; B. M. Aaries, Charles Hampke, and S. H. Bird, directors.

Several changes in the by-laws of the association were made, the most important having to do with the election of officers and directors which have heretofore been elected by the open meeting.

Both the secretary and the treasurer are to be elected by the board of directors. Three of the directors are to be appointed by the president, and the other six are to be elected by county delegates at the annual meeting.

Each county shall be entitled to at least one delegate and those having more than fifty members to the state association shall be entitled to one for each 50 members or major fractional part, the delegates to be elected by members in their respective counties.

All other association business is to be settled by the members present at the meeting as heretofore.

This will, it is hoped, increase interest in the state association in many counties that cannot always be well represented at association meetings.

New York Pooling News

HOARD'S DAIRYMAN:—So far as I know, every milk dealer in League territory took up the cudgel to defeat pooling when the plan was proposed last fall, and nearly everyone continued attack until about the last. It was some surprise to me, then, to hear the president of one of the important concerns recently discuss the pooling plan and give it sanction as the best thing for all parties. He considered it something for the dealer to advise, although he fought it with the others and contributed to the conference board to continue the fight to the day when it went into effect.

This milk man advised that all the dealers will now deal with the League and pay to the poolers' orders the stipulated price in the class of milk that they buy. They will pay no more to non-poolers than the price the League pays the poolers. That is the bargain they say, and they will live up to it. At the same time I have my suspicions that there will be difficulties and differences. Dealers will buy on prices at $2.30, $2.10, or $1.80 or they will pay on the market price for butter and cheese. This last is the fourth class.

To my surprise the dealer said that he understood that Nestle's will accept the situation and buy promptly through the League. I could hardly understand this and questioned further. He qualified that he so understood but was not present personally at the meeting. I stopped at a Nestle's plant yesterday to see what is going on. It is a small business and when I called it had closed for the day. On the bulletin board I found a notice which read in effect something as follows: "For May we will pay $1.90 for 4 per cent milk and will pay direct to those who supply milk the full month a bonus of fifty cents a hundred." There was also the usual variation for test of four cents a point.

To my mind this is not at all like League business. It comes down to three per cent milk at $2 a hundred and I assume that two dollars is probably what they expect will be the League price for pooled milk or as near to it as they can estimate. Notice that they say "direct", which I take to mean not paid to poolers. Whether they expect to buy of those who have signed the pooling contract and further that they expect to pay through the League I do not know. Their price of $1.90 for 4 per cent brings 3 per cent milk down to $1.50. There is no such price in the League so far as I know.

We are pretty certain now that the League sells milk with the understanding that the buyer taking milk from non-poolers will pay them only such prices as are paid to regular supporters of the League. It is also stated that in case of a surplus only such milk as is in the pool will be sold at full prices. I cannot yet see how this is to work, but it is evident that there is no disposition to allow those who refrain from support of the organization to get the best of the others. At the same time we hear those who have refused to sign say that they will get the full $2.30 for market milk while regulars will get only the pooling price. Such statements from slackers do not make for friends and they undoubtedly are not true. They only reveal the character of the men who make the statements.

It is freely asserted that had it not been for the pool we might now get only $1.75 or perhaps less for milk for May, while we may reasonably expect perhaps the $2 offered by the Nestle's. Unfortunately there goes with this the prediction that dairying will now prosper and we will get cost of production and a profit all the time. Some of us, it seems to me, are too optimistic on this score. At the same moment the price of cattle goes up somewhat. It shows what is in the minds of many people. I fear that the only men who will get this cost of production and a profit will be the men who can reduce the cost of production below the average. Some are fortunate in this regard. Human nature is so constituted that the moment there is a prospect to make even or a little better we expand the business and bring an overproduction.

New York. H. H. LYON.

"Eat a dish of ice cream every day," read the ads of one big company. It's good advice, and you can make the cream yourself.

Fifty-Six Guernseys Average $1,087

Eastern Guernsey Breeders' Association in Highly Successful Auction Finds Friday, the Thirteenth, a "Lucky" Day

THERE was no "bad luck" in the date—Friday, May thirteenth—for the Eastern Guernsey Breeders' Association. Even number thirteen in the sale, led in the auction ring at thirteen minutes past the hour went for a price ruinous to all superstition. Fifty-six head consigned by twenty breeders brought an average of $1,087, the top price being $4,000 and only six animals selling for more than $2,500.

When the association appointed its sale committee, E. T. Gill, I. W. Roberts, Lowell Gable, M. M. Hollingsworth, M. T. Phillips, and G. W. Koser, it assured itself of a consignment auction of the highest merit. Of the fifty-six animals sold everyone was a good one. Not a single individual entered the ring which was not worthy of use as foundation stock. The appointments of the sale were excellent; the crowd one of the largest ever gathered at a Guernsey auction; and the sale, as a whole, one of the best cattle vendues ever held.

The high value of the day, $4,000, was paid G. W. Koser of Pennsylvania for Westbrook Ultra Rose, fourth cow in GG with a record of 13,131.7 lbs. milk, 621.99 lbs. fat, and by a grandson of Ne Plus Ultra and Imp. May Rose King. The dam, a granddaughter of Imp. King of the May, May Rose of Westbrook Farm, leading cow in BB with 15,530 lbs. milk, 757.07 lbs. fat, was sold by the same consignor for $2,500. Both daughter and dam went to Florham Farms, New Jersey.

Ultra Foam, consigned by S. M. Shoemaker, and Brookmead's Queen, consigned by Frank Graham Thomson, brought $3,500 each, R. L. Benson taking the former and Mrs. J. M. Mattice the latter, both buyers from New Jersey. Ultra Foam was the only Ne Plus Ultra daughter sold. Brookmead's Queen is by Langwater Stars and Stripes.

Only two bulls sold. Pencoyd Perfection, from the herd of T. W. and I. W. Roberts, went to Hynicka Bros. for $3,050. This strongly bred May Rose bull is a grandson of Beda's May King and out of Langwater Early Rose, one of the greatest daughters of Imp. King of the May. A double grandson of Langwater Stars and Stripes, Brookmead's Search Light, from the Thomson herd, went to Circle W Farm, Ohio, for $2,000.

The four animals consigned by T. W. and I. W. Roberts averaged $2,500, five consigned by Frank Graham Thomson averaged $2,255.

An interesting feature of the sale was a guessing contest in which those in attendance estimated the average price of the auction. A Guernsey heifer calf valued at $500 was offered to the one whose estimate was nearest the actual price. Guesses ranged from $268 to $3,500, the great percentage being within $200 of the average received, $1,087.67. The estimate of H. W. Wheeler, Pennsylvania, of $1,090 tied with that of a young Maryland breeder in being closest. The flip of a coin gave the calf to Mr. Wheeler.

Listed below are the names and purchasers of all animals selling for $500 or more excepting those mentioned above:

R. R. M. Carpenter, Delaware
- Bonita Fillmore $775
- Clare of Gerar 3rd 775

Geo. W. St. Amant, Massachusetts
- Langwater Empress $3,000
- King Charlotte of Brookdale 525

Willow Creek Farm, Pennsylvania
- Westbrook Itchen Rose $925

Edwin Balderston, Maryland
- Elizabeth's Maid of Haddon 2nd $500

Daniel Buckley, Pennsylvania
- Wasteland Decorous $750
- Wasteland Dimple 750

I. A. Boucher, New York
- Della of Wasteland $500
- Breidablick Primrose 800

H. W. Leeds, New Jersey
- Pauline's May Girl $875
- Janet Hedges 825

Harbor Hill Farm, New York
- Gerar Kitty $960

Geo. C. Russell, Ohio
- Prue's Jehanna $500
- Breidablik Daylight 925

S. C. Emmons
- Sequel's Milkyway of Wawa $525

E. A. Rile, Pennsylvania
- King's Rose of Clover Plain $650
- Melinda S's Hilda 600

C. L. A. Whitney, New York
- Glen Gable Emblem $1,000

Brooklandwood Farm
- Raider's Deruchette $725

Lowell Gable, Pennsylvania
- Clover of Pencoyd 3rd $2,100

G. M. Hendee, Connecticut
- Early Rose of Pencoyd $2,300

Mrs. B. M. Coursen
- Frank's Quail of Fritzlin $550

H. A. Frankenfield, Pennsylvania
- Main Stay's Daisy of Wawa 1,050

Mrs. J. M. Mattice, New Jersey
- Jingle Girl of Haddon 625

Geo. Wood, Pennsylvania
- Brookmead's Daffodil $2,000
- Royal's Alphea 925
- Rose of Pencoyd 4th 2,525

Circle W. Farm, Ohio
- Imp. Unity of Passee Villa $550

Brookmead Farm, Pennsylvania
- Royal Master's Daylo Maid $875

Chilmark Farm, New York
- Westbrook Ultra Maid $600
- Westbrook Enchantress 600
- Xmas Dolly 1,700
- Charter's Noble Fannie $525

H. B. Shenk, Pennsylvania
- Glen Gable Galore 2d $525

J. T. Hastings, Pennsylvania
- Imp. Marinette of Mara Alva $575

G. W. Koser, Pennsylvania
- May King's Benton Omega $825
- Imp. Cyrene of Mara Alva 775
- Woodside Hope 800

J. S. Herkness
- Furnessia 2d $575

Beaver Ridge Farm, New York
- Double May Rose of Walter Maple $500

L. S. White, New York
- Juno of Barrington $625



H. W. WHEELER AND THE GUERNSEY CALF HE WON IN THE GUESSING CONTEST



WESTBROOK ULTRA ROSE TOPPED THE SALE AT $4000
Her dam, May Rose of Westbrook Farm, brought $2500. Both were consigned by G. W. Koser and both purchased by Florham Farms.



THE MEN BEHIND THE SALE:—G. W. KOSER, PENNSYLVANIA; L. MERRYMAN, MARYLAND; E. T. GILL, NEW JERSEY; AND FRANK GRAHAM THOMSON, LOWELL GABLE, I. W. ROBERTS, AND M. T. PHILLIPS, ALL OF PENNSYLVANIA

G. W. Witter Dead

G. W. Witter, one of the pioneer Holstein-Friesian breeders of Marathon County, Wisconsin, is dead. Mr. Witter has been a breeder of black and whites for more than forty years. He sold over two hundred head of pure-bred Holsteins and at the time of his death owned forty pure-breds.

New York Guernseymen Vote Field Secretary

At its annual meeting in New York City, May 11, the New York Guernsey Breeders' Association voted to strengthen its organization and to employ a field secretary. Karl B. Musser, extension man for the American Guernsey Cattle Club, reviewed the work in Ohio where the first Guernsey state fieldman is now employed, and pledged his assistance to New York breeders in a similar undertaking.

It was decided to hold a combination sale of New York Guernseys again this year and the invitation of Chilmark Farm to the sale management to locate the auction on its grounds was accepted. Geo. White was given charge of the sale.

Professor E. S. Savage of Cornell asked for the support of the association in improving the show of Guernseys at the New York State Fair. He stated that only tuberculin tested animals will be accepted for entry and that accredited herds can be kept separate from all other cattle. The $50 fund for prizes in county classes which Professor Savage asked was voted.

The main feature of the program was the presentation of cups to owners of the highest producing New York Guernseys for the past year. Colored slides were used in bringing the animals before the breeders present and interesting statements were made by owners or care-takers concerning the pedigrees and methods of feeding and management. The cup-winners and their owners follow: La Charmonte Princess, G. W. Warrell; Imp. Blanchflower XX, Henry Sage; Dora of Allen Farms, J. O. Winston; Mabel of Tarbell Farm, H. H. Buckley; Ultra May Queen, Jules Breuchard; Princess Ultra Grace, W. H. Gratwick; Winona of Beaver Ridge, J. O. Winston; Bessie of Portland, Henry W. Howe; Ultra Celia, grand champion in the single letter classes, Jules Breuchard; Masherlette of Harbor Hill 2d, grand champion in the double letter classes, Robert S. Stuart; and Enola's Edith, N. L. Whitacre. The bull winning the cup offered for the sire whose two or more daughters make records exceeding requirements by the largest percentage was Ultra May King owned by J. O. Winston.

The officers serving the association during the past year were re-elected: C. L. A. Whitney, president; C. H. Heckler, secretary-treasurer; F. G. Benham and G. E. Tarbell, executive committee members; and W. B. Jones, James H. Seaman, L. A. Toan, H. H. Buckley, and R. H. Alexander, vice-presidents.

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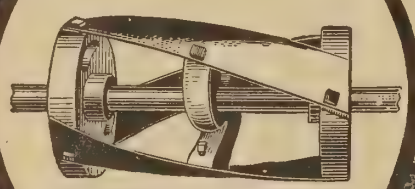
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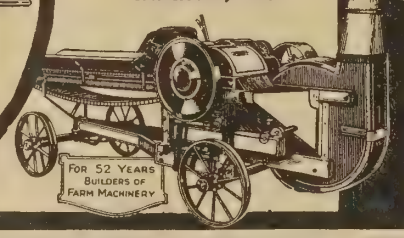
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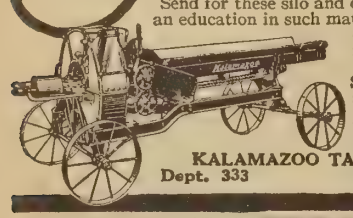
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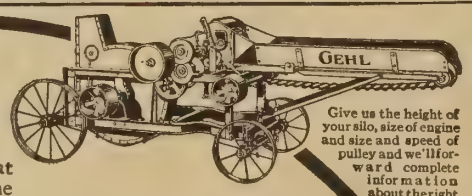
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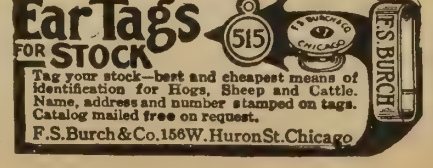
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New York Dairy News

HOARD'S DAIRYMAN:—Commissioner of Agriculture George E. Hogue announces that this year's New York State Fair will show the world it can out-manufacture them all when it comes to cheese. Mr. Hogue is an old time cheese expert. His last year's demonstration that an excellent 6-ton cheese can be made and sold was a striking success. The cheese was so big it could not go by freight from Lowville where it was made by Mr. Loomis, a veteran cheese maker. A special motor truck carried it to the fair where a section of the front of the dairy building was removed in order to admit the huge cheese. This year a 12-ton cheese is to be attempted. A Chicago concern once attempted an 11-ton cheese, but the product was not fit for commercial use. Mr. Hogue says the 12-ton package can and will be made. Dairy experts will watch to see it exhibited and sold in pound and 2-pound packages at the 81st annual exposition at Syracuse.

The agricultural organizations of Tompkins County are uniting to further a pure-bred sire campaign, and the banks will loan money to farmers who wish such help in replacing scrub sires with pure-breds. It is said no strings are attached to this offer of financial aid in this work. The banks believe that farmers are losing money and wasting time in using nondescript sires.

Dairymen who supply the city of Syracuse with milk are urging citizens to co-operate in reducing losses in milk bottles. They say $200 worth are broken, stolen, or lost each day, costing the dairymen $73,000 per year. This has to be considered when fixing the price of milk. It is to the interests of consumers to help lessen this big loss and so the dairymen are telling them in big type through the city press.

In about three weeks' time the Tompkins' County veterinarian, assisted by a state official, will have tested with tuberculin over 400 animals. About 12% of the animals had to be branded by the big "T" as required by New York State law to show them to be reactors.

The Tompkins County National Bank has come to the front in a way to attract attention of dairymen. This bank is the first in the state to co-operate with the state in paying dairymen's indemnity claims for animals lost through the tuberculin test. The plan is to have regular assignment blanks made out in triplicate furnished by the state and calling for payment of indemnities. The dairyman presents the blank to the bank. On acceptance by the state of the claim, a copy of which is kept by the farmer, the bank, and the state, the bank pays the farmer 75% of his claim. The balance is paid when the state pays the indemnity in full to the bank. This may be many months later, but the farmer can have a large part of his claim honored at once and have it to use.

Recently the New York legislature appropriated $700,000 to pay claims filed prior to March 10 and $150,000 to carry on the work this year. So fast is the test being applied in many New York counties that this fund will not last long and there will be great need of many more banks following the example set by the Tompkins County bank. This, it is said, many banks will do.

There has been much speculating as to working details of the new League milk pooling plan and every crumb of information on the topic is sought by the dairymen eagerly. Local adjustors will be appointed, real dairymen in each milk pooling station, to see to issuing checks, hearing complaints, etc. Local banks will have money deposited in them at the end of each month by the League to pay the farmers for their milk.

This milk will be considered in four classes in fixing prices to the buyers, as follows:

Class one will consist of milk sold in fluid form and milk made into cream and the skimmilk sold in fluid form.

Class two includes milk made into cream and the skimmilk used in any way except sold in fluid form; milk made into plain condensed milk; milk made into ice cream, and into cheese of the soft type.

Class three includes milk made into powdered milk; into sweetened condensed milk; into sterilized evaporated whole milk; or into cheese of the Swiss, Limburger, and similar types

Class four is all that milk made into American cheese or butter.

Prices will of course vary with the class, but returns to producers will be equalized with certain considerations for quality. This will be worked out more in detail as time goes on.

New York. E. G. FEINT.

SALE ANNOUNCEMENTS

May 28—Holsteins. Sullivan Bros., Marengo, Ill.
May 28—Holsteins. Unity Breeders' First Annual Consignment Sale at Unity, Wis.
May 31—Registered Guernseys. Barron Co. Guernsey Breeders' Ass'n. 3rd Annual Consignment Sale, Barron, Wis.
June 1—Holsteins. Dispersion of Fairview Stock Farm's Herd at Anderson, Ind. O. L. Janney, Owner.
June 1, 1921—Holsteins. Central Wisconsin Holstein Breeders' Ass'n. 13th Semi-annual Consignment Sale at Marshfield Sales Pavilion, Marshfield, Wis. R. A. Peterson, Wisconsin Rapids, Wis., Sale Mgr.
June 1—Guernseys. Quality Sale, Chippewa Valley Guernseys, at Eau Claire, Wis. G. R. Ingalls, Sale Mgr.
June 2—Guernseys. Clark County Guernsey Breeders' Annual Consignment Sale at Owen, Wis., C. E. Beck, Manager.
June 2-3-4—Holsteins. Second Co-operative National Sale at Syracuse, N. Y.
June 3—Guernseys. Fond du Lac Co. Combination Sale. Charles L. Hill, Mgr.
June 4—Guernseys. Folly Farm Guernseys at Fond du Lac, Wis. Chas. L. Hill, Mgr.
June 6—Holsteins. Austinburg, Ohio. Ohio Holstein-Friesian Ass'n., H. C. Barker, Field Secretary, Tiffin, Ohio.
June 7—Guernseys. The Southern Wisconsin Guernsey Breeders' Ass'n. Sale, Ft. Atkinson, Wisconsin.
June 8—Guernseys. Complete Dispersal Sale of the Chas. Govin herd of Menominee, Wis., at Waukesha, Wis. F. E. Fox, Sale Mgr.
June 9—Holsteins. First Annual Bred Heifer Sale, Thorp, Wisconsin. W. H. Krause.
June 9—Holsteins. First Annual Sale, Holstein-Friesian Co-operative Association of New Jersey, Trenton, New Jersey. J. W. Bartlett, Secretary, New Brunswick.
June 9—Holsteins. Elkhart Co. Guaranty Sale. Col. L. Stuckman, Mgr.
June 9—Guernseys. Waukesha County Guernsey Breeders' Ass'n. Eighteenth Semi-Annual Sale of Registered Guernseys at Waukesha, Wis. F. E. Fox, Sec.
June 9—Guernseys. Massachusetts Guernsey Breeders' Sale. Leander F. Herrick, Sale Mgr.
June 10—Holsteins. Loyal, Wis. R. M. Jenks, Sale Mgr.
June 14—Guernseys:—Minnesota Guernsey Breeders' Annual Sale, State Fair Grounds, St. Paul. L. V. Wilson, Secretary.
Oct. 19—Holsteins. Chester Co., Pennsylvania, Holstein-Friesian Breeders' Guaranty Consignment Sale. C. J. Garrett and F. C. Brinton, Jr., Mgrs.
Oct. 19—Guernseys. Michigan State Sale of Registered Guernseys at Lansing, Mich. F. E. Fox, Waukesha, Wis., Sale Mgr.
Feb. 21-22, 1922—Holsteins. Iowa Holstein-Friesian Association's Annual Sale.

Minnesota Holsteins Sell Well

77 Head Average $893

Minnesota's third annual state sale held at Faribault May 4 was in many respects the best sale Minnesota Holstein breeders have ever held. True it did not include a $65,000 bull, a $33,000 bull, or any other $10,000 females. Neither was the average up to those of earlier sales. But it did include a wonderfully good lot of cattle. In fact, right straight through we believe the entries were better than at earlier sales. Further, it is certain that every buyer should have gone home satisfied, and, barring the misfortunes which may come to anyone in the business, he should be even more satisfied with those purchases as time goes on for he bought good animals at prices that made them well worth the money.

Seventy-seven animals were sold for $68,765, just short of a $900 average, a good figure considering present business and financial conditions and no mean figure at any time. Add to that a $65,000 bull and three $10,000 cows as were included in the first sale and you get an average of $2,023, so that even judged from the price standpoint, this sale was practically as good as previous ones.

Bulls were the real sufferers among the entries. Apparently no one wanted a herd bull at any price. Seven good ones were sold for an average price of $483, with $800 the top figure. Axel Hansen bought a bargain at that price in Bess Burke Champion, a yearling son of S. P. O. M. 41st. from a 1086.29-lb. ten-year-old granddaughter of Piebe De Kol Burke. He was consigned by the E. C. Schroeder Farms.

Two females reached the top price, $3,100. Far Oaks Miss Homestead Rue, the first animal in the ring, was struck off at that figure to Brookholm Farms of Minnesota. She is a wonderfully good 3-year-old daughter of Piebe Laura Ollie Homestead King, with a 2-year-old record of 726 lbs. butter from 15,702.4 lbs. milk. She was consigned by the Minnesota Holstein Company.

Beauty Segis Fayne Ormsby was the other top price female. She is a very good individual, a 2-year-old daughter of S. P. O. M. 41st from a 1,057-lb. daughter of Sir Fayne Concordia and in calf to S. P. O. M. 37th. She was consigned by T. H. Skrei and purchased by the E. C. Schroeder Farms.

E. A. Barthelemy of Minnesota, who is just laying the foundation for a high class herd, was the heaviest buyer, taking 13 head for an average price of $882.

Twenty-two animals brought $1,000 or more.

Mack, Krause, and Hanson did the selling, with Secretary B. D. Scott in the box.

Following is a list of those animals selling for $750 or more:

E. A. Barthelemy, Minnesota	
Edenvale Nellie Veeman Pietertje	$750
R. C. Jennie Ormsby Echo Sylvia	2,000
Mankato Ormsby Pietertje	1,600
Bess Johanna Oak	825
Brookings County Maid	1,350
Golden Valley Corabell Ormsby	800
H. E. Bailey, Wisconsin	
Belle Skylark Canary	$1,100
Queen Piebe Hengerveld Ormsby	950
Marie Princess Hartog 3d	800
Maple Grove Thorla Ormsby Mercedes	800
Wm. Wachmen, Minnesota	
Burr Oak Johanna De Kol	$775
J. B. Irwin, Minnesota	
Nina May Pietertje Korndyke	$1,200
J. M. Hackney, Minnesota	
Eureka Lady Segis	$1,100
T. E. Gage, South Dakota	
Mankato Ormsby Bess	$850
Oak Dale Farms, Minnesota	
K. S. P. Segis Lyons	$1,600
Piebe Bess Segis Ormsby	2,500
King Korndyke Pontiac Lass Beets	1,600
Ramsey Co. Home, Minnesota	
Miss Ormsby Hengerveld Colantha	$800
Gus Schmidt, Minnesota	
Rockasene Lady Shabona	$1,250
E. G. Winship, Minnesota	
Miss Netherland Piebe	$1,200
Netherland Korndyke Alladin	1,000
A. G. Haugland, Minnesota	
Queen Hendrika Segis	$800
Carl K. Lunde, Minnesota	
Princess Walker Fayne	$900
C. Graham, Minnesota	
Clara Pietertje Johanna 2d	$1,100
F. E. Lammers, Minnesota	
Gewinna Homestead De Kol Oak	$975
E. C. Schroeder, Minnesota	
Echoland Pava Ormsby	$1,000
Beauty Segis Fayne Ormsby	3,100
E. L. Ferguson, Minnesota	
Pauline Segis Johanna Grahamholm	$1,025
C. L. Spaulding, Minnesota	
Dinah Ormsby Oak Homestead	$1,325
Steidl Bros., Minnesota	
Miss Pietertje Ormsby De Kol	$800
J. E. McMahon, Minnesota	
Edenvale Nellie Ormsby 2d	$1,400
H. F. Fischer, Minnesota	
Pietertje Ormsby Tweede	$1,100
Geo. E. Hanson, Minnesota	
Pietertje Mercedes Ormsby	$1,200
Brookholm Farms, Minnesota	
Far Oaks Miss Homestead Rue	$3,100
Axel Hansen, Minnesota	
Bess Burke Champion	$800
Egil Boeckman, Minnesota	
Edenvale Veeman Ormsby	$1,700
Minnesota Holstein Co., Minnesota	
Honora Korndyke Hengerveld	$875
St. Olaf College, Minnesota	
Catalogue No. 56	$1,000
Adams Bros., Minnesota	
Catalogue No. 57	$825

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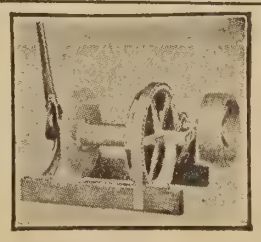
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DAIRY MARKET NEWS

April Condensery Prices

Manufacturers of evaporated milk report conditions to be greatly improved for that commodity. The reduction of unsold stocks of approximately 44 per cent on April 1 as compared with March 1 and an increase in unfilled orders of 279 per cent confirms this report. Price of evaporated milk during March showed little change, with a range of $4.42 to $6 and an average price of $5.61 per case. Unsweetened evaporated whole milk, in bulk, sold at $9.62 per cwt., while unsweetened evaporated skimmed milk sold for $5.06. The exports of evaporated milk during March, 1921, were approximately 500,000 lbs. less than in March, 1920, when the amount exported amounted to 19,318,000 lbs. Of the shipments during March, 1921, 5¾ millions went to Germany, 3½ millions to Poland and Danzig, and nearly 8½ millions to the United Kingdom.

The market for sweetened condensed milk has been distinctly draggy, both for bulk and case goods. Unsold stocks of case goods in the hands of manufacturers were reduced 41 per cent during the month of March but on April 1 the unfilled orders were practically nil compared with the stocks in the hands of manufacturers. The price of sweetened condensed case goods ranged from $5.25 to $10 per case during April, with an average of $7.97 which was 7c per case less than the average price for February. There has been a very limited demand for sweetened condensed bulk goods and the range in prices has been rather wide. The average price for the month of March for sweetened condensed whole milk, in bulk, was $11.79 per cwt., with sweetened condensed skimmed milk selling at $6.75 per cwt. The downward trend in the price of sugar should help out the manufacturers of sweetened condensed milk. Exports of condensed milk during March were 29,000,000 lbs. or one-third the exports for the same month during 1920.

Raw Milk Prices Generally Higher

The improved conditions in the evaporated milk market were reflected in higher prices paid to producers for milk in some sections. The average price paid for milk by firms manufacturing both bulk and case goods during April was $2.23 or approximately 1c per gallon more than the price paid in March. The average price paid by firms manufacturing bulk goods only was $2.29 per cwt. in April, compared with $2.35 in March.

The prices quoted in Table I are those paid producers for 3.5% milk delivered at factories during April. They are based on reports made by approximately 67% of the total factories in the United States.

The manufacturers' wholesale selling prices given in Table II are based on reports made by manufacturers covering actual sales, during March, of condensed and evaporated milk delivered to jobbers, wholesale grocers, and similar buyers on basis of cash or on short time credit. Foreign prices are given f. o. b. or f. a. s. point of export in which sales were made.

Table I—Prices Paid Producers at Condenseries During April

Geographic sections	Case and bulk goods No. of factories	Case and bulk goods Price per cwt.	Bulk goods No. of factories	Bulk goods Price per cwt.
New England	1	$2.31	3	$2.93
Middle Atlantic	58	2.20	25	2.16
South Alantic	2	2.15	5	2.33
East No. Central	72	2.16	25	2.25
West No. Central	4	2.11	1	2.17
South Central				
North Western	15	2.20	4	2.59
South Western	14	1.93	1	3.50
United States	166	2.23	64	2.29

Heavy Receipts Bring Lower Butter Prices

(Report by U. S. Bureau of Markets.)

After maintaining an early show of steadiness lasting over for the most part from the previous week, butter prices again broke sharply starting Wednesday of the week ending May 14. On eastern markets they went to new low levels for the season. The decline was due mostly to an accumulation of centralized cars and undergrades with perhaps some surplus of fine butter toward the close of the week on the New York and Boston markets.

Reports are current that a small amount of Danish butter is enroute for this country at the present time. Offerings have been freely made at 29c C. I. F., and some offerings were even reported as low as 26c C. I. F. New York, or the equivalent of 28½c duty paid. Progress of the pending tariff legislation which would raise the duty from 2½c to 6c is being watched with keen interest.

The average wholesale prices on 92-score butter at five of the principal markets for the week ending May 14, 1921, and the corresponding week a year ago were as follows:

	Week ending May 14 1921	1920
	Cts.	Cts.
New York	33.6	60.9
Chicago	30.9	57.5
Philadelphia	34.5	61.8
Boston	33.8	61.5
San Francisco	31.3	52.9

The receipts of butter at these markets were 13,894,391 lbs. as compared with 7,956,236 lbs. a year ago and 11,208,973 lbs. a week ago.

Table II—Manufacturers' Wholesale Selling Prices (March)

Geographic sections	Sweetened Condensed* Domestic	Sweetened Condensed* Foreign	Unsweetened Evaporated† Domestic	Unsweetened Evaporated† Foreign	Sweetened Condensed‡ Unskimmed	Sweetened Condensed‡ Skimmed	Unsweetened Evaporated‡ Unskimmed	Unsweetened Evaporated‡ Skimmed
New England	$7.70	$5.45	$5.74	$5.50	$12.25	$6.53	$8.86	$4.88
Middle Atlantic	7.33	7.38	5.59	5.53	11.75	5.73	10.88	4.49
South Atlantic	8.22	7.25	5.79	5.50	12.67	6.88	12.00	3.67
E. N. Central	8.20	7.00	5.43	5.51	10.60	6.70	8.13	5.67
W. N. Central	8.25	7.00	5.62	5.50	12.67	7.50	9.47	
South Central	8.22	7.00	5.84	5.50	12.25	7.50		6.19
North Western	8.88	7.00	5.51	5.38	12.50	8.15		
South Western	8.88	7.00	5.54	5.50	12.25	7.50	13.00	
United States	7.97	6.92	5.61	5.50	11.79	6.75	9.62	5.06

*Case contains 48 14-ounce cans. † Case contains 48 16-ounce cans. ‡Bulk, per cwt.

Declines in Cheese Prices Halted

(Report by Bureau of Markets)

Still lower prices during the week ending May 14 failed to stimulate trading in cheese markets to the extent that dealers had looked for, and for the most part the week's business was quiet enough to be called dull.

The opinion of a majority of distributors seemed to be that there was no visible cause for markets to go lower, and that conditions were due to become more settled with a resulting increase in demand. The markets are bound to be more or less uncertain until quality improves to the extent of making storing a safe proposition. Numerous receipts on the markets are beginning to show better flavor as a result of pastures, and quality should continue to improve right along.

Expert demand has been taking liberal stocks on the distributing markets the past several weeks, but this outlet seems to have slowed up somewhat. Prices offered during the week were so low that dealers were not inclined to accept them. This indicated a feeling that prices were close to the low point.

The average wholesale prices on American cheese (style Twins) for the week ending May 14, 1921, and for the corresponding week a year ago, were as follows:

	Week ending May 14 1921	1920
	Cts.	Cts.
New York	16.9	30.2
Chicago	14.7	27.5
Boston	16.7	30.5
San Francisco	14.4	24.6
Wisconsin	14.1	26.6

The total receipts of American cheese at these markets were 4,482,589 lbs. as compared with 3,905,762 lbs. a year ago and 4,436,700 lbs. a week ago.

Dairy Markets

MILWAUKEE, Wis., May 20—Butter—Creamery, tubs, 29c; prints, 30c; extra firsts, 28@28½c; firsts, 26@27c.

Eggs—Miscellaneous receipts, country candled, cases included, 21@21½c; cases returned, 20@20½c; seconds, 17@18c; checks, 16@17c.

Cheese—Twins, 13@13½c; Daisies, 14@14½c; Young Americas, 14@14½c; Longhorns, 13½@14c; Brick, 15@16c; Limburger, 20@22c; Swiss, loaf, 48@50c; block, 30@31c.

NEW YORK, May 20—Cheese—Dull; state milk, common to specials, 13@17½c.

Butter—Easier; receipts, 12,467 pkgs.; creamery, extras, 28½@29c; state dairy, tubs, 19@28c; Argentine, 20@25c.

Eggs—Weaker; receipts, 37,385 cases; nearby white fancy, 33@34c; nearby mixed fancy, 21@29c; fresh firsts, 21½@27c; Pacific coast, 25@34c.

CHICAGO, May 20—Butter—Creamery, extras, 28c; standards, 27½c; dairy, firsts, 23@27c; seconds, 18@21c.

Eggs—Ordinary, 17½@18c; firsts, 19½@20c.

Cheese—Twins, 14c; Young Americas, 16½@17c.

New York Butter Market

NEW YORK CITY, MAY 18:—The reasons for the marked shrinkage in butter values are the result of economic conditions which prevail at present. The country has been passing through a period of deflation which has caused the values of practically all commodities to shrink. As usual, at such times, prices of agricultural products fall more rapidly than those in other lines of production. However, in the case of dairy products sentiment has played an important role in forcing butter prices down. In former years, jobbers and retailers have, at this season of the year, been free buyers of butter as they felt that there were but slight risks in accumulating a liberal supply of butter. This year they are buying for immediate needs only as they feel that values may go still lower. On the other hand, wholesalers are anxious to keep their floors cleared at all times as they have no faith in the future of the market. They continue to accept prices for the butter which they have on hand which are lower than the prevailing quotations. That alone is sufficient to cause a weak market.

The speculator as yet has not appeared on the market. While much of the butter that is being received is of high quality and would be satisfactory for storage, the speculator is unwilling to store butter at present prices with the possibility that June prices may be yet lower. There are many receivers, however, who predict that prices are now at the lowest level for the season. On the other hand, there are those who feel that 28c will

(Continued on page 796)

Carload Prices of Hay and Feed at Important Markets May 16

(In dollars per ton)

Commodity	Boston*	New York*	Philadelphia	Pittsburgh*	Richmond	Atlanta	Jacksonville	New Orleans*	Cincinnati*	Chicago*	Minneapolis*	Kansas City*	St. Louis*	Omaha*	San Francisco
HAY															
Timothy and clover:															
No. 1 Timothy	30 00	29.50	23.00	22.50	25.00	29.00	28.00	30.00	21.50	22.00	19.00	†19.00	26.00	.....	.....
No. 1 Clover, mixed	23.50	26 00	18 00	17.00	22.00	28.00	27.00	.....	18.00	17.00	16.00	†15.00	21.00	.....	.....
No. 1 Clover	....	22.00	.....	16 00	.....	.....	.....	.....	15.50	16.00	16.00	†14.00	21.00	.....	.....
Alfalfa:															
No. 1 Alfalfa	.....	.....	.....	.....	.....	33.00	34.00	31.00	20.00	†24.00	†20.00	23.00	28.00	20.00	20.00
Standard Alfalfa	.....	.....	.....	.....	.....	29.00	33.00	30.00	18 00	†20.00	†18.00	19.00	26.00	17.50	17.00
No. 2 Alfalfa	.....	.....	.....	.....	.....	27.00	31.00	26.50	13.00	†17.00	†15.00	15.00	22.00	11.00	15.00
FEED—Bagged															
Wheat Bran:															
Spring	26 00	26 00	25 00	23.50	26.50	28.00	27.50	.....	22.50	19.00	16.00	.....	.....	.....	.....
Soft Winter	28.00	26.50	28 00	25.50	29.00	28.00	....	.....	23.00	.....	.....	.....	20.00	.....	.....
Hard Winter	27.00	.....	.....	24.50	.....	28.00	.....	26.00	22.50	.....	.....	17.50	19.50	16.00	37.00
Wheat Middlings:															
Spring (Standard)	25 00	25 00	24.50	22.50	25.00	29.00	27.50	.....	22.50	18.00	14.50	.....	.....	.....	.....
Soft Winter	28.00	.....	30.00	28 00	32.00	31 00	.....	.....	26.50	.....	.....	.....	24.50	.....	.....
Hard Winter	27.50	.....	26.00	28.00	.....	30.00	.....	.....	22.00	.....	.....	.....	23.00	20.00	.....
Rye Middlings	24.00	.....	22.00	20.00	22.00	.....	.....	.....	20.00	.....	.....	.....	.....	.....	.....
High protein meals:															
Linseed	36 00	36.00	.....	34.00	.....	.....	.....	.....	36.00	31.00	28.00	30.50	30.00	31.50	.....
Cottonseed (41 per ct)	39.50	.....	38.75	38.00	.....	.....	.....	34.00	.....	36.50	.....	35.00	34 00	.....	.....
Cottonseed (36 per ct)	37.50	37.50	36.75	35.50	.....	28.00	29.50	33.00	32.25	32.50	.....	.....	32.00	.....	35.00
No. 1 Alfalfa me'l (med)	36.50	.....	.....	.....	.....	.....	32.00	28.00	24.00	23.50	.....	17.50	21.50	19.00	22.00
Gluten feed	33.50	34.60	31.71	31.43	.....	.....	.....	.....	29.80	26.50	.....	.....	29.50	.....	.....
Hominy feed (white)	31.00	29.50	29.00	.....	30.00	.....	.....	28.00	26.00	24.00	.....	.....	22.00	20.00	.....
Ground barley	.....	.....	.....	.....	.....	.....	.....	.....	39.00	29.00	.....	29.00	.....	.....	30.00
Beet pulp	29 00	29.50	.....	.....	32.00	.....	38.50	36.00	27.00	.....	.....	.....	.....	.....	.....

*Hay quotations represent average of cash sales at these markets. †Nominal.

Straw:—Receipts are generally light; the demand is fairly active, and prices show but little change. No. 1 wheat straw is quoted as follows: Baltimore $14, Pittsburgh $15.50, Cincinnati $12, Chicago $11.50, Minneapolis $8, Kansas City $8.50; oat straw—Baltimore $16, Pittsburgh $15.50, Cincinnati $12, Chicago $12.50, Minneapolis $9, Omaha $9; rye straw—New York $21, Baltimore $17, Pittsburgh $16, Cincinnati $18, Chicago $13.50, Minneapolis $9.

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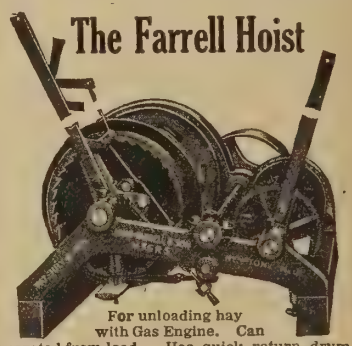
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Washington, D. C., Weekly News

[SPECIAL TO HOARD'S DAIRYMAN]

WASHINGTON, MAY 16:—The Volstead bill, which passed the House more than a week ago, is not making any progress in the Senate, and is, at this juncture, the subject of the chief work being done here by the agricultural organizations. This is the bill which authorizes collective marketing of farm products by co-operative agricultural organizations under the inspection of the Secretary of Agriculture, and its passage is held to be essential to the development of the the dairy industry along collective marketing lines.

A peculiar situation exists in the Senate as to this measure. It is being considered by two committees at the same time, and in part these committees have interlocking membership. The Volstead bill was passed by the House without change or amendment as introduced by Representative A. J. Volstead of Minnesota, and is identical in phraseology with the Capper collective marketing bill in the Senate. The Capper bill, when introduced, was referred to the Committee on Agriculture and Forestry, Senator Norris, chairman. This committee is considering this measure.

Members of the Senate who oppose the principle of this legislation to give this special right to the farmers even under adequate supervision, discovered that Senator Capper had made a real point in having the bill sent to the Committee on Agriculture, instead of the Committee on the Judiciary, where it was mutilated in the last session so its sponsors did not recognize and would not accept it. They protested against the reference to the Committee on Agriculture, but it was too late. Their chance came, however, when the Volstead bill was brought over from the House, and they promptly moved that it be referred to the Committee on the Judiciary, catching the friends of the measure asleep, and not represented on the floor, so this reference was made by default. So it now rests. One bill is in the Committee on Agriculture, with Senator Norris vigorously fighting for it; the other, identical, in the Committee on the Judiciary, with Chairman Nelson vigorously opposed to it unless amended, and Senator Norris, a member of the committee.

From a parliamentary point of view the Volstead bill has the superior position, and the Judiciary Committee has already taken it up and referred it to a sub-committee consisting of Senator Dillingham of Vermont, chairman, Senator Norris of Nebraska, and Senator Walsh of Montana. Walsh is strongly opposed to it, Norris is strongly in favor of it, leaving a balance of power in the hands of Senator Dillingham, so far as the committee is concerned.

The importance of this measure cannot be overemphasized. No single industry has started a better nation-wide commodity organization than the milk producers, and this is supplemented by a large number of successful, conservative, and well managed co-operative creamery organizations. But the field is far from completely organized, and no other organizations of farmers have been subjected to the legal criticism, going as far as prosecution, that is met by the milk organizations. It now appears that these organizations are menaced by lack of organization in other and competing territory, and the biggest single handicap, to carrying on these organizations into the competing and unorganized localities, is fear of unwarranted prosecutions under antagonistic interpretation of the anti-trust law. The Volstead bill, if passed, entirely cures this situation; therefore it is vital.

All farmer organizations here are making this their chief point of work now. They are working on three lines, one to secure the active support of the Secretary of Agriculture, one to get the matter to the attention of the President, and to ask him to fulfill platform pledges and make this an administration measure, and the third to bring such evidence of necessity and justice to the attention of members of the Senate, Senators Dillingham, Walsh, and Norris in particular, as will lead to an early report of the bill in the most favorable form possible, and then its correction as to any defects by amendments on the floor, and prompt final passage.

The correspondent for Hoard's Dairyman presents this matter thus fully, and requests that the readers write or wire the members of the Senate from their states, on this Capper—Volstead "collective bargaining for farmers" legislation. A demonstration of the widespread interest of dairymen in this subject will be of great avail.

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Frantic efforts are being made by proponents of the now discredited and practically defeated "sales tax proposition" to get business men generally to "write, wire, or visit" their congressmen, to urge this legislation. The quotation is from an open letter issued by Roger Babson. This letter of Babson's brought a prompt reply from the National Grange, which had long fought the sales tax, which denies the essential facts of the Babson argument, and opines that his friendliness for the sales tax is the strongest argument against it any farmer need have presented to him.

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The subdivision of work on the general tariff bill among sub-committees has given the vegetable oil tariff schedules to a subcommittee of which Hon. Nicholas Longworth of Cincinnati is chairman. Mr. Longworth represents the district where the largest single user of vegetable oils for the manufacture of soap has its plant. Soap makers, like oleomargarine makers, want foreign vegetable oils as cheap as possible, hence the tariff should be as low as possible. Consequently Congressman Longworth is between two fires, the dairy interests, who want a tariff commensurate with the labor cost of these oils in Asiatic countries, and the cottonseed and the peanut growers, who have the same interest, on the one side, and the soap and oleomargarine interests on the other, who do not care about costs of production, but want cheap oils for their own profit here. Comparing national interest and number of people affected, the advocates of a fairly high tariff outnumber the others a hundred to one, but it is unfortunate that Mr. Longworth's congressional district numbers very few of them. The brightest ray of light on this matter is that Representative Green of Iowa is a member of this sub-committee. He knows what a cow is, and what it costs to produce milk and butterfat, and something about how much more valuable and vital these substances are than vegetable oil. If dairymen want to speak where it will do some good on this matter, speak to Mr. Green.

The First

New Jersey State Sale

60 Selected Holsteins

June 9, 1921, AT Trenton

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A daughter of King of the Pontiacs, a 22-lb. 2-year-old daughter of Spring Farm King Pontiac and Aaggie Pauline Sarcastic, a 36-lb. cow.

A daughter and 2 granddaughters of King of the Ormsbys—A 20-lb. 2-year-old bred to King Model.

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70 Holstein Cattle

Indiana's Great Holstein Sale

BY

The Elkhart County Guaranty Sale Company

AT

Nappanee, Indiana, June 9

A great sale because it is a sale of all young cattle, nearly all heifers that have freshened have A. R. O. records ranging from 12 to 25 lbs. of butter and all have the best of A. R. O. breeding.

The great young cow "Pearl Pontiac Hartog" 325738 consigned by Jacob Eby with nearly 25 lbs. of butter and 98 lbs. of milk as a heifer, stands at the head of her class in Indiana.

CAL L. STUCKMAN consigns two sisters, by Prince Pontiac Korndyke, one a 16-lb. yearling that will appeal to any one, the other 16-lb. 2-year-old that tested above 4% for 28 milkings, the pair standing together can hardly be beaten in any dairy barn in the country.

GEO FREESES' SONS consign a 22-lb. cow, "LaCrosse Vale Concordia De Kol 2d", that has real A. R. O. backing to suit a breeder's fancy. She is large and growthy.

There are a number of other good heifers having records from 12 to 15 lbs. Four good bull calves of extra quality by Pabst Champion Adrastus.

Three bulls by Sir Korndyke Matador, one of serviceable age, all these are first class.

DR. HOOPENGARNER consigns a good bull of serviceable age by 19-lb. dam.

Eight heifer calves suitable for Calf Club work as good in individuality and A. R. O. breeding as will be sold in any sale this year.
Two of the first calves sired by the great bull, Segis Pontiac De Nijlander, one of the very largest bulls in service in the state.

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Cal L. Stuckman, Mgr., Nappanee, Indiana

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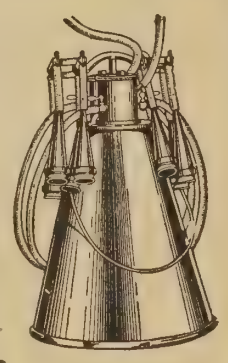
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H.A. Meyer, Syracuse, N.Y.

High Quality — Moderate Prices in Ohio State Holstein Sale

146 Select Black and Whites Make $325 Average

OHIO'S consignment Holstein sale at Columbus, May 4 and 5, was a distinctly creditable advertisement for the black and whites of the state. If the average of $325 was disappointing, the breeders have the satisfaction of having conducted a high class auction where animals sold at moderate prices and of such quality as to bring the buyers back to future sales. The consignments were in sale clothes, in most cases were first class in individuality, and, in their rating for production, were away above the offerings usually assembled for public appraisal.

Ohio boasts 63 "thousand-pound cows"—more than any other state, and leads also in the number of "1100-lb." and "1200-lb." cows. The sale reflected the position of the state in its long time records.

⚜

Bulls sold better than females—eighteen averaging $530 and five going for $1000 or more. Five "thousand-pound" sires sold, said to be the largest number ever put through a sale. Bessie Homestead Oak De Kol, consigned by H. W. King, topped the list, going to G. G. Stetson for $1400. By Oak De Kol Ollie Homestead, grand champion for two years at the National, and out of Jessie Fobes Bessie Homestead, a former 7- and 30-day champion and of unfaulted form, this sire's pedigree brought at least three prospective buyers, one prepared to pay $5000 if his individuality matched his showing on paper. The value set is indicative of the emphasis now given to approved conformation.

King of the Onas, a strongly bred long time production yearling sold by R. E. Dillon, went to Wilber Schumacher for $1,350, the second highest price. Peter Small's single offering, Meadow Holm Jolie Fayne, by Finderne Pride Fayne and out of a daughter of Maple Crest Pontiac Hartog, went to W. B. Cockley for $1,000. Daisy Hill Farms sold a son of King of the Pontiacs Son to C. H. and E. Straight for an equal price, while G. M. Stadelman drew $5 more for a son of Finderne Pride Fayne, John Young buying.

The best bargains were in females, the top value being $925 which John Baltic paid G. M. Stadelman for a daughter of King Ona. Only nine others reached the $500 mark. Among these were two "30-lb." cows taken by Gramling Bros. of Wisconsin for $680 and $625. The great bulk of the consignments stayed in Ohio, Pennsylvania, being the next heaviest buyer, nine head going to Brentwood Farm and eight to H. O. Kimmel of that state.

A pleasant feature of the sale was a banquet gathering of nearly one hundred fifty breeders. Concerning the recently completed membership campaign of the Ohio Holstein Breeders' Association, out-of-state speakers gave the opinion that the association is now the strongest in its organization of those in the country. This view was reinforced by the report made by Secretary H. C. Barker, who had charge of the campaign and who managed the sale.

A list of the purchasers of animals bringing $350 or more follows:

J. L. Layman, Ohio	
Mubroco Cordobia Pontiac 2d	$370
Elm Side Fedora Ona Hartog	480
Daisy Hill Farm, Ohio	
Maud Glista Fayne	$450
Copia Flora Hengerveld	530
H. W. Zachman, Ohio	
May Oosterbaan Fayne	$365
Elsie Frenesta Korndyke 2d	600
G. G. Stetson, Ohio	
Bessie Homestead Oak De Kol	$1400
J. L. Jones, Ohio	
Sir Manor De Kol Rag Apple	$360
Elry S. Leasure, Ohio	
Johanna Penopa Pride	$355
H. L. Dalton, Ohio	
Newdon Maple Hessltje Segis	$350
J. J. Prindle, Ohio	
Rustle Lilith Ideal	$360
Broadacre Spring Brook Pontiac	475
Pinery Farms, Ohio	
Edna Pietertje Johanna	$500
Gramling Bros., Wisconsin	
Kleeveldt Soura Burke	$625
Briar Jannek Jewel 2d	680
D. J. Schaaf, Ohio	
Cloverleaf Nina	$405
Lady Hartog Mercedes	370
Smith Bros., Ohio	
Maple Spring De Kol Susie	$450
Clayton B. Roice, Ohio	
Prince Tidy Bettina De Kol	$600
Merriman Bros., Ohio	
R. & S. Lillian Pontiac Jewel	$425
Howard McNish, Ohio	
Lindale Princess Pauline Pontiac	$400
B. G. Dawes, Ohio	
Lindale Aaggie Concordia	$400
Wilber Schumacher, Ohio	
King of the Onas	$1350
H. O. Kimmel, Pennsylvania	
Mubroco Johanna Burke	$385
Isabelle Maia Prague Mutual	430
E. De Haven, Ohio	
Maple Side Annetta Segis	$385
W. B. Cockley, Ohio	
Meadow Holm Jolie Fayne	$1000
T. B. Newhouse, Ohio	
Delia Pontiac Johanna	$350
G. Radnege, Ohio	
Princess Lillie 2d	$375
Bell Farm, Pennsylvania	
Kingwood Bessie Segis Fayne	$400
M. E. Rudy, Ohio	
Elsie Teake Korndyke De Kol Pledge	$525
H. F. Dean, Ohio	
Wellington Johanna Clothilde	$490
John F. Phillips, Ohio	
Clothilde Segis Pontiac Korndyke	$350
Clarence Hatcher, Ohio	
Bellefont Rag Apple	$400
Marty Bell, Ohio	
Zehringhurst Lady Fayne	$495
C. L. Everett, Ohio	
Forest City Pontiac Marjorie	$405
W. L. Arnold, Ohio	
De Kol Ophelia Lyons Korndyke	$460
Brentwood Farm, Pennsylvania	
Dulcina Johanna Korndyke	$550
Countess Pietertje Done	360
C. H. and E. Straight, Ohio	
King of the Pontiacs Son 5th	$1000
S. E. Crawford, Ohio	
Princess Leo Aaltje Mercedes	$445
C. S. Reece, Ohio	
Wetside Aaggie Beauty Pet	$380
H. A. & G. R. McQuillan, Ohio	
King Artis Segis Holingen Fayne	$550
H. D. Jordan, South Carolina	
Ormsby Korndyke Gladi	$600
John Baltic, Ohio	
Lady Ona Paula	$925
John Young, Ohio	
King Sunrise Pride	$1005
T. Young, Ohio	
Ona De Vries	$410

Illinois Fair Requires Test

The Illinois State Fair announces that all cattle exhibited at the State Fair this fall must be accompanied by certificates of health before being assigned stalls. These cattle must either have been tested for tuberculosis within 90 days of showing or they must be from federal or state accredited herds. All exhibitors are also required to provide themselves with individual buckets for their respective herds as no public drinking troughs will be permitted. Any cattle that may be shipped to the state fair grounds for exhibition or other purposes and that are not covered by certificates of health will be placed under quarantine and housed under tents.

Many a home is judged by the back yard it keeps.

Planning for the Silo

(Continued from page 783)

exactly the time to settle the silo question, so that you can plan to have crops with which to fill the silo and to feed with the silage?"

"Cracky, I'm glad you mentioned that," said Perry. "I was expecting to start planting corn in a few more days, and this may make some difference in the land that I put in corn."

"Another reason for thinking about silos in the spring," said the cow tester, "is that many farmers in the last few years have been disappointed in last-minute attempts to obtain them or the materials needed for their construction. It is a much safer proposition, therefore, to get your order in now, than to take a chance on a delayed railroad shipment preventing you from feeding silage next winter."

As the men moved toward the house from their seats on the wagon-bed where they had paused to talk, Harry saw in the moonlight Perry's field of alfalfa, whose new growth was starting nicely.

"That alfalfa looks good for a lot of fine cow feed," Harry remarked. "You surely ought to have some silage to feed with it, however. For economical milk production, probably no combination of feeds surpasses alfalfa and corn silage. While grain in addition would permit a larger production, at increased expense, a liberal ration of corn silage and alfalfa will give your cows a chance to show whether or not they are profitable producers. It's hardly fair, either, to test cows without giving them that much of a chance to make good."

"My cows are going to get it," said Newt determinedly. "I'll see about ordering that silo right away."

A little later Harry, flashlight in hand, was making his way upstairs to the Perry family's spare bedroom. "That was easy," he thought, as he undressed for bed; while downstairs Newt sat up studying bulletins and manufacturers' circulars on silos.

Rice County, Minn., Sale

Rice County Holstein breeders held one of the most successful county sales of the year at Faribault, Minn., May 5, the day following the Minnesota state sale. They sold 60 animals for an average of $391, with $900 to high figure.

Chas. H. Miller paid this for Bryonia Mercedes Segis, a 30-lb. seven-year-old granddaughter of Johanna McKinley Segis, consigned by Geo. H. Taylor.

E. C. Schroeder purchased the second highest priced female for $800. She was a yearling daughter of Sir Johanna Glen Ormsby, consigned by H. G. Miller.

Hanson and Hanson did the selling with B. D. Scott in the box.

The following list includes all animals selling for $300 or more and buyers:

Norris Land Co., Minnesota	
Maple Grove Pauline Queen De Kol 2d	$395
Nora Kappijne Spofford	400
Rosa Hartog Maida	300
Elfreth Johnson, Minnesota	
Segis Pontiac Colantha	$600
H. E. Bailey, Wisconsin	
Jack Silver Bell Paul De Kol	$350
H. E. Salsberry, Minnesota	
De Kol Canary Maid	$485
Pine Park Rosa Hartog	315
J. M. Robb, Minnesota	
Prilly Tirania	$475
F. H. Bauer, Minnesota	
Bertha Johanna Countess De Kol	$360
Geo. Caron, Minnesota	
Maplehurst Korndyke Spofford	$300
Tidy Colantha Kathleen	335
Pine Park De Kol	375
Fleck's Korndyke Colantha Heilo	700
N. J. Sargent, Minnesota	
Mabel Homestead Johanna	$300
Starch Bros., Minnesota	
Marie Aaggie De Kol	$300
Chas. H. Miller, Minnesota	
Pearl Fobes Aaggie	$325
Bryonia Mercedes Segis	950
Theo. Filk, Minnesota	
Beauty Thorn Artis De Kol	$400
Vine Creek Ella	300
Rose Ormsby Homestead	300
Ray Luker, Minnesota	
Bonnie Velma Netherland	$600
C. E. Kelsey, Minnesota	
Inez Jewel Ormsby	$605
Lady Nellie Tirania Abbekerk 2d	315
R. O. Eberhart, Minnesota	
Elmwood Hartog Mercedes	$350
Wm. Weichman, Minnesota	
Fedora Johanna De Colantha	$300
Miss Ormsby De Kol Gilt Edge	450
Geo. H. Taylor, Minnesota	
Ollie Korndyke Kappijne	$350
Hunter Bros., Minnesota	
Maggie Homestead Hengerveld	$340
F. B. Miller, Minnesota	
De Kol Kappijne Johanna	$350
Lulu Colantha Tidy	325
Kappijne Colantha Johanna	350
Wright A. Parkin, Minnesota	
Bessie Pietertje Bon Champ	$360
H. E. Westerman, Minnesota	
Fleck's Homestead Lyons Wayne De Kol	$730
Viola Prilly Pontiac	425
Warfin Goodland's Delight	500
John Kispert, Minnesota	
Madge Hengerveld Oak De Kol	$750
C. E. Sarver, Minnesota	
Duchess Wonder De Kol Natsey	$550
A. R. Schulz, Minnesota	
Von Grace De Kol	$720
S. J. Lechelt, Minnesota	
Sadie Bess Mooie Ormsby	$320
E. C. Schroeder, Minnesota	
Canary Pontiac Walker Ormsby	$800
Geo. Pagel, Minnesota	
Johanna Jessie Netherland	$460
Harold M. Stevens, Wisconsin	
Lady Pontiac Pictertje Paul	$475
H. F. Kester, Minnesota	
Edola Aaggie Pietertje	$400
John P. Koster, Minnesota	
Farmy Nelson Segis	$380
J. H. Schrump, Minnesota	
Joy Segis Abbekerk	$360
E. B. Kiekenapp, Minnesota	
Gracia Erma Johanna	$355
A. M. Brush & Son, Minnesota	
Violet Yeslet Segis	$330
Walnut Crest Beauty	305

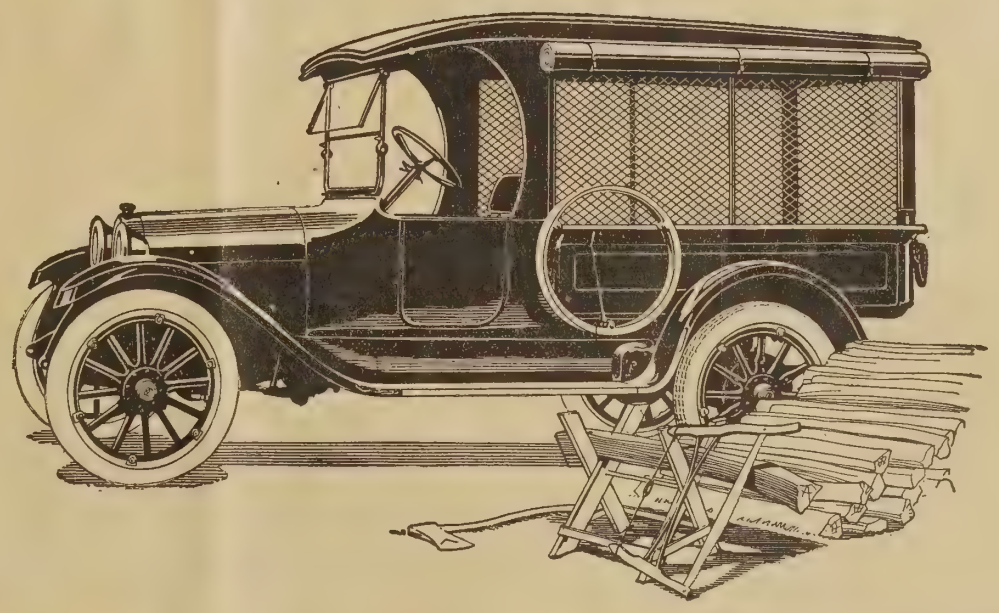
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OTTAWA



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New York Butter Market

(Continued from page 792)

be the prevailing price during the storage season.

Of late, there has been some indication that more Danish butter may be forthcoming during the summer months. Reports from Denmark state that England is taking very little Danish butter at present and that butter is accumulating in Denmark as a result. A few small shipments of the butter are thought to be on the water at present destined for this country. It is reported that the Danes are offering quantities of their butter for future delivery at a price of 26c (c. i. f.) but that no buyers can be found in this market. With the enactment of the emergency tariff bill, which carries a duty of 6c on imported butter, it is highly improbable that any Danish butter will be imported during the next few months.

The quality of the butter being received is very high on the whole. The principal defects, from the standpoint of this market, are high color and weed flavors. Receipts are increasing each week with the result that butter is accumulating rapidly. Receivers will be forced to store some of their butter in the near future unless speculative buying becomes operative in the near future. All reports indicate an unprecedented production in all parts of the country. W. B. LIVERANCE.

New York Breeders

HOARD'S DAIRYMAN:—A special effort is being made to increase the membership of the New York State Breeders' Association. This old and useful organization deserves support from all breeders. It was organized in 1887 "to encourage and stimulate improvement in all varieties of pure-bred live stock".

At the last annual meeting in Syracuse provision was made for life membership by the payment of $15. I'm sending out a circular letter to all breeders of pure-bred live stock listed by the State Dept. of Agriculture and inviting them to become members. Any breeder who does not happen to be on this list can get in communication with the organization by writing to the secretary, Albert E. Brown, Agricultural Hall, Albany, N. Y.

HARRY S. GAIL, President.

Walworth County Holstein Sale

Walworth County, Wis., Holstein breeders held their semi-annual spring sale at Elkhorn, May 2, selling 74 head for $13,680.

J. A. Forge, the heaviest buyer, paid the top price of the sale, $550, for Homstafa Pontiac Johanna De Kol, a 25-lb. 6-year-old granddaughter of Sir Korndyke Pontiac Artis, consigned by A. G. Palmer & Son.

T. W. Morrisey was the only consignor, not a farmer, and his success furnishes an object lesson of what can be accomplished with good cattle. He is a blacksmith living in the city with no land except that occupied by his home and small barn. Last fall he purchased two registered cows for a total of less than $500. Both freshened in the winter dropping heifer calves. He and his 14-year-old son tested them, their first attempt, the cows making 21.19 lbs. and 25.37 lbs. butter respectively. They sold milk enough at the creamery to pay all feed bills and the 4 head at the sale brought $1,270, a very substantial profit.

Mack and Haeger did the selling with J. G. Voss in the box.

Following is a list of those animals selling for $300 or more and buyers:

Fred Gurr, Wisconsin	
Walcowis Ollie Burke	$310
Harry Ellsworth, Wisconsin	
Walcowis Mooie Inka	$430
Adam Michel, Wisconsin	
Walcowis Viletta Walker	$360
H. E. Culver, Wisconsin	
Kayewood Lyda Pontiac	$320
Geo. H. Bie & Sons, Wisconsin	
Black Point Phyllis Pontiac	$350
Duchess De Kol Johanna Ormsby	455
J. A. Forge, Wisconsin	
Homstafa Pontiac Johanna De Kol	$550
Maywood Sadie Segis	305
Canary Johanna Ormsby	500
Aaggie Orieans Pietertje	495
Highland Agatha Ormsby	355
J. H. Henderson, Wisconsin	
Daisy Colantha Korndyke 2d	$300

THE THIRD

National Ayrshire Sale

Springfield, Massachusetts

Tuesday, June 7th, 1921

On the day before the Annual Meeting of the Ayrshire Breeders' Ass'n

Thirty of the most prominent Ayrshire Breeding Establishments in America have given of their best in getting together this consignment of

75 — Head of Real Ayrshires — 75

Consignors:

Alta Crest Farms, Spencer, Mass.
Barclay Farms, Rosemont, Pa.
Bellefonte Farm, Yorktown Heights, N. Y.
Bull, Stephen, Racine, Wis.
Burtis, J. E., Hamilton Square, N. J.
Delchester Farm, Edgemont, Pa.
Evamere Farm, Hudson, Ohio.
Files, Dr. E. W., Portland, Me.
Gibson, James, Cooperstown, N. Y.
Hannah, John, Brownsville, Vt.
Hannah, Matthew, Brownsville, Vt.
Higginson, A. Henry, South Lincoln, Mass.
Hill Top Farm, Wheeling, W. Va.
Lippitt Farm, Hope, R. I.
Monstone Farm, Ipswich, Mass.
Murphy, Thomas J., Devon, Pa.
Newton, L. W., Ashburnham, Mass.
Probasco, W. V., Cream Ridge, N. J.
Schanck, W. P., Avon, N. Y.
Seitz, Adam, Waukesha, Wis.
Soapstone Farm, Gladwyn, Pa.
Stewart, J. Henry, Kanona, N. Y.
Wallace, James, Port Chester, N. Y.
Wendover Farm, Bernardsville, N. J.
Weymouth Farms, North Weymouth, Mass.
White, Geo. F., Westford, Mass.
Woronoake Heights, Woronoco, Mass.
Valentine, J. R., Bryn Mawr, Pa.

Buyers should appreciate the opportunity to bid on a lot of cattle consigned by men who are offering them for the good of the breed.

Come and bring your friends and neighbors to what present indications will prove to be the most successful Ayrshire Sale ever held.

Buyers have the privilege of a 90-day retest. Certificates of Registration and Transfer will be given to purchaser on day of sale.

Write for Catalog. Mailed only on request.

Arthur H. Sagendorph, Sale Mgr., Box 373, Spencer, Massachusetts

Rob Roy Farm Ayrshires

Auchenbrain White Beauty's Good Gift



AUCHENBRAIN WHITE BEAUTY 2D

Having sold my farm, I will sell at private sale my entire herd of Ayrshires consisting of 33 head and including White Beauty's Good Gift, 18057, the only living son of the world's champion Auchenbrain White Beauty 2d, the greatest Ayrshire cow living, whose sire was Imp. Kate's Good Gift, 15426, and whose dam was Imp. Auchenbrain Brown Kate 4th with a milk record of 23,022 lbs. and a butter record of 1,080 lbs. This bull shows the vigor and elasticity of a two-year-old, has a good disposition and is a sure and quick stock getter. He is guaranteed absolutely free from tuberculosis, having passed three successful tests within the past year. With him are 20 of his daughters, ranging from three months to three years old, and 4 of his sons, ranging from three months to a year old, all of the choicest breeding and many from A. R. O. dams. Herd free from tuberculosis and contagious abortion and will be sold subject to Federal test if so desired. Here is the chance of a lifetime. Come and see them and get your first choice. I must sell.

J. W. MUDGETT, **Ellicottville, New York**

WENDOVER FARM

CONSIGNS TO

Third National Ayrshire Sale
Springfield, Mass., June 7th

Baron's Dainty A six-year-old Cow whose senior four-year-old record in 342 days is 10,549.3 lbs. milk, 402.98 lbs. fat. She is a big, stylish Cow of correct Ayrshire type, with very large teats, splendidly placed on a large, square udder.

This great Cow is by Baron's Best of Bargenoch, sire of 25 A. R. daughters with 30 records averaging 10,246 lbs. milk, 407.02 lbs. fat, and including Highland Polly which sold for $7500 in the First National Ayrshire Sale. She is out of Picken's Dainty 2nd, A. R., 11,749 lbs. milk, 506.42 lbs. fat, out of Picken's Dainty with six Scotch records.

Baron's Dainty was bred September 3d to the Grand Champion, Admiral Beatty of Wendover.



COWS ON ADVANCED REGISTRY TEST ON WENDOVER FARM. OUR CONSIGNMENT TO THE NATIONAL SALE MAINTAINS THE HIGH AVERAGE QUALITY OF THE HERD.

Wendover Farm, Bernardsville, New Jersey

HOARDS DAIRYMAN JUNIORS

A DEPARTMENT FOR THE DAIRY FARM BOY

Short Course Great Success

Drawing of Guernsey and Holstein Calves is a Feature

HOARD'S DAIRYMAN JUNIORS:—One of the most successful, as well as important, farm gatherings ever held in the county was the boys' and girls' club short course held at the county seat recently under the direction of the farm bureau. The short course was attended by about 75 boys and girls who have enrolled in the various pig and calf contests organized by the farm bureau.

The purpose of the course was to give these Minnesota boys and girls instructions calculated to help them in caring for and feeding their pigs and calves so as to make the various contests bring better results.

It was certainly a splendid way to encourage these boys and girls in their farm work and was certainly calculated to arouse in them a greater interest in farming. Between 80 and 90 of these boys and girls are enrolled in these various contests. Each boy and girl is raising a pure-bred pig or calf. The rules governing the contests are definite and calculated to stimulate not only an interest in better stock, but better care of the stock. These contests involve exhibitions at the county fair and lead up to entries at the state fair by the county fair winners. State fair winners then go to the International Live Stock Show in Chicago.

In order to still further assist these boys and girls and thereby stimulate and help live stock farming in the county, a club leader has been secured. His name is Mr. Morton Peterson, from the State Farm School, and during the six months he will work he will visit the boys and girls regularly, check up their work, and offer what services seem to be necessary in order to help them along. All this work, including the organization of the clubs, securing the pure-bred animals, arranging the short course, and the engagement of the county club leader was done by the farm bureau. The salary and expenses of the club leader are paid in part by the national government, the Long Prairie high school, and by private subscription. None of the expense comes out of the farm bureau treasury.

The short course sessions were held at the Long Prairie high school building and began Thursday afternoon. Instructors in charge were R. H. Giberson, who is the state club leader; K. Warner, Joseph Montgomery, L. V. Wilson, and Axel Johnson. Mr. Warner gave demonstrations in beef cutting, Mr. Montgomery lectured on beef animals, Mr. Wilson lectured on dairy animals, and Mr. Johnson lectured and held classes giving instructions about the pigs.

Friday afternoon the entire class was taken in automobiles to the C. F. Miller farm, where using Mr. Miller's prize Shorthorn bull as an example, Mr. Montgomery gave a short lecture on beef judging and how to select a beef animal. The party was then taken to the Bemis and Gutches farms in Reynolds, where Mr. Wilson gave a short lecture on how to judge dairy cows and bulls, using animals from each farm as his illustrations. Returning to Long Prairie at 4:30 the boys and girls were entertained at a special movie show at the Cozy Theatre. Friday evening a program was given for them at the high school, consisting of music, recitations, and addresses by E. A. Williams and C. D. Chrysler. Both gentlemen emphasized the value of farming and the importance of the work which the boys and girls were doing. The musical numbers were Floyd Maynard, Miss Wilma Lee, and Mrs. Rudolph Lee. Miss Marie Clemmensen recited. Each of the school sessions was preceded by a program of class singing led by A. H. Fish, director of the Long Prairie Band. Miss Wilhemine Frana assisted as accompanist and the boys and girls were taught a number of rousing songs.

Saturday morning, after the class work had been completed and various matters of business attended to, the members who were to receive Guernsey and Holstein calves drew their calves. The sessions adjourned at noon. During the time the boys and girls were in Long Prairie they were entertained at various homes in the village.

The drawing of the calves was one of the most interesting incidents of the short course. There were 23 calves, 9 Guernseys, and 14 Holsteins. All were pure-breds of excellent breeding. The Guernseys were selected by County Agent Ausen, E. H. Bemis, and August Loegering, and were bought at farms in the neighborhood of Eau Claire, Wis. They were shipped here last week, E. H. Bemis making the trip with them. The average cost of these Guernsey calves laid down here in Long Prairie was $151. The Holsteins were selected by County Agent Ausen and M. E. Gutches and were purchased at farms in Southern Minnesota. The average price of the Holstein calves was $225. These calves were either purchased outright for the boys and girls by their parents, or were given to the boys and girls on contracts made with the Guernsey association or the Holstein association, in which the calves are to be paid for, bred at the proper time, exhibited at the county fairs, and paid for within three years.

A great many of the pure-bred hogs were secured at the Duroc sale recently held in Long Prairie, while the other animals for the boys and girls of the contests were secured direct for them by their parents or by individual purchase from county breeders. The drawing of these 23 calves took place at 10 o'clock and was witnessed by a large number of people. After the drawing, pictures were taken of the party and a parade of the youngsters and their calves was made through the business section of the village.

Before the classes adjourned a Junior Live Stock Breeders' Association was organized, with officers as follows: President, Cleon Bemis; vice-president, Claude Larson; secretary-treasurer, Mildred Sargeant.

It was voted to have the board of directors made up of one representative from each township in the county. It was agreed that where there were five or more members in any township these members should elect the township director. If there are less than five members the president of the association will appoint the director for that township. Membership fees were placed at 25c per year and every boy and girl in the county who is interested in better live stock is invited to join. The address of the secretary, Miss Mildred Sargeant, is Long Prairie, Minn., Route 3. Very probably the first work of the club leader, Mr. Peterson, when he arrives will be to get in touch with the directors of the Junior Live Stock Breeders' Association and through them begin his work.

Minnesota. J. AUSEN.



THE HOLSTEIN GROUP

Grass

An Agricultural Literary Gem

Next in importance to the divine profusion of water, light and air—those three physical facts which render existence possible—may be reckoned the universal beneficence of grass. Lying in the sunshine among the buttercups and dandelions of May, scarcely higher in intelligence than those minute tenants of that mimic wilderness, our earliest recollections are of grass. And when the fitful fever is ended, and the foolish wrangle of the forum and market is closed, grass heals over the scar which our descent into the bosom of the earth has made, and the carpet of the infant becomes the blanket of the dead.

Grass is the forgiveness of Nature—her constant benediction. Fields trampled with battle, saturated with blood, torn with the ruts of cannon, grow green again with grass and carnage is forgotten. Streets abandoned by traffic become grass grown,



THE GUERNSEY GROUP

like rural lanes, and are obliterated. Forests decay, harvests perish, flowers vanish, but grass is immortal. Beleagured by the sullen hosts of winter, it withdraws into the impregnable fortress of its subterranean vitality and emerges upon the solicitation of spring. Sown by the winds, by wandering birds, propagated by the subtle horticulture of the elements, which are its ministers and servants, it softens the rude outlines of the world. It evades the solitude of deserts, climbs the inaccessible slopes and pinnacles of mountains, and modifies the history, character, and destiny of nations. Unobtrusive and patient, it has immortal vigor and aggression. Banished from the thoroughfare and fields, it bids its time to return, and when vigilance is relaxed or the dynasty has perished it silently resumes the throne from which it has been expelled but which it never abdicates. It bears no blazonry of bloom to charm the senses with fragrance or splendor, but its homely hue is more enchanting than the lily or the rose. It yields no fruit in earth or air, yet should its harvest fail for a single year, famine would depopulate the world.—J. J. INGALLS.

Junior Letters

Hoard's Dairyman Juniors:—We are milking twelve cows at present and feeding eight calves. We have four heifer calves and four bull calves.

We are going to take six head of cattle to the county sale at Oshkosh.

Have any of you juniors any rabbits? If anybody has some please send me a letter and tell me what you feed them.

We are going to have a calf club meeting at our school. I got my four H pin from Mr. Bewick for joining the calf club and sending in my record book.

We are going to take our examination in school about the 10th of May. I have to write in arithmetic, reading, grammar, history, agriculture and spelling.

Wishing all the juniors good luck.

My address is Pickett, Wis.

Melvin Miller.

Hoard's Dairyman Juniors:—I thought I would write you a few lines to tell you about my new home. I like it very well. I have a lot of work to do here but I keep right after it and so it isn't long until I am all done.

I get up at 5 o'clock in the morning. After I get up I go to the barn and get the milking machine and then I go and put it on the cows. I have the job of running the milker. And I am going to school now. I like school very well.

I would like very well to hear from you often. My address is R. 5, Coldwater, Mich.

My father has been looking around for a pig but he hasn't found any yet. I thought I wouldn't sell my two pigs I had but my father said I could sell those two and then buy me another one. Those pigs I had brought $10 when I sold them; they were only fall pigs.

Harold Stout.

Hoard's Dairyman Juniors:—I enjoy very much reading the junior page in Hoard's Dairyman and especially the letters from the boys. It has occurred to me that perhaps other boys would be interested in reading a letter from me.

I am 13 years old and attend the Rudolph graded school.

I live on a 200-acre farm one mile from Rudolph station and 9 miles from the city of Wisconsin Rapids. Wisconsin Rapids is on the Wisconsin river. No doubt all of you have learned about this river in school. It is a strong, swift stream and furnishes excellent water power which is used mostly by the paper mill companies and for electric power and light. There are eight large paper mills on the Wisconsin river near here.

On our farm we keep six work horses and a saddle pony which belongs to me. We have more than forty head pure-bred Holstein cattle and about thirty pure-bred Chester White hogs and pigs. We also keep chickens, geese, and turkeys.

My father has been on the farmers' institute force for the past three winters. When he is away I have to get up earlier than otherwise and help with the milking.

Last year and the year before I raised a pig. The two brought me $58.50. About half of this I paid out for feed and the little pigs. This year I am going to raise two pigs. Hogs are so much lower in price now than they have been that one must have more of them to get anything out of it. My father is giving me the pigs this year for the extra chores I did last winter when he was away. He will give me what whey I need for hauling the milk to the cheese factory during the summer. He will also give me free pasture as he says well fed pigs improve the land enough to pay rent.

Well I think this letter is long enough for the first time. As Hoard's Dairyman has been in our family ever since the first issue was published it is not necessary to say what we think of it.

With best wishes to all of the boys who read this page.

Carl Imig.

Wisconsin.

Hoard's Dairyman Juniors:—I am 8 years old and am in the third grade at school.

I live on a 150-acre farm. We have four horses, thirteen cows, one bull, three yearlings, and three calves. Two of our cows are registered, the rest are grades.

We have about 60 Rhode Island Red chickens. Our chickens average about 40 eggs a day.

If any of the juniors wish to write to me, my address is Pattersonville, New York.

Wishing all the juniors good luck.

George I. Wilcox.

Hoard's Dairyman Juniors:—I live on an 80-acre farm and go to school. I have not missed a day this year. I hope I will pass the second grade. I am eight years old. We have 19 head of full blood Brown Swiss cattle. We have 3 horses. Our silo is nearly empty and our silo is 12 by 34. We have 50 hens. I have one sister and her name is Luella and a brother whose name is Roland.

John F. Krauss.

Michigan.

Hoard's Dairyman Juniors:—I am 12 years old and have passed the 8th grade. My brother takes the Hoard's Dairyman and I like to read the letters from the other children. I have 50 hens and 60 chickens. I have two Holstein calves which I got at a calf club last year. My brother joined the corn club last year and got third prize. He might have got more but the hail injured the corn.

My father owns two hundred acres and also rents some. We have a tractor and a car. We have 41 pigs and 13 thoroughbreds. My chickens brought me $30 last year.

I like a farm better than the city because I think children can learn more useful things on the farm.

Ruth Birdsell.

Iowa.

Hoard's Dairyman Juniors:—I have been reading the junior letters every week. I always read the junior page and like the stories very much. We have 16 head of cattle, 12 cows, one heifer, a bull, and 2 calves. We are only milking three cows now. The average test for the herd this winter was 5% butterfat. I have no calf but expect to get one. My brother and sister and I have a sow and six pigs. I sold four the other day. I am keeping one. He is doing fine. I feed them about 5 quarts of skim and new milk at a meal and one quart of ground corn, oats, and wheat with a little ear corn. The pigs are Hampshires and Durocs and are 8 weeks old. I am getting 50 Ancona chicks next week.

I haven't got my truck patch planted yet. We are through plowing for corn and have our 24 acres of oats sowed. There will be 30 for corn. I like dairying the best of all things. I also like stock raising.

If any of the juniors want to write to me my address is R. 1, Smithville, Ohio.

Leslie Switzer.





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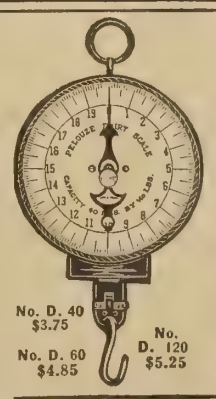
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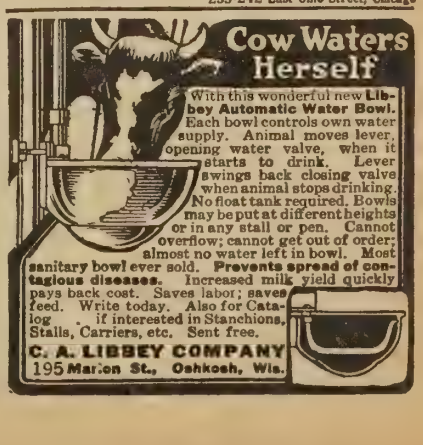
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Holstein heifer and bull calves. Pure-bred, registered and high grade. Splendid individuals and breedings. Delivered to you, $25 and up. Your inquiry will be given our best attention. BROWNCROFT FARMS, McGraw, N. Y. 5*

I have usually 100 head of registered and high grade Holsteins on hand for sale. Also registered and imported Percheron and Belgian horses. RALPH HUDSON, Milton Junction, Wis. 12*

For Sale—At Elmwood Stock Farm, high grade Holstein cows, fresh and springers, by the carload. JOHN MURPHY, Mukwonago, Wis. 3*

"The Willows" offers fifty high grade Holstein cows for sale. S. D. SHAMBEAU, Waupaca, Wis. 12*

High Grade Holstein heifer calves, two to four weeks old, from tuberculin tested herds, $30 each, crated. Will ship C. O. D. WAUKESHA CO. HOLSTEIN-FRIESIAN BREEDERS' ASSOCIATION, Waukesha, Wis. 9*

High Grade Holstein and Guernsey calves. $25 crated. Safe delivery guaranteed. BROWN & COLLINS, Lima Center, Wis. 16*

Serviceable grandsons of Lola Segis Pontiac Homestead for sale, he a 34-lb., 1,000 lb. son of Piebe Laura Ollie Homestead King. Their dams are daughters of Joe Oak De Kol Fobes. Well grown, good individuals. Your choice, $150. R. W. MEAD, Stillwater, Minnesota. 10*

Baby Bulls—Registered Holstein-Friesian by high class sires and heavy producing dams. Price is right. C. S. MULKS & SON, Whitewater, Wisconsin. 3-*

Holstein heifer calves, high grade and well marked, three to six weeks old for $16.00 crated. Registered bull calves $35.00 each. RUDOLPH KUNDERT, New Glarus, Wis. 14-*

Holstein Bull—Ready for service, 2 dams average 106 lbs. milk in one day, 40.67 lbs. butter in 7 days. $200 terms. Also two heifer calves. ROY HARRIMAN, Appleton, Wisconsin. 17-6

We ship our 7 weeks old Holstein calves subject to inspection c. o. d. for $28.00. Express charges paid. Special price on lots. SPREADING OAK FARM, Whitewater, Wis. 17-tf.

Registered Holstein bull calves. World's record milk producing stock at farmers' prices. FREDMAR FARMS, 3550 Lindell Ave., St. Louis, Mo. 18-4

Listen! Your last chance to get some of those beautifully marked extra high grade Holstein heifer calves at greatly reduced prices. Registered bull calves $35.00 C. O. D. Look them over and if they don't suit don't pay for them. J. M. MCFARLAND, Watertown, Wisconsin. 18-4

For Sale—Large, thrifty registered Holstein bull calves from four to eight weeks old, whose sire's two nearest dams average thirty-five pounds of butter in seven days. Beautifully marked, fine individuals, $40 crated and express prepaid to your station. FERGUSON FARMS, Dyersburg, Tenn. 18-2

Greatly reduced prices on registered Holstein bulls all ages. Fine individuals, good breeding. What age bull do you want? CITY LIMITS FARM, Watertown, Wisconsin. 18-4

For Sale—Carload of Holstein Springers, tuberculin tested; also ten pure-bred Ayrshire cows. ARCADY FARM, Lake Forest, Illinois. 19-4

For Sale—Registered Holstein bull calves, six to twelve weeks old, nicely marked, from good producing dams. Sired by 27½-lb. bull. Herd Federal tested. $25.00 each. Also one six and one seven months—same breeding, tuberculin tested, $40 each. FERN CLIFF STOCK FARM, Edward A. Kane, Hanover, Wisconsin.

My entire herd of grade Guernseys for sale. Also a few choice heifer calves at $30.00 delivered. SHADY HILL FARM, Whitewater, Wis. 23*

Guernsey heifer calves. Can ship you 10 at once about 4 weeks old. Calves out of my own herd, so know what I am shipping. $30 each crated. F. O. B. Waukesha. WERN FARMS, Waukesha, Wis. 18*

For bargains on May Rose bulls with type and production, write KUHTZ BROS., Waukesha, Wis. 21*

Guernsey calves six weeks old, $20. F. O. B. Knapp. THOMAS HAGERTY, Knapp, Wisconsin. 2*

Guernseys—Registered males and females, all ages. Breeding and type unexcelled. Grade cows, yearling heifers, heifer calves. No better quality anywhere. Tuberculin tested. Prices reasonable. Why not buy through an association and from breeders in the business to stay? Write your wants today. F. E. FOX, Secretary Waukesha County Guernsey Breeders' Association, Waukesha, Wisconsin. 6*

May Rose Guernsey bulls for sale. Sire, Langwater Frenchman, Dam's A. R. records 500 to 660 lbs. fat. Federal Accredited herd. HOMER RUNDELL, Livingston, Wisconsin. 12*

For Sale—Guernsey bulls, old enough for light service. L. J. BYERS, Coldwater, Mich. 16-*

Guernseys—Registered bulls of Advanced Registry breeding—$100.00 and up. Herd Federally inspected. Write for list. HELENDALE FARM, Athens, Wisconsin. 14-spl.

For Sale—A car of high grade Guernseys with cow testing association records. POLK COUNTY WISCONSIN GUERNSEY BREEDERS' ASSOCIATION, J. H. Stewart, Sec., Clear Lake, Wisconsn. 11-spl

For Sale—Grade Guernseys, 4 bred and 8 yearlings, 6 to 16 months old. MITWEDE BROS., R-9, Waukesha, Wisconsin. 17-3

Offer sons of Murne Cowan's King World's highest bred Guernsey bull. RICHARD F. KLEMM, Baraboo, Wisconsin. 17-5

Pure-bred cows and heifers. Have about 10 cows and heifers for sale, all guaranteed. Have several classy young bulls for sale from dams with 500 pounds fat or better. All animals are priced low and guaranteed. FRISSDALE FARM, Hopkins, Minn. 17-4

Registered Guernsey bull. Born, February, 1919, excellent individual. Dam Yexetta, 540 lbs. fat A. R. Sire, Christy of Pinehurst, A. R. out of Christine of Pinehurst, 507 lbs. fat A. R. and sired by the great Glenwood Boy of Haddon. Accredited herd. A. O. OLESON, Livingston, Wisconsin.

Registered Guernsey bull calf born March 12, 1921, beautifully marked, straight top line. Sire Imported Clara's Emblem, one of the best bulls on Guernsey Island. Dam, beautiful heifer, imported by me, now on A. R. test making 36 lbs. daily, two milkings, on regular herd rations. Her dam is a fine daughter Governor of the Chene. Sire's dam 12,647 lbs. milk, 745 lbs. butterfat; sire's grandam 15,477 lbs. milk, 783 lbs. fat. This is a good one. Price $150.00. QUINEILO FARMS, 297 East Water, Milwaukee, Wis.

Registered Guernseys—Twelve cows and heifers, some fresh, 8 heifers to freshen in early fall, fine individuals, bred to Grandson of King of the May. J. HARLAN FRANTZ, Waynesboro, Pa.

Jersey Bull—Two-year-old, line bred Finance, extreme value; will exchange for well bred heifer Let me send you description and pedigree. GEO. S. WEIMER, Augusta, Ky.

STOCK FOR SALE

Registered Jersey calves, both sexes. Expressage prepaid. 1439 Q STREET, Washington, D. C. 18-2

Brown Swiss—Two September bull calves; also cows and heifers of good breeding, priced right. Accredited herd. P. A. PETERSON, Newark, Ill.

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Wanted—Carload registered and high grade Holstein heifers. S. E. OLSON, Ada, Minn.

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Will buy for you, dairy cattle of any breed, grades or pure-bred. DAVID W. WILLIAMS, Lake Forest, Illinois. 6*

Commission basis—One hundred and fifty head in our own herd for sale, Holstein and Guernsey, registered and grade. Large barns for centralizing and testing shipments of any size. Private yards for shipment. Every herd near here known by us. Write your demands. EDGEWATER STOCK FARM, Fort Atkinson, Wisconsin. Breeders and commission buyers. 10*

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We buy and sell dairy cattle of all kinds. Car lots of registered and high grade Holsteins a specialty. F. B. GREEN & SONS, Evansville, Wis. 18-*

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German Shepherd, airedales, collies, and old English Shepherd dogs. Brood matrons, puppies, farm helpers. 10 cents for instructive list. W. R. WATSON, Box 520, Oakland, Iowa. 20*

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Eggs $1 setting. Parcel post paid. Thoroughbreds. Barred Rocks, White Rocks, Buff Rocks, Anconas, White Wyandottes, Brown Leghorns, White Leghorns, Rhode Island Reds, Buff Orpingtons. PHILIP CONDON, West Chester, Ohio. 5-15

Baby chicks $11.00 per 100 up. Postpaid. Catalogue free. FARROW-HIRSH CO., Peoria, Illinois. 9-16

Live Broilers now wanted. Highest prices paid for poultry, veal, pigeons, lambs, etc. Quick returns, fair treatment. C. E. MC NEILL & CO., 325 West So. Water St., Chicago, Ill. 17-*

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Silver Spangled Hamburg eggs $1.25 per setting, postpaid. Wonderful layers. RIVERVIEW FARM, Vassar, Mich.

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For Sale—Large type Chester White fall and spring boars. PAUL HORLAMUS, West Bend, Wis. 19-2

Berkshire boars, ready for service at reasonable price. BRUNO HOPPE, Cedarburg, Wis. 19-4

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Foxes Wanted—100 young Reds. ROSS BROWN, McFall, Alabama. 19-2

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For Sale Cheap—A small lot of standard make Swedish Cream Separators, 400 pounds capacity, $29.00, 500 pounds capacity, $34.00, 700 pounds capacity, $39.00. These are all new machines, wonderful bargains. THOMAS TAFFEE, Box 355, Lansing, Mich. 18*

One Waterloo Boy 12-20 tractor good as new. One Grand Detour Jr. 3-bottom plow, new. Two 16-inch pulverizers new. H. C. KARSTEN, Huntley, Illinois. 10*

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Perfection two double-unit milker. Complete with pump, tank and pipe line for 36 cows. Will sell or trade for registered Guernsey heifers or calves. F. C. VEHRENKAMF, Bangor, Wisconsin. 18-2

One double-unit Pine Tree Milker, complete with piping for twenty head, nearly new, $200. H. A. NEWMAN, R-7, Kent, Ohio. 18-3

Account selling out Empire three double units milking machine with pump, tank, piping, used two months good as new, cost $615. First check $250 gets it. QUINEILO FARMS CO., 297 East Water, Milwaukee, Wisconsin.

For Sale—$375—A 4-unit and extra double unit Sharples Milker in fine condition. All newly rubbered. Write to CLARENCE A. BARBER, R. 2, Springfield, Illinois. 19-2

For Sale at a bargain—12 No. 1 Lilly Separators. 3 No. 2 Lily Separators. These are in the original crates, never been unpacked. W. B. LINEBACK, Warsaw, Ky.

Bargain prices. All makes of milking machines—new and rebuilt. Concrete mixers—$50. Wood saw outfits. Liberty bonds accepted at full value. L. L. OLIVER, Winchester Hotel Blk., Syracuse, N. Y.

For Sale—Altman Taylor sixteen horse steam traction engine, excellent working condition. G. A. BINKLEY, Stockton, Ill.

PRINTING

Hoard's Dairyman Art Department designs your letter head free. Just tell us your breeds of stock. Book of 5,000 Farm, Ranch and Cottage names 25 cents. Ask for samples of letter heads, envelopes, shipping tags, cards, milk tickets, etc. Poor stationery is more of a damage than a help. Be sure and give correct post office address, including state. Address HOARD'S DAIRYMAN, Art Dept., Fort Atkinson, Wisconsin. 8-tf

SEEDS

Seed Corn—Eureka ensilage, ninety-day Silvermine, Riley's White 52-day, Johnson, Reid's, $3.50 bushel; five bushels, $3.00 per bushel. HAMMOND SONS, Rockport, Indiana. 16-*

FARMS FOR SALE

Dairy Farms—Clark and Taylor Counties, Wisconsin. Good soil. Send for list of farm bargains. OWEN REALTY CO., Owen, Wis. 16-5

Alfalfa, corn, grain and live stock farms. Best in famous prarie belt for the money. Write me what you want. H. H. HANSEN, Macon, Miss. 21-spl

Big farm bargain in New York. 396 acres. Fine land. Big crops. Good buildings. Forty cows, four horses, machinery, hay, grain, everything goes for $17,000.00, $7,000 gets possession. U. G. DAVIDSON, Route 1, Onconta, New York. 5-spl

For Sale—2,000 acres fine hardwood timberland, birch, white ash, maple, white pine, spruce. Sawyer County, Wisconsin. Logging would pay handsome profit. Land delightfully situated for stock ranch. Two trout streams, six springs. Also 130-acre dairy farm, buildings new, on lake shore in Barron County. W. A. HANCE, Freeport, Illinois. 7*

Stock Ranch—240 acres 1½ miles from Oil Town. 138 acres Water Right. Deal with owner. $125.00 per acre for Water Right takes all. For full description write BOX 6, Greybull, Wyoming. 15-*

I have a few choice improved and partly improved farms in the famous potato and dairy region of upper Michigan, 40 to 160 acres. Low prices and easy terms. JOHN MAJOR, P. O. Box 198, Marinette, Wisconsin. 16-13

Hardwood cut-over land, silt loam, clay sub-soil. Neither sandy nor gravelly; close to town; good roads; good schools; in the heart of the dairy country. You deal directly with the owners. No agents and no commissions. Easy terms. Also improved farms. Write for map and Booklet No. 4. NORTH WESTERN LUMBER CO., Land Department, Stanley, Wisconsin. 1*

Florida Stock Farm—700-acre high class limestone farm, rolling, joins town, pike on two sides. For sale by a Doctor. Address BOX 746, care Hoard's Dairyman. 17-3

New York State greatest farm bargains. Great land, wonderful markets. Send for free list. FRANK J. BASLOE, Herkimer, New York. 17-3

For Sale—130-acre dairy farm, buildings new, on lake shore in Barron County, Wisconsin. W. A. HANCE, Freeport, Illinois. 18-*

For Sale—2,000 acres fine hardwood timberland, birch, white ash, maple, white pine, spruce. Sawyer County, Wisconsin. Logging would pay handsome profit. Land delightfully situated for stock ranch. Two trout streams, six springs. W. A. HANCE, Freeport, Illinois. 18-*

Farms near New York City. Dairy, grain, potato, fruit, poultry. 752 pictures sent free. SLOCUM FARM AGENCY, 141-T Broadway, New York City 18-4

For Sale—Your choice of any forty acres of a tract of 2,000 acres rich cut-over lands in Price County, Wisconsin. Prices $20 to $30 an acre, $500 cash down, balance ten years. Special price all cash buyers. B. B. CLARKE, Madison, Wis. 18-2

$2,000 secures 169-acre farm with 19 cows, horses, crops, 5 heifers, 5 calves, bull, 3 gas engines, milking machine, cream separator, dairy utensils, circular saw, modern equipment included; high class opportunity, close thriving town, rich farming section; cuts 75 tons hay; 35-cow spring-watered, wire-fenced pasture; 100,000 ft. timber, 1,000 cords wood selling nearby $12 cord; fine 2-story, 8-room house, bath, furnace heat, hardwood floors, grand old shade, delightful view overlooking village and broad landscape; 30-cow barn with spring water, 100-ton silo, house for 100 hens, garage, etc. Retiring owner's low price $11,000, only $2,000 down, easy terms. Details page 15 Illustrated Catalog 1100 Bargains. STROUT FARM AGENCY, 150 DL Nassau St., New York City, N. Y.

Virginia Grazing Land—2,000 acres, $16 per acre. 500 acres in blue grass sod, balance cut-over, but with blue grass coming up over large part. Seeds naturally. R. R. 12 miles. Good road. Great bargain for quick sale. OWNER, care Virginia Farms Agency, Alexandria, Va.

New York Farm Agency, Westfield N. Y., has the bargains. Investigate. 19-spl

For Sale—2,000 acres fine hardwood timberland, birch, white ash, maple, white pine, spruce. Sawyer County, Wisconsin. Logging would pay handsome profit. Land delightfully situated for stock ranch. Two trout streams, six springs. Also 130-acre dairy farm, buildings new, on lake shore in Barron County. W. A. HANCE, Freeport, Illinois. 18-tf

40 acres Idaho land near Jerome for sale or exchange for Holstein cows. Bargain, $100 per acre. S. A. WOLCOTT, Gilmore City, Iowa. 19-2

20 good equipped dairy farms, milk gathered. Get 200 catalogue. Best markets, buildings, bargains. ROYAL BROWN, Ashland, Ohio. 19-2

Waukesha County leading pure-bred stock farm ¼ mile from Waukesha, Wisconsin. Cement road. 160 acres all under plow. Very fine modern buildings. Bargain for quick sale. HARDY RYAN ABSTRACT COMPANY, Waukesha, Wis.

A beautiful irrigated farm of 240 acres, adjoining county seat town. All advantages. Paying $5,000.00 per year now and improving. Fine improvements. Stocked with registered Holsteins. Price $100 per acre. Write MARK HUNT, White Sulphur Springs, Montana. 19-2

Write for my farm catalogue describing thirty real bargains, best corn and clover land in state. SAM IVERSON, Colfax, Wisconsin. 19-4

Farms for sale. We own and control several choice Livestock farms in famous Prairie belt of Mississippi. Write us what you want. HANSON & COCKRELL, Macon, Mississippi. 19-*

FARMS WANTED

Wanted 240-acre farm. Must have productive soil, good buildings and stock. Also 80 to 160 farm. WALTER MILLER, Brumder Bldg., Milwaukee, Wis.

Wanted to hear from owner of a farm or good land for sale for fall delivery. L. JONES, Box 459, Olney, Illinois.

LUMBER

Lumber and shingles at reduced prices. Farmers' trade our specialty. Best quality. ROBERT EMERSON CO., Box 1156W, Tacoma, Wash. 19-5

SILOS

12x24 Kalamazoo Stave silo, never erected. D. UTTER, Lake Beulah, Wis.

STANCHIONS

Crumb's Stanchions are guaranteed to please the purchaser. They are shipped subject to trial in the buyer's stable. They are right. Send for booklet. WALLACE B. CRUMB, Box H, Forestville, Conn. 15-10

TANNING

Let us tan your hide. Cow and horse hides for fur coats and robes. Cow and steer hides into harness or sole leather. Catalog on request. THE CROSBY FRISIAN FUR CO., Rochester, New York. 10-17

AGENTS WANTED

Representatives wanted to write hail and cyclone insurance every township in the Northwestern states. Little experience necessary, good commissions. Write quick. ST. PAUL MUTUAL HAIL AND CYCLONE INSURANCE COMPANY, 805 Pioneer Bldg., St. Paul, Minnesota. 12-12

Yes Sir, we have a special opportunity for you during spare time, an opportunity to do some good work in your neighborhood, for the betterment of dairy farming, that will pay you in cash for the effort you put forth. Write for our "Special Opportunity Getting Together" folder. Address HOARD'S DAIRYMAN, Fort Atkinson, Wis. 2-tf

Agents wanted to sell Sure Stop Cattle Poke direct to farmers. For particulars address FRANK J. GRADY, 2119 Corry St., Madison, Wis.

LIGHTNING RODS

Lightning Rods—Exclusive agency and quick sales to live dealers selling "Diddie-Blitzen Rods." Our copper tests 99.96 per cent pure. Write for agency. Prices are right. L. A. DIDDIE CO., Marshfield, Wis. 9*

TOBACCO

Kentucky Tobacco—Direct from growers. Save 75% on your tobacco bill. Rich, mellow leaf, aged in bulk. Chewing and smoking. 3 lbs., $1 postpaid. KENTUCKY TOBACCO ASS'N, D309, Hawesville, Ky. 18-4

HAY

Alfalfa and prairie hay for sale. Prompt shipments. Personally inspected loading. Wire or write GUNN HAY CO., Lexington, Nebr. Reference Lexington State Bank. 11*

Clover, alfalfa, sugar beet, prairie. Owner's price, easy terms. Submit trades. GASEL, Thief River Falls, Minn. 19-5

FEED BAGS

Ship your bags to LARIMER BAG CO., Washington, D. C. 11-spl

FEEDS

Dried Beet Pulp—the wonderful dairy feed. New reduced prices. Ask your dealer or write THE LARROWE MILLING COMPANY, Detroit, Michigan or Los Angeles, California. 12*



Advertising in this department is 7c per word. Remit in advance.

POSITIONS WANTED

Wanted—Position by practical stockman and farmer. Experienced in all lines farming, handling men and tractor farming, good with all kinds machinery. Wife experienced in running farm boarding house. Can give good reference. Address BOX 756, care Hoard's Dairyman. 18-2

Position wanted as manager on stock or dairy farm by married man with one child. Lifetime experience and agricultural college graduate. Wife experienced buttermaker. Address BOX 759 care Hoard's Dairyman. 18-2

Position Wanted—Young married man as assistant herdsman, with Guernsey herd. Experienced in handling milk, calf raising and A. R. feeding. For particulars and references, address BOX 760, care Hoard's Dairyman. 18-2

Wanted—By a young single man, age 26, position on a large stock farm, as herdsman or assistant to owner. A good feeder, calf raiser and milker. Capable of taking care of minor veterinary troubles. Understand the use and care of milking machines. Can come at once. State salary in first letter. Address BOX 765, care Hoard's Dairyman. 19-2

Situation wanted by married middle-aged man. Experienced in all lines of dairying including pasteurized and certified milk production and marketing. Competent to manage either city or country department. T. L. SPRINGER, 320 E. 3rd St., Grand Island, Nebraska.

Young man, single, experienced, wishes position in milk room. Would drive milk wagon. Western states preferred. Address BOX 764, care Hoard's Dairyman.

First class farmer, excellent references, experience, best dairying, wants charge or employment, good farm on permanent money-making arrangement. Describe fully, location, equipment, compensation, living conditions, work expected. Address BOX 748, care Hoard's Dairyman.

Wanted—Position as working foreman on dairy farm, Guernseys preferred. Married, age 30, no children, capable, reliable and energetic. Good dry-hand milker, calf raiser, A. R. experience. References furnished. Address BOX 761, care Hoard's Dairyman.

Wanted—By educated and refined young single man, situation on dairy farm where there is plenty of work and the surroundings are pleasant. Have had two years' experience on dairy farm in Colorado. Amateur weight lifter. J. N. NEWLIN, Randleman, N. C.

Farm Manager—Energetic, practical, scientific. Position desired where ability to successfully manage a large proposition on a business basis and make it pay will be appreciated. Experienced in Advanced Registry pure-bred stock, modern farming, machinery, tractors, building and road construction. Excellent references. BOX 767, care Hoard's Dairyman.

Farm Manager—Reliable, energetic, experienced in general, dairy and truck farming; breeding and feeding dairy cattle; operating and repairing all kinds farm machinery, tractors, stationary engines. Best of references. Address BOX 768, care Hoard Dairyman.

Position Wanted—As buttermaker or cheesemaker. Was instructed in the Wisconsin Dairy School. Understand the latest methods of pasteurization, neutralization, starters and moisture control. Several years' experience with cheese, three years with fresh cream and two years with centralized cream. C. C. WASHBURN, Edgeley, N. Dak.

Wanted—Position as dairy manager or herd manager. Six years' practical experience, also completed a course at Oklahoma A. and M. College on dairying, live stock breeding, milk and cream testing. Can furnish best of references. Am a successful calf raiser. K. W. HAAK, Box 131, Stillwater, Okla.

Position Wanted by highly recommended, hardworking man with years of experience in all phases dairy and general farming. An expert in the construction of farm buildings, plumbing, electrical, concrete work. Have two boys who can work. Must have good seven room house and garden. Only fairly permanent proposition considered. Address, giving particulars and wages offered. BOX 766, care Hoard's Dairyman.

HELP WANTED

Wanted—Railway mail clerks. $135 month. Write for list positions. FRANKLIN INSTITUTE, Dept. L115, Rochester, New York. 16-4

Wanted—Girl or woman to assist with general housework on farm. State wages. MRS. ROY DOLPHIN, Livingston, Wisconsin. 18-2

Wanted—Experienced single herdsman for testing and breeding of a high class small herd of Guernseys. Also an assistant and milker. Address BOX 757, care Hoard's Dairyman. 18-2

Wanted—A competent man to bottle milk in small modern dairy. CLOVER LEA FARMS, Austin, Minnesota. 17-3

Wanted—Single, experienced, steady, reliable man, no cigarettes. General farm and dairy work Southern Wisconsin. Modern barn, milking machine, good board, washing, separate room. Must be neat, a gentleman and interested in the job. State wages, reference and full particulars in first letter. Address BOX 763, care Hoard's Dairyman, Fort Atkinson, Wis.

Manager for large modern creamery, manufacturing butter, ice cream, and cheese. Must have experience in buying, selling, factory and office policy and management. Give experience and references. Address BOX 382, Ironwood, Michigan.

Milkers—Married or single. String of 30 cows. Ninety dollars and found. SANTA MONICA DAIRY COMPANY, Venice, Calif. 19-*



Advertising in this department is 7c per word. Remit in advance.

HELP WANTED

Wanted about June 1st—Middle-aged lady as housekeeper on large stock farm, 5 male adults, nice home near city. Address BOX 762, care Hoard's Dairyman.

Wanted—Single man for barn and milk house work. Must be A-1 full dry hand milker and willing worker. $40 to $50 and keep. HARMS DAIRY, 6 mile Post, White Bluff Road, Savannah, Ga.

Wanted good dairyman with own help to take full charge of farm near Lake Geneva, Wisconsin. Convenient to schools and churches. Salary or share basis, or would sell farm all stocked with high grade Holsteins and fully equipped on easy terms. Reference first letter. JOHN V. SEYMOUR, Lake Geneva, Wisconsin. 19-2

Easy and Comfortable

Plenty of "give"—slip-loop back gives perfect freedom of motion and conforms to every movement of the body. No strain on buttons or garments. The stretch is always there.

Nu-Way Spring Stretch Suspenders

"A Full Year's Wear in Every Pair." They outwear two pair of ordinary kind. That's why it pays to buy them. No rubber to rot. Phosphor Bronze Springs give the stretch—they don't rust.

Ask Your Dealer

Or, sent direct on receipt of price and dealer's name. Insist on Nu-Ways. None genuine without our Guarantee label attached to buckle.

Nu-Way Stretch Suspender Co. Adrian Mich. U. S. A.

Nu-Way The Stretch is in the Spring

The Nu-Way Line

Nu-Way and Excello Suspenders - 75c
Men's Garters - 50c
Ladies-Misses-Children's Hose Supporters 25c
Ladies' Corset "Sew-On" Hose Supporters 35c

Brown County, Wis., Sells Holsteins

The Brown County Holstein Breeders' second annual sale held May 9 at De Pere, Wis., brought out a very large crowd but not all of them were buyers. As a consequence selling was slow, the 87 head bringing just short of a $200 average.

One of the Murphy Farm's consignment topped the sale at $1,500. It was a 2-year-old son of The Mighty Monarch from a 37-lb. daughter of King Lunde Pontiac Korndyke. He was purchased by N. J. Lossetzong, Wisconsin.

Haeger & Kelley did the selling with Francis Darcey in the box.

Following is a list of those animals selling for $250 or more and buyers:

H F. Wittig, Wisconsin	
Dutton Canary De Kol	$270
E. C Pasch, Wisconsin	
Pauline Vickery Wa Wa De Kol 2d	$265
Peter Balten & Son, Wisconsin	
Duchess Tenia Ripon 2d	$285
E. G. Carpenter, Wisconsin	
Bloemtje Johanna De Kol	$255
Crescent Bessie Pet Johanna	$280
John Duggan, Wisconsin	
Bloemtje Queen Segis	$300
Ben King, Wisconsin	
Crescent Bessie Pet Segis	$425
Ashburn Segis Pontiac Loma	365
Anton Bartin, Wisconsin	
Elmwood Colantha of Midway	$460
Frank Smith, Wisconsin	
Elmwood Segis Nemo	$415
Frank Bressnick, Wisconsin	
Elmwood Rag Apple Lady	$255
John W. Coenen, Wisconsin	
Elmwood Rag Apple Queen	$300
Otto Durckey, Wisconsin	
Prilly De Kol Pontiac 2d	$600
Lady Sarah Pontiac 2d	330
Jas. W. Byrne, Wisconsin	
Abbekerk Pontiac Lyons Segis	$500
Jno. W. Lanier, Michigan	
Maud Twist Colantha 2d	$285
Chas. J. Konaps, Wisconsin	
Johanna Segis Piebe Pontiac	$275
Geo. A. Friederici, Wisconsin	
Queen Segis Hengerveld Lass	$290
N. J. Lossetzong, Wisconsin	
Monarch Korndyke	500
M. Dillon, Wisconsin	
West Street Pontiac Good Hope	$390

Indiana Guernsey Show

The Boone County Guernsey Calf Club will hold its third annual show at Lebanon, Ind., June 4th. This promises to be a real gala day for the Guernsey enthusiasts. About eighty Guernseys will be shown by the boys and girls and the ribbons will be placed by a judge of national reputation. Several of the animals that will be shown received high placings at the Indiana State Fair last year, and one won third place and another fifth place at the National Dairy Show at Chicago, in competition with the best Guernseys from all parts of the United States. Some of the boys and girls who did not show their animals last year are putting them in the best of condition for the show on June 4th in order to share honors with the winners of last year.

Guernsey breeders and Guernsey enthusiasts from all parts of the country are planning to attend. The Indiana Guernsey Breeders' Association will have a field meeting in connection with the show. Mr. A. J. Glover, managing editor of Hoard's Dairyman, and Mr. Farrell of Washington, D. C., head of the Boys' and Girls' Club Work, will speak. Professor Karl Musser, field representative of the American Guernsey Cattle Club, will be present.

C. R. GEORGE, Secretary.

DON'T PUT OFF

Seeing your friends and having them join in for a club of subscribers.

Help Us

We are new and wish to get acquainted. Our bulls are built right, bred right, and priced to sell quick.

OUR HERD SIRE IS

King Colantha Pietertje Ormsby (182736)

a line bred Sir P. O. M. bull whose two nearest dams together have nine yearly records averaging 1,000 lbs. butter their best yearly average nearly 25,000 lbs. milk and better than 1,200 lbs. butter.

His sire and dam were 1st prize winners at several state fairs and his sire's first five daughters to finish their yearly test average better than the first five daughters of any other sire.

Sons of King from well bred dams with record as high as 28 lbs. butter in 7 days for sale, give us a chance.

PEE-CEE-BEE STOCK FARM,
Beck & Peterson, Racine, Wis.

Holstein Bulls

At Reasonable Prices

Breeding considered from 3 months to 18 months of age. From both tested and untested dams and sired by some of the best bulls of the age, such as

King Pietertje Ormsby Piebe 4th
King Pietertje Ormsby Piebe 2nd
Colantha Wayne Ormsby
Wolfspring Sethje Mooie Pontiac

Write for prices and descriptive list
Herd under Federal Supervision

STATE HOSPITAL AND COLONY FOR EPILEPTICS
Woodward, Iowa.

MORE THAN HALF WHITE

Handsome YOUNG BULL

Born Dec. 10, 1919. Sire a son of a three time 32-lb. cow (best record 34.14) with ten months record of 20,022 lbs. milk, 903 lbs. butter. He is now in Wisconsin with unusual opportunity of developing into a great sire. Dam, 236-day record as a junior three with first calf, 10,507 lbs. milk, 466.4 butter. She a granddaughter of Dutchland Creamelle Korndyke Lad, her half sisters all proving heavy milkers with us, and she has seven dams with over 1,000 lbs. butter in a year. Price, less than the cost of growing him. $250.

AVALON FARMS,
E. D. Curtis, Owner, Bantam, Conn.

For Sale

Holstein bulls from 8 to 16 months old, from A. R. O. daughters of Sir Mooie Oak De Kol No. 41220 and sired by Sir Bess Fayne Pontiac Ormsby No. 206924. Splendid individuals at reasonable prices.

Von Wald & Bavernfeind, Nerstrand, Minn.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

A FEDERAL ACCREDITED HERD OF

A. R. O. Holstein-Friesian Cows and Heifers

OFFERED AT PRIVATE SALE

One or a carload. Herd consists of twenty-three young cows, all fresh since December, now milking from 50 to 100 lbs. per day. All have A. R. O. records, from 14 lbs. as yearlings to 25 lbs. as 3-year-olds. Several bred to a 32-lb. sire, his dam having a record of 32.22 lbs. in seven days and her sire out of a (31-lb. seven-day, 1,076 lbs. for year) daughter of that great century sire "Hengerveld De Kol". These cows are very good individually, good size, and are real producers.

Twenty heifers from two to ten months old, very well grown, good condition, and good straight individuals, all sired by 27- to 34-lb. sires, and many from dams with records to 25 lbs. This herd was Federally tested April 1st, 1921, as well as March 29th, 1920, with no reactors.

If you want some real foundation animals, that carry many crosses of century sires, of proven transmitting ability, come and look them over and take your pick. They are priced to sell.

BLUMECREST FARM, MAPLE LAKE, MINN.

Get them---

At Loyal, Wis. June 10, 1921

60 Heads Selected from several local herds will be sold.

10 A. R. O. Cows
Large, Typy, Real Ones

Young heifers, due to freshen and bred to the following reference sires:

Sir Bess Ormsby Starlight, one of the largest outstanding sons of Sir Pietertje Ormsby Mercedes 37th.

King Hendriekje Piebe, a proven son of Piebe Laura Ollie Homestead King, purchased at $5,000.00.

Sir Lillith Repeater, a 29-lb. proven bull sired by a 1021-lb. son (Juliana King Repeater) of King Segis Pontiac. His daughters are exceptional.

A few young bulls from the above sires and from tested dams.

The Bull Sale will begin promptly at 11:00 a. m.

Catalogs ready June 1st. Send in your request for one. **Krause and Mack and W. D. Scott in the box.**

R. M. Jenks, Sale Manager, Loyal, Wisconsin

Binder Prices Have Been Reduced

McCormick · Deering
Milwaukee

Now—as to Harvest Time!

THE BINDERS of the nation must come out at harvest time and transform a billowing acreage into a great stubble field ready for the plow. This is a necessity of the near future and every individual farmer must be ready with men and machines to save all the yield of his own fields. Will your present equipment do the right thing for you? We call to your attention the standard binders of the nation.

McCormick · Deering · Milwaukee

are time-tried names, favorably known wherever there is agriculture. Grain binders with these familiar names will demonstrate again that nearly ninety years of harvesting machine development and satisfactory service in the fields of the world stand behind them.

Timely repairs may be your solution for this harvest, but to limp through the season with machines that are truly outworn will prove disastrous. No farmer can afford to run a binder that has served too many years, nor can he practice true economy with a small, inadequate machine if his acreage and power equipment demand an 8-foot binder.

As harvest time approaches, take careful account of your equipment needs, then see the International dealer. He has **McCormick, Deering** and **Milwaukee**—the binders that are guarantees of high quality and operating efficiency.

INTERNATIONAL HARVESTER COMPANY
OF AMERICA (INCORPORATED)
CHICAGO USA

92 BRANCH HOUSES AND 15,000 DEALERS IN THE UNITED STATES

"Perhaps You Don't Know"

says the Good Judge

How long a little of the Real Tobacco Chew will last.

Nor how much genuine chewing satisfaction the full, rich real tobacco taste will give.

Ask any man who uses the Real Tobacco Chew. He will tell you that this class of tobacco will give more satisfaction—and at less cost—than the ordinary kind.



Put up in two styles

W-B CUT is a long fine-cut tobacco
RIGHT CUT is a short-cut tobacco

Weyman-Bruton Company, 1107 Broadway, New York City

The Farmer and His Business

(Continued from page 779)

barn this year and get a few pure-breds next year and pay off some of the mortgage after harvest. I would carry out the whole program but I simply cannot. I get up early and I work late. My family and I live just as simply as we can. We do not waste anything that we can help. But in spite of our good crops last year we can do none of these good things. Interest and taxes and the bare necessities of life leave us nothing with which to make progress. We are fortunate to break even. Many cannot even do that."

Well, make a little progress anyway. If you can't build a new barn, make a much needed but inexpensive shed for your farm machinery. If you cannot buy the better cows perhaps you can obtain a little better results from the old ones. If you keep on wanting the barn and the pure-bred cows you will be very likely to get them within a reasonable time. It is surprising how determination can accomplish the impossible. The trouble with some of us is that we don't really want things bad enough. It is not necessary to advise you to work longer hours. You are already working too hard. But you may be able to put a little more of yourself into the tasks you are doing. You may be able to polish up your ideals a little and work more steadily toward them. You may be able to be a more all-around good fellow, a healthier, happier man. You may put yourself into better shape to win.

We raise winter wheat here in Kansas. It is sown in the fall in time to get a good start before cold weather. Through the winter it ought to become a little thicker and better rooted, but we do not expect much growth. That is not necessary. If spring finds our wheat alive and in good condition there will be plenty of time for growth and a good crop. Do you see what this illustrates? After a man has begun his business life, has made his plans and his first investments, there is apt to come a period of drudgery, of slow growth, a testing period when his character may grow strong but his business growth is very slow. It takes a finer devotion to make good in such a time than when things are rapidly moving along. But as in the case of the wheat we may look forward to a season of more favorable weather and rapid growth. The important thing for us is to be then in condition to grow.

We do a lot of thinking in terms of dollars. Two farmers die leaving estates of fifty thousand dollars apiece. Our first casual thought is that they were about equally successful. One of these men accomplished little that was worth while. He inherited a good deal of money and held onto it. The other man was a constructive farmer, working out his ideals for fifty years. A friendly man, a useful citizen. At once we recognize that these men did not die as equals. Had the second man left an estate only one-fifth as large as the other, he would still have lived the greater life.

We may not realize it, but under our desire for business success there is the desire for character, manhood, brains, ability. We desire success in a large measure so that we may prove to ourselves and our friends and our children that we have these qualities. It is a pretty fair test too. The line of work into which a man puts the best there is in him naturally ought to show. But as we do put the best there is in us into the struggle against adverse circumstances, whatever they are, we are progressing toward real success. And if we realize these underlying principles and live normal, healthy lives and meet our duties as they come to us with a forward, hopeful look we may have the enthusiasm that is born of success without the pang that false success gives.

Mr. Average Farmer, I should not be surprised if you are making a great success of life and you secretly feared that you were making a failure.

Remedy for Calf Scours

HOARD'S DAIRYMAN:—In treating calf scours I set the milk as we used to before the advent of the separator, skimming morning's milk in evening and vice versa. This is then pasteurized and fed at the temperature of the mother's milk, adding a teaspoonful of camphor. Also give the calf a slice of toasted bread in the milk. Ordinarily a little camphor in the usual feed is sufficient; but if the passages have a disagreeable smell, withhold a feed and give two tablespoonfuls of castor oil.

Platteville, Wis. J. N. McL.

VETERINARY

Advice is given free in this department. Inquires must be signed by the writer, and should pertain to veterinary Matters only. Where an immediate reply and prescription are desired by mail, the inquiry must be accompanied by a fee of one dollar. In every instance it will be necessary to give a full description of the symptoms present.

Scours of Calves

Calves would be less commonly attacked by diarrhea, popularly termed "scours", did feeders more closely copy Nature's methods. The average man or boy is a poor "wet nurse" anyway, and it would be a blessing to calves could women invariably do the feeding. As it is now, calf feeding often is a much disliked "chore", done under protest and in a careless or thoughtless way. Twice daily a big pail of milk that often is too old, too cold, foamy, slightly soured, or contaminated with germ-laden dust is held for the calf to drink. And the calf, looking out of the corners of its eyes, sees that it is a "hurry up call", and that the milk must be guzzled down in short order if it is to be had at all. That sort of feeding is all wrong and scarcely can help causing derangement of the digestive organs characterized by scouring.

Nature's plan is far different. Only the fourth compartment (abomasum) of the young calf's stomach is developed at first and its function is to receive and deal with small quantities of pure, blood warm milk at short intervals. Rennet is prepared from the calf's fourth stomach as rennin secreted there is the milk curdler acting in conjunction with hydrochloric and lactic acids. The nursing calf sucks warm milk frequently in amounts that can perfectly be cared for by the stomach and digestion consequently proceeds undisturbed. But when a big quantity of skimmilk, in the improper state we have mentioned, suddenly enters the abused stomach and the process is repeated twice a day, derangement inevitably results and the calf suffers from diarrhea.

Germs from contaminated milk and dirty feeding utensils unquestionably help to derange the digestive organs, but erroneous methods of feeding are quite as injurious. A calf that is gulping down cold milk sometimes suffers a fit and falls in convulsions. Should this happen repeatedly death results. In our opinion the cause is a spasm of the gullet induced by fast drinking and the fit is a reflex result. It would be well indeed could the calves that do not nurse always be fed milk from a self-feeder. Such appliances are on the market but the work necessary to keep them clean and sweet has kept them from coming into general use.

To prevent scours, calves should so far as possible be fed at shorter intervals smaller quantities of fresh, sweet, clean, foamless, blood warm milk from a pail that has been scrupulously cleansed, scalded, and sun dried. By allowing some relished meal just after feeding milk and while still confined in stanchions, calves will largely be prevented from sucking one another's ears and udders, and not until calves are several weeks old should solid feed be allowed. If a calf starts scouring it should instantly be isolated and the pen cleansed, disinfected, and freshly bedded.

Every feeder has a favorite remedy for scours. As a rule it usually is well to give a dose of castor oil in milk before astringent medicines are administered. A teaspoonful of a mixture of half an ounce of formaldehyde and fifteen and one-half ounces boiled water added to each pint of milk fed daily helps when diarrhea is prevalent. A mixture of 1 part of salol and 2 parts of subnitrate of bismuth has given good results. The dose is 1 to 2 teaspoonfuls 2 or 3 times daily, according to the size of calf and severity of attack. Triple sulpho-carbolate tablets will also be found effective. Lime water added to milk and blood meal to the meal ration also help.

Lice

I have a colt that has lice. Is there some kind of powder to put on him?
Wyoming, Minn. D. J. T.

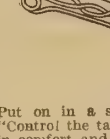
When the weather is too cold to allow use of a liquid, the infected parts should be well dusted with a mixture of equal quantities of pyrethrum and flowers of sulphur. Then blanket the animal. Repeat the treatment as often as seen to be necessary. When weather moderates, wash the infected parts with a tea made by boiling 4 ounces of stavesacre or larkspur seeds in water for 30 minutes. Repeat applications as found nccessary. The stable should also be cleansed and disinfected.

You can't do two things at once. If the best growing conditions are wanted in a woods, grazing animals must be kept out. Hard trampling of soil does about the same amount of good in a woodlot as it does in a field of growing corn.



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PERFECTION
Cow Tail Holder

Patented March 1920
Put on in a second. Impossible for cow to switch. "Control the tail and you control your temper." Milk in comfort and produce cleaner milk. Sold by dealers everywhere or sent direct by parcel post, prepaid. 35 cents each or 3 for $1.00.
THE MOORE BROS., 16 Green St., Albany N. Y.



America's Pioneer Dog Medicines

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And How to Feed
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Raise Your Own Duroc Boar
We have weanling boars of the best type and most popular breeding from $20.00 up crated F. O. B. Glenwood, with registration papers. Write for booklet with full information and our guarantee to satisfy.
Bertley Farms, Glenwood, Ill.
Just out of Chicago.

Cedar Crest Farms
have never possessed a finer lot of
BERKSHIRES
than at present. Let us name you prices on fall and spring boars and young gilts.
J. K. Dering, Owner, Lake Villa, Ill.

AYRSHIRES

South Farm
250 Registered Ayrshires
Stock of all ages for sale.
Write for prices.
George A. Cross, Mgr., Willoughby, Ohio.

MIDDLESEX MEADOWS FARM
OFFERS
Two outstanding AYRSHIRE BULL CALVES for sale for immediate shipment

No. 1—MIDDLESEX WHITE CHANCELLOR 25273, born September 17th, 1920.
Sire—Cavalier's Netherall Chancellor 21216, who sired the winning bull calf at this year's National Dairy Show.
Dam—White Heather of Highland 42752, who stood 2nd in the aged cow class at the same show (this year's National) and who has two good Roll of Honor records.
No. 2—MIDDLESEX MANCHESTER, born March 10th, 1921.
Sire—Auchenbrain Toreador (Imp.) 24761, record priced bull of the breed and Grand Champion at Maryland, New York, Connecticut, and New Jersey State Fairs this year.
Dam—Bida Clinton 31489, who has three A. R. records that average 11,000 lbs. of milk, 453 lbs. of fat, 4.17%; and whose two-year-old daughters will have records of over 10,000 lbs. of better than 4.00%.
Both bulls have excellent individuality, and are fit to go into any show ring and hold their own. They should develop into extra good herd sires. Prices reasonable—we KNOW you can't get as good as these two for any less money elsewhere.
A. Henry Higginson (Owner). W. R. COUTTS, (Supt.)
South Lincoln, Massachusetts

Monstone Farm Ayrshires
"Production — Size — Individuality"
Bull calves out of dams with A. R. records of 10,000 lbs. (and better) of 4% milk—Winners in show ring—Sired by Lessnessock Gem's Good Gift Imp.—Winner in show ring and proven prepotent sire—Weight 2,250 lbs. in breeding condition—Whose dam made 8,930 lbs. milk, 4.05% fat, in *36 weeks* (Scotch record)—Sire's dam 10,342 lbs. milk 365 days (Scotch record)—Prices $100 to $1,000. If you want class and a square deal, correspond with us. We can supply your wants at your prices. Nothing but the best. Herd Federally tested.
MONSTONE FARM, John Chalmers, Manager, IPSWICH, MASSACHUSETTS



We Have For Sale
the well bred Ayrshire bull, Bargenoch "Drexel" (18474) Imported. Bred by John Logan, Bargenoch, Scotland. Born Feb. 2nd, 1919. Color white and red. Sire, Bargenoch Magnificent (9579). Sire of Bargenoch "Royal Champion" sold at Bargenoch sale, 1919, for $7,267.00.
Dam, Bargenoch Victoria (37003). Scotch record: 9,221 lbs. milk, 4.23% fat in 43 weeks; 11,070 lbs. milk, 4.50% fat in 47 weeks.
BARCLAY FARMS, John Cochrane, Manager, ROSEMONT, PENNSYLVANIA

Delchester Farms Ayrshires
Tell us your wants and we can supply them at prices you can afford to pay.
Aged cows, bred to Glenury, an A. R. son of Finlayston.
Aged cows, bred to Rena's Baron of Highland, an outstanding son of Baron's Best of Bargenoch.
Heifers, bred to these two great sires.
Young heifers.
Bull calves.
All the above stock carries some of the best producing blood of the breed with A. R. ancestry on both sides.
Herd free from tuberculosis
DELCHESTER FARMS
Edgemont, Del. Co., Penn. - Thomas W. Clark, Supt.

Weymouth Farms
"Ayrshires of Quality"
All cows on Advanced Registry Test. Herd Tuberculin Tested.
We can supply you a herd sire of choicest breeding.
MARTIN A. TOWLE, Mgr.
NORTH WEYMOUTH, MASS.

Ravinia Ayrshires
Give You the Most Production Per Dollar of Investment
They have been bred for heavy production for generation after generation. They have proved their production power by a lot of world's records. This is the blood we offer you.
Write today to Box 100E, for Sales List of bulls and cows, heifers and bull calves of any age.
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GOSSARD BREEDING ESTATES

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

BLACKBURN FARM
Home of Addington's Champion
Grandfathers—Nox'emall and Finlayston.
Father—Rena's Champion—17 A. R. daughters
Mother—Addington Queen 3d—Two mature records each over 19,000 lbs.
Fully Accredited Tuberculosis Free Herd.
SEWICKLEY, PENNSYLVANIA

Ayrshire Stock
of all ages for sale. Satisfaction guaranteed
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Ashbrook Farm Offers
Ten Heifers of this Type and Age For Sale



STRATHGLASS GARDUM SNOWDROP
Also the first prize bull calf at the Eastern States Exposition by Foulton Ambassador. This will make someone a good herd.
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World's Champion
AYRSHIRES
200 head Fully Accredited, Tuberculosis Free for 3rd consecutive year. 100 records average 13,454 lbs. milk. Many cows weigh over 1400 lbs. For large, healthy, productive Ayrshires, address:
Penshurst Farm, Narberth, Pa.

FOR SALE
Registered Ayrshires
Cows and Heifers. One bull fit for service. Also some choice young bulls and heifer calves. Best of Breeding.
Dan Haurahan, Oconomowoc, Wis.

Pure-bred Ayrshire Cattle For Sale
Best of breeding. Calves sired by a Grandson of Brown Kate, record 1,080 lbs. butter in year.
Wm. Nisbet & Sons, Richland Center, Wis.

Waukesha County Guernseys

EIGHTEENTH AND SEMI-ANNUAL

CONSIGNMENT SALE

Waukesha, Wis., Sale Pavilion June 9th

Forty-seven Registered Females and Ten Registered Males are listed for sale by the Waukesha Guernsey Breeders. Some exceptionally high class consignments have been made by the members. Below is a partial list:

NORMANDIES'S MAID A. R. 4478, milk 8,719.40 lbs., butterfat 382.9 lbs. at 3 years, on retest in 87 days has made 3,725.9 lbs. milk, 143.56 lbs. butterfat.

TWO DAUGHTERS of Governor McKerrow 38913, a son of Governor's Whimsome A. R. sire of 5 A. R. daughters.

ONE DAUGHTER of Langwater Hayes Rosie's King of the May A. R. sire of 16 A. R. daughters.

CHRISTABEL'S ROSE OF WAUKESHA A. R. 7826, milk 8923.4 lbs., butterfat 494.4 lbs. at 3 years.

DOLLY'S MAY KING OF CEDAR LAWN NO. 51303, dam's record, 644.86 lbs. butterfat.

ROYAL'S PRIDE OF MAPLEHILL 96685. Sire, Langwater Royal 4th, full brother to three class leaders. Dam, Lady's Pride of Maple Hill A. R., milk 12,031.8 lbs., butterfat 618.9 lbs. at 3 years. 3 full sisters have records of 776 lbs., 731 lbs., 576 lbs. butterfat.

KING OF THE MAY'S FERN 98898, dam is Fern's Beauty of Pinecliff A. R. milk 16,917.2 lbs., butterfat 744.29 lbs.

TWO DAUGHTERS of Whimsome's Abbie of Phantom Lake A. R. 7900, milk 7,381.6 lbs., butterfat 404.42 lbs. at 3 years.

BELLE'S FLOSSIE OF GUERNSEY HILL 57303 and MABEL B. OF GUERNSEY HILL 36107. Dam Belle of Guernsey Hill A. R., milk 13,511.3 lbs., butterfat 572.5 lbs.

PEARL'S ULTRA TOPSY 102146, sired by Ultra King of Edgemoor and out of Pearl's Topsy A. R., milk 7,271 lbs., butterfat 432.7 lbs. at 2 years.

GOVERNOR'S ROSETTE OF WALNUT RIDGE on test, in 60 days has made 2,312 lbs. milk, 95.99 lbs. butterfat at 3 years.

CARRIE CHENE OF SIX MAPLES, sired by Gay Boy of McKerrow Farms A. R., and out of Isabelle of Eagle A. R., milk 7,000.6 lbs., butterfat 328.8 lbs.

NIMBLE OF BIRCHWOOD 70823, sired by Imp. Spotswood Masher Sequel A. R., sire of 11 A. R. daughters.

REX OF MAPLE HEIGHTS, sired by Rex of Rich Neck A. R., full brother to 2 class leaders. Dam has record of 549.3 lbs. butterfat at 3 years.

BELLE ROSE OF MAPLE GROVE, on test in 89 days has made 3,585.7 lbs. milk, 147.69 lbs. butterfat.

TWO DAUGHTERS of Madge's Chene's King of A. D. F., whose dam has record of 619.57 lbs. butterfat.

SHORELAND BUTTERCUP, dam is Shoreland Lily A. R., milk 9,281.5 lbs., butterfat 397.59 lbs. at 2 years.

THREE SONS of Golden Noble of Craigamoor A. R. whose full sister has record of 703.33 lbs. butterfat.

THREE GRANDDAUGHTERS of Imp. Itchen May King (A. R.) sire of 17 A. R. daughters and Grand Champion, National Dairy Show, 1920.

ROSE'S KING OF UTILITY 70797, dam on test, in 190 days has made 251.2 lbs. butterfat.

HOPE OF HARVEST KNOLL 79524 (with heifer calf), by Tricksey George of Sunnyside, dam's record 662.26 lbs. butterfat.

AUCTIONEERS—Love, Benjamin, McGuire.

Send in your name for catalog.

Waukesha County Guernsey Breeders' Ass'n

F. E. Fox, Secretary, Waukesha, Wis.

(Remember Dispersal Sale of Chas. O. Govin herd, at Waukesha June 8th)

Menomonie Guernsey Farm

Offers at an

Absolute Dispersal Sale

51 Registered Guernseys

CHAS. O. GOVIN, Owner, Menomonie, Wis.

Waukesha, Wisconsin
June 8th, 1921

This fine herd of Guernseys was founded in 1909, foundation stock being imported from the Island of Guernsey. Good herd sires have been used, and very fine young cows and heifers are to be sold. Thirteen daughters of Imp. Gay Lad of Lone Pine No. 17684, who is a son of Imp. Raymond of the Preel IV (A. R.) sire of 17 A. R. daughters, and out of Imp. Daisy des Paysans A. R. milk 12,601.3 lbs., butterfat 551.22 lbs.

Junior Herd Sire-Ramee's Ace of Waukesha 65073, sired by Aviator of Edgemoor 49387, he by the great prize winner, Imp. Itchen May King, Grand Champion National Dairy Show, 1920. Dam of Ramee's Ace is Forest's Ramee of Hawthorn A. R. milk 9420.7 lbs., butterfat 483.5 lbs. at 2 years.

Other Offers Include:

IMP. GOLDEN DUVAUX IV 26934, sired by Imp. Galaxy's Sequel (A. R.) sire of 48 A. R. daughters.

IMP. GLORY OF THE ISLE NO. 40669, sired by Maria's Hero (A. R.) sire of 3 A. R. daughters.

IMP. CHOFFIN'S ROSE 26943, sired by Nicholby (A. R.) sire of 5 A. R. daughters, records up to 762.8 lbs. butterfat.

IMP. ORANGE BLOSSOM OF THE ISLE NO. 40067, sired by Imp. Fancy's Star (A. R.) sire of 4 A. R. daughters.

IMP. TOPSY III OF THE FOULON NO. 26944, sired by Sir Marcus (A. R.) sire of 7 A. R. daughters with records up to 661.98 lbs. butterfat.

Auctioneers—Love, Benjamin, McGuire

Send for catalog to

F. E. Fox, Sales Manager, Waukesha, Wis.

(Note—Remember Annual Consignment Sale at Waukesha on June 9th.)

Waukesha — The Guernsey County

Nearly two hundred members in our Association. Many of the best sires of the breed are being used. We can supply your wants. Pure-breds or grades, male or female, all ages. Prices will interest you.

Come to the County or Write

Waukesha County Guernsey Breeders' Association

F. E. Fox, Secretary **Waukesha, Wisconsin**

MR. GUERNSEY BREEDER

we are offering bulls of May Rose, Glenwood and Yeksa breeding out of A. R. cows. Our records range from 450 lbs. to 864 lbs. of fat; ages from 2 months up to serviceable age for $100 and up.

Can spare a few fine females.

CORIUM FARM, F. J. Rueping, Owner, Fond du Lac, Wisconsin

Last Call For —

June 2nd

Clark County GUERNSEYS

Owen, Wisconsin

Animals of choice breeding. Most of offering young stuff. 50% out of Federal Accredited herds. No blemished animals in sale. Have you a catalogue? If not send at once to

C. E. BECK. OWEN, WIS.

Auctioneers: Krause and Lemanski
G. R. Ingalls in the box.

PLAN TO BE WITH US

Follow the circuit—Barron, May 31; Eau Claire, June 1st; OWEN, June 2nd; Fond du Lac, June 3rd.

CITY HOME FARM GUERNSEYS

Fine registered Guernsey bulls of serviceable age and younger of most fashionable breeding. Priced right. Can also spare a few fine females.

F. W. MEYER **BARRON, WIS.**

Fond du Lac County Guernseys

100 choice bull calves, by best sires of the breed out of dams with records up to 850 fat. 20 choice heifers, 6 months to 1 year old. Grade cows and heifers. Send for sale list.

B. F. SHERIDAN, Secy.,

Fond du Lac, Wisconsin.

Guernseys

Best May Rose breeding. Both sexes and all ages from an Accredited Herd. Write your wants and send for lists.

E. S. Person, Minot, N. D.

Guernsey Females

bred to an outstanding son of Ne Plus Ultra, one of the greatest sires of the breed. Fifty head from which to select.

MEADOWLAND FARM, Litchfield, Conn.

Homestead Farm

Offers for sale bulls from 11 to 13 months of age from A. R. dams. Also a few young bull calves of excellent breeding, and three A. R. cows. Write for sale list or come and see them.

JAMISON BROS., Appleton, Wis.

Southern Wisconsin
Guernsey Breeders' Sale
Fort Atkinson, Wis., June 7

Here are ten reasons why YOU should attend this sale:

1. Because there are 70 head of select individuals from the leading herds in Southern Wisconsin to be sold.
2. Because each animal in the sale was chosen by a sale committee composed of competent breeders.
3. Because 75% of the animals to be sold are from herds under Federal Supervision.
4. Because, from the point of individuality, breeding, and ability to produce, these animals will be a credit to any herd.
5. Because each animal is consigned by a reputable breeder who will stand back of his consignment.
6. Because there are animals consigned from some of the oldest herds in Wisconsin, that have never before consigned animals to a public sale.
7. Because Fort Atkinson is the center of one of the oldest Guernsey communities in the state where there are many herds well worth seeing.
8. Because Fort Atkinson, to a dairyman is a most interesting town. Probably no other has furnished as much dairy inspiration.
9. Because a visit to the Hoard's Dairyman plant and farm will reward any one many fold.
10. Because a trip through the James Manufacturing Company's new plant and the Creamery Package Manufacturing Company's factory is equally interesting and instructive.

A Few High Spots in the Breeding of the Animals Consigned:

An A. R. daughter of Princess Deasie's Son, Junior Champion at the Wisconsin State Fair, 1915. His two nearest dams average 788.69 lbs. Out of Princess Deasie (687.80 lbs. fat) former Class Leader, she, a daughter of Imp. Queen Regent IV (889.57 lbs.).

A daughter of Hope's May Rose of Maple Hill, an A. R. son of Lady's Hope of Maple Hill (776.63 lbs.) who holds 7th place in Class D, a daughter of Norwood Lady Makefield.

Two full sisters, daughters of Sir Snowdoun and Galaxy's Beauty, a granddaughter of Imp. Galaxy's Sequel.

A daughter of Dora's boy of Sunny Valley (3 A. R. daughters) a son of Lord Waukesha and Royaline's Dora (717.31 lbs.).

An A. R. daughter of Langwater Hambro, an A. R. son of Langwater Hayes Rosie, (645.-50 lbs.) and Dolly Dimple's May King of Langwater, sire of Langwater Nancy, (1,011.66 lbs.).

Four daughters of Bob Rilma's Monogram, whose dam and grandam average 887.83 lbs. fat. He is by Bob Rilma, Junior Champion bull at the National Dairy Show, 1912. Bob Rilma is out of the former Champion Dairy Cow of all breeds, May Rilma (1,073.41 lbs.).

Three daughters of Giltedge of Koshkonong Place, sire of 13 A. R. cows. He is a grandson of Masher and Imp. Galaxy's Sequel.

A daughter of Royal Rose King of Edgemoor, a show bull, out of Belladia (934.05) and by Imp. Itchen May King, senior and grand champion at Pan Pacific International, 1915. He has 29.69% May Rose blood. Sold for $6,100.

Florham Victor, a son of Ne Plus Ultra whose first 12 daughters to freshen average 516.32 lbs. Sire of 3 Class Leaders. Full brother to Itchen Daisy's May King of Langwater, a $30,000-bull.

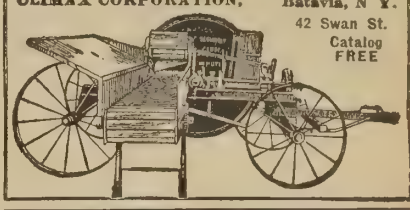
Upland Penetrator, a son of Langwater Cavalier, whose first six daughters to be tested average 608.34 lbs. fat at an average age of 2 years, 6 months. A son of Dolly Dimple's May King of Langwater. Dam out of a former Class Leader, Imp. Bijou des Frances (943.41 lbs.).

For circulars and catalogs, address

James H. Murphy, Sale Mgr., Delavan, Wisconsin

Wisconsin Live Stock Advertising Service

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Let us go into the details of cost with you to see if our proposition will save you big money this season. Your letter will bring our nearest dealer or our special representative.
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[Advertisement]

Easy Now to Rid Your Farm of Rats

Wonderful Discovery by Noted Scientist Kills Every Rat Within a Week's Time—Not a Poison

Rats cost farmers over two hundred millions of dollars a year, through the destruction of grain, poultry and buildings. Farmers need no longer suffer this loss because they can now kill off all the rats on their farm in less than a week's time. This is possible through the remarkable discovery of E. R. Alexander, a Kansas City chemist, who has perfected a virus which kills rats, mice and gophers as though by magic. This product is not a poison—it can be eaten by human beings or any animal on the farm as safely as their regular food, but means quick, sure death to rats.

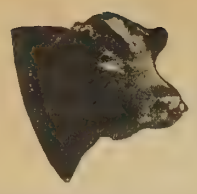


This wonderful rat virus, which is known as Alexander Rat-Killer, is merely mixed with bread or meat scraps and placed where rats, mice or gophers can get to it. Within a few hours after a rat has eaten Alexander Rat-Killer he gets a high fever and suffers a terrible thirst. He leaves the barns and nesting holes and goes to the open field in search of pure air and running water. Rats and mice affected always die away from the barns and houses, so there is no odor.

It is a scientific fact that one rat affects others and soon the whole colony leaves the buildings and dies. And though this virus is absolutely deadly to rats—chickens, hogs, cattle or any farm animal can eat it and not be affected at all.

So confident is Mr. Alexander that Alexander Rat-Kill will kill every rat on your farm in less than a week's time that he offers to send, as an introductory offer, a regular $2.00 tube for only $1.00. Give it according to directions, and if at the end of a week's time you are able to discover any rats, mice or gophers on your farm, your money will be refunded. A big Kansas City bank guarantees that Mr. Alexander is reliable and will do as he says.

Send NO MONEY. Just write to E. R. Alexander, Alexander Laboratories, 137 Gateway Station, Kansas City, Mo., and the tube will be mailed at once. When it arrives, pay the postman only one dollar and postage on the guarantee that if not absolutely satisfactory your money will be returned without question. Write today—a postcard will do—and stop your rat losses now.



Economy in Production ← GUERNSEYS → Quality of Products



The Guernsey is a medium sized cow that produces with greatest profits large quantities of milk and butterfat of the highest quality. She is exceptionally gentle and responds promptly to good feed and care. Send for our free literature.

THE AMERICAN GUERNSEY CATTLE CLUB, BOX H46, PETERBORO, N. H.

Ohio's Guaranteed Consignment Sale

June 7, Columbus, State Fair Grounds Ohio

Second Annual Sale of Registered Guernseys

50 Heifers Choice individuals from Ohio's leading herds—six to twenty months of age—popular blood lines—high producing and A. R. dams—real foundation stock—your chance to start right.

Every Animal Guaranteed a Breeder

10 Bulls All ages—some ready for service—fashionable breeding—individually right—these bulls good enough to head any herd—clean, healthy, well grown animals from dams with high A. R. records.

Sold Under (60) Day Tuberculin Retest

Sale starts at 10:30 A. M. Write now for catalog to

Ohio Guernsey Breeders' Association

James E. Harper, Field Sec'y, Chagrin Falls, Ohio

Massachusetts Guernsey Breeders' Association

WILL HOLD THEIR COMBINATION SALE OF

Seventy-Five Selected Guernseys

AT

Langwater Farms, No. Easton, Mass.

Thursday, June 9, 1921

The Sale Committee have inspected every animal, accepting only those thoroughly representative of the breed; among them are the leading cow in Class DD, Itchen's Golden Daisy of Chilmark 61690, 14,367.00 lbs. milk, 669.64 lbs. fat; three daughters and one son of Langwater Warrior 26509 (A. R.); four sons of Langwater Valiant 51868; and the choice between Langwater Circe 85522, a daughter of Langwater Warrior 26509 (A. R.) and her daughter, Langwater Vampire 99259, by Langwater Steadfast 31672, sold for $25,000.

Besides A. R. cows, Grand Champions, prize winners at the National Fairs, and some superb imported foundation females.

Every animal will be Federal tested and fully guaranteed.

For Catalog Address Leander F. Herrick, Sale Manager, 405 Main St., Worcester, Mass.

Quality Sale Chippewa Valley Guernseys

EAU CLAIRE, WIS., JUNE 1st

51 Registered Guernseys

The Sales Committee have selected a very superior lot of consignments to represent the offerings in their Third Annual Consignment Sale on June 1st. Members were very liberal in consigning the best they had, to make up a successful sale.

Below is given a brief description of some fine offerings made:

MOLLY OF CITY VIEW A. R. 7993, milk 6512.90 lbs., butterfat 367.96 lbs. at 4 years. Sire, Bell Buoy of Linda Vista A. R. sire of 17 A. R. daughters.

BUTTERMAID OF EXCELSIOR FARM (A. R.) butterfat 475.00 lbs. at 4 years.

ATLASTA GIRL A. R. 4465, milk 6947.5 lbs., butterfat 360.27 lbs. at 2 years. Sire, Langwater Frenchman A. R. sire of 16 A. R. daughters.

PATIENCE OF SYLVANITE A. R. 7948, milk 8603.2 lbs., butterfat 422.55 lbs. at 3 years. Dam has record of 589.2 lbs. butterfat.

ST. CROIX CATHERINE 107284, sired by Imp. Clara's Sequel A. R., sire of 35 A. R. daughters with records up to 831.0 lbs. fat at 4 years.

TWO DAUGHTERS OF ADA'S DOUGLAS A. R. sire of 3 A. R. daughters and out of Dora's Ada A. R., butterfat 751.10 lbs.

ROUGE'S PRINCE OF THORN HILL 45069, dam's record 736.65 lbs. butterfat (10th in Class AA).

HALLOWE'EN'S SUNBEAM 63794, sired by Jethon (A. R.) and out of Bel Air's Hallowe'en A. R., 462.0 lbs. butterfat.

IMP. ACTRESS MARY 49312, sired by Polly's Pride A. R. sire of 5 A. R. daughters.

FOUR DAUGHTERS OF ATLASTA BILL 33903, whose sire has full sister with record of 612.53 lbs. butterfat at 2 years.

RADCLYFFE OF PENCOYD'S DU CHARM 108262, granddaughter of Golden Secret of Lilyvale (A. R.). Dam has record of 405.4 lbs. Class BB.

IMP. MIGNON'S STAR NO. 40386, sired by Imp. Raymond of La Houguette (A. R.) sire of 3 A. R. daughters.

ONE DAUGHTER AND ONE SON OF EVELYN'S LILA A. R. 436 lbs. butterfat Class EE.

ONE DAUGHTER OF STRANFORD'S GLENWOOD OF PINEHURST 6TH A. R. sire of 4 A. R. daughters with records up to 772.99 lbs. butterfat at 4 years.

PICOTTE'S LILLY OF BONNIE BRAE 77911, granddaughter of Langwater Demonstrator A. R. Dam has record of 555.79 lbs. butterfat.

Auctioneers—Love, Benjamin, Lemanski, F. E. Fox in the Box.

Chippewa Valley Guernsey Sales Ass'n

G. R. Ingalls, Sales Manager, Eau Claire, Wisconsin

(Advertising service by F. E. Fox, Waukesha, Wis.)

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

Guernsey Bulls

GET A BULL, with Langwater, Pencoyd, May Rose or Haye's Cherub breeding. Prices reasonable, quality considered. Grades in limited numbers.

Fox River Valley Guernsey Breeders' Association, Harry Leppla, Secy. Appleton, Wis.

HONESTY PRIDE OF BIRCHFIELD 44580



Sire — Langwater Warrior 26509
Dam — Langwater Honesty 49479
10,536.9 lbs. milk, 517 lbs. fat, at 2 yrs. and 5 months

We are now offering a few splendid sons of Honesty Pride of Birchfield. From cows with A. R. records or now on test. Every-one is a straight backed, growthy, vigorous youngster. These young bulls will put type and production in your herd. Prices range from $150 to $300.

Quality Guernseys **HIGHLANDS** *Tuberculin Tested*

NYE H. FREEMAN, Herdsman, Linwood, New York

Thorn Hill Farm Guernseys



Have several well bred young Guernsey bulls for sale at reasonable prices. All my own breeding. May Rose and Glenwoods, out of A. R. cows with records from 500 to 750 lbs. of fat. Write for sales list to

AUGUST ZIESING, Deerfield, Ill.

Do You Want A Guernsey Bull

Closely related to Pergue's Crescent A. R. with a record of 13,316.9 lbs. milk and over 582 lbs. fat in Class EE and dropping two calves within the year, entitling her to second place in her class? Some excellent young bulls closely related to Pergue's Crescent ready to head your herd. Write for descriptive circular, or come and see them.

Ernest W. Sass, Box H, Streator, La Salle County, Illinois

Iowanola Guernseys

We are offering

A Very Fine Son

born July 25, 1920, out of Imp. Kitchener's Express 43925, his dam has 592 lbs. of fat, and out of Franseca of Homa Della who has 12,855.2 lbs. of milk and 640.09 lbs. of fat in Class D. This is a very typy calf and should appeal to any one in need of a bull. Correspondence solicited.

MOUNTAIN BROS.,
Carrier 403, Des Moines, Iowa.

642 Pounds Fat

is the average on the A. R. daughters of Bellfounder, the sire of Countess Prue, the World's Champion Guernsey and My Fancy, eighth in Class A.

We offer bull calves carrying 15%—50% of this consistently high producing blood.

Prices $225.00 to $600.00.

The demand is keen; write today.

FALCON'S FLIGHT FARMS,
Litchfield, Connecticut.

Hillswold Farm

Shrewbury, Mass.

Registered Guernsey bull calves for sale. Dams in Advanced Registry and tuberculin tested. Prices right, and animals guaranteed to suit. **W. A. Cloues, Mgr.**

Sons of

Langwater Fisherman

Serviceable Age and Younger

They are from A. R. daughters of Yeoman's King of the May and of Langwater Demonstrator, with records from 500 to 700 lbs. fat. Strongly bred May Rose calves carrying 15% to 20% of the blood of May Rose 2nd. Priced from $150 to $500. Guaranteed to be as represented.

We will answer your inquiry promptly.

MIXTER FARMS,
J. S. Clark, Supt., Hardwick, Mass.
300 Guernsey Females

Tilden Farms Guernseys

FOR SALE: Several typy, May Rose bulls out of A. R. cows and sired by Hope's May Rose of Maple Hill (35903), whose dam is a class leader with 776 pounds of butterfat at 3 years. Also several choice pure-bred females and a few excellent grade cows. Herd on Federal Accredited list.

TILDEN FARMS
James H. Murphy, Mgr. Delavan, Wisconsin

Harbor Hill Guernseys

Masher's Galore 8572 A. R.

Increased the Average Production Credit of 12 A. R. daughters out of A. R. dams by 181 lbs. We offer his double grandson out of another daughter also making a better record than her dam.

C. H. Hechler, Superintendent
Box 30, Roslyn New York

Guernsey Bulls

Our last 9 official records average over 510 lbs. fat, including all ages. Our herd sire has 8 A. R. daughters, including one with 572 lbs. fat in Class GG. His three nearest dams average 822 lbs. fat. Send for pedigrees and prices on young bulls with this backing.

Folly Farm, Box 587, Libertyville, Ill.

Guernsey Bulls For Sale

Polly's Anchor No. 42845, born August 24, 1916, and Imp. Bluebird of Lakeside No. 45329, born June 15, 1917. Good, straight bulls, very gentle and sure breeders.

For Sale by

RADISSON FARM, ANOKA, MINN.

GRASSLAND FARMS GUERNSEYS

Choicely bred males and females for sale. (The natural increase of the herd.)

Herd federal tested for tuberculosis. Send for sales list. Satisfaction guaranteed.

Taconic, Conn., Litchfield Co., (C. N. E. R. R.)

Langwater Traveler

Carries 50 per cent blood of Imp. King of the May, greatest bull of the breed.

His dam is Langwater Lustre, A. R. 806.10 lbs. fat, fifth cow in Class C. She is the second highest testing daughter of King of the May. His sire is Langwater Holliston, sire of Langwater Levity, sold for $6,000.00 and leading cow in Class EE. Traveler's daughters are averaging over 500 lbs. of fat with their first calves. His first daughter to freshen will be a class leader in FF. We offer some excellent bull calves by Traveler out of May Rose cows with fine records. Federal Accredited Herd.

CHICONA FARM GUERNSEYS
A. L. Gile, Prop., Chinook, Washington.

14 GUERNSEY BULLS

10 Heifers or A. R. Cows

your choice out of 75 head. All born and raised in our own barns. Herds accredited and guaranteed free from abortion, non-breeders and calf scours.

11 years of State and Federal testing without ever finding a single reactor or having a single case of abortion or a single non-breeder. $10,000 reward to anyone who can disprove the above statements.

No better GUERNSEYS anywhere at any price. Send for bargain sale list.

MATH. MICHELS & SONS, Fond du Lac, Wis.

Major Oliver S. Johnson



The Dairy Auctioneer

Tipton, Ia.

"Maj. Johnson has conducted twenty-five Sales for me"—Dr. M. B. Wood, Mankato, Minn.

When writing advertisers please mention Hoard's Dairyman.

Cost of Marketing Milk

The cost of a quart of milk to the consumers of Columbus, Ohio, during the first six months of 1920 ranged from 11.3 cents up to 15.3 cents, according to figures announced by the United States Department of Agriculture. The cost of this same quart delivered from the farmer to the distributor ranged from 8.7 cents to 10 cents.

The operation of the distributor's plant, including pasteurizing and bottling, ranged from 1 cent to 1.4 cents per quart, and the cost of delivering the milk from the plant to the consumer ranged from 1.61 cents to 3.9 cents per quart. According to the department's figures, the "bottle loss" ranged from one-tenth to two-tenths of a cent per quart. Shrinkage in handling and delivering varied from 2.3 per cent to 5.5 per cent of the total volume.

GUERNSEYS

A May Rose Bull
He Will Suit You

He is Gumption of Koshkonong Place, ready for heavy service and as straight as a line. His sire is Anton's King Cecil, one of the best May Rose bulls in the state. His dam is Gladness of K. P. (414.68 lbs. fat Class G), a daughter of Gilt Edge of K. P. (15 A. R. daughters).

Write me today about him.

A. R. HOARD, Fort Atkinson, Wisconsin

Manitowoc County Guernseys
Choice bull calves from one month to serviceable age, some from A. R. dams. Also some good grade females. For particulars write

George W. Kiel, Secy,
Manitowoc, R. 5, Wisconsin

Guernsey Bulls
Special Low Prices

Guernsey bulls by Beauty Eagle's Bonny Boy 42893, he by Bonny Boy of Riverdale 29070 (noted show bull), and out of Beauty Eagle 18117, 846 lbs. fat, or a son of Glenwood's Champion 15639 (24 A. R. daughters) out of daughter of Langwater Demonstrator 16451. Splendid high producing dams. Send for sale list.

LA BELLE KNOLL FARM, Oconomowoc. Wis.

Pleasant Acres Guernsey Farm
Is Offering For Sale

Bull calves of May Rose breeding from 3 to 14 months old. The dams of these calves either have A. R. records or are now on A. R. test.

Clyde E. Fruit, R. 1, Waukesha, Wis

GORDONDALE
GUERNSEYS

3 bull calves offered for sale. They have excellent breeding and dams have or are making good A. R. records. Write for further information, they are priced to sell.

Herd under Federal Supervision

L. E. GORDON, JR.,
Nelsonville, Portage Co., Wisconsin

A Real Buy
Serviceable May Rose Bull

Sire: A son of Langwater Steadfast, 19 tested dams average 714 lbs. fat. Dam: A splendid daughter of Gov. of the Chene, with 526 lbs. fat, Class D.

This fellow is a top-notch individual and full of pep. Priced to sell. Don't overlook this bargain.

Federal Accredited Herd.

Norwind Farm, Sheboygan, Wis.

Wern Farm Guernseys
I am offering for sale 20 head of choice Grade Guernsey springers coming with first and second calf. Also have two bulls highly bred along May Rose lines just ready for service, that I will sell. For full particulars, write, wire, or come and see the stock.

Wern Farm, Waukesha, Wis.

8 Registered Heifers For Sale
5 of them are from 18 to 20 months old and in calf to a good son of Langwater Cavalier. Of these, 3 are granddaughters of Langwater Hambro and of Bob Rilma's Monogram. They are well grown and good individuals.

The other 3 are from 5 to 8 months old.

Write or come and see them.

Ralph Tratt, Whitewater, Wis.

BROWN SWISS



BETTY OF LAKE VIEW

Breed Brown Swiss Cattle
They prove their superiority over other breeds when subjected to trying conditions on the farm, by keeping in good flesh and filling the pail while other cows grow thin and reduce their yield. You can prove this to your satisfaction.

BROWN SWISS CATTLE BREEDERS' ASS'N
IRA INMAN, Secretary, Beloit, Wis.
William B. Hale, Pres., Aqueduct Bldg., Rochester, N. Y

JUBILEE FARM
Box 747, Peoria, Illinois.

All Females Withdrawn from Sale Until After the
ILLINOIS BROWN SWISS BREEDERS' ASSOCIATION SALE
MORTON, ILL., APRIL 21
and
FIRST NATIONAL CONSIGNMENT SALE
PEORIA, ILL., MAY 26

A number of line-bred bulls for sale.

On Account My Poor Health
Dispersing Entire Herd Brown Swiss

Consisting of one cow 4 years old, one cow 3 years old, 2 heifers 2 years old bred to freshen next September, and 1 heifer 15 months old not bred. All registered and excellent dairy type and breeding. Priced for quick sale at $1,000. Guaranteed free from all disease.

A. W. Blankenburg. Lakefield, Minn.

Look For Our Consignment
At the National Brown Swiss Sale, Peoria, Illinois, May 26, 1921

The six head we are consigning are from cows with official records from 11,000 to 17,000 lbs. Gallatin Browney, Grand Champion bull at the National Dairy Show, 1919, included. For catalog address W. S. Dunn, Middleburgh, N. Y.

HULL BROS., Painesville, Ohio

JERSEYS

The Elms Jersey Farm
A few young cows, bred heifers and unbred heifers, for sale at from $150 to $250. Write for pedigrees and descriptions.

Thos. T. Bacheller, Jr., Mgr.
Forest Lake, Minn.

JERSEY BULL
Seventeen (17) months of age. From Register of Merit Dam with record of 577.38 lbs. fat at age five years, seven months; solid color.

For full pedigree and price write

SHEFFIELD FARM, Glendale, Ohio

POLLED JERSEYS
Breeders' names and Spillman's "Inheritance of the Poll Character in Cattle" mailed free.

CHAS. S. HATFIELD, Secy, R4, Box 5, Springfield, Ohio.

JERSEYS—DUROCS
Just one bull old enough for service and a few young calves. Hood Farm breeding.

F. R. Constance & Sons, Waupaca, Wis.

Register Merit Jersey Herd
At Head, Mona's Jacoba Premier grandson: Pogis 99th of Hood Farm. Dam, Mona's Jacoba, record 806 lbs. butter: Granddaughter Jacoba Irene, young stock; St. Lambert breeding for sale. **R. C. Green & Son, Albion, Wis.**

Ten Splendid Jersey Bulls
Good type, 6 to 18 months old. Heifers bred and open. Hood Farm Torono, King Sappho King, Loretta D. Bright Prince, etc. blood lines. Free from abortion. Dams are in the R. of M. or on test. Accredited herd.

Address: J. Q. Emery & Son, Edgerton, Wis.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

MERIDALE JERSEYS



Second Annual Sale
Meredith, Delaware Co., New York
Thursday, June 2nd, 1921

TOM DEMPSEY, *Sale Manager,* Westerville, Ohio

THE day following the annual meeting of the American Jersey Cattle Club in New York.

Unusual care has been exercised in the selection of the cattle offered. Out of some two hundred imported Jerseys now at Meridale Farms, only eighty-two are catalogued for sale; out of forty daughters of Sybil's Gamboge, only sixteen are offered; out of twenty daughters of the Cid, only four are in the sale list.

"The catalogue tells the story." Mailed only on request.

Special sleeping car service from New York City. Reservations must be made in advance by application to us.

AYER & McKINNEY
MERIDALE FARMS MEREDITH, N. Y.

INCREASED PRODUCTION GUARANTEED
We guarantee any Jersey bull we sell to increase the average production of any herd

OR MONEY REFUNDED

YOU TAKE NO CHANCES. Our guarantee insures increased production and profit. Bulls for sale, ready for service.

AYREDALE STOCK FARM
F. W. Ayer, P. O. Box 713, Bangor, Maine.

N. B. Write us the size and producing ability of your herd, and we will describe and price a bull guaranteed to increase their production.
By mentioning "Hoard's Dairyman" we will know you are asking for a guaranteed bull.



Heifer Calf For Sale
Dropped Oct. 6, 1920, fawn color, nice type, and in fine condition. Sired by Golden Renown's Majesty, and her dam (Majesty's Brown Bess) is sired by a grandson of Royal Majesty. This heifer is exceptionally well-bred and dam is good producer.

Will sell cheap on account of being crowded for room. Registered, transferred, and crated for $80. Accredited Herd.

W. M. KNIGHT, Oak Grove Jersey Farm, - - - Eagle, Waukesha Co., Wis.

Jersey Bull
Age 4 Yrs. 6 Months

Ella's Golden Prince
Grandson *Noble of Oaklands*—Dam, Hood Farm breeding, tested at age 13 years, 722 lbs., 13 ozs. fat. Large, strong, excellent type, solid color. Price, $300.00. Picture and pedigree on request. Heifer, 2 years, 5 months old, milking 6 months, bred to *Ella's Golden Prince.* Solid dark color—good size and type. Price $200.00. Heifer, 1 month old. Sire, *Ella's Golden Prince.* Dam, Eminent, Majesty, and Oxford blood. Excellent type, solid color. Price, $75.00.

H. A. Blackwood, Weldona, Colorado

HERE'S YOUR OPPORTUNITY
Bull calf born March 4, 1920, sired by a grandson of Majesty's Western King and out of a R. of M. daughter of Ibsen's Chief. For full pedigree and price write

E. E. HILL & SONS, Tomah, Wis.

Valley Farm is Offering
Several bulls, 6 to 12 months old, from R. M. cows. Sired by Golden Maid's Viscount and Kilda's Royal Majesty, two of the best Island bred bulls living. At prices to sell. Write

FRED STUBLEY, Black Earth, Wis.

Hillcrest Jerseys
Bull calf born March, 1920. Sired by Imp. grandson of Golden Fern's Noble. Priced right for quick sale. Write

ROLLIE VANDERVORT. TOMAH, WIS.

25 out of 80
OR

31¼ per cent of the highest record cows of the breed, at various ages from yearlings to mature cows

Bred or Their Sires Bred at Hood Farm

These 25 cows and heifers average 14,156.6 lbs. milk, 765.5 lbs. fat. Two out of the eighty Imported cows; seven out of the eighty sired by Imported bulls; 9 or 1⅛ per cent Imported or sired by Imported Bulls.

A Sophie Tormentor Bull

at the head of your herd means increased production and profit. Four-generation pedigree on request.

HOOD FARMS, Inc.
Lowell - - Mass.

Montpelier Jerseys
Three young bulls ready for service. Trace three times to Oxford Lad. Fine typy individuals. Right in every way.

Montpelier Manor Farms, Laurel, Md.

Second Co-operative

NATIONAL SALE

Syracuse, N. Y., June 2-3-4

200 Selected Holsteins

From 75 Leading Herds in United States and Canada

Quarter of a Hundred 30-lb. Cows, 50 From 30-lb. Dams.
Several 1000-lb. Cows — Many From 1000-lb. Dams.
Foundation Animals — The Breed's Best — Guaranteed Healthy. 60-Day Retest.

Sale will be held —

Thursday, Friday, Saturday
New York State Fair Grounds

Under direction of —

N. Y. State Holstein-Friesian Ass'n
E. R. Zimmer, Secretary, Syracuse, New York

2d Annual Guaranty Sale

Oneida Co. Holstein Club

In Combination with Herkimer County Breeders
On the Francis M. Jones Farm, Clinton, N. Y.

June 7-8 — Two Big Days

A sixty-day guaranty sale of selected individuals chosen by an inspection committee appointed by the Club.

A Sale Intended To be Representative Of The Best That Oneida And Herkimer Counties Can Produce

THE ENTIRE A. C. HOWE HERD will be a leading feature. In this extraordinary herd are 18 direct descendants of the 42-lb. cow, Tietje Queen De Kol, including her 30-lb. 2-year-old, Glen Alex Tweede De Kol with the latter's yearling daughter and a last November son sired by Spring Farm King. Glen Alex King Tweede, a full brother to this youngster, has 8 daughters and 3 sons in the herd.

A 2-year-old daughter of Champion Echo Sylvia Pontiac from the 43-lb. 4-year-old, Tietje Queen De Kol 2d, is one of the outstanding entries in this consignment. Her daughter is likewise included and so a last September son of the 43-lb. 4-year-old, sired by Glen Alex King Tweede.

LAST YEAR'S SALE established a high standard of quality. The coming event, it is believed, will be even better. An earnest effort is being put forth to make this a sale that shall be fairly representative of the best that Oneida and Herkimer counties can produce in good Holsteins.

ELECTRIC CARS from Utica will be met at Clinton.

Send for Catalog to

W. G. Comstock, Secretary, Clinton, N. Y.

Catalog and Publicity, E. M. Hastings Co., Pulaski, N. Y.

M. & P. HEALTHY HOLSTEINS
Federal Tested

Brentwood King Sylvia
a grandson of
May Echo Sylvia

now heads this herd of more than a hundred superior females, 50 cows have A. R. O. records up to 30 lbs.

Markham & Puffer
Avon, N. Y.

A $1000 Bull for $500
Count Segis Lyons 281218—Our Jr. Sire 2 Yrs. Old

His sire, King Lyons, nine 30-lb. daughters. His dam, Julia Lyons Pontiac, a 24-lb. 3-year-old granddaugher of King of the Pontiacs. His 7 nearest dams average 30.27. His 15 nearest dams average 28.28. He is ⅞ white, gentle and sure, will put you on the Holstein map. Terms to purchaser if desired. Several other high record service bulls $100 values up to $250. All animals tested in February with triple test.
Henry J. Karpinski, R-7, Oswego, N. Y.

DON'T HOLD BACK
IT COSTS MONEY

Write your wants to River Meadow Farms with full assurance you will get just what you need at the lowest price. 400 head on hand.
Good cows pay for themselves in a very short time. Poor cows are worth nothing to anyone.
There is the largest demand for good cattle we have known in years, especially in the South. Reconstruction is over and prices will advance steadily.
Think it over, and plan your order with
RIVER MEADOW FARMS, Portlandville, N. Y.

Edinboro Lake Farm

Show Type **HOLSTEINS** Production

Six state yearly record champions 1918-19.

We offer bull calves by Sir Paul Veeman Hengerveld and Sir Ormsby Skylark Fredericka, out of yearly record dams with type.

Edinboro, Pa.

Yearling Bull — Ready For Service

Here is a show bull whose sire is by a son of KING KORNDYKE HENGERVELD ORMSBY and out of a 37-lb. cow. His dam is backed by many yearly records. He is priced at half his value—$125.
G. G. Burlingame, Cazenovia, N. Y.

U. S. Soldiers' Home
DAIRY
Washington, D. C.

offers for sale, at reasonable prices, from the first accredited herd in the United States, pure-bred Holstein-Friesian bulls from yearly tested dams. Herd free from tuberculosis for more than eight years. Latest combination test completed February 18, 1921, by U. S. Department of Agriculture.

Whitehurst Farms

BULLS FOR SALE FROM SEMI-OFFICIAL DAMS. Priced Right.

A. F. Randolph, Prop., Canton, Ill.

SONS
of Sir Echo Sylvia Johanna —
⅞ Brother to the $106,000 Bull

From high bred fine individual A. R. O. cows up to 30 lbs. Several on test now. All good, straight individuals, backed by lots of milk and butter. Some are ready for service. Priced very low. Write for catalog.
(*Herd Under Federal Supervision*)
CHESTNUT HILL FARMS,
G. A. Burdick, Mgr., Gibsonia, Pa.

ORIGIN FARM

HORNLESS HOLSTEINS. Registered and A. R. O. Animals, all ages, for sale. Federally Tested.
GEO. E. STEVENSON, Scranton, Penna.



The Count-Piebe Combination



KING SEGIS PONTIAC COUNT
"The Marvel of All Sires"
Whose daughters have broken more World's Records than the daughters of any other sire.

PIEBE LAURA OLLIE HOMESTEAD KING
"The Present Day Sensation"
The only bull in the world with five 20,000-lb. two-year-old daughters.

Will Triple Your Milk Check Because It Will Put Production Into Your Herd

And more than triple the price you are getting for your calves. Because it combines individuality with production, it has given us thirty cows at Arden Farms that have **each produced $1,000 worth of milk per year. Do you want that kind?**

We Offer
Sons of "Count" from Daughters of "Piebe"
Sons of "Piebe" from Daughters of "Count"

We have the finest line of young bulls we have ever raised at ARDEN FARMS, priced in accordance with present financial conditions. LIBERAL TERMS GIVEN IF DESIRED.

J. M. Hackney, 602 Merchants Bank Building, St. Paul, Minnesota

MINNESOTA HOLSTEINS



MISS KORNDYKE AKKRUMMER ORMSBY
30-lb. 4-year-old, 39.67 lbs. butter at full age.
(Owned and developed by J. B. Irwin.)

"The Home of the Ormsbys."

BARGAINS IN BULLS

A few richly bred choice young bulls ready for service.

on the bargain counter for a clearance sale.

Let us give you a good individual well bred at a very low price while they last. Tuberculin tested. Guaranteed in every respect and ready to ship. Come and see them.

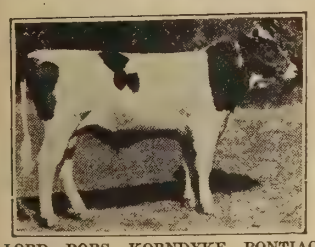
Woodlake & Clover Farms,
JOHN B. IRWIN, Sta. F, Minneapolis, Minn.

Registered Cows and Heifers

We have on hand more females than we usually carry so are able to offer some good ones for sale. A number have A. R. O. records and most of them are from tested dams. Bred to a yearly record sire and themselves backed by yearly producers.

Address correspondence to Axel Hansen, formerly with John B. Irwin.

MINERAL SPRINGS STOCK FARM, - - SAVAGE, MINNESOTA
Stuart—McIntyre—Hansen, Owners.
Address correspondence to Axel Hansen, formerly with John B. Irwin.



LORD BOBS KORNDYKE PONTIAC

Echoland Farms
Offer For Sale
Lord Bobs Korndyke Pontiac

He is a show bull and a good sire.

His Sire—Roberts Abbekerk Pontiac is an excellent individual and a bull that has won first at many of the leading shows, and by a good son of King of the Pontiacs. His dam is a 29.37-lb. cow from the 33.79-lb. sire, Sir Gerben Pauline. This bull will make a real herd header for some small breeder and we know he will please as an individual. For price and description write

EGIL BOECKMANN, White Bear, Minn



Lola Segis Pontiac Homestead

the highest record bull in southern Minnesota, heads our herd. His sire, Piebe Laura Ollie Homestead King, has more daughters that as 2-yr.-olds have produced 20,000 lbs. milk in a year than any other. His dam, a 34-lb. 4-year-old daughter of King Segis Pontiac Count, has 3 records averaging 33 lbs. and has made over 1,000 lbs. in 1 year. We have a few serviceable bulls and younger from A. R. O. dams for sale.

Clover Lea Farm, W. W. Walker, Owner. Austin, Minnesota



Sir Walker Segis Homestead

The best show bull and son of the great bull, PIEBE LAURA OLLIE HOMESTEAD, out of a "COUNT" daughter, BEAUTY BEETS WALKER SEGIS, world's greatest heifer, with two yearly records over 25,000 lbs. milk and 1,000 lbs. butter in heifer form, and a seven-day record of 35.03 lbs. butter from 730 lbs. milk.

We offer several choice bulls, one month to a year old, out of high yearly record and A. R. O. cows, at very reasonable present day prices. Pedigrees and photos will be sent.

A. J. LASHBROOK, - - Northfield, Minnesota

Grandsons of Sir Pietertje Ormsby Mercedes

The sire is Sir Pietertje Ormsby Mercedes 22d, a son of Minnesota's first 1000-lb. cow. These bulls are all nicely marked, straight top lines. Very good individuals from good A. R. O. dams. For pedigrees and prices, write

O. J. GROVER, - GLYNDON, MINN.

Grandsons of
Duchess Skylark Ormsby and of S. P. O. M. 38th

Good Ones — From Yearly Record Dams. Priced to Sell.

POPLAR HOLLOW STOCK FARM,
Bertram D. Scott, Prop., Richfield Station
Minneapolis, Minn.

We Have Half a Dozen Bulls

and bull calves that we want to move right away. Some by a 32-lb. son of Count and others by a 1,000-lb. son of Sir Korndyke Bess. Dams have good yearly records and all the way up to 30 lbs. butter in 7 days.

Flecks Farms, Faribault, Minn.

Serviceable Sons of Dutchland Aaggie Tidy Prince

I have three of these youngsters for sale, all ready for service and from A. R. O. granddaughters of S. P. O. M. Their sire is from a sister to Tidy Abbekerk Prince and already has a good list of tested daughters, including one above 36 lbs.

Write today for complete information.

E. J. BROSIOUS, - - Stillwater, Minn.

A LINE-BRED "41st"
BULL CALF FOR SALE



SIR PIETERTJE ORMSBY BESS BURKE
Born Dec. 20, 1920

A real showy calf, straight as a line and of ORMSBY type

His dam and sire's dam are both daughters of SIR PIETERTJE ORMSBY MERCEDES 41ST, the only son of Spring Brook Bess Burke. His dam is on yearly test as a junior two-year-old and bids fair to go 800 lbs. The sire's dam made 28.93 as a 3-year-old and 26.82 as a 2-year-old.

THIS CALF WILL GROW INTO MONEY —SEND FOR PHOTOS, PEDIGREE AND FULL PARTICULARS.

E. C. Schroeder Farms
(Under Federal Supervision)
MOORHEAD, Minnesota

Holstein Bulls
At Farmers' Prices

We are not in the game to get rich but to help promote the breed by offering pure-bred bulls at the lowest prices, enough to cover raising. Write for prices and descriptive list. The Ormsby kind.

RAMSEY COUNTY HOME,
J. E. McMahon, Supt., North St. Paul, Minn.

"DUKE"

The only place you can buy sons of serviceable age sired by DUKE PIETERTJE KORNDYKE ORMSBY

The bull selling at the last Minnesota state sale for $33,000.00 is from the herd where he stood for three years prior to the sale. "Duke's" dam now has three records above 1,000 pounds, the last one was 1,190 pounds.

Now is the opportune time to buy one of these bulls as their sisters will be given every opportunity. Get a son now and be in line. Clean bulls from a clean herd. Prices reasonable. Write

EDW. H. ULRICH, Biscay, Minn.

REGISTERED BULLS
FROM TESTED DAMS

Sired by a 30-lb. son of Colantha Johanna Lad and a 26½-lb. son of Laura Piebe Ollie Homestead King. Well marked, straight individuals from two months to 2 years old. Priced to suit present conditions.

GEO. H. ELWELL,
Minneapolis, Minnesota.

RICHLY BRED
HOLSTEIN BULL CALVES

out of A. R. dams and sired by our two richly bred herd sires — **King Piebe Ormsby Mercedes**, a 35-lb. son of Sir Korndyke Bess and every dam in pedigree over 22 lbs. and **King Pietertje Mercedes Ormsby**, a son of Sir Pietertje Ormsby Mercedes and out of a 19-lb. senior two-year-old dam.

Herd tuberculin tested. Write for information or visit herd.

P. FROST SPAULDING FARM CO.
C. L. Spaulding, Mgr., Warren, Minn.

HOLSTEIN FEMALES

Females of all ages for sale, priced very reasonable Mostly all bred to our 34-lb. sire, he a grandson of Count, from a sister of Piebe. One or a carload. Under State and Federal supervision.

BLACK & WHITE STOCK FARM, R. 3, Melrose, Minnesota

COME TO BISCAY

for your next purchase of pure-bred or grade Holstein cattle, mature or young stock. Large selection, also a few select male calves to offer. Located near station.

BISCAY SALES CO., BISCAY, MINN.

THE MARK OF QUALITY

A Son of Count

Here's your chance to get a son of King Segis Pontiac Count, "the marvel of all sires" for your herd. The daughters of "Count" have exceeded the daughters of all other sires of the breed in both long and short time work.

This young bull is from Buffalo Lois Beets, 7 days 22 lbs. of butter. She is by Buffalo Beets De Kol with 19 A. R. O. daughters, he by Paul Beets De Kol by that famous old Sire De Kol 2nd Paul De Kol with 45 A. R. O. daughters. Her dam Buffalo Lois Johanna 7 days 25.48 lbs. of butter by Johanna Colantha's Lad sire of 26 A. R. O. daughters.

This young bull is for sale at a price that anyone can afford to pay. Write today for his complete pedigree or if you can come and see him. The farm is at Blooming Prairie, Minnesota on the Oak Dale Trail.

OAK DALE FARMS
INCORPORATED
BREEDERS of HOLSTEIN FRIESIANS
Austin Minnesota

Get A Calf

We have a grand bunch of youngsters on hand. Come and pick out a calf while you have a big choice. Grow him to suit you. Saves you money and we are selling them as cheaply as we can. Show calves that are backed by generations of official testing and careful breeding. Sons of DUTCHLAND CREAMELLE COLANTHA LAD No. 165049. His yearly daughters all average over 834 lbs. of butter at 26 months of age.

GRAHAMHOLM FARMS,
H. R. Searles, Mgr., Rochester, Minn.

A BULL BARGAIN

Bull calf born July 19, 1920.
Sire's nine dams average over 1,000 lbs. butter in year.
Dam has over 500 lbs. butter in 263 days.
This calf is an excellent individual.
Straight top line. Price $500.

MANKATO HOLSTEIN FARMS
Marlow & Randall, Mankato, Minnesota.

Bull Calf

advertised last week is sold. Here is another good one ready for light service. Sired by a 30-lb. bull. Dam a 14-lb. 2-year-old who will be tested again next spring. Priced so reasonable that you can't afford to be without him. $150.00 for immediate sale.

V. R. Holmes, Anoka, Minn.

Fairview Stock Farms' Dispersal

Sale of
60 Registered
Holstein-Friesian
Cattle



June 1, 1921
11 A. M.
At Kirk's Sale Barn
Anderson, Ind.

35 cows in milk. Foundation stock of all ages. Daughter of King Belle Segis, a 32-lb. sire, and bred to a 33-lb. sire. Daughter of Ensign King Segis, a 33-lb. sire. Daughter of A. R. O. cows with superior breeding. Foundation cows that you never have a chance to buy except in a Dispersal Sale. A. R. O. bulls of serviceable age, sired by 32-lb. and 33-lb. sires. Herd sire, Ensign King Segis, a 33-lb. bull.

Herd Tested Under State and Federal Supervision

Auctioneers: Purl Dean, Delno Dresback, Hecter Kirk. W. F. Andres in Box.

Keith Hoover, Sales Manager. O. L. Janney, Owner, Alexandria, Ind.

Accredited Holstein Sale — Austinburg Ohio June 6th

At the farm of Chas. Whiting, one-half mile north of Austinburg.



55 HEAD COWS AND BRED HEIFERS 55
ALL FROM ACCREDITED HERDS

CHAS. WHITING, AUSTINBURG, BECAUSE of the death of his son, will sell his entire milking herd of 19 cows including Majella Maid Korndyke with 28.20 lbs. butter, 510.9 lbs. milk in 7 days, and her excellent three-year-old daughter, both bred to a 29.46-lb. grandson of King of the Pontiacs. Also several other relatives to this great cow. Only four of these cows have reached mature age, the remainder being 2 to 4 years of age. Also a yearling bull out of the 28.20-lb. cow.

DR. H. O. FREDERICK, ASHTABULA, OHIO, will sell 12 excellent cows and heifers all bred to Daisy Hill Pontiac Fries, a son of King of the Pontiac's son (out of Pauline of Brightview with 1119.91 lbs. butter, 25,606 lbs. milk 365 days) and out of Lady De Kol Fries 2d, who has just made 29.46 lbs. butter 7 days and is on yearly test.

E. D. HUMPHREY & SON, GENEVA, will sell 13 cows and 7 bred heifers. These cows are all 2- and 3-year-olds, all milking and part of them will be bred at sale time. The heifers are all bred for fall freshening.

Besides this excellent lot of cattle, Mr. Whiting will offer for sale his 92-acre farm, all under plow, with good house, excellent barn, steel stanchions for 38 cows, silo and an ideal location for a modern dairy. Every animal from an accredited herd. Every animal guaranteed a breeder. Will accept bankable notes, six to nine months' time at 7%.

Buyers will be met by auto at Hotel Ashtabula, Ashtabula, Ohio.

Under Management of

OHIO HOLSTEIN-FRIESIAN ASS'N, Howard C. Barker, Field Sec., Tiffin, O.

Ready For Service

Born March 1, 1920

SIRE: OAK DE KOL OLLIE HOMESTEAD, Grand Champion, National Dairy Show 1916-17. He is a maternal brother to IOWANA SIR OLLIE and OLLIE JOHANNA SIR FAYNE, and the sire of PIEBE LAURA OLLIE HOMESTEAD KING.

DAM has 725 lbs. butter in 365 days at 3 years, 6 months. Sne is a daughter of SIR JOHANNA FAYNE (25 daughters now average over 20,000 pounds) and her dam is from a 25-lb. sister to PIETERTJE MAID ORMSBY.

Send for pedigree and price.

IOWANA FARMS, (Herd Under Federal Supervision) **Davenport, Iowa**

LIGHT COLORED 800-lb. BULL

Dam—a 4-year-old daughter of Sir Sadie Cornucopia, finishing a yearly record of over 800 lbs. She made 731 lbs. at 3 years. Sire—Woodcrest Sir Clyde, son of Alma Clyde (33 lbs. and 970 lbs.), and sire of 16 20-lb. 2-year-old daughters and two over 30 lbs. Bull was born May, 1920, is ¾ white and Federally tested. Reasonable terms.

W. B. BARNEY & SONS **Chapin, Iowa**

Son of Lieutenant Rag Apple

from a daughter of Admiral Urmagel Burke a real combination, light in color, priced right, serviceable. State and Federal accredited herd.

BLUEBELL FARM, Riceville, Iowa.

Fairhurst Herd

On the Accredited List

We offer young bulls, fine individuals and well grown. Sired by 33-lb. bull and from dams with records up to 30 lbs. Write for pedigree and price.

KITTLE BROS., Holland, Ohio.

For Immediate Acceptance—

Three young bulls ready for service—Holsteins.
No. 1—Sire a 30-lb. bull. Dam a 27.5-lb. cow. Price $300.00.
No. 2—Sire 30-lb. bull. Dam 23-lb. 3-year-old. Price $250.00.
No. 3—Sire 30-lb. bull. Dam 16-lb. cow. Price $100.00.
King of the Pontiacs breeding, well grown and good individuals. Send for extended pedigree.

R. F. JOHNSON, Assumption, Ill.

Bull of Ormsby Breeding

We offer Chief Segis Lyons Ormsby No. 280751 Born March 8, 1919, a grandson of Sir Pietertje Ormsby Mercedes 41st. His sire a 33-lb. bull; his dam a granddaughter of Sir Pietertje Ormsby Mercedes, who had more 1,000-lb. daughters than any other sire in the world. Also some splendid bull calves ready for service, from A. R. O. dams. Herd tuberculin tested. Write for prices.

Schermerhorn Farms, Mason City, Iowa.

Holstein Bull Bargain

Royal Breeding—Splendid Individual

Carries 43¾% blood of Pontiac Korndyke, the greatest of all sires. 25% of blood of King Segis Pontiac and 12½% blood of King Segis. None better. 4 others ready for service. First $250.00 check gets him.

Wm. N. Osborn, Wanatah, Ind.

YOU CAN'T DO BETTER FOR THE MONEY. Bull calf born Aug. 17, 1921. Mostly white, a show bull and well grown. His 3 nearest dams average 28.47 lbs. Sire is a 32.7-lb. grandson of King of the Pontiacs. Send for pedigree and photo. Have only 2 other bull calves besides this one. C. I. REAMER, Prop., Utopia Dairy Farms, North Liberty, Ind.

Central Wisconsin Holstein Breeders'

13TH SEMI-ANNUAL

Consignment Sale

Marshfield, Wis., June 1

65—The Best in the Land—65

The home of Minerva Beets of Prospect Johanna Posch—State Champion Jr. 4-year-old—954 pounds of butter over 23,000 pounds of milk. You'll find more like them here, June 1st.

53 Females — 12 Males

Individuality, breeding, official records, mature cows, heifers with a future, now bred to 30-lb. sires. Young bulls of quality.

65 of the Best

Auctioneers—Heintz, Krause, Cook. Pedigrees—Frank Everson

Sales Manager

R. A. Peterson, Wisconsin Rapids, Wisconsin

HOLSTEIN COWS

We offer for sale a number of cows, heifers, bulls and calves of all ages. Some sired by King Korndyke Veeman whose two nearest dams average over

WISCONSIN STAR STOCK FARM,

HEIFERS and BULLS

37 lbs. butter in 7 days and bred to King Sadie Vale Walker who is a son of the youngest 29-lb. cow in the world. Come and see them or write to

ED. M. SCHULTZ, Hartford, Wis.

Bull Calves

by

SIR BESS ORMSBY FOBES

out of

Cows with 7-day records now on semi-official; two-year-olds milking as high as 70 lbs. and mature up to 92 lbs.

LINDEN LAWN STOCK FARM

B. W. RABENHORST, Jefferson, Wis.

I-N-V-E-S-T-I-G-A-T-E—Pure-bred Holstein bulls sired by Wisconsin 3-year-old at National Dairy Show 1920. Herd tuberculin tested. Pure-bred Duroc pigs sired by Great Wonder Sensation.

RIDGEHURST STOCK FARM,
Glen O. Ramsey Ft. Atkinson, Wis.

REGISTERED HOLSTEINS



FEDERALLY tested herd of 800 selected Holstein cows headed by world's record sires. Young bulls, for sale. Satisfaction guaranteed.

Write for Sales List No. 105

511 Consumers Bldg., Chicago, Ill.
511 Stuart Bldg., Seattle, Wash.

Carnation Stock Farms

BULL CALF

Sire's dam, butter, 1 yr., 848 lbs.; her daughter, 1,055 lbs. Grandsire's dam, 987 lbs. at 11 yrs.; her full sister, 1,344 lbs.; another, same dam, 1,322 lbs. Dam, Miss Pietertje Alexina 3d, sister to Miss Pietertje Alexina 2d, 1,290.91 lbs. A dandy calf, priced right. Write quick to

McKAY BROS., - - CADDOA, COL.

Cows and Heifer

A Few Good Bulls

Because I am overstocked, I am offering some very good registered females for sale. They either have A. R. O. records or are from A. R. O. dams.

Can also offer some excellent young bulls by a 33-lb. sire and from A. R. O. dams with records up to 28 lbs.

Every animal sold is guaranteed to be as represented.

Write or come and see for yourself.

J. D. McDonald West Salem, Wis.

Serviceable Bulls For Sale

Sired by Pabst Pontiac Hengerveld, a son of King Pontiac Champion from Pabst Hengerveld Colanthus (31.5 lbs. butter in 7 days, 1,057 lbs. in a year.

These are nicely marked, well grown youngsters out of good producing dams. Several are ready for service, others are younger.

Write today.

John Alexander, Baraboo, Wis.

1000---HERD---1000

Quality Holsteins

GRADES AND PURE-BREDS

Just now we have a splendid lot of grade heifers. Write for our pure-bred bull list.

Jefferson County Holstein-Friesian Breeders' Association,
A. F. Gafke, Secretary, Jefferson, Wis.

ORMSBY BULL - Born Feb. 28, 1919

Sire, King Ormsby Pontiac De Nijlander, whose two nearest dams average over 30 lbs.

Dam, Aaltje Hengerveld Tritomia Segis. A. R. O. 17 lbs. at 3 yrs., next dam 29.68 in 7 days. Color light, fine individual. Ready for service. Price $300.

Fairview Stock Farm Whitewater, Wis., W. C. Marshall, Prop.

Good Holstein Calves

Bargains for the next 60 days. Grade heifers. Pure-breds either sex. Order your Duroc-Jersey pigs to be shipped at three months old. Pairs or trios not akin.

J. C. BOLGER, Waterloo, Wis.

Send For Our Bull Sales List

Three bulls of serviceable age—four others will be old enough for service in a month or two—others three months old and older. Almost all of them sired by SIR ORMSBY BEAUTY PONTIAC SEGIS, the son of a 37-lb., 1112-lb. three-year-old daughter of KING SEGIS PONTIAC COUNT.

If it will be of an accommodation to the purchaser, we will accept a six months' note in payment, WITHOUT INTEREST, or will accept payment on installment plan basis.

Pinehurst Farms Co., Sheboygan Falls, Wis.

A Few Good Granddaughters OF King Segis Pontiac

and from A. R. O. Dams.

Guaranteed right. You Get Your Papers When You Buy.

Rock Valley Stock Farm
Fort Atkinson, Wisconsin

Wayside Lawn Farms

offer

Young Bulls Ready for Service

sired by 31-lb. bull, Hengerveld Banostine Gudultje, whose two nearest dams average 30.65 lbs. butter in 7 days and 848 lbs. butter in one year. The bulls are from tested and untested dams. They are well grown and right in every way. Price $100.00 to $200.00. Herd Federally Accredited.

WALTER SORGE, Reedsburg, Wis.

$100 to $200 Buys A Bull From A Good Record Dam

Am offering several for those prices sired by a 26-lb. bull and from A. R. O. dams with records up to 25.46 lbs.

Write at once. They'll go fast.

H. W. Crawford, R. 5, Campbellsport, Wis.

Five Heifer Calves

All show animals by a 31-lb. sire out of A. R. O. cows of good individuality. Will sell one or the bunch at bargain prices as we are overstocked.
Also bulls for sale.

G. G. BURLINGAME
Cazenovia, N. Y.

OLD DEERFIELD HERD

For Sale—Holstein Bulls 4 to 7 months old. Sired by King Piebe Korndyke Johanna No. 210876. Prices $50 to $60.
Young cows $200 to $300. Some $175 and up. Reg., transferred f. o. b. cars my station.

CARL FOLL, R. F. D. Deerfield, Wis.

FIRST ANNUAL

Bred Heifer Sale

June 9th, 1921, Thorp, Wis.



FAIRVIEW STOCK FARM

70 Pure-bred Holsteins 70

Mostly Bred Heifers. A Few High Record Cows and Heifer Calves



KING KORNDYKE HAIDEE ORMSBY
Dam a 34.30-lb. 7-day; 1017 lbs. in 305 days. A daughter of Sir P. O. M.

Four Young Bulls Sired by King out of Daughters of Paul Netherland Posch

Quality Counts



PAUL NETHERLAND POSCH
Dam, 34.61-lb. 7-day; 130-lb. 30-day record. A brother to Ormsby Korndyke Lad.

All Bred to the Following Bulls — Every One An Ormsby

1. *King Korndyke Haidee Ormsby.* Dam 34.30 lbs. in 7 days. 1017 lbs. in 305 days.
2. *Sir Pietertje Ormsby Mercedes 42d.* Dam 950 lbs. in 365 days.
3. *Allamuchy Ormsby Artis.* Sired by King of the Ormsbys.
4. *Sir Fobes Ormsby Pietertje.* Sired by Sir P. O. M. 37th.

TERMS: Cash or Bankable Paper at 6%. Liberty Bonds at Face value. Sale at 12 o'clock. Free lunch at 11 o'clock. Every animal guaranteed right. 60-day retest.

Catalogs Ready.

Auctioneers—Mack and Hansen. Pedigrees—Everson and Scott. Leadsman—Heckler.

W. H. Krause, Proprietor

BUY DIRECT

Reasons for Buying Holstein Cattle in Waukesha County:

1. You can buy direct from the breeder through the breeders' association, organized by the breeders to promote the breeding of more and better Holstein cattle and to assist in a fair marketing of the same.
2. There are over 50 pure-bred Holstein sires in service in Waukesha County whose dams have records of over 30 lbs. butter in 7 days or 1,000 lbs. butter in a year.
3. There were 1,307 long-distance tests made on Holsteins in Waukesha County during the past year, which is more than the total in the next four leading counties in the state.
4. There are more tuberculin tested cattle in Waukesha than in any other county in the world.
5. The breeders' organization is in a position to put you in touch with "bred-for-production-stock" at reasonable prices.
6. When buying through the Association, you obtain the services of men who devote their entire time to the Holstein industry. It saves you time. You get more for your money.

Write or Wire for information

Waukesha County Holstein-Friesian Breeders' Association
254 Broadway, Waukesha, Wisconsin



Yearly Records

Choice Young Bulls

from one to fourteen months old for sale. Sired by Cloverlawn Johanna Piebe whose five nearest dams average 1,070 lbs. of butter, 23,809 lbs. of milk a year. Herd numbers 140 head, forty cows with yearly records. State exactly what you want.

JOHN PULS, - HARTFORD, WISCONSIN

The Pontiac Herd

"Where the Champions come from"

Offer Bull Calves sired by sons of *Pontiac Korndyke, Hengerveld De Kol, Pontiac Dutchland, or Admiral Walker Pietertje.*
Do you want a Pontiac in your herd?

PONTIAC STATE HOSPITAL, Pontiac, Mich.

THE TRAVERSE HERD

We have what you want in

BULL CALVES

the large, fine growthy type, guaranteed right in every way. They are from high producing A. R. O. ancestors. Dams' records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.

Traverse City State Hospital, - Traverse City, Michigan

Sir Pietertje Ormsby Mercedes 41st

is proving to be one of the very best sons of S. P. O. M. His sons and daughters have wonderfully good type. His daughters are making remarkably good 7-day and long time records.

We Have a Few Sons For Sale

from dams with mighty good records. A few are just about ready for service. One of them will suit you.

Write us for complete information.

Gustave Pabst's Hollyhock Farms

Fred J. Southcott, Manager Dousman, Wisconsin

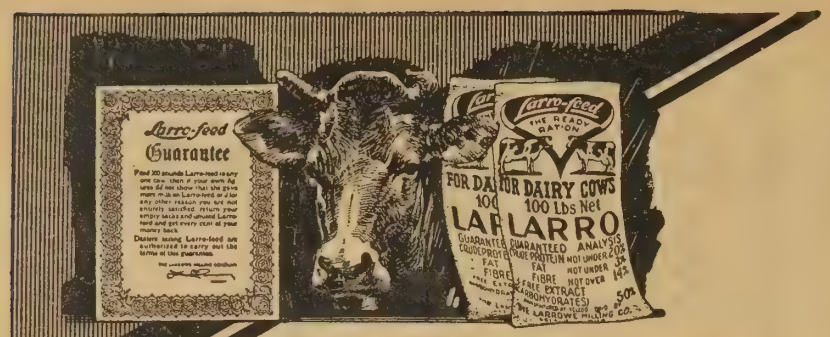
HOLSTEINS FOR SALE

SPECIAL—Prize winning yearling Holstein bull. 30-lb. sire; 19.58-lb. dam. Splendid individual.

PURE-BREDS	161 Cows 134 Heifers 19 Heifer Calves 290 Young Bulls	GRADES	93 Heifer Calves 127 Heifers 418 Cows

Some good carloads at reasonable prices. Listed for sale through Wisconsin banks. Other Live Stock: Breeders are listing with us other dairy cattle, beef cattle, horses, sheep, and swine. Write us if you want stock. We will answer promptly.

BANKER FARMER EXCHANGE
D. H. Otis, Director, 1822 Chadbourne Ave., Madison, Wis.



How much does the average cow eat?

The average cow only eats 25 cents worth of grain a day—therefore, the difference in cost between a good ration and a poor ration cannot be more than a *few cents* daily for each cow.

The milk produced by that same cow amounts to about $1.00 per day, and every quart you gain means five or six cents.

Which is the better business—to save three or four cents a day by mixing your own feed—or to use Larro and get one, two, or three more quarts of milk?

Remember—Larro *must* increase your milk yield or you get your money back.

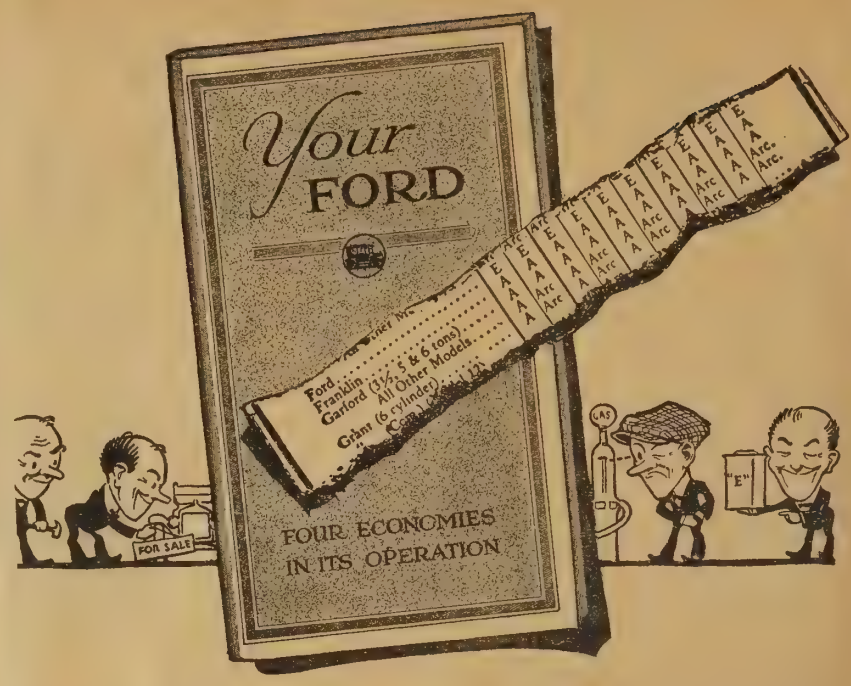
The Larrowe Milling Company

210 Larrowe Bldg. Detroit, Mich.

(10)

Larro

The Ready Ration For Dairy Cows



Send for this Booklet

—no matter how much you already know about your Ford Car or Gargoyle Mobiloil "E"

EVEN after driving for years, some Ford owners are unaware of all the factors which insure—

Economy of Repairs
Economy of Depreciation
Economy of Gasoline
Economy of Oil

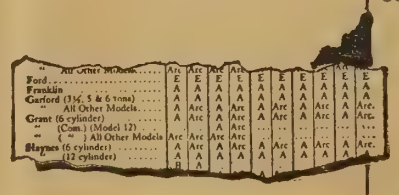
The relation of scientific lubrication to these four economies is close. The subject is so important that we cover it in a special booklet—"Your Ford —Four Economies in its Operation."

This Booklet deals thoroughly with the lubricating requirements of the Ford engine. It explains why oil used in a Ford engine should have three definite characteristics. It discusses the eight vital considerations in Ford lubrication. A study of these eight considerations will give you a clearer understanding of the needs of your car—and why Gargoyle Mobiloil "E" scientifically meets each one of them.

The Booklet also contains a cross-section phantom diagram of the Ford engine which will help you to understand better the mechanical problems involved.

You will find this information of permanent value. It belongs with your Ford Instruction Book.

Many of the dealers who sell Gargoyle Mobiloil "E" carry a supply of these Booklets. They will gladly give you a copy. In case your dealer has no spare copies, address our nearest branch.



The Vacuum Oil Company's Chart specifies the grade of Gargoyle Mobiloils for every make and model of car. Gargoyle Mobiloil "E" is the correct grade for Fords. If you drive another make of car send for our Booklet, "Correct Lubrication."

GARGOYLE

Mobiloils

A grade for each type of motor

In buying Gargoyle Mobiloils from your dealer, it is safest to purchase in original packages. Look for the red Gargoyle on the container.

Domestic Branches:

New York	Philadelphia	Detroit	Minneapolis	Kansas City, Kan.
Boston	Pittsburgh	Chicago	Indianapolis	Des Moines

VACUUM OIL COMPANY, NEW YORK, U.S.A.

Specialists in the manufacture of high-grade lubricants for every class of machinery. Obtainable everywhere in the world.

4 C
Expt. Sta.
Urbana Ill.
20 Jul 21

HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING



Fort Atkinson, Wisconsin Volume LXI, No. 20 June 3, 1921

FISK TIRES

Tire Mileage at the Lowest Cost in History

30 x 3

NON-SKID		RED-TOP	
Old Price	New Price	Old Price	New Price
$17.55	**$12.85**	$21.05	**$17.00**

GREY TUBES	
Old Price	New Price
$2.75	**$2.15**

30 x 3½

NON-SKID		RED-TOP	
Old Price	New Price	Old Price	New Price
$20.80	**$15.00**	$27.75	**$22.00**
RIBBED CORD		**NON-SKID CORD**	
Old Price	New Price	Old Price	New Price
$32.60	**$25.00**	$34.25	**$27.50**

GREY TUBES	
Old Price	New Price
$3.25	**$2.55**

Plus war tax

Prices reduced on all styles and sizes

For 20 years Fisk Tires have been built to one ideal: "To be the best concern in the world to work for and the squarest concern in existence to do business with".

The same good tires and the same interest in your personal experience with them will continue to be a part in every Fisk Tire sale.

Sold only by dealers

A New Low Price on a Known and Honest Product

Substitutes for Butter and Lard

VEGETABLE oils are used to a larger extent to replace lard than butter according to the U. S. Bureau of Markets. It estimates that lard substitutes comprised 34% of the total lard and lard substitutes produced in the United States, while oleomargarine was about 20% of the total butter and butter substitutes.

It is estimated that there were 1,442,458,000 lbs. of butter produced in the United States during 1920, of which eight hundred million pounds were factory butter and six hundred million pounds were farm butter. The total production of oleo for 1920 was 370,730,000 lbs., of which 191,000,000 lbs. were made exclusively from vegetable oils.

It is estimated that in 1920 the total lard production was 1,936,000,000 lbs. and the substitutes for lard totaled about one billion pounds.

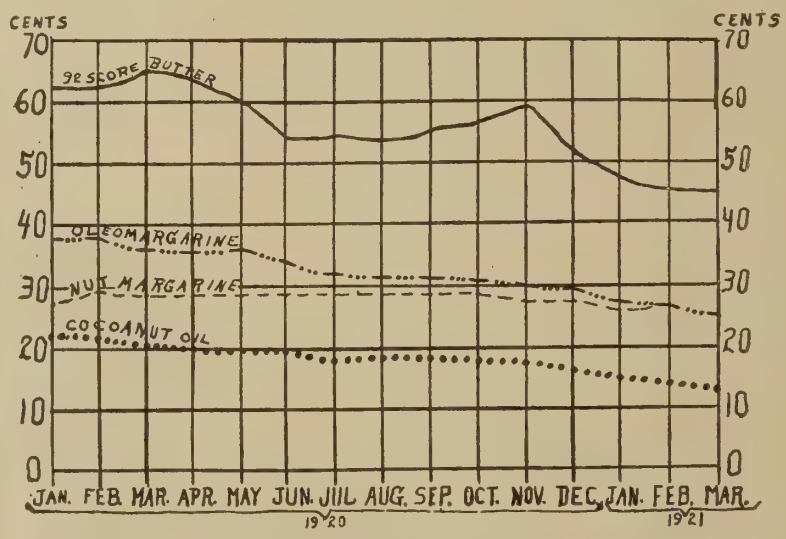
A study of the relative wholesale prices of butter, oleomargarine, nut margarine, and cocoanut oil is shown in the accompanying chart and presents some interesting comparisons. It will be noted that 92 score butter averaged about 20 cents above oleomargarine (the packing house product) and "nut" margarine from cocoanut oil having a spread of about ten cents lower than the packing house product at the beginning of 1920 but reaching the same price at the opening of 1921. Cocoanut oil ranged from slightly above 20 cents a pound to about 12 cents at the end of the fifteen months. Definite figures for April and May are not available as this is written, but the spread between butter and the imitation product is now probably not very large.

"The stability of margarine prices," says the Bureau of Markets, "is probably due in part to controlled production and marketing, while butter prices show the usual fluctuations of commodities whose production and marketing are uncontrolled."

This comparison is more startling when weekly quotations are given, as butter will show changes of as much as ten cents in one month while the imitation product is held at a practically stationary price level.

The total margarine production has increased from 202 million pounds in 1916 to nearly 371 million pounds in 1920, the past year, however, showing a decrease of over a half million pounds from the previous year.

Since 1916 the total production of butter has decreased from 1,621,700,000 lbs. to 1,442,458,000 lbs., or over 179 million lbs.; the decrease from 1919 amounting to over a hundred million pounds. During the past five years the ratio of substitutes to the total butter and substitute has jumped from 10 per cent to 20 per cent.



MAXIMUM MONTHLY WHOLESALE PRICES PER POUND FOR BUTTER, OLEOMARGARINE, NUT MARGARINE, AND COCOANUT OIL AT CHICAGO FOR 15 MONTHS ENDING MARCH 31, 1921

Kansas Dairy Judging Contest

At the Kansas State Agricultural College April 29, one hundred and forty-three students engaged in the largest dairy judging contest ever held in that institution. Eight rings of animals were used in judging, and reasons for placings were given on the cow classes. The contest was under the auspices of the dairy club and was conducted by former dairy judging team members.

Lynn Copeland won first place in the contest, C. W. Clair second, and J. W. Hale third. Mr. Copeland was high man on both Ayrshires and Guernseys, George E. Starkey was high on Holsteins, and Mr. Hale was high on Jerseys.

The Blue Valley Trophy cup to the agricultural association having five representatives in the contest with the highest score was won by the dairy club.

Missouri's Bull Contest

As a result of the $2,000 Better Bull Contest in Missouri, 205 of the state's inferior bulls have already been shipped to the packers and their places taken by registered animals. One hundred and fifteen replacements were made during April.

Many of the pure-bred bulls put into use are secured through sales conducted by county agents and county breeders' associations. At present market prices good breeding animals can be purchased for reasonable prices.

Not only have 205 scrubs been replaced, but 205 farmers have been persuaded of the value of using pure-bred sires. These farmers will purchase pure-bred sires for their other herds and flocks and will improve their methods of animal husbandry in so many ways that the full results of this contest can not be measured merely by the number of scrubs sold, important as that is.

The Six I's of Success

Industry
Integrity
Intelligence
Intensity
Initiative
Inspiration.

—BABSON.

HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING

Volume LXI — FORT ATKINSON, WIS., JUNE 3, 1921 — Number 20

Co-operative Creameries—Their Organization and Financing

A. J. McGUIRE, MINNESOTA

THERE are 600 co-operative creameries in Minnesota most of which have been in operation for over 20 years. With but few exceptions they have been successful from the beginning, and they may be offered as proof that a co-operative creamery is a most paying investment for any farming community where dairying is conducted to a reasonable extent.

For comparison we submit the following records: For the year 1920 the average co-operative creamery of Minnesota received 120,000 pounds of butterfat and paid the patrons an average net price for the year of 65.5 cents a pound for butterfat. The highest average for any one month was for March when the average price for butterfat was 74 cents. The best paying co-operative creameries of the state paid an average of 72 cents for the year and 81 as their high point in March (1920). For March, 1921, the best co-operative creameries paid 55 cents a pound for butterfat.

In considering the matter of organizing a co-operative creamery there are certain things that need to be given careful attention, and the first is the amount of cream or butterfat produced in the community. Where there is competition it is not generally advisable to start a co-operative creamery without the assurance of 100,000 lbs. of butterfat a year, or the cream from 700 to 1,000 cows, depending upon their production. A sufficient amount of cream and cream of good quality (sweet) is the very foundation of a successful co-operative creamery.

The First Step

When there is a call for a co-operative, and it seems that there may be cream enough, a meeting should be called and every farmer urged to attend. A man who understands the organization of co-operative creameries should be secured for this meeting. The matter of having a co-operative creamery should be thoroughly discussed and then a vote taken to show whether the majority want to go ahead with the project or not.

If the majority are in favor of a co-operative creamery, a temporary organization may be effected and officers and directors elected. A co-operative creamery constitution and by-laws should be secured for the meeting beforehand. This can be had from the dairy department of an agricultural college.

The first work for the temporary creamery organization is to raise the necessary amount of money for the creamery building and equipment. From $7,000 to $10,000 is required for a plant that will handle the cream from a thousand cows. This will provide for only a modest building, if all the necessary equipment is put in, and proper machinery and equipment is first in importance.

Ten thousand dollars may seem a large sum for a community that has not had a co-operative creamery, but a successful co-operative creamery will easily pay the farmers this amount in two years, over what they would receive without a co-operative creamery. It may be paid in one year or less in a large creamery.

In Minnesota the farmers seldom put more than $3,000 in the first creameries that were built, for both building and equipment, but during the past ten years, $20,000 is a very common amount to be put in a new creamery building for a community and we have a number of creameries that cost from $30,000 to $50,000 and one community expended $100,000 for its new creamery and its equipment. This latter community produces over 400,000 lbs. of butterfat a year and their co-operative creamery has been paying them ten cents more per pound during the past four years than cream stations have paid, so they figure the new creamery paid for itself in less than three years.



FARMERS' CO-OPERATIVE CREAMERY, FERGUS FALLS, MINNESOTA

"The real test of civilization is in the extent to which men can work together, and co-operation points the way to world harmony."

But for the average community producing from 100,000 to 200,000 lbs. of butterfat a year, it is advisable to keep the cost of the creamery within a modest limit. The cost of the creamery need not exceed $10 per cow.

Raising the Money

In starting out to organize a new co-operative creamery association the aim should be, 100 farmers and $100 each. The common way now is to issue shares and we prefer to make them $100. If there are 200 farmers in the community and a ten thousand creamery will do, the shares may be made $50. The creamery pays the going rate of interest on the shares, from six to eight per cent, so that a share in a successful co-operative creamery pays a farmer as well or better than if he had loaned his money through the common channels.

In selling the shares a farmer may be given his choice of three ways of paying for it. He may pay cash, or he may give his note to pay at some future time. All notes taken should be bankable, as it is necessary for the creamery association to borrow money on the notes. When the farmer pays his note he is issued a share. A farmer may also give his note and pay it out of his monthly cream check by having the association deduct five or ten per cent from each cream check. It is well to have the entire cost of the creamery provided for either in cash or individual notes. In other words, it is not well for a few farmers to buy shares and also assume the debt of the creamery, while most of the farmers of the community stand back to see if the creamery will be a success before they come in. Every farmer should assume his share of the responsibility from the beginning, and if the great majority of farmers of a community are not willing to do this it is evidence that a co-operative creamery would not be a success.

In soliciting shares it should be specifically stated in the agreement that if a certain number of shares are not sold, the creamery shall not be built. The farmers who are willing to buy shares on the start should be assured that they will not have to carry the whole load. The agreement may read thus: I hereby agree to buy a share of stock at $100. If 70 shares are not sold at $100 each, this agreement shall become null and void.

In the early years in Minnesota a number of creameries were built without shares. The farmers simply went together and signed a joint note or gave their individual notes to the bank and borrowed the amount of money necessary to build and equip the creamery. A sinking fund was established by deducting a certain number of cents from each 100 lbs. of milk or from each pound of butterfat. This went to pay off the note or notes at the bank and when the entire payment was made the note or notes were handed back and the creamery belonged to the community A few of the creameries still operate under this plan.

When the necessary funds are provided for either through the sale of shares or security notes, another meeting is called and the association made a permanent one. The constitution and by-laws are adopted and arrangements made for the plans and building of the creamery. The selection of a creamery site is important. In the early years the creamery was generally located on the outskirts of the town. Now the best lot in town is selected. A co-operative creamery association recently organized in Minnesota has selected a site that is valued at $8,000. It happens to be in a good sized town where real estate is valuable, but they realize that to have a convenient and suitable location for the creamery in town is also valuable.

The state dairy department should be consulted in regard to plans for the creamery building or a successful creamery architect. It is extremely important to build the creamery according to proper plans and specifications.

Creamery Management

We may say most emphatically that co-operation pays and prove it, but there is no magic in co-operation. It must be conducted on good sound business principles and its success depends upon able business management as much as any business in the world. It will not run itself and it will not command respect and confidence only through good work on the part of the men who are responsible for its management. For this reason the ablest man in the community should be elected to the office of secretary-manager and a first class creamery operator employed.

The Patron's Duty

When the farmers have elected their creamery officers and paid over their money, their duty does not end with this. They must at all times see that the cream they take to the creamery is in such condition that it can be made into butter that will sell for the highest market price. In addition to this they must keep an active interest in the management of the creamery and, if things are not going right, they should meet with the creamery board and try to help make the business go right. There is one thing a patron of the creamery should never do and that is to quit. He may find fault and criticize (though he should do this to the creamery board), he may take off his coat and fight if he thinks it necessary (but it never is necessary), but the one unforgivable thing is to quit. We would still be living in caves and making our wants known in grunts and cries, if men always quit when things went wrong.

The real test of civilization is in the extent to which men can work together, and co-operation points the way to world harmony.

PRESIDENTIAL ADDRESS OF D. D. AITKEN

Excerpts from the Remarks of the Chairman at the Annual Meeting of the Holstein-Friesian Association of America at Syracuse, New York, June 1st

WE meet again in the Empire State. While we appreciated our size and felt we were quite an institution when we last met in New York six years ago, at that time we were in reality but an infant as compared to the present. In a short span of six years the membership of this association has practically tripled, and it has expanded more rapidly in influence than in



D. D. AITKEN

number. When we appreciate what that indicates for the future we can have a faint realization of the responsibilities that rest upon the management of this association.

The Holstein-Friesian Association of America stands today as an evidence of what good will and true merit will build under reasonable direction. The success of the Holstein-Association is the merit of the animals it represents, and it is the wonderful merit of the black and white cow that made it possible for the Holstein-Friesian Association to become the greatest pure-bred live stock breeders' association on the face of the earth.

While New England has just claim to the title of "Cradle of the Holstein-Friesian Breed", New York State may fairly be termed the "Nursery of the Breed", as its early development was assuredly aided in the Empire State. It has had a most eventful career here which has carried it to its greatest numerical strength in both cattle and breeders within the borders of New York. New York has 3,300 owners of Holsteins and more Holstein cattle than any other territorial division of her size on the North American continent.

Membership

The best interests of the association demand that every person interested in the breeding and ownership of these cattle should at once become a life member. The annual growth of the membership list is splendid testimony of the recognition of its benefits, but a still greater percentage of Holstein owners should avail themselves of members' privileges and the many advantages thereof. No member has done his full duty to the association who refrains from earnest and continued effort to convince his non-member neighbor of its advantages. In the past year a total of 2,182 new members has been added to our roll, after most careful investigation of their fitness through various agencies and through local and state Holstein organizations.

Half a Century of Service

Fifty years of organized effort in Holstein activities closed with March, 1921. During its fifty years of life this association has recorded the pedigrees of 965,041 animals, including those of the Dutch-Friesian and the Western Holstein Herd Books.

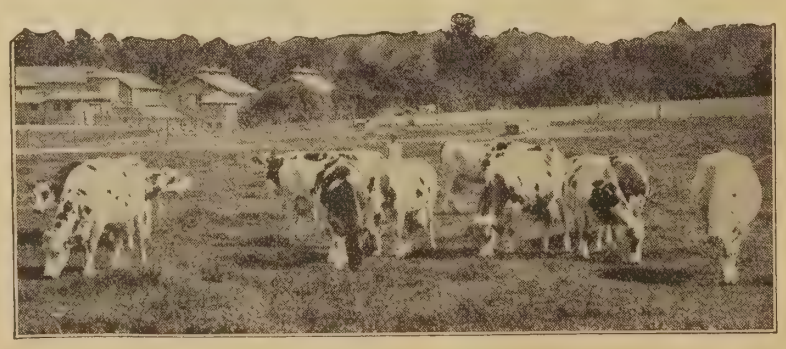
The past evidences good management and prosperity, widespread interest in and use of the Holstein-Friesian; the future contains no lack of promise. We are now recording the pedigrees of 127,850 cattle per year with an annual average increase of ten per cent.

The Advanced Registry contains milk and butter records to the number of 125,000 and last year there were added thereto about 17,000 records. These records constitute a demonstration of the productive capacity both in number and in size unequalled and unapproachable in the history of the dairy world. The number of yearly records made last year was 8,750, and is the most interesting feature of A. R. O. work of today.

Extension Service

Under this heading is carried on most of the activities of the association aside from the registration and transfer of animals, and the Advanced Registry office. It has become that portion of our effort on which has been directed every practical thought for developing in the minds of American citizens a better knowledge of Holstein-Friesian cattle.

Interest in any industry, interest in any breed of live stock, can only be maintained and continued on its merits. You may by striking advertisements sell your first article, but if you have to depend upon your advertising alone to sell all future articles your industry will fail; you must have intrinsic value in the article itself if you hope to win over a long



period of time. However, no matter how good your article is you must first present its quality to the users or consumers, and I know of no industry under the sun that has so much merit as this black and white milking machine. She produces the most essential food, she produces at a lower cost than any other food of like merit can be produced, and wherever she has been introduced and used by experienced operators she has never failed to meet the expectation of her owner.

Exportation of Cattle

The association has continued its service in aiding inquirers from foreign countries to locate registered Holsteins and in assisting breeders to make sales for export. Upon receipt of an inquiry the practice is, after translation of the correspondence, to place the details of the inquiry in the hands of the various club secretaries, who in turn advise their members of the opportunity. The sale may or may not be consummated directly by the American breeder but information as to details of shipping, health examination, and certificates, and of the Herd Book requirements of the country of export are supplied by the secretary's office as desired.

Advanced Registry

Advanced Registry, next to registration, to my mind is the most important division of our industry. The registration tabulates and preserves the blood lines and maintains the purity of the breed without which no continued improvement would be possible. The Advanced Registry office makes possible the measure of production and tabulates the results achieved. In these two departments we can maintain the purity of the blood lines of the black and whites, and in the other we can demonstrate to a moral certainty her superiority as a producer and, after all, the demonstration of that superiority is just as essential as the maintenance of the blood lines, because without proof of superiority we would be unable to accomplish anything.

I believe that our Advanced Registry has done more to promote the interests of the black and white cow than all other causes combined, for the simple reason that it is proof of what she can accomplish, and that is what fixes the value in the public mind.

One of the things that the Holstein-Friesian Association must realize is that it is not just enough to record the breeding of an animal. If that were all there was to it there would not be very many that would take the trouble to have their animals recorded. They want them recorded because of their capacity and ability to produce milk. The past has shown that they can produce more milk and butterfat than any other breed of cows, and the way we get evidence of this is from the Advanced Registry office. To my notion the Advanced Registry office is simply a part of the expense of registration.

Prizes at Fairs

The Holstein-Friesian Association has, until very recent years, given most of its prizes for production rather than type, expending very much more money for prizes through the Advanced Registry office than for premiums at fairs. In recent years, however, as type has become more and more recognized and the feeling has grown that type is predicated on probable production, the association has gradually been increasing premiums at fairs, adding percentages to state and district fair awards until in the present year our awards at state and district fairs on type will nearly equal the prizes paid for butterfat production and, in my judgment, both of these prizes will have to be increased.

As I have been saying each year since becoming president of the Holstein-Friesian Association, the maintenance of type in our breeding and in the estimation of the purchasing public is absolutely essential for the perpetuity and welfare of the Holstein-Friesian industry. At the present time, as shown by many auctions, type represents at the sales of averaged priced animals 60%; in other words, an animal will sell for 60% more if it is of good type than it will if it is of inferior type, and this of itself should be sufficient incentive to induce us to recognize the necessity of stimulating interest in the type of our animals.

Holstein-Friesian Census

A census of the Holstein-Friesian cattle was taken as of August 1, 1919, and demonstrated the absolute necessity of tabulating Holstein-Friesian registered cattle if we ever expect to know what is essential for us to know if we hope to reap the best results.

At the time the census was taken I talked with a great many persons who had opportunity to form opinions about the number of Holstein-Friesian cows there were in milk in the United States, and their estimates varied all the way from 250,000 to 500,000, while I was satisfied myself that there were less than 150,000 registered Holstein-Friesian milk cows in the United States at that time.

The result of the census shows that there was probably less than 150,000 Holstein-Friesian cows in milk August 1, 1919, and it gives people a better idea of how few pure-bred Holstein-Friesian cows there were in comparison with the 24,000,000 milk cows in the United States. I doubt if we have ever done anything that so stimulated interest in the breed as did this census. It not only was a great benefit to the Holstein-Friesian breed but was a great benefit to all breeders of pure-bred live stock.

I think it will be one of the greatest mistakes we ever make if we do not establish a system of census taking at very short intervals. I believe we should take another census on the first of August, 1921.

National Dairy Council

The work of the National Dairy Council is without question the most important work that is being done in America in the interest of dairy husbandry. More people have heard about milk as a food, about the food value of butter, cream, cheese, and cottage cheese, through the National Dairy Council than probably through all other means combined during the last year, not perhaps directly because of what has been published or said by the National Dairy Council but because of the promotion work the Council is in. Constantly campaigns are being propelled, as it were, by the National Dairy Council, all over the country. Millions of pamphlets have been printed by the National Dairy Council and furnished to campaign committees all over the United States, and in my judgment the activities of the National Dairy Council have done more to study and keep up a reasonable demand for milk during the depression under which we are now la-

(Continued on page 828)

OIL WELLS VS. MILK WELLS

C. M. LONG, MISSOURI



C. M. LONG

His activities in "promoting milk wells" in Pettis County have been of great profit to the farmers of that section. So successful has he been that the Illinois Holstein Breeders' Association has sought his help in improving Holstein conditions throughout the state. Announcement is recently made that he has accepted the position of secretary for the association, assuming his new duties June 1.

Mr. Long's "milk well promotion", which he outlined in Hoard's Dairyman in October, 1917, was conducted by a company of leading farmers and other business men capitalized for $30,000 in the Pettis County Holstein-Friesian Company. This company purchased Holsteins at that time and placed them in the keeping of farmer stockholders in the company. The cattle were owned and registered in the name of the company. The farmer agreed to keep the cows and their female offspring for five years, put them in a testing association, and test his herd for tuberculosis annually. Breeding and veterinary fees are divided. The company pays for A. R. testing and provides highly bred bulls. The farmer gets the milk. Bull calves are sold in an annual auction and female offspring at the end of five years and the proceeds divided. The sale price of the original cattle goes back to the company.

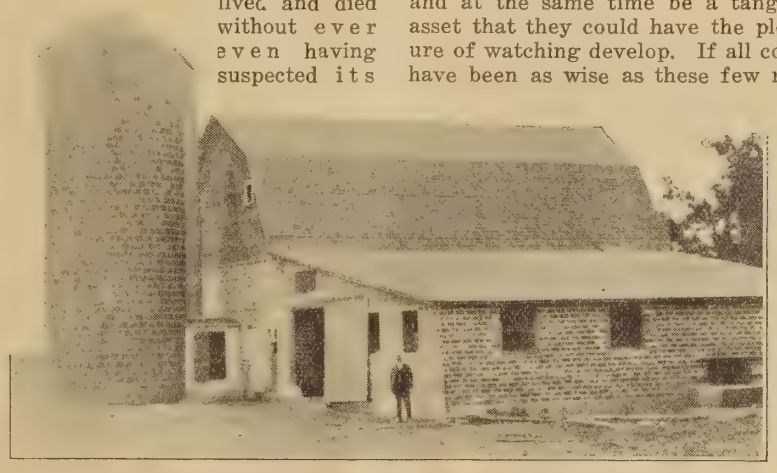
IF a "gusher" should break forth on your farm I know you would be wild with excitement. Your whole community would be almost as badly excited. In fact, the whole county would be in a turmoil. People, good, bad, and indifferent, would rush in, land would soar in price. What community would not wish for such great good fortune?

Let me say to you after much meditation that if you have a good agricultural community this would be about the most unfortunate thing that could happen to it. Let us draw a picture of what the results would be. A few people would make a great deal of money. They would move to New York or Chicago to spend it. The rank and file would eke out a mere existence. The morale and the morals of your peaceful community would be gone. In a few years, maybe ten, maybe fifty, but some day in a comparatively short time, the last drop of oil will have been pumped out of the last well. The people will leave like rats from a sinking ship. The countryside will be dotted with unsightly derricks and miserable shacks. From these shacks will come thin, sad faced, anemic children—not the kind that our citizenry is made of. Your agriculture will be gone and your county, like a squeezed lemon, will be thrown on the garbage heap.

Suppose, instead of discovering oil, your community discovers milk. No one will become very rich but all will be prosperous and contented. Your land will be beautiful with waving corn and sweet smelling clover and alfalfa. Instead of derricks, silos and windmills will rear their heads; instead of shacks, red barns and beautiful homes will beautify the landscape. Homes that will send forth red-cheeked, happy children are the future hope of America for they are the kind that never wave a red flag. Instead of the land becoming useless it will become more and more fertile until in ten, twenty, or fifty years it will have become so fertile it can support a population almost like a city. Generation after generation can come forth and be proud of their heritage and hand it on to their children, enhanced in value and usefulness.

I am reciting neither idle fancy nor prophecy but actual history. Go with me to Indiana, Oklahoma, or Texas and I will show you the one picture. Go with me to Wisconsin and I will show you the other. If you had a magic wand, which would you choose for your community?

I am not mindful of the necessity and great value of oil. I realize that the world's commerce would be greatly retarded without it. However, I would call your attention to the fact that many thousands of people have lived and died without ever even having suspected its existence. No people have ever lived without milk. The last drop of oil could go up in smoke tomorrow and we would continue to live. If the last source of milk should be eliminated the human race would disappear from the earth in one generation. Therefore, I say that the milk wells of the good old black and white cow are of more importance than all the oil wells of the world. I sincerely hope that the wells now in existence will continue to bring forth such an abundance that it will never be necessary to despoil any more good agricultural communities.



MODERN DAIRY BARN OWNED BY W. E. FILES AND ERECTED BECAUSE OF THE RESULTS OF THE COMPANY'S WORK WITH HOLSTEINS

Instead of feeding market cattle as he formerly did and meeting the losses of recent times, Mr. Files nets a comfortable profit from his Holsteins.

It was with such a vision of what the dairy cow means to a community that we deliberately set about in 1917 to induce the farmers of Pettis County, Missouri, to develop milk.

The story of how the business men and farmers put their money together and started this development has been told too often to need repetition here. You are interested only in the results obtained. For years and years both business men and farmers had been taking occasional "fliers" in oil and mines. Generally the "unexpected" had happened and the investor was left far poorer and apparently not much wiser. In one year a single individual induced the people of Pettis County to "invest" in oil to the extent of a quarter of a million dollars. Individuals put in as much as thirty thousand dollars. It's all gone. Our corporation gave them an opportunity to invest in something that would develop their own community and at the same time be a tangible asset that they could have the pleasure of watching develop. If all could have been as wise as these few men and the entire quarter of a million dollars had been invested in various kinds of live stock, in an organized way, we would now have the most wonderful live stock county in America, and what is more these investors would still have their money.

One thing we said to the farmers when we asked them to lease these cows was that they would produce more profit than the cows that they owned. The last cow tester's report on these cows showed that we told the truth for the pure-bred cows our company placed on their farms produced thirty-five per cent more profit above feed cost than the farmer's cows on whose farms they were kept.

We said, "You will be better farmers if you will handle pure-bred cattle." Nine men out of twenty-five who have these cattle have either built new barns or remodeled their old barns since our corporation brought in these cows. Four have built silos. Two have bought milking machines. Very few had alfalfa. Now all but two or three have it and they are growing soy beans or other legumes until they can arrange for it.

We said, "It will make better dairymen out of our farmers." There had never been a cow testing association in Pettis County previous to 1917, when these cows were put in. There has been one in continuous operation since except for a short time during the war when no tester could be had. There had never been an A. R. O. record made in the county. In the last two years more than fifty cows kept by about twenty different farmers have made records. Two farmers are now doing semi-official testing. Men in the county now hold third place in the state record for milk production in the full aged class and third place in butter production, also fifth place in butter production in this class. They hold fourth place in butter production in the senior four-year-old class, second place in the senior three-year-old class, and fifth place in the junior two-year-old class. There is a friendly rivalry between breeders to see who can maintain the high cow.

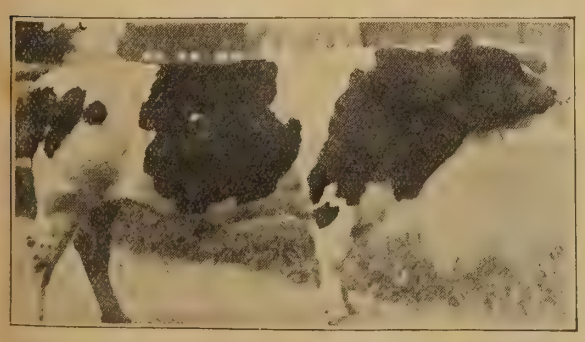
While only two farmers had pure-breds before our company began operation now nine men own pure-breds.

We said to the Chamber of Commerce and the Farm Bureau, "This will make your county the recognized center for pure-bred Holsteins in Missouri." No less an authority than Professor Eckles formerly of Missouri Agricultural College says that we are now so recognized. Letters have come from practically every state in the Union asking about the plan. Many committees have visited us to inspect the organization. Five communities have adopted this plan.

We said, "It will make the farmers more prosperous." Our cow testing records show that last year our dairymen got on the average $1.96 for each hundred pounds of feed given to the dairy cow.

We said to the men whom we were trying to get to invest in the company, "You will not only improve the agricultural conditions of your county but you will make a return of at least eighty per cent on your investment during the five years." When three years had elapsed our inventory showed that our $35,000-investment had grown to $56,000. It will increase much more rapidly the last two years. This plan has created a most friendly feeling between the farmers and the city men. The latter are very much interested in Holsteins and read everything they can get about them.

Some day they will realize that the discovery of milk is more important than the discovery of oil.



KING PONTIAC BETTINA, SON OF KING OF THE PONTIACS AND FROM A 30-LB. DAUGHTER OF TIDY ABBEKIRK PRINCE

One of the three herd sires owned by the Pettis County Holstein-Friesian Co. of Missouri.



TWO "COMPANY" COWS WHICH MADE RECORDS OF 17 LBS. AND 23 LBS. FOR A MEMBER IN HIS FIRST TESTING

Peas in the Dairy Ration

ORIN CROOKER, ILLINOIS

PEA growing for factory purposes is common in many dairy districts. Fortunately, the by-products of the pea industry find a valuable place in dairy feeding and farmers who have a "patch of peas" are coming to see that peas and cows go well together. None of the pea crop is used commercially, of course, except the seed in its green state. It is harvested at a time when the vines contain a maximum amount of nutrients and when in prime condition, also, to be turned either into succulent feed or into hay.

Three methods are followed in utilizing pea vines after they have come through the viner. One is to return them to the farm and stack them in the close vicinity of the dairy stable. After the stack has stood a short time it begins to exude a gummy substance which operates to seal the stack and prevents rapid deterioration of its contents. From 6 to 12 inches of the surface vines must be discarded in feeding but the rest will be found in good condition. It constitutes a splendid addition to the dairy ration as it possesses a sweet aroma which the cows seem to enjoy. Stack fed cows have been known to show a reduction in milk when changed to corn silage. Consequently, some dairymen use the stack vines and corn silage on alternate days. This makes the pea vines go further and keeps up the milk flow.

The use of pea vines for silage is also a common practice and where one is so fortunate as to have a viner stationed on the farm by the canning company it is often possible to run the vines directly into the silo without the rehandling that is needed if this is not the case. Pea silage is somewhat rank and strong and cows will not eat so much of it as they will of corn silage. Consequently, some dairymen feel that it is more profitable to use the vines in the form of hay. As such it is about on a par with clover in the feeding ration. Hay from late peas is of better feeding value than from the early crop for the reason that the vines are larger, greener, and carry more food nutrients. It must be cured by spreading on the fields where it is turned once or twice to facilitate drying. Men who have used pea vines in one form or another for dairy feeding figure that they are worth from $12 to $14 an acre. When this is added to the income from the pea crop itself, it usually shows a most substantial return for the expense and labor involved in growing a few acres.



PEAVINES FOR SILAGE—A VINER ON THE FARM PERMITS RUNNING THE VINES DIRECTLY INTO THE SILO WITHOUT REHANDLING

Community Breeders' Clubs

W. A. DUFFY, WISCONSIN

THE organization of breeders devoted to a particular breed of cattle into a county association has advanced the dairy interest of Wisconsin, as has no other one factor. By this form of co-operation advertising is carried on, sales are held, and the knowledge of the business spread among the membership. In looking for the prominent cattle breeders of a county a glance at the membership list of the county association will generally give them. However, the fault of the old form of county association lies in this very fact: The prominent breeders are members and the rest of the dairymen of the county are not. The association must necessarily function for its members. Though there may be scraps of good in a general way to be gained by all breeders the tendency is for the average dairyman to stand and look on, or perhaps to find fault because "Mr. Blank", prominent breeder, has gained certain advantages through the county association. The foregoing facts are all well known to men who have given consideration to the subject. The solution of the problem, however, was that someone propose a plan in which every dairyman with a particular breed might work as a part of the organized group and which would in general promise better results than the old.

Professor E. L. Luther, superintendent of farmers' institutes, has given careful consideration to this problem and to him we are indebted for the plan of the Community Breeders' Club, organized into the county association.

The Community Breeders' Club has its own complete organization including a written constitution. Every breeder in the community is eligible to membership provided he agrees to breed to a pure-bred sire of the particular breed of the club. Two officers only are elected, a president and a secretary-treasurer. The two officers of each club represent the club on the executive board of the county association. The dues of each member of a local club are divided, part being paid into the treasury of the county association. This plan automatically makes each member of a club also a member of the county association. The business of the county association, however, is conducted by the executive board composed of the officers of the various clubs. The executive board of the county association elects the officers.

Below is given Professor Luther's plan including the constitution adopted by the local clubs and the scheme endorsed for organizing the executive board of the Barron County Holstein Breeders' Association which reorganized adopting the new plan:

Constitution of Community Club

Article I—The name of this community association shall be the .....

Article II—The object of this community association shall be to promote the breeding and improvement of high grade and pure-bred Holstein cattle in Barron County and to aid its members in buying, using, and selling first-class animals.

Article III—The annual membership shall consist of farmers interested in the object of this association and paying the required annual fee.

Article IV—The officers shall be a president and a secretary-treasurer. In case of the absence of either or both of these officers from any meeting the club will choose officers pro tem.

Article V—Meetings of this club will be held at the call of the president.

Article VI—The election of officers shall be held annually at a meeting of which each member has been notified in writing. The election shall be by ballot.

Article VII—It is understood that in case other communities of Barron County shall organize Holstein Clubs on the basis of this club the two officers of this club shall become representatives of their club on the board of directors of the Barron County Holstein Breeders' Association.

Article VIII—Amendments to this constitution may be made by a two-thirds majority vote of the members present at a regularly called meeting.

By-Laws of Community Club

Section 1—Any person upon the recommendation of a member and the vote of the club shall become a member upon paying the secretary-treasurer the annual fee.

Section 2—It shall be the duty of every member to improve his herd of cattle by mating his cows exclusively with pure-bred bulls of the Holstein breed and doing as much as he can to care for his herd in an up-to-date manner.

It shall also be the duty of the members of this club to co-operate as far as possible with their fellow-members in the use of pure-bred bulls and in buying and selling animals; also to get new members and encourage them in the practice of better methods in caring for their herds.

All members in good standing shall be entitled to vote at all meetings of this club.

Section 3—The membership dues shall be $2.00 payable annually to the secretary-treasurer of the club; one-half to be retained in the treasury of the local club and the balance to be paid into the treasury of the county association.

Section 4—A member in arrears over one year shall cease to be a member but may be restored by paying all arrears.

Section 5—The officers shall be elected to serve one year and shall perform such services as are ordinarily required by similar positions.

Section 6—At each annual meeting there shall be appointed an auditing committee of three, whose duty it shall be to examine and report upon all books and accounts of the officers for the year.

Section 7—1. Call to order; 2. Reading of minutes of previous meeting; 3. Report of treasurer; 4. Report of Committees; 5. Unfinished business; 6. New business; 7. Adjournment.

Section 8—The meetings of this club shall be governed by Robert's Rules of Order.

County Organization Plan

The members of the ..... club in meeting assembled endorse the following rules for organizing and governing a county executive board which shall federate the interests of this club with those of similar clubs organized for promoting the development of Holstein cattle in Barron County. This county executive board is to constitute the executive board of the Barron County Holstein Breeders' Association.

Rule 1—The president and secretary-treasurer of each community club of the Holstein breed in Barron County shall become members of the executive board of the Barron County Holstein Breeders' Association.

Rule 2—Upon a call designating the place and time of meeting, signed by at least three presidents of community clubs of the Holstein breed in Barron County, the officers of the various community clubs of the Holstein breed will meet and organize the county executive board.

Rule 3—The executive board shall elect by ballot a president, a vice-president, a secretary, and a treasurer, who shall hold office for one year.

Rule 4—The duties of the officers of the Barron County Holstein Breeders' Association shall be such as are commonly performed by officers of similar organizations. The president shall preside at the meetings of the executive board and the secretary shall keep a record of the meetings of the executive board and receive all moneys paid to the county association and turn them over to the treasurer. The treasurer shall pay out moneys only on the written warrant of the president and secretary. The officers of the executive board shall constitute the executive committee of the Barron County Holstein Breeders' Association.

Rule 5—There shall be at least one annual meeting of the executive board for the transaction of business and the election of officers and such other meetings as the president may call upon the written request of three members of the executive board.

Rule 6—The executive board shall consider the county-wide interests of the Holstein breed, plan for the organization of new committees and strengthening weak communities, suggest lines of work for all community associations, organize county and community sales and show herds and do such other things as shall advance the interests of the Barron County Holstein Breeders' Association.

Rule 7—The Executive Board shall determine a uniform membership fee for the various community clubs and a per capita tax for the support of the work of the Barron County Holstein Breeders' Association.

Rule 8—These rules may be amended by a

(Continued on page 841)



BOARD OF DIRECTORS OF BARRON COUNTY HOLSTEIN BREEDERS' ASSOCIATION AT WORK. THIS BOARD IS COMPOSED OF THE PRESIDENT AND SECRETARY OF EACH LOCAL CLUB OF THE BREED

Cow Testing Associations

RECORDS, PRICES OF FEEDS, FAT, AND MILK

Following is the summary of reports received during the week and up to the time of going to press of this issue:

State	Association	Tester	Month	No. of cows tested	No. of cows producing over 40 lbs. fat	Fat production of high cow	Owner
Wis.	Oostburg	Worden W. Reed	April	314	144	96.7	Wm. Lohuis
Va	Fairfax Co. No. 1	G. H. Carey	"	343	73	75.8	Will Middleton
Mo	Webster Co.	F. M. Herman	"	303	25	66.3	Geo. Chittenden
Ida	Ada County	A. C. Reck	"	173	38	69.1	Pete Nielsen
Ore.	Clatsop County	Will Kent	"	491	102	78.7	Emil Eilers
Wash.	Stillaquamish	M. C. Hong	"	494	118	82.8	Janssen's Stock Farm
Pa.	Southern York Co.	Wm. M. Klinedist	"	436	47		
Penn.	Canton	B. E. Whitney	"	503	121	77.9	H. C. Gates
Ohio	Butler Road	F. L. Rostocil	"	270	75	90.1	M. O. Fay
Wis.	W. Shawano Co. Breeders' Ass'n.	Thos. R. King	"	426	47	80.1	L. R. Shanger
Pa	Towanda—Wilmot	Leslie Warren	"	309	49	59.8	F. W. Gorham
Pa.	Laurel Hill	Wm. H. Cole	"	419	45	87.5	C. S. Chaffee
Ill	DuPage County	C. J. Rieck	"	403	106	69.5	Geo. B. Walker
Pa.	North Branch	F. J. Holt	"	289	25	53.2	J. E. Lenker
Wis.	Arkansas	Edw. Hoeft	"	345		69.3	Wild Bro.
Va.	Albemarle Co.	A. G. Hancock	"	219	17	67.4	Cedar Gate Farm
"	Prince Williams	T. O. Scott	"	261	19	65.8	J. I. Payne
"	Southwest Va.	R. B. Strickler	"	268	21	64.3	St. Albans San.
"	Spotsylvania—Stafford	F. C. Board	"	201	42	75.7	R. C. Vance
"	Orange County	J. D. Jones	"	283	14	62.3	Dr. J. S. Andrews
Wis.	Roberts	C. A. Lund	"	373	40	73.1	W. A Lamb
Pa.	Troy	M. V. Bennett	"	405	100	86.7	W. H. Stanton

Association Notes

Oostburg, Wisconsin:—Two reactors were disposed of. Most all members are feeding balanced rations and getting splendid results. Two pure-bred bulls were purchased. During April, market milk testing 3.6 per cent sold for $2.15 per cwt. Milk retailed for 12c per quart. Feed sold as follows: Bran, $27 per ton; oats, $31; corn meal, $24; oil meal, $44; cottonseed meal, $45; gluten, $42; silage, $6; mixed hay, $16.

Fairfax County No. 1, Virginia:—Four unprofitable cows were sold during the month. An example of increased production due to better feeding is well illustrated this month. An owner engaged a new herdsman. Last month 15 cows, fresh from 2 to 4 weeks, were tested with an average milk production of 1,281 lbs. per cow. This month under the care of the new herdsman, the same 15 cows with 5 fresh heifers averaged 1,343 lbs. of milk. The original 15 cows averaged from 2 to 8 lbs. of milk per day more than last month. Market milk testing 3.5 per cent sold for $4.19 per cwt. and 36c per gallon. Milk retailed for 16c per quart. Larro sold for $54 per ton; Unicorn, $52; linseed meal, $52; cottonseed meal, $42; bran, $45; silage, $10; alfalfa, $30; clover and timothy hay, $25.

Webster County, Missouri:—The creamery paid 35c per pound for fat during April. Feed prices: cottonseed meal, $36 per ton; bran, $26; corn and cob meal, $26; hay, $15; silage, $6; pasture, $1.50 per head per month.

Ada County, Idaho:—Boise Valley in general is gradually turning to pure-bred dairy cows. Market milk testing 4 per cent sold for $1.90 per cwt. The condensery paid $1.90 per pound for fat and in addition $2.70 per 100 lbs. milk. The creamery paid 32c per pound for fat. Milk retailed for 12c per quart, butter for 22½c per pound, and cheese 22c. Barley sold for $1.50 per cwt.; corn, $1.95; oats, $2.35; oil meal, $4.50; mill feed, $1.60; alfalfa hay, $10 per ton.

Stillaquamish, Washington:—During April 3.6 per cent milk sold for $2.75 per cwt. Five cents were paid for each point above. The condensery paid $2.35 per cwt. for 3.8 per cent milk. The creamery paid 43c per pound for fat. Milk retailed for 11c per quart and butter for 47c per pound. Ground oats sold for $40 per ton; molasses feed, $50; dairy feed, $46; millrun, $34; oil meal, $76; soy beans, $57: corn meal, $45; alfalfa meal, $35; alfalfa hay, $23; local hay, $18; silage, $9; roots, $6.

Southern York County, Pennsylvania:—Fifteen men are using pure-bred sires and three have all pure-breds, while seven others have started pure-bred herds. Six members are now using balanced rations and an effort is being made through the association to have every member use a balanced ration as a means of economical milk production. An effort is being made to have every member use a pure-bred sire.

Canton, Pennsylvania:—Jersey, a cow belonging to Herbert Wilcox, freshened in November, 1918. As she was past 15 years of age, her owner slated her for the market as soon as her milk production dropped below the point of profit. On May 7, "Jersey" gave 22 lbs. of 5.3 per cent milk. During April market milk sold for $2.00 per cwt. The creamery paid 52c per pound for fat. Milk retailed for 11c per quart and butter for 49c per pound. Cottonseed meal cost $40 per ton; oil meal, $50; gluten, $40; wheat bran, $33; corn meal, $33; hominy, $36; ground oats, $37.

Western Shawano Co. Breeders' Association:—This association sold ten head of grade Holsteins to an outside buyer. It will consign several head to the Holstein sale in June. Market milk sold for $1.35 per cwt. during April.

Laurel Hill, Pennsylvania:—Nine unprofitable cows were sold. Two pure-bred bulls were bought. Market milk testing 3 per cent sold for $2.10 per cwt. Four cents were paid for each point above. The creamery paid 56.8c per pound for fat. Wheat bran sold for $36 per ton; gluten, $47; ground oats, $42; corn meal, $36; oil meal, $54; cottonseed meal, $47; buckwheat shorts, $44.

Du Page County, Illinois:—Six undesirable cows were sold. Five members purchased pure-bred bulls at the state Holstein sale and eight other bulls were purchased by farmers in this county. One member purchased two pure-bred cows at the sale and another purchased the cow that topped the sale. The bull that topped the sale was secured by another member. Market milk sold for $2.35 per cwt. during the month of April. Milk retailed for 14c per quart. Silage sold for $6 per ton; hay, $25; oats, $26; corn, $23; barley, $32; bran, $28; cottonseed meal, $38; oil meal, $46; gluten, $37.

Cumberland County, Pennsylvania:

(Continued on page 838)



In spraying cattle or horses, the nozzle of sprayer should be held four feet from the animals.



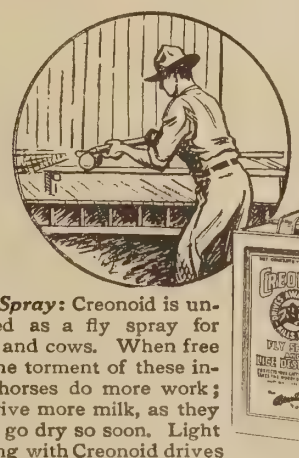
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FLY SPRAY AND LICE DESTROYER

IT is a *Barrett Product.* And behind the Barrett trade mark stands the reputation of one of America's oldest and largest manufacturers of coal tar specialties. You can depend upon Creonoid to do all we claim for it—and more.



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Creonoid is safe, and does not gum the hair.

Fly Spray: Creonoid is unequalled as a fly spray for horses and cows. When free from the torment of these insects, horses do more work; cows give more milk, as they do not go dry so soon. Light spraying with Creonoid drives the flies away *and keeps them away.*



For Chicken Mites: If your hens are droopy, unhealthy and laying poorly, it's a pretty good sign the chicken house is infested with mites. Creonoid will drive away this pest and you'll be surprised at the improved appearance of your hens and the increased number of eggs they lay.

For Hog Lice: Lice keep hogs from fattening. They suck the blood and keep the animals busy at the rubbing post. Creonoid is a sure relief from the torment of these vermin. It means more pounds per hog and more profits.

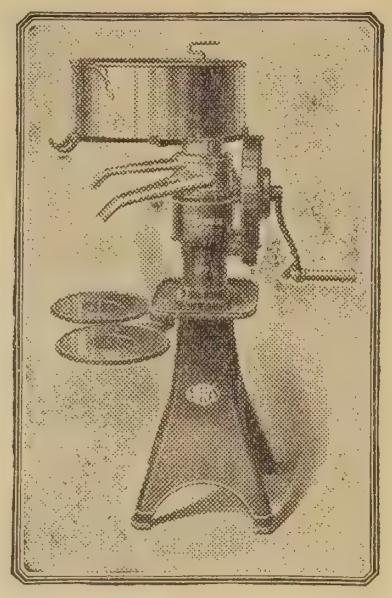
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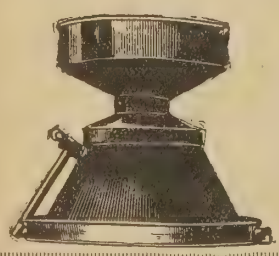
IN the unequalled success of American dairying the Primrose Cream Separator has played a prominent and deserving part. The Primrose is today the highly perfected result of many years' improvement and betterment. In design and workmanship it is a quality product entirely worthy of the 90-year manufacturing record of the Harvester Company. *With the present price reductions,* Primrose will help more and more farmers to a realization of maximum profit.

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This apparatus has been, and now is, the best low priced MILK COOLER AND AERATOR on the market—extra large cooling surface, simple, strong and durable, ice chamber easy of access—easy to clean and easy to operate—adapted to use with either ice or running water. It has been in use *more than twenty years and all improvements added to date.*

Ask for descriptive circulars and prices.

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They will herd your stock, guard your flock and rid your place of vermin. A playmate for the children and a household companion. Largest breeders of white collies in the world.

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THE "BUCKLEY" DEVICE

Is the leader. Why not use the best? Write to the manufacturers for a descriptive circular.

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POUGHKEEPSIE, N. Y.

Cow Waters Herself



with this wonderful new Libbey Automatic Water Bowl. Animal moves lever, opening water valve, when it starts to drink. Lever swings back, closing valve, when animal stops drinking.

15% More Milk

Milk is 87% water, and cows cannot give their greatest yield unless they have plenty of water constantly within reach. Farmers who use Libbey Bowls report an increase of 15% to 20%, which soon pays for the bowls.

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are the most sanitary and successful ever invented. Each bowl controls its own water supply, operated entirely by cow, and may be put at different heights, or in any stall or pen. No float tank required. Cannot overflow; cannot get out of order. Almost no water left in bowl to become stagnant. They save labor and feed and increase milk. Prevent spread of contagious diseases, as each cow has her own bowl and no water can pass from one to another, as with old-style bowls. Very simple and easy to install. Write for circular and prices, also FREE DAILY MILK AND FEED RECORD.

If interested in Stanchions, Stalls, Carriers, etc., ask for free General Catalog.

C. A. LIBBEY COMPANY
195 Marion Street Oshkosh, Wisconsin

A VISIT TO UTICA

H. H LYON, NEW YORK

I WISH it were possible for every timid dairyman who has signed the pooling contract, and all others for that matter in League territory, to get into the new League headquarters at Utica and stay long enough to look the situation over very carefully. Then I wish he might sit for a few hours in the assembly room where district managers are "going to school" and get a clear insight into the details that have been worked out for handling the co-operative proposition. The League management is scarcely liable to be taken by surprise at any turn for they have gone to the bottom of things in a way that is really surprising. I do not mean by this that there are to be no difficulties to encounter for that is inevitable, but careful forethought has been exercised to a remarkable degree.

Those in touch with affairs generally, on the farms of this region, know that nearly all of the League offices have been moved from New York City to Utica. Rent is vastly cheaper and employees can be had at much less cost. With the present expansion much more room is required and had this been taken in the metropolitan city costs would have been staggering. Just now something like a hundred and fifty employees are at work, but when the dealers commence to send in their sheets of figures, giving names of patrons and amounts of milk, tests and classes of disposition of products, as is to happen on or before June 6th, and various other information up to the 10th, there will need to be many more employed. Indeed, additional room in the building is being taken now.

The Childs building, four stories high, is now occupied entire. At the risk of being called an "old farmer" I went out and paced it off. If it is much under 50x100 feet then I must have been embarrassed by spectators while pacing. Our older farmers of this section of the state will remember when very much of our farming machinery came from Utica and when Childs did the distributing.

They say that farmers are in charge of this League co-operative business. I hope so. All the same when you get hold of the sheets that show, when filled out, every detail of purchase, sale, and disposition of milk, machinery, supplies, salaries, and incidental expenses you find it was no amateur piece of work. The writer once considered that he knew quite a lot about the complicated systems of bookkeeping once taught in our business schools. The more complicated and exacting they were the more fun it was to see students puzzle over them. Complicated systems now hold no particular attraction but exact checking does. That is why I was particularly interested in the systems that are to go into effect, indeed are in effect at this moment. While exact booking may be somewhat remote from my interests of late years, I still think I know a good system when I see it.

Mr. Weiant of the Newark League office, who has devised systems for the milk business ere this, was in Utica for some time. He did not say he had any hand in working this one out, but when questions of difficulty came up the working was clear to him. "We have got everything in excellent shape," he explained to me. "It is perfectly easy and simple and looks big only because there are many men and a large quantity to be handled. It is no more difficult than a small business only it takes more individuals to do the work."

Mr. Eastman, editor of the League News, introduced me to the comptroller, H. C. Crombie, and suggested that he explain how simple it is going to be to take the dealer's figures and prices and determine just how much money he should pay, using three per cent milk as the basis. The fat differentials will be the same both from the dealer and to the farmer. Reducing or advancing the dealer's price to the pooling price will be simple, then add the fat differentials and you have it. I confess that I had to go over that in my mind a number of times before I really saw it, but Mr. Crombie rattled it off in almost no time. He did it clearly, too. True, he is considered one of the best expert accountants in the state. Then there are other expert accountants and I heard twenty men question them by the hour in order to get complete details and they didn't get "rattled", and seldom hesitated. Don't fear for the accounting system. It will work.

As I understand the arrangement, there are to be twenty-four district managers. These appear to be generally farmers with considerable experience in meeting men both at the farm and in meetings held. Difficulties of varied description are certain to come up in all localities. These will be as to tests, weights, payments, re-



RYANBE BURKE, HOLSTEIN COW OWNED BY R. E. BENSON, WISCONSIN

In 305 days she produced as a three-year-old 19,314.8 lbs. milk containing 645.2 lbs. fat. Freshening again as a four-year-old she has made in 7 days 554.6 lbs. milk, 21.14 lbs. fat. Ryanbe Burke was dropped on Mr. Benson's farm and raised and developed there. Her dam and two other daughters of her dam and her grandam and two other daughters are in the herd.

turned milk, I imagine, but they will go further and get into the uses that the dealers make of the milk and a great big array of other details such as no man can number, or at least schedule at this moment.

It is little less surprising to the League management than to the rest of us that the milk dealers are taking so kindly to the pooling plan. They fought to the last, but for some time now not so bitterly. Of course the Nestles still fight, and there are two or three other concerns that are doing the same. One of the fighters gave in yesterday and those still at war are giving us little concern.

Besides selling milk to many dealers, the League is operating perhaps sixty plants and may have well towards eighty shortly. At these plants they are handling about one and a half million pounds of milk. There is only one other concern, the Bordens Dairy Products Company, that handles more. The flush is on now and the amount of milk is unusually large for this date since the season is earlier than usual. Butter and cheese prices have gone down greatly. This will pull down the pooling price since the make of these products is quite large. There is less condensed than for several years.

We are all asking why the dealers fought pooling so hard. Mr. Slocum, the League president, says that in most cases they fought because they did not understand. It was useless to try to explain to them in a conference meeting for the atmosphere was too hostile. It had to be done by getting them one at a time where it was possible to discuss without interruption or prompting. In this way some of them grew less antagonistic and by May first most had come to see that it might even be to their interest, and at least opposition was useless. A good lot of work during the past six months has been of this enlightening sort. It was educational work just as it has been among dairymen.

There are certain complications a little difficult to understand, yet clear to those who have the situation in hand. League milk, under the original League contract, is said to be sold until the first of October and there are strong intimations that this old New Jersey corporation may cease to function at that time. Non-pooled milk of League members is sold by this organization at the price not to exceed that to be established as a result of the pool. The dealer pays to the pool and to his non-pool patrons the same price generally until the first of October. His price depends upon the use made of the milk. In market milk territory the man outside the pool profits and in butter-making territory he loses. All gain, however, by having a fair price fixed by the organization.

As I see it now, the greatest source of trouble for the next three months is the possible, yes probable, dissatisfaction of dairymen. It is impossible to launch so large an undertaking and have everything work smoothly even if it does start almost without a jar. If affairs are reasonably adjusted by the end of the year we may expect that the co-operative has made a very successful start and has promise of long life. Many farmers are likely to look at the $2.30 for three per cent milk for May to the distributors and then at their checks which will undoubtedly read below two dollars, perhaps considerably down. They will wonder what has become of it all. We had better spend a little time right now looking at the seventy-five cent milk that goes into cheese.

Health is one of life's greatest assets for success.

You cannot get a truck that is better suited to your business than a Federal

There is a capacity built to fit your needs—a body made to meet your requirements

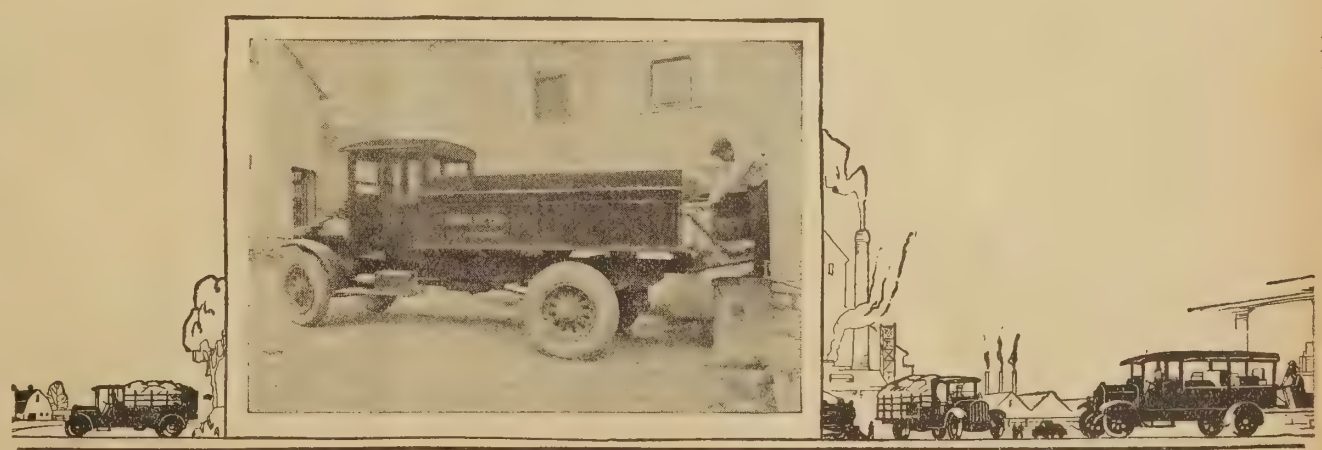
Federal engineers know the needs of business—and build Federal trucks to efficiently and economically fit them

Another FEDERAL

One to Seven Ton Capacities

There are few perishables that require a more exacting delivery schedule than milk. Every transportation unit must function perfectly to bring it to the final breakfast table on time. That is why Federals have gained such prestige in this field. This 1½ to 2-ton Federal pneumatic, operating near Cincinnati, is a daily source of satisfaction to Henry Meyer.

FEDERAL MOTOR TRUCK CO.
33 FEDERAL AVE. DETROIT, MICH.



Interested in the South

J. H. McLain of South Carolina was in Washington, recently, reporting to the Dairy Division of the Department of Agriculture, closing up details of work in his hands and renewing old acquaintances. Mr. McLain is one of the dairy enthusiasts of the South to whom monuments will be erected in some future day, when the real value of dairying to the South is established; for then the southern cattle owners and creamery and cheese factory men will look back to him as the pioneer of this great development. For years up to about a year ago, Mr. McLain was in charge of dairy extension work in the southern states, and in the face of obstacles, which would have daunted less of an enthusiast, and any man not so thoroughly "sold" on the value of dairying in the scheme of general agriculture as he, struggled with his problem, until today he can put his fingers on the map of the Southland and point out areas where the dairy industry is flourishing and where the present slump in cotton doesn't mean so much as it otherwise would.

The test of McLain's enthusiasm was his willingness to put his preaching into practice, and he did it by leaving the Department and buying a farm of his own and starting there a dairy just over the state line between North and South Carolina. This is up in the lower reaches of the mountains and fine dairying section, and his dairy is making good and winning friends every day, he says. Mr McLain, more than any other one man, knows the dairy problems, the dairy situation, and the dairymen of these southern states.

CP BABCOCK FOUR BOTTLE MILK Tester

PRICE EACH $6.95



DON'T KEEP BOARDER COWS

Every dairy man needs this outfit. Points out the "boarder cow". Enables him to buy cows with his eyes open and to check up his creamery, etc. Tells him how to regulate feed to increase production. Highly recommended by U. S. Department of Agriculture, County Agents, etc.
Free with each testing machine: 4 test bottles, 1 acid measure, 1 pipette, 2 brushes, 1 bottle acid and Instruction Sheet giving complete information about testing milk and cream.

Milk Dealers and Dairymen
Write for big, free catalogue.

The Creamery Package Mfg. Company
68 W. Kinzie St., Chicago.

Hoard's Dairyman

Fort Atkinson, Wisconsin

Founded 1885 by W. D. HOARD

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Subscription in United States and Mexico $1.00 per year; 3 years, $2.00; Canada, $1.50 per year.

FOREIGN SUBSCRIPTIONS may be sent through news dealers and book sellers in all foreign countries.

All foreign countries in the Postal Union $2.50 a year; not in the Postal Union $3.00, including postage.

Correspondents must not expect us to acknowledge the receipt of letters containing remittance for subscription. The receipt of Hoard's Dairyman is sufficient notification that money has been received. The label on the paper will show date to which subscription is paid. In case of renewals, if date on label is not changed within two weeks after remittance is sent, inform us at once.

We solicit advertisements of meritorious articles needed by the farmer. We try to keep our advertising columns clean and wholesome, that they may merit the patronage and confidence of our readers. Unwholesome, immoral, and quack medical advertising are excluded. A sincere effort is made to exclude frauds, irresponsible and unscrupulous firms. We will always take it as a favor to be notified whenever any advertiser's dealings with a subscriber are in bad faith or evidence a lack of business honor. Advertisers generally recognize the readers of Hoard's Dairyman as an up-to-date class of farmers, who farm with business-like methods, and we hold our columns for the patronage of only those with whom our readers can deal with profit and satisfaction.

ADVERTISING COPY must be received eight days previous to the date of publication. Advertising to be classified or changes in advertising must reach us twelve days previous to date of publication.

Entered at Fort Atkinson, Wis., as second class matter.

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Coming Events

June 9—Ayrshire Breeders' Association meets in Springfield, Mass. Secretary, J. G. Watson, Brandon, Vt.

June 22-25—Tuberculosis Eradication Conference, State House, Boston.

Mortensen Club Formed

A Mortensen Dairy Club has been organized at the Iowa State College. Professor M. Mortensen has long been the leader in the dairy department in that school, and the organization of this college club is in tribute to his work for the students there.

At the initial meeting John Schroeder was elected president; Tom Kelly, vice-president; and A. E. Hooker, secretary of the club.

Idaho State Educational Butter and Cheese Scoring Contest

An important attribute of a good buttermaker or cheesemaker is his ability to educate his patrons, to plead with them, convince them, and demonstrate to them that high quality of milk and cream will pay them the most and can be produced without much difficulty, extra labor, and money. After a good quality of cream or milk is received it is comparatively easy to turn out a product that will bring top prices, that is in demand, that will stimulate consumption, and that is a credit to the dairy industry.

This summer the University of Idaho Dairy Department is going to conduct a six months' educational butter and cheese scoring contest. Every creamery and cheese factory in the state should take part in it. The expense is very small, much may be gained. Let's see who makes the best butter and cheese. Is it produced in Southern or Northern Idaho? Let's see how much you can improve your product in one season.

The high scores will be published every month and will mean considerable advertisement to the plants concerned. Low scores will not be published and should be a stimulus for improvement. The criticisms of the judges should aid in such improvement.

A new feature of the contest is the triple score: namely, a commercial score, a composition score, and a keeping quality score. The latter scores are a valuable check for the plant operators on their product and on their workmanship, while the commercial score shows them what the market demands as to flavor, body, color, and salt.

The Place: Dairy Husbandry Department, University of Idaho, Moscow, Idaho.

The Judges: Representatives of the state or federal dairy extension service; H. A. Bendixen, Assistant Professor of Dairy Husbandry, Moscow, Idaho; and other experts that may be secured. H. A. BENDIXEN.

Trading Pure-breds for Scrubs

The Virginia State Guernsey Breeders' Association was recently reorganized and decided to launch a bull campaign in the state. They ran the following ad in one of the farm papers:

"The Virginia State Guernsey Breeders' Association has been reorganized and fifty members of this association have agreed to trade a registered Guernsey bull calf, even up, for a scrub or grade bull now used by any farmer in the state. All we ask you to do is to use this bull in your herd for two or three years just as you would your scrub or grade. Charge a reasonable fee to your neighbors and get them to use him. The bull is absolutely yours the day he arrives. No strings tied to him. He will improve the quality and quantity of your milk and double the value of every heifer he sires. This is an opportunity for fifty farmers in Virginia to get started with Guernseys without cost. Remember, an even trade for your scrub!"

It has been about six weeks since this ad appeared and up to this time they have received three hundred and thirty-nine inquiries from people that desire to trade scrub bulls for pure-breds or to buy pure-bred calves at the price the scrubs would sell for where they have no scrub bull. Some of these people ask if they can trade a heifer for a bull and one man wrote to know if he could trade an old model Ford toward a registered bull calf.

This shows the demand that there is for pure-bred Guernseys in the country at this time. We hope to put out one hundred calves in the state during the year and by doing so we feel that we will replace two thousand scrub calves with ones that will carry 50% Guernsey blood next year.

C. T. RICE, Sec.

Do you Fill your Silo to its Full Capacity?



YOU dairymen and stockmen who have silos—how much space do you waste in these valuable stock feed reservoirs? If you hire a custom outfit to do the filling, the chances are that a lot of good space is going to waste in the top of your silo. As you, of course, know, freshly cut silage is bound to settle a good deal. Even with one or two men in the silo tramping down the ensilage as it is blown in, there is sure to be a noticeable amount of settling later on.



Look For The EAGLE Our Trade Mark

The Best Way to Utilize Every Foot of Silo Space

With a *Case Silo-Filling Outfit* of your own—say a *Case 10-18 H. P. Kerosene Tractor* and a *No. 10 Case Silo Filler*—you can utilize every foot of space in your silo, regardless of settling. Where the expense of bringing back a custom outfit after the first filling would be prohibitive, it's a simple matter to start up your own outfit and cut enough additional ensilage to fill the space caused by settling of the first filling. A little later on perhaps a third filling may be made. In this way no space is lost and you secure full value from your silo investment.

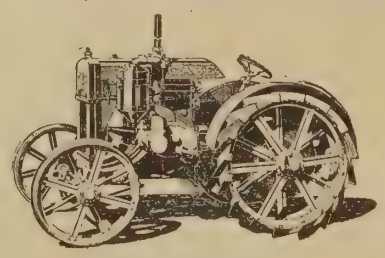
Only One of Many Jobs for a Case Tractor

This is only one of many jobs on the dairy and stock farm that can be handled to the best advantage with a *Case Kerosene Tractor*. Plowing, disking, seeding, haying, harvesting grain or corn, operating a feed grinder, corn husker and shredder, cylinder sheller, thresher, hay baler—on these and many other jobs Case Tractors demonstrate their efficiency, dependability and economy. Our catalog indicates why this is so. Write for a copy.

J. I. Case Threshing Machine Company
Dept. F10 - Racine, - Wisconsin

CASE
TRADE MARKS REG. U.S. PAT. OFF. AND IN FOREIGN COUNTRIES
POWER FARMING MACHINERY

61 Branch Houses and 8000 Case Dealers carry stocks of Case Machines, repairs and supplies and look after the needs of purchasers.



Case Kerosene Tractors
Made in 10-18, 15-27 and 22-40 H. P. sizes
Economical power for all heavy jobs



Case Silo Fillers—Built in four sizes
Cut shows No. 10 Filler

New Jersey Leaders in Georgia

The Jersey cow, You'll Do Roberta, owned by the Thomasville Live Stock Company of Georgia, has lately finished a record of 10,017.2 lbs. milk and 546.42 lbs. fat. This production made her champion junior two-year-old of the state. Only a few days after the completion of this record, Buttercup's Plymouth Girl, owned by Neal Brothers, became state champion in that class by completing a production of 9,492.3 lbs. milk and 612.96 lbs. fat.

Jersey Cattle Notes

For week ending May 13:

Number of animals registered: bulls, 241; cows, 585; total, 826. Number of transfers recorded: bulls, 254; cows, 936; total, 1,190.

Washington, D. C., Weekly News

[SPECIAL TO HOARD'S DAIRYMAN]

WASHINGTON, MAY 23—Before this is read the emergency tariff law will be signed by President Harding, and will be in effect. It passed the Senate as reported from Conference on May 19, and the House in the same form on May 23. The modifications of the measure agreed upon in conference had to do with the valuation section, and the dyestuff section only, the latter being limited to three months' duration, which took from it the worst of its bad features, and therefore there was no serious objection to its enactment.

The new emergency tariff puts a rate of six cents per pound on butter imported into this country. So far as butter is concerned its going into effect will be a clear-cut demonstration of just what the effect of a tariff will be on a product which is clearly subject to domestic influences as to supply and demand. Heretofore there has never been a clear-cut demonstration of this kind, as changes in the tariff rates have never been confined to a small list of articles, as is now covered in this emergency act but on a whole schedule at once, and reactions between commodities have prevented clear-cut analysis of results in any single case.

⚜

The passage of the emergency tariff also indicates that within a very short time, perhaps a few days only, the general tariff bill will be reported in the House. The willingness of the dye interests to accept three months' limitation on their pet scheme in the emergency bill indicates also their expectation, and they are a canny group with many friends in high places, that Republican leaders expect to put the regular tariff bill through in three months. It is easier to expect this to happen than it will be to make it happen. There is a long, hard contest ahead.

Dairy interests in the United States, from the man who milks the cow to the creamery owners and great commercial interests handling dairy products, have a greater stake in this general tariff than in any other question now up for settlement. The time is at hand when these interests need far keener and stronger representation in Washington than they have now.

There are three big questions right up to a settlement, and the way any one of them is settled may mean millions to the dairy industry. One is the question of reciprocity in dairy and other products with Canada, one is the tariff rate to be included in the general Act on butter and all other dairy products, the third, probably a bigger question and one which will be harder fought than either of the others, is the rate of duty to be imposed against vegetable oils.

Just because vegetable oils are included in the emergency tariff at 20 and 26 cents a gallon is no indication that this rate—and it is far from sufficiently high to give the protection needed—will be rewritten in the general bill.

The National Dairy Union, which is represented here all the time to watch oleomargarine legislation, is taking steps to bring this bigger and broader question of imported vegetable oils, and their menacing encroachment on the dairy industry, to the attention of leaders of the dairy industry generally, and A. M. Loomis, the secretary, says that he considers the situation as "one which should give deep concern to everyone who has a stake in the dairy business."

"The job is so big," he said, "that everyone has considered it someone else's business, and no concerted work is being done or has been done. There has been plenty of good hard work done by individuals, but team work is lacking. It will take team work to get a tariff of the kind essential, in the face of the people who have reasons for wanting these oils and the materials from which they are made brought in duty free, or as nearly so as they can get."

Mr. Loomis points out that, properly organized, there is a complete community of interest on this subject between the milk producers, and this includes all the pure-bred and record associations, the butter manufacturers and dealers, the cheese manufacturers and dealers, the manufacturers of pure ice cream, the dairy machinery interests, the silo manufacturers, the feed manufacturers and dealers, and the farm implement manufacturers of the North, with the cotton producers, the peanut producers, the cottonseed crushers, and the peanut oil manufacturers, and the growing dairy industry of the South—a community of interest which has never before existed on any tariff proposal or other dairy question. Thus far this community of interest has not been assembled, and is not in evidence except as a possibility.

Take the cheese business for example. Since the filled cheese law was passed, this industry has been singularly free from imitation products in competition with American Cheddar cheese. With the influx of cheap oils, however, it is almost certain that, law or no law, the manufacture of cheese in which the butterfat is replaced by vegetable fats is a possibility, and a product of this kind, with these oils as cheap as they may become, could be put on the market so that it is easily likely to become a serious competitor of the real article.

The vegetable oil schedule is in the hands of the sub-committee of the Ways and Means Committee of which Congressman Nicholas Longworth of Cincinnati is chairman. As a preliminary move it might be well for men with big dairy interests to write to Congressman Longworth and ascertain his views, and the latest information on this subject. Whatever other move is made, if any, will be promptly reported in these letters.

⚜

Dr. C. W. Larson, chief of the Dairy Division, Department of Agriculture, is home from a trip to State Fair Grounds, Minnesota, to look over the ground for the Department exhibit at the Dairy Show in October. He was much pleased with the buildings and plans for the show, and upon his return here started getting the work started for the preparation of an exhibit of even more snap and interest than the last one at Chicago. "Some surprises," was all the comment he would make, "but I am not ready to disclose the plans."

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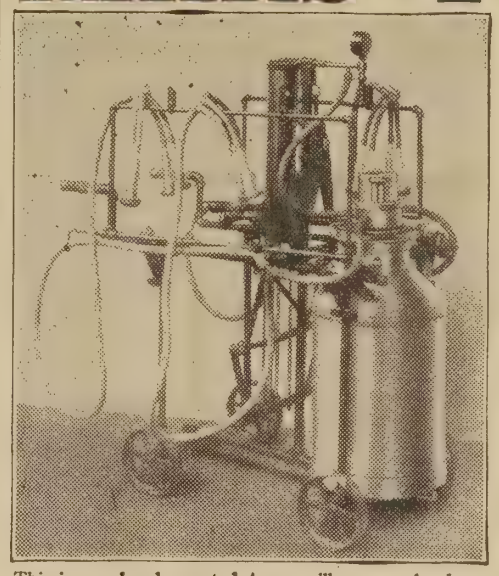
The farmer organizations represented in Washington have united in an effort to get action on the Capper-Volstead collective bargaining bill, now held up in the Senate Judiciary Committee. The representatives here visited Secretary of Agriculture Wallace in a body last Friday to urge him to help in this effort. He expressed his approval of whatever was necessary to clear the way for farmers' co-operative marketing organizations, and will write his full views on the subject to any member or members of congress who may ask for his opinion.

Milks 4 Cows at Once

the Milking Machine Sensation of 1921

Costs Half; Does Double Work

(Twice the work of our 1920 model)



This is our hand-operated 4-cow milker; we also have a 2-cow milker ($123) on which we offer a free trial (exchangeable for 4-cow milkers), and gasoline engine and electric power milkers.

The *new* PAGE *4-cow* Milker—operated by hand—no gas engine—no electricity—one man milks 4 cows at once. Little work—quickly done—easiest of all machines to handle—easiest, by far, to clean; the most wonderful advance in milking machine manufacture.

We also have a 2 cow milker, only

$123!!

30 Days Free Trial!

In every locality in which we have no dealer, or agent or sales-manager, we will send *one* machine on 30 days' free trial and at our rock-bottom price, direct from the factory; to the first responsible farmer who asks for it. No deposit; no C. O. D. 30 days full free trial, you alone to decide. *ACT QUICK!*

After trial, if satisfactory keep the machine on our IRON CLAD Guarantee.

Costs Nothing to Install—Not a cent of installation expense—no engine, no motor, *nothing! Just* the machine for small herds. If you want power, get our electric or engine power outfits at $225 and up.

You milk right into your own ordinary milk can; no extra pails; no pipes; no pulsators; no tanks. Amazingly easy to clean.

Guaranteed to do the work.

Guaranteed to save time.

Guaranteed—the last word in sanitary milking (one creamery wrote us that the most sanitary milk came from farmers using the PAGE Milker).

And—

Guaranteed:

Action alterable to suit every cow separately. Instantly adapted to any cow according to her disposition and how easily or how hard she milks.

Book on Milking Sent Free!

This book is full of *important* information for the man who is thinking of getting any kind of a milking machine —**Get Posted!**

Burton Page Co., Dept. A-462
661 West Lake Street, Chicago, Ill.

Please send me your free book on milking. Also description of your new model PAGE 4 cow Milker, and your engine and electric power models. Also details of your 30-day free trial offer on the 2 cow, hand operated model.

Name.....

Address.....

Number of cows .....
If you have a milking machine now give name of make
.....

STERILIZE
MILKING MACHINES
PAILS AND CANS

with B-K Bacilli-Kil
The Sentinel of Sanitation

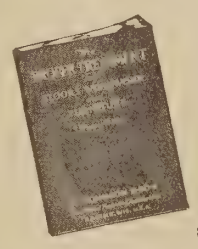
DEPENDABLE -- CHEAP

Just put B-K in the rinse water after scrubbing milker, pails, cans and strainer. It kills the bacteria that sours milk.

Does the work quick—costs little to use. No extra labor or equipment required. Leaves utensils sweet and pure, free from odors. B-K is endorsed and used for this purpose by dairy authorities everywhere. B-K is a pure concentrated sodium hypochlorite—every scientific man knows the value.

Get a gallon of B-K—the Standard Farm Package. If your dealer hasn't that size, have him get it for you.

GENERAL LABORATORIES
Madison, Wisconsin



THIS BOOK ON HOME BEAUTIFYING FREE

Contains practical suggestions on how to make your home artistic, cheery and inviting. Explains how you can easily and economically keep the finish of your woodwork, floors and furniture in perfect condition.

DECORATING?

This book gives complete specifications for finishing hard and soft woods. Tells how to finish old and new furniture and woodwork in artistic stained effects with ***Johnson's Wood Dye,*** and in latest enameled effects with ***Johnson's Perfectone Enamel.*** Gives full directions on the care of floors—how you can easily make and keep them beautiful with

Johnson's Prepared Wax

Ask your best dealer in paints for a copy of the Johnson Book on Home Beautifying. If he is unable to furnish it write us, mentioning your dealer's name, and we will mail you a copy free.

S.C. JOHNSON & SON, Dept. HD6, Racine, Wis.
"The Wood Finishing Authorities"
Canadian Factory—Brantford

EDITORIAL COMMENT



EXHIBITING CLEAN HERDS

We are informed by Dr. T. E. Munce, state veterinarian, that the Pennsylvania Bureau of Animal Industry recognizes the danger of fairs and live stock shows as places for disseminating disease. In order to safeguard the live stock of that state each secretary of the county or district agricultural fair association in Pennsylvania is advised about cleaning and disinfecting the live stock pavilions before placing the cattle in them. The Bureau offers the services of men to supervise this work.

At the annual meeting of the state fair associations a representative of the State Bureau of Animal Industry discussed the importance of sanitation at all live stock shows and the necessity of having each animal free from disease that was placed on exhibition. The Accredited Herd Plan was revised and the following requirements made:

"Cattle from an accredited herd or from a herd in process of accreditation, when exhibited at fairs or other live stock exhibitions, must be provided with separate sections and in such manner that they will not be exposed to other cattle.

"The federal and state live stock authorities will, as far as practicable, supervise the cleaning and disinfecting of all enclosures used for live stock exhibitions."

We heartily approve of this plan of exhibiting herds known to be free from tuberculosis. We consider it, however, a better plan that no animals should be exhibited unless it is known that they are free from tuberculosis and other diseases.

A SUCCESSFUL MILK WEEK

The Walworth County, Wisconsin, Farm Bureau conducted a milk campaign throughout the county during the week of May 16—21. At the nine trading centers of the county, meetings were held where there were discussed and pictured the food value and importance of milk and its products. The school children in each of these cities had a part and presented a play entitled "The Milk Fairies" for the purpose of emphasizing the necessity of milk for growing boys and girls. The entire county was organized, the country schools as well as the city schools, together with all the various clubs, and through this county wide organization an educational campaign was conducted in behalf of milk and its products. This is the first county in the United States to put on a milk campaign upon so broad and comprehensive a basis.

This work was organized by the farm bureau secretary, Mr. W. A. Foster, and created such an interest in the meetings that in many instances the halls were not big enough to accommodate the crowds. Storekeepers, schools, churches, women's clubs, and school children co-operated to make this milk campaign a success.

Walworth County has an understanding of the food value of milk and its products that could not have been gained in any other way in so short a time. We can highly recommend the work done there to every county throughout the United States. It not only means a larger consumption of dairy products but it means a better diet for people and especially for growing children.

FILLED MILK FOR COOKING

Since the bill to prohibit the manufacture and sale of filled milk in Wisconsin has been introduced in the legislature, manufacturers claim it is only a cooking product. A manager of a filled milk plant has written his patrons as follows: "We have built up, through national advertising and sales effort, a market for our compound product, Hebe, as a cooking liquid entirely separate and apart from the market for evaporated milk." We quote from the Hebe Co. pamphlet of 1920 entitled "Establishing a Better Knowledge of Hebe": "Use Hebe for creamed chicken, oyster, and clam stews, creamed fish; serve Hebe with tea and coffee; make delicious cream soups with Hebe; use Hebe for rice puddings, custards, etc., and a hundred other desserts." Another filled milk label states: "A sterilized high grade nutritious food product composed of fresh cow's milk; butterfat removed and highly refined cocoanut oil substituted. Two teaspoonfuls of Carolene in place of cream or milk in your coffee produce surprisingly satisfying results. * * * It can be whipped." Still another brand of filled milk says: "It can be used as milk or cream."

Do these statements lead the consumer to believe filled milk is used only for cooking purposes? The Hebe Co. in its advertising admits that Hebe is used for many purposes besides cooking. We quote: "You will use Hebe not only in desserts but in baking, in cream soups, in cream sauces of all kinds for meats, chicken, vegetables, and fish, in mashed potatoes, gravies, griddle cakes, omelets, and many other dishes." In a letter to their patrons this company claims it is only a "cooking liquid".

Why this deception when the manufacturers know that filled milk is designed to take the place of milk and cream? Some of it is labelled a compound of condensed skimmilk and cocoanut oil, but in 35 stores which handled filled milk and where purchases were made only one merchant declared it to be a compound, while some even stated it was better than the genuine product and more like whole milk. Herein lies the fraud of this so-called milk substitute. The consumer is not advised that it is a compound and not milk, and should be used for cooking purposes only. Here is an advertisement taken from the Friday, May 20th, issue of The Wisconsin State Journal: "Five cans of Silver Key Milk, 45 cents." Silver Key is not milk but a compound of skimmilk and cocoanut oil.

Further comment is unnecessary for the labels upon the cans of filled milk, pamphlets describing its various uses, and advertisements in newspapers show conclusively that its manufacturers urge its use in hundreds of ways besides cooking and that it is sold for milk.

GRADING CREAM

Those manufacturers of butter who have held it impracticable to grade cream and pay for it according to its quality are doing some real serious thinking about this method of buying cream. Some weeks ago the market price for extra butter was 32 cents a pound in Chicago and first grade butter was selling for 21 cents or less a pound. Some of the butter manufacturers lost 10 to 12 cents a pound on the butterfat purchased. Some of them now have decided that it is practical to pay for cream according to its quality and have instituted this practice. When the pocketbook nerve is hit most anything is possible.

It is not only fair that cream should be purchased according to its grade, but that which produces an inferior grade of butter should be denied a market. The manufacture of a poor quality of butter is destroying the market for butter for the consumer prefers to purchase so-called butter substitutes. Here is a statement by one of our subscribers which corroborates this:

"There is a matter that needs consideration, as I see it; you have fought the practice of using butter substitutes by people who are in sympathy with, or are, dairymen. This I have consistently done, and have spoken against its use until recently. This change is only in practice but the fact that we are not able to get good butter has caused me to use substitutes. We have access to a market that sells several brands of northern butter; among them are many brands, but it is not good, it is off in flavor. I would like to know what is the trouble. Is it because the lower grade is shipped south or is there some other reason?"

The trouble lies, to a very large degree, in the manufacturers of butter accepting all cream that is offered them. There is no butter making process known that will take poor cream and manufacture it into good butter. The manufacturers of butter must stop purchasing such cream and by paying for marketable cream according to its quality will cause the production of cream which will produce good butter. If the creameries of the country will not of their own accord correct the present evils in their business our state and national laws must be so amended that bad cream will not be made into butter. This must be done to protect the dairy farmers who are producing a good quality of raw material.

FARMING A BUSINESS

It has been stated by B. H. Hibbard of the Wisconsin College of Agriculture that "the occupation of farming is the only one in which the home and the family are closely associated. It is for this reason that the average American farmer has been content, until recently, to run his business without profit. The decade prior to 1890 was an era of cheap land but the day of cheap land has passed. The farmer of today is the user of capital, which must pay, besides other fees, charges, interest, and dividends, if he is to stay in the business."

It is our opinion that the farmer has always desired a profit but he has not kept a system of accounts which has led him to determine just what profit he has made. If, through his work and his family's, they have more money at the end of a year than they had at the beginning, it was assumed that the farm had yielded a profit. He has failed to take into account his labor or the labor of his family or the extra hours during which he worked, interest on investment, etc., in order to secure such money.

Thinking farmers are attempting to put farming upon a business basis. It is a little early to assume that the majority of farmers are seriously considering farming as a business for so few keep accounts. They are considering it as a place for building a home, utilizing the labor of their family, and are willing to do things in which very little profit can be measured.

It has been very noticeable that when certain farm products have reached prices that yield cost of production, a sufficient number of farmers have increased the production of such crops materially. There are certain sections where the farmers receive no more than cost of production for milk, as near as can be calculated, yet in those sections production has been increased. It is essential to know the cost of production in order to determine what crops are the most profitable to raise, how the farm should be managed, and to lead the farmer to see the necessity of making farming a business. This requires keeping a system of accounts. When this is done, and not until then, will farming become a business.

For a Self-sucking Cow

Please inform me how to break a cow of sucking herself.

Fort Smith, Ark. E. E. W.

We have received information from many of our subscribers telling us how they have handled this problem and have selected the following as representative of the several methods proposed:

Mr. J. V. Miller of New Mexico says: "I have tried many different methods and they have all seemed cruel to me, but the following seems to be the best. I put an old work bridle on the cow, the bit of which was divided in the middle. I know this will stop a confirmed sucker. The bits bother her for a few days but after that she does not seem to notice them. With this she can be perfectly free to move about as she desires."

Mr. J. R. Fleming of Wisconsin says: "Put a girth around cow. Place a stick between the front legs fastening one end to the girth and the other end to a ring in the halter. It is impossible for the cow to suck herself."

Mr. A. H. Coleman of Illinois writes that he has tried the method suggested by Mr. Fleming, and it

has been very satisfactory. Also, that his neighbor had used a sack over the udder but found it too much trouble. He also tried the stick and surcingle method finding it very satisfactory.

Mr. James D. Moore of Shannon, Mississippi, says: "Get a straight bar bridle bit with a hole made through its entire length. This bit should also have a slot through the center one inch long and extending into the center of the hollow bit. The cow will suck air and cannot get milk. This bit is put on with the ordinary halter or horse bridle. It should be cleaned out every day with a wire. This bit is manufactured especially for this purpose, but if not on the market an ordinary blacksmith can make it."

Mr. R. B. Cochran of Iowa says: "Place a hoop around the cow's neck just in front of the shoulder so that it will set similar to a horse collar. Put another hoop around her body just back of the forelegs. Attach these two hoops together with straight pieces of hard wood, placing them on either side and midway between the top and bottom of the hoops. In my own case, I used old buggy tires cut down so as to make a loose fitting hoop."

Fly Spray

Please give a recipe for a fly chaser to spray cows.

Arkansas City, Kans. A. D.

A good fly spray can be made from 4½ quarts coal tar dip, 4½ quarts fish oil, 3 quarts coal oil, 3 quarts whale oil, and 1½ quarts oil of tar.

Dissolve 3 lbs. laundry soap in water, add the ingredients of the spray and bring the whole up to 30 gallons with lukewarm soft water. This spray will keep off the flies and prevent the coats of the animals from becoming harsh.

The cows should be sprayed twice a day—in the morning after milking and in the afternoon when in the barn for silage or green feed. Thirty gallons of mixture will spray 40 cows 2 times a day for 10 days.

Small Diameter Silo

HOARD'S DAIRYMAN:—In a late issue, one of your readers inquired about the diameter of a silo. I have had some experience with feeding a few cattle from a 12-foot diameter silo. The stage at which the corn goes into the silo has much to do with the amount required fed off each day to avoid spoiling. If the corn is well ripened, it will not be necessary to remove as much silage in order to keep it from spoiling.

I am feeding 7 cows, 4 small heifers, and 2 horses—11 head in all—without waste. My reason for using a 12x40 foot silo is that we get more for our money. A 10x37½ foot silo holds 65 tons and costs very little less than my 12x40 and it holds 110 tons.

If our reader could get some beet pulp to cover one-half of his surface and feed off the other, say, for three or five days, then the pulp can be removed and cover the side which is lower, and so on. I have worked it this way to good advantage. Not every one can get green pulp but anyone could get some dried pulp and wet same for cover.

Utah. A. W. SCOTT.

[Editor's Note:—How many readers agree with Mr. Scott that well ripened corn spoils less at the top in daily feeding?]

First Cutting Alfalfa

HOARD'S DAIRYMAN:—The first cutting of alfalfa, largely due to its coarseness, is the least valuable of the two or three crops. In 1919 the writer pastured one field of this crop for a period of 28 days from May 1 when the cattle were taken to another pasture. The alfalfa was then left to grow until it had commenced to blossom before cutting. It retained its pea green color and was only a little coarser than ordinary second crop.

I repeated the experiment last year with very satisfactory results. The field or fields which are to be cut last should be pastured, as otherwise they get the coarsest and most overripe.

Many farmers do not pasture alfalfa because of the danger of bloating. The nearer the plant reaches maturity, the less dangerous. The writer's experience in successfully guarding against bloat caused by alfalfa is as follows: The cows should be fed all the good quality hay, corn fodder, silage, etc., they will eat, besides a liberal allowance of grain, on the morning they are first turned on the alfalfa pasture. The time they eat enough to cause bloat is when they are turned on the alfalfa while hungry. Once the stock is turned on this pasture, it should be kept there with gates closed day and night, except when watering or at milking time. When on pasture, cattle often refuse to eat other food while in the barn during the night and morning, causing them to be hungry, which may induce bloat when they are again turned into the alfalfa pasture.

Alfalfa makes such rapid growth in the spring, that it is ready to be pastured nearly a month earlier than other or permanent pasture, which makes it a very important plant for early spring pastures.

I do not think the succeeding crops were materially injured by pasturing, excepting that the yield of the first cutting may be considerably smaller. I do not consider the decrease in yield of the first cutting a drawback, as the difference in quality is sufficient to offset the difference in yield.

I am somewhat doubtful if it is advisable to pasture alfalfa in the spring where only a small acreage is grown. In such cases the hay can all be cut as soon as it is fit for cutting and none need get very rank and near maturity. It is also possible that pasturing will damage alfalfa slightly more on land which is not naturally adapted than on land which is well adapted to the growing of this crop.

Ordinarily I advise the pasturing of all alfalfa which we cannot cut within two weeks beginning from the first day it is fit to cut. What I'm pasturing now will be my best quality hay, although it will be cut last.

Wisconsin. MATH. KOENIGS.

Sweet Clover Silage and Meal

HOARD'S DAIRYMAN:—Canadian dairy farmers are becoming much interested in our newest farm crop—sweet clover. Heretofore it has been a boom crop, grown largely for seed. Hundreds of farms have lifted the mortgage on the receipt from the sale of sweet clover seed and there are many instances on record of where the seed sown in a single year was more valuable than the farm on which it was grown. Such returns led to a tremendous over-production of seed and this winter seed, that would have sold for $20 a bushel 12 months ago, is begging a market at $3 to $4 a bushel. With red and alsike clovers at $11 and $12 a bushel, there will be much more sweet clover sown than ever before.

There is a division of opinion as to the value of the crop for hay. If it is not allowed to get too coarse the first crop must be cut by the 10th of June and at that season there is little sunshine, lots of rain, and curing is almost impossible. Growers are getting around this difficulty, however, by pasturing the crop fairly heavily early in the season and then leaving so as to cut for hay in more favorable weather. There are two places, however, where sweet clover has demonstrated itself to be unexcelled—as a pasture crop and for plowing under. Sweet clover will yield more pasture to the acre than any other crop or combination of crops that has ever been tested in Canada. Moreover, it affords pasturage the whole season through. Where two crops of grain are grown in succession, and with sweet clover seed as cheap as it now is, it will be the general practice to seed down the first crop just for the humus there will be to plow under that same fall. I have seen sweet clover seeded in this way standing a foot high in the stubble for fall plowing.

Several dairy farmers have been experimenting with sweet clover for silage. At a recent meeting in Ontario, Mr. Chas. Watson of York County told of his experience. It started when he attempted to cure five acres for hay, but no progress in a week of wet weather decided him to make ensilage of it. A silo 12 by 30 was half filled and feeding commenced immediately. "The stock took to the feed quite readily," related Mr. Watson. "That was about July first and the cattle had been in pasture long enough to relish a change." In the four years since then, Mr. Watson has continued to make sweet clover silage but he is convinced that for this purpose it will never take the place of corn and warns that care must be exercised in feeding as stock is easily stalled on sweet clover.

Another dairy farmer has been turning sweet clover straw into sweet clover meal. His method is to run the sweet clover straw through a feed grinder reducing it to a meal, and he states that the first straw used in this way was from an old stack and "as black as your boot". The cows ate it all and got down on their knees to lick up the last bite in reach. When the amount was increased, however, the cows scoured badly and Mr. Hill concludes that it, too, must be fed with care. Samples submitted for analysis showed that this meal, made from green cured hay, yielded 12% protein and 30% fibre. A sample from straw tested 14% protein and 28% fibre. Another sample tested since then, however, yielded only 4.8% protein and had 51% of fibre. The subject of sweet clover meal evidently needs further investigation before definite conclusions can be made as to its value.

Canada. F. E. ELLIS.

Milking the Heifer

HOARD'S DAIRYMAN:—The first parturition is a critical time with the heifer, because at this time she may be easily spoiled. Also some of the worst kickers I have ever known have been made so by being handled in a wrong manner during the first lactation. If before beginning to milk the udder is rubbed gently and the teats taken in the hands carefully she will soon become accustomed to the preliminary handling and rubbing which good milkers indulge in before beginning to draw the milk. Suddenly seizing the teats and commencing to draw the milk may have an irritating and frightening effect upon her which is not always easily overcome.

The habits of moving about restlessly, changing from one foot to another, suddenly lifting the legs, if not actually kicking, or reaching forward and stepping backward, are all wasters of time and triers of temper. These annoying ways detract from the pleasure of milking and the best way to prevent their development is to take the best care possible of the heifer when she is beginning to give milk.

If the udder is hard or tender to the touch, as is often the case, no attempt to force the heifer into quietness by blows or angry words should be made. These may take effect just for a moment but cannot be effective long. The only permanent way to obtain the results desired is to be patient and carefully apply a good lubricant, a little fresh cream being good.

Only as much pressure should be applied to draw the milk as is necessary. No greater force than this should be used and too rapid movement will cause more irritation than anything else. Care should be taken to move the fingers properly so that the milk is always driven downwards and never by accident forced upwards. A sudden lurch or kick may often be attributed to this, as upward pressure may cause more or less pain.

Tying the legs to prevent kicking should never be resorted to unless absolutely necessary. All cows resent being hampered in this way and if there is any difficulty it is better for some one to stand at the opposite side from the milker and assist by a little cajolry, such as speaking kindly to the heifer or gently rubbing the skin particularly in the region of the tail root.

Another soother which is well worth trying is for the person assisting to stand by the heifer's head and gently scratch the part between the horns. This produces a pleasurable sensation, thus helping to detract attention from what is going on at the other end. In doing this it is preferable to stand by the shoulders close to the neck. This position is less likely to irritate than to be anywhere in front and is of course safer.

Teaching the heifer to stand properly is not always an easy manner though some heifers are wonderfully accommodating in this respect. They will stretch gently forward making it easy to reach the hind teats thus showing that they appreciate the milk being drawn. Others will persist in putting the leg nearest the milker slightly forward, hindering him considerably. The most natural way to try to alter this is to attempt to push the leg back. If this is done too roughly kicking may be encouraged which will, of course, only make matters worse.

If it is found that a slight pressure on the inside of the leg will make the heifer move back this may be done but if there is any stupidity the best thing to do is to go on milking as well as may be, hoping that there will be a voluntary movement which will bring about the desired change. If this does not come and it is impossible to proceed a gentle touch on the back of the other leg may answer the purpose. It will often be found that steady pressure on the back of the leg will induce one step forward when the same force applied to the inside of the other leg would only arouse resentment. Good habits in the cow are well worth cultivating.

Illinois. M. E. UNDERWOOD.

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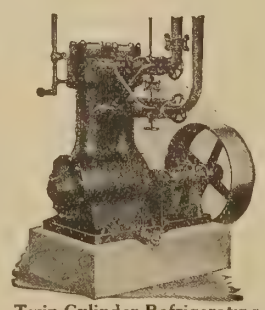
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DAIRY MARKET NEWS

Unsettled Undertone Apparent on Cheese and Butter Markets

[Report by U. S. Bureau of Markets.]

The cheese market during the week ending May 21 was characteristic of the usual period just preceding the opening of the storage season. Production is increasing and stocks of all styles are liberal on the distributing markets, while dealers are trying to keep stocks moving and floors well cleared. These conditions gave an unsettled undertone to the market with a somewhat firmer feeling toward the end of the week.

Fresh make and receipts show more grass flavor and it is expected that this week will see more active buying for storage with practically full grass flavor. The buying has been confined mostly to small lots with a few lots of 100 boxes to a carload.

Dealers, especially at country points, are proceeding cautiously. There is practically no export buying.

New Cheese Board at Plymouth

A new board to be known as the Farmers' Call Board has been organized at Plymouth, Wisconsin, and 26 cheese factories have agreed to sell their entire output on this board. The first call was at 4 p. m., May 23, in the city hall. Sales on this board as well as on the Plymouth Board will be reported by the U. S. Bureau of Markets.

Sales on the Wisconsin Cheese Exchange on Monday, May 23, resulted in the following quotations: Twins and Daisies, 12½c; Double Daisies, 12c; and Longhorns, Young Americas, and Square Prints, 13c.

On Farmers' Call Board sales were made at the following quotations: Twins, 13⅛c; Daisies, 13¾c; Double Daisies, 12¾c; Longhorns, 13¾c to 14c; Young Americas, 13⅜c to 13½c; Square Prints, 13¼c.

The average wholesale prices on American cheese (style Twins) for the week ending May 21, 1921, and for the corresponding week a year ago were as follows:

	Week ending May 21 1921	1920
	Cts.	Cts.
New York	16.2	30.5
Chicago	14.6	27.6
Boston	16.2	30.6
San Francisco	13.7	25.0
Wisconsin	14.0	28.0

The total receipts of American cheese at these markets were 4,346,314 lbs. as compared with 3,965,825 lbs. a year ago and 4,482,589 lbs. a week ago.

Butter Market

Active storage demand failed to stabilize the butter markets during the week ending May 21, until Friday. The bulk of offerings did not show good enough quality to meet storage requirements and sentiment was bearish. Inferior arrivals created a surplus which had to be pressed for sale on the open market causing daily declines averaging more than ½c a day almost to the close of the week.

Buyers for storage appeared to be very critical and this attitude helped to cause the undergrades to accumulate. New York reports that practically the only demand during the week was for butter for consumptive channels and that this trade was exceptionally heavy.

The spread between prices at Chicago and eastern markets has narrowed down recently. There has been less buying at Chicago because of the relatively high prices there and the heavy receipts of creamery butter from nearby points which have in a measure replaced some of the centralized goods.

Saturday markets were all firmer, Chicago leading with an advance of ½c to 1c. New York was still unsettled. June 90-score centralized sold down to 26¾c on the Chicago board at one time during the week but recovered on Saturday to 28¼c to 28½c.

The amount of butter produced in the Southwest centralized territory shows a reduction. For the week ending May 14, 84 plants of the American Creamery Butter Manufacturers' Association reported an increase of 32% compared with last year but a decrease of nearly 8% compared with the previous week.

The average wholesale prices on 92-score butter at five of the principal markets for the week ending May 21, 1921, and the corresponding week a year ago were as follows:

	Week ending May 21 1921	1920
	Cts.	Cts.
New York	28.8	62.1
Chicago	28.1	56.0
Philadelphia	29.5	62.7
Boston	29.5	61.6
San Francisco	31.2	52.4

The receipts of butter at these markets were 14,930,239 lbs. as compared with 10,142,250 lbs. a year ago and 13,894,391 lbs. a week ago.

New York Butter Market

New York City, May 24:—The market has been in a somewhat unsettled condition during the past two days because of a strike of porters and truck drivers who handle dairy products and eggs. The strike is a result of a decision of boss truckmen and a sub-committee of the Industrial Relations Committee of the New York Mercantile Exchange that cartage charges should go back to the schedule put into force in July, 1919. That schedule placed the cartage charge for butter hauled from the docks and other nearby points at 6c per tub. During the past several months the charge has been 8c. Previously, the Industrial Relations Committee had recommended a reduction of wages of porters and truckmen of $3 per week, bringing the wage down to $32 per week, the maintenance of the 8-hour day, and of the "open shop". Because of the wage reduction and also because the union wished to prevent the hiring of non-union men, the strike was called. At the present time, many of the strikers are returning to work and it is probable that the strike will be broken in the near future without any concessions having been given to the union.

Because of the strike, little butter was moved yesterday either from the docks or from stores. Today, however, outside trucks have been called in and the greater part of the butter that accumulated at the docks has been removed. The trucks that are moving the butter are heavily guarded by private detectives and by city policemen. On the whole, considering the attitude of the teamsters, who are in a belligerent mood, little confusion has resulted from the strike. Strike breakers are being employed in

Carload Prices of Hay and Feed at Important Markets May 21

(In dollars per ton)

Commodity	New York*	Philadelphia	Baltimore	Richmond	Atlanta	Memphis*	Cincinnati*	Pittsburgh*	Chicago*	Minneapolis*	Omaha*	Kansas City*	St. Louis*	San Francisco*	Los Angeles
HAY															
Timothy and clover:															
No. 1 Timothy	28.00	23.50	.....	26.00	31.00	25.50	22.00	22.50	22.00	20.00	.....	†19.00	28.00	....	
No. 1 Clover, mixed	23.50	18.00	18 50	23.00	29.00	.....	19.00	15.00	17.00	†16.00	.....	†14.50	24.00	....	
No. 1 Clover	.....	....	15 50	22 00	.....	.....	16.00	.....	16.00	†16.00	.....	†14.00	23.00	...	....
Alfalfa:															
No. 1 Alfalfa	.....	.....	.....	.....	34 00	28.00	20.00	....	24.00	†19.00	†20.00	22.00	28.00	20.00	21.00
Standard Alfalfa	.....	.....	.....	.....	30.00	26.00	18.00	.....	21.00	†17.00	17.50	19.00	25.00	18.00	....
No. 2 Alfalfa	.....	.....	.....	.....	28.00	23.00	13.00	....	18.00	†15.00	11.00	15.00	22.00	15.00	....
FEED—Bagged															
Wheat Bran:															
Spring	26 00	25 50	25 50	26.00	29 00	.....	.....	23.50	19.50	16.00	.....	.....	.....	.....	
Soft Winter	.....	.....	28 00	29.00	29.00	21.50	....	25 50	.....	.....	.....	.....	20.00	39.00	41 00
Hard Winter	....	..	..	.....	29.00	.....	.....	24.50	.....	.....	16.00	16.50	19.50	.....	32.00
Wheat Middlings:															
Spring (Standard)	25 00	24 25	24.50	26.00	30.00	.....	21.50	23.00	19.00	15.50	.....	.....	.....	.....	.....
Soft Winter	.....	.. ..	26.00	33 00	31 00	.....	27.50	28.00	23.50	.....	.....	.....	26.00	.....	.....
Hard Winter	.....	.....	.....	.....	30.00	.....	22.00	29.00	.....	.....	21.00	.....	24.50	.....	.....
Rye Middlings	.....	22.50	.....	22.00	.....	.....	.....	20.50	.....	14.00	.....	.....	.....	.....	.....
High protein meals:															
Linseed	36.00	.....	.....	.....	.....	.....	.....	34.00	30.00	27.00	31.50	31.00	30.00	.....	.....
Cottonseed (41 per ct)	.....	40.50	.....	.....	.....	.....	.....	37.50	.....	.....	.....	35.00	35 00	35.00	.....
Cottonseed (36 per ct)	37.50	38.50	.....	.....	30.00	29.25	.....	35.00	32.50	.....	.....	.....	32.00	.....	31.00
No. 1 Alfalfa me'l (med)	.....	.....	29.00	.....	.....	25.00	.....	.....	24.50	.....	20.00	18.00	23.00	23.00	28.00
Gluten feed	34.60	.....	.....	.....	.....	.....	29 30	31.93	26 50	.....	.....	.....	29.50	.....	.....
Hominy feed (white)	31.00	29 50	29.50	32.00	29.00	.....	.....	.....	23.00	.....	19.50	.....	22.00	.....	.....
Ground barley	.....	.....	.....	.....	.....	.....	.....	.....	29 00	18.00	.....	29.50	.....	.....	32 00
Beet pulp	29.50	28.00	27.50	.....	.....	.....	.....	25 80	.....	48 00	.....	.....	.....	30 00	30.00

*Hay quotations represent average of cash sales at these markets. †Nominal.

Straw:—Light receipts caused some advances in the straw market and higher prices were quoted in several instances. Prices at the principal markets were as follows: No. 1 wheat straw—Philadelphia $19, Baltimore $14.50, Pittsburgh $15.50, Cincinnati $12, Chicago $12, Chattanooga $23, Omaha $8, Kansas City $9; oat straw practically same as quotations on wheat straw; No. 1 rye straw—New York $24, Philadelphia $22, Baltimore $17, Pittsburgh $16, Cincinnati $18, Chicago $14, Minneapolis $9, Omaha $9.

some instances and it is understood that many of the strikers will not be allowed to return to work unless they return today or tomorrow.

There has been a constant downward trend to the market during the past week. However, the decline has not been great, although the market has been very weak the greater part of the time, the aggregate decline being only 1c. Partially because of strike conditions, but also because of an awakening of speculative demand, there was a price recovery of ½c yesterday, which has been maintained today, and there are indications that the market may harden considerably during the next few days. There is a strong probability that supplies may be somewhat excessive immediately following the calling off of the strike but it is very probable that receivers will place much of their excess supply in storage as a feeling prevails that prices during June will be at a higher level than at the present time.

On Tuesday of last week extras were quoted at 29½c. On Wednesday the market was weak and the price fell ½@1c. That was followed by successive declines of ½c on Thursday and Friday. The quotation was unchanged until yesterday when the price advanced ½c. The market was firmer today and prices of undergrades advanced ½c. Established quotations are: Extras (92 score), 28½c; higher scoring than extras (93 score or higher), 29@29½c; firsts (90—91 score), 26½@28c; firsts (88—89 score), 24½@26c; and seconds (83@87 score), 21@23½c. W. B. LIVERANCE.

Nine New Jersey Records in Eight States

Very creditable Register of Merit productions have recently been completed by Jersey cows in eight different states.

Waikiki Farm of Washington has produced a new junior three-year-old champion for that state in Glen Tana Morocco Duchess. Her record is 12,549 lbs. milk, 698 lbs. fat, the test beginning at three years and two months.

In New Mexico, Gamboge's Fox's Lady Rosette, a two-year-old owned by Meldrum Gray, has produced 11,375 lbs. milk containing 604 lbs. fat. Her record exceeds that of the previous champion of the state in this class by 100 lbs. of fat.

The agricultural college of North Carolina owns the new senior four-year-old champion of that state, Pender Eminent Lass E. This cow's production of 10,752 lbs. milk containing 564 lbs. fat exceeds the former champion of that age by nearly 100 lbs. fat.

A new state champion record in Virginia of 11,325 lbs. milk, 650 lbs. fat, has been made by the senior two-year-old, Mansfield Queen of Roses. She is owned by R. C. Vance and receives the Virginia Trophy Cup awarded by the Virginia Jersey Cattle Club for the highest percentage of butterfat for her age.

In Iowa a new junior four-year-old champion has been produced at the Waterloo Jersey Farm. Sans Aloi's Goldie has made 8,519 lbs. of milk containing 519 lbs. fat. Waterloo Jersey Farm cows now lead in six of the eight Register of Merit classes in the state of Iowa.

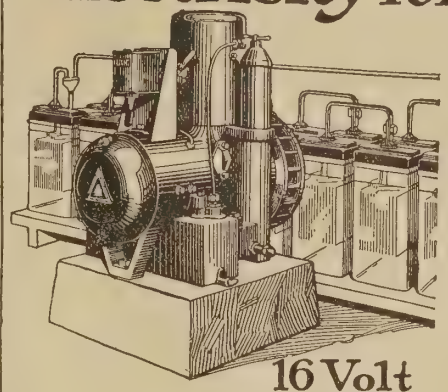
A senior two-year-old production of 11,242.4 lbs. milk, 636.24 lbs. fat has been completed by Sayda's King Wilhelmina, owned by S. W. Bliss & Son of Vermont. This production is the championship record for the state.

In Massachusetts, Hillside Jersey Farm furnishes a new record cow for the state in the junior four-year-old class. Madeline of Hillside has recently finished a record of 13,619.6 lbs. milk, 719.53 lbs. fat. With thirteen of her sisters, she averages 9,331 lbs. milk, 529 lbs. fat. Two of the fourteen sisters have produced over 700 lbs. fat. The sire of all is Hillside Torono.

The new state champion of New Hampshire, Clever Little Lady, is owned by Geo. M. Putnam. Her production for the year is 12,456 lbs. milk, 767.99 lbs. fat. This exceeds the previous high record for mature cows in the state by 100 lbs. of fat. Dream's Miss Jane, a stable mate of Clever Little Lady, has recently become champion senior four-year-old of the state with 12,752 lbs. milk, 718.76 lbs. fat.

DELCO-LIGHT

Electricity for Anyone Anywhere



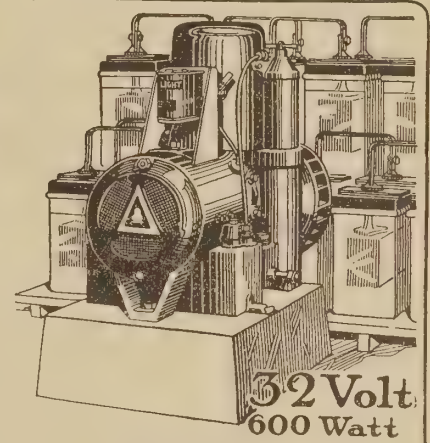
16 Volt
300 Watt

$250

This plant is designed for cottages—boats—camps—summer houses and other places where light only is desired. It has a 16-Volt, 300 Watt Generator and will produce current for fifteen 20 Watt lamps.

$295

This is a complete electric light and power plant and will furnish light for farms, schools, stores, churches and other places—and furnish enough power to operate motors up to one-half horse power. It has a 32-Volt, 600 Watt Generator.



32 Volt
600 Watt

25 Styles and Sizes

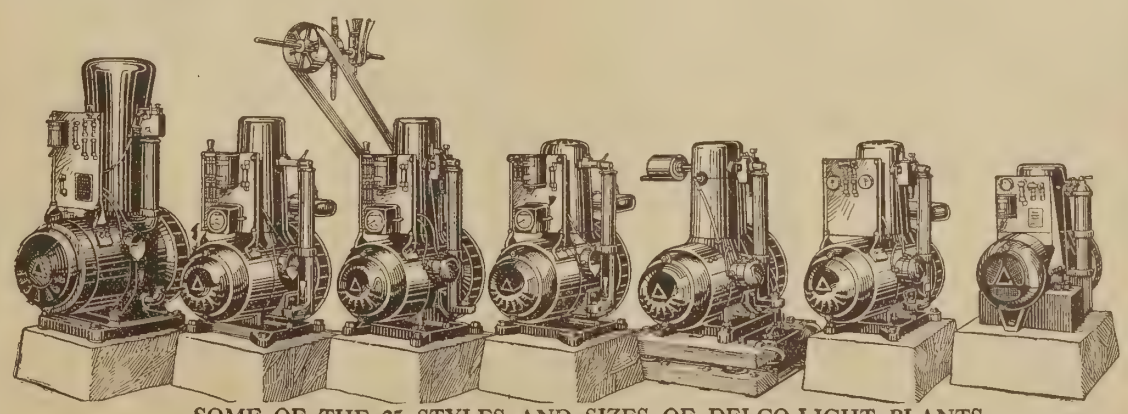
$250 to $1675 f.o.b. Dayton, O.

All Delco-Light plants have the famous valve-in-head, 4-cycle, air-cooled motor. They are all self-cranking, have only one place to oil, run on kerosene, are economical and easy to operate. A Delco-Light Plant will pay for itself in time and labor saved.

Whether you want to light the smallest cottage or a big country estate—a single store or a small village—there's a Delco-Light Plant ready to fit your need.

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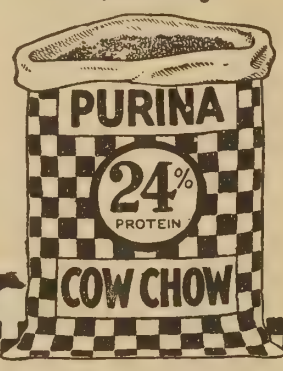
Took six years to find the Milky Weigh

"I'VE been a darn fool for six years," a dairyman told us, after he used Purina Cow Chow on pasture for the first time. When he saw how much more milk he got in the late summer and fall, he knew that he had been missing a lot of good money.

One Pound of Purina Cow Chow Makes 3½ lbs. of extra milk

It not only gets you more milk now, but cows stay fresh longer and give you more milk in winter. Purina Cow Chow supplies the proteins and calcium that are deficient in grass. It keeps a cow from drawing upon the tissues of her own body to make milk. Put it to the test—your milk scales tell the tale. See a Purina dealer or write—

Feed from the Checkerboard Bag



Ralston Purina Co., St. Louis, Mo.
Ft. Worth, Tex. Nashville, Tenn. Buffalo, N. Y.

A Good Threshing Rig Increases Your Profits

THE value of good plowing and planting is too often lost in wasteful threshing. A clean-threshing outfit that delivers 100% of your small grain may mean the difference between profit and loss this year. It will safeguard the time, labor and money you put into your land.

Take time to select a rig that will not only serve you well this year, but will last you for many years to come.

Look into the record of the E-B Geiser Thresher for the past 60 years. Then study its construction, simplicity, ease of operation, and grain-separating and grain-cleaning ability. Ask the E-B dealer in your neighborhood why grain from E-B Geiser Threshers brings more money, or write us for the facts.

Emerson-Brantingham
Implement Co., Inc.
Established 1852 Rockford, Ill.

EMERSON-BRANTINGHAM THE E-B LINE FARM MACHINERY

A Complete Line of Farm Machinery Manufactured and Guaranteed by One Company

When Writing to Advertisers, Mention Hoard's Dairyman

Presidential Address of D.D. Aitken

(Continued from page 816)

boring than has all other causes combined.

I am thoroughly in favor of the Holstein-Friesian Association standing behind the National Dairy Council, not only aiding it by the payment of money, but by the extension of every possible effort in helping along the work the council has undertaken.

Calf Clubs

One of the most essential matters for our consideration is the instilling in the mind of the growing youth on the farms of the country a love for animals and a desire to improve them. To accomplish this we must interest the children now growing up on the farms of the country. A great many different plans have been suggested for this purpose. I think, however, the one most likely to produce the result is the establishment of calf clubs, and to this end I am satisfied we should establish a department created under by-laws adapted for the purpose. I think we should create what is known as junior membership in the Holstein-Friesian Association to be awarded only to boys or girls who have successfully demonstrated their ability to rear and develop worthwhile representatives of the breed.

National Home

At the meeting at St. Paul a year ago, the Board of Directors were instructed by this body to investigate the question of the advisability of selecting a new home for the association either by purchase or erection with power to determine the location best suited to the needs of the association for years to come. No action has been taken, no expense whatever entered into to determine what locality would best serve the ends of the association for the reason that the board of directors determined that it was a bad time to purchase or build; that the association could wait a year or two until prices had receded and until somebody wanted to work and would be able to erect or purchase a building at very much less cost.

Canadian Affiliation

The Holstein-Friesian Association of Canada has become a very important organization in Holstein work. The membership embraces 3,500. Its registration as shown by 23 volumes of the herd book includes 130,500 cattle.

Canadian Holstein breeders are the best of dairymen, loyal to their organization, and enthusiastic in their devotion to its objects and purposes, and are accomplishing a grand work with the Holstein cow. It will be recalled that at our annual meeting of 1919 reciprocal arrangements were completed, whereby full recognition was given to the Canadian records (which cattle are all descended from importations recorded in our herd book) permitting under proper conditions, registrations in either herd book, each animal having first been recorded in the book of its own country. The results of this arrangement and the resulting good feeling has been greatly to the advantage of the industry in both countries. Canadian record breakers have been highly appreciated by American breeders. Since the reciprocal agreement with the Canadian Association went into effect, we have recorded in our herd book, 1,097 animals from the Canadian book, 1,031 females, and 66 males.

I sincerely trust that every member of the Holstein-Friesian Association of America will read over with

For Kids Wash Clothes



Renfrew colors are woven in, not printed on.

Ask your dealer to show you the neat stripes, pretty plaids, checks and plain shades, also white, in RENFREW DEVONSHIRE CLOTH.

Look for the name RENFREW DEVONSHIRE CLOTH on the selvage and get the economy cloth.

If your dealer does not carry it—write us for samples and name of a dealer who can supply you.

RENFREW MFG. CO.
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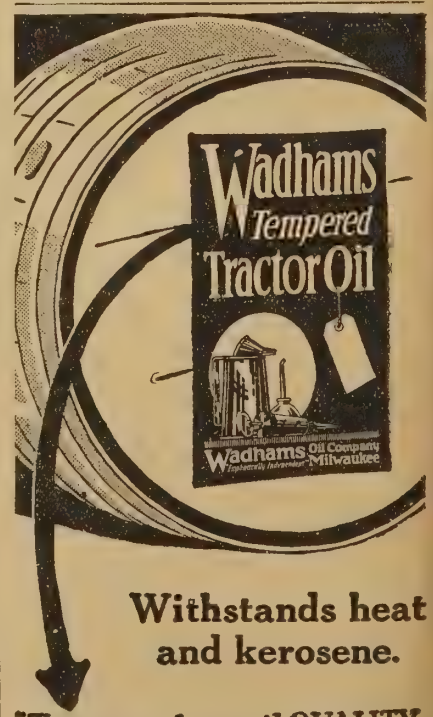
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The Laundered Roll Front Collar—a Tropical Weight for summer wear

SLIDEWELL COLLARS

Save Your Tie, Time and Temper

Hall, Hartwell & Co., Makers, Troy, N. Y.



Withstands heat and kerosene.

"Tempered—an oil QUALITY, not just a brand name

THE IMPROVED CHAMPION



Cools Milk—Halts Growth of germs in milk—removes odors—insures uniform products. Saves its cost in one week. Write for Free Folder.
Champion Milk Cooler Co., Dept. D, Cortland, N.Y.

care and digest the report of the secretary, the report of the superintendent of Advanced Registry, and the report of the treasurer that they may understand fully the work of these offices, realize what they mean to the association, and realize as well the tremendous expense attached to the maintenance of the records and the extension of good will, because the secretary's records are the foundation on which our industry is built, the Advanced Registry records are the proof that our business and our industry is worth while, and the treasurer's records convey the assurance that you are financially sound.

Reed Goes to Michigan

O. E. Reed has accepted appointment as professor of dairying in the Michigan Agricultural College, taking charge of the department of dairy husbandry May 1. During the past year he has had charge of the Gossard Breeding Estates, for which position he gave up the professorship of dairying in Purdue University.



O. E. REED

Mr. Reed is a graduate from the University of Missouri. He assisted in instruction there following his graduation in 1908. Later he was instructor at Purdue, then head of the dairy department at Kansas until 1918 when he returned to Purdue as professor of dairying.

Mr. Reed's college work ranks him as one of the strongest scientific and practical leaders in dairying. He is given a hearty welcome by the college fraternity upon his return to instructional and experimental work.

Green County, Wis., Holstein Sale

Members of the Green County Holstein Breeders' Association held their regular semi-annual sale at Monroe, Wis., May 12. Sixty animals were sold for $9,465, a very fair price considering the fact that many of them were bulls from low record dams.

Roderick & Stussy topped the sale with two excellent nine-year-old cows, three-quarter sisters. They were purchased for $400 each by R. P. Ames, Wisconsin.

Mack and Eells did the selling with H. D. Schindel in the box.

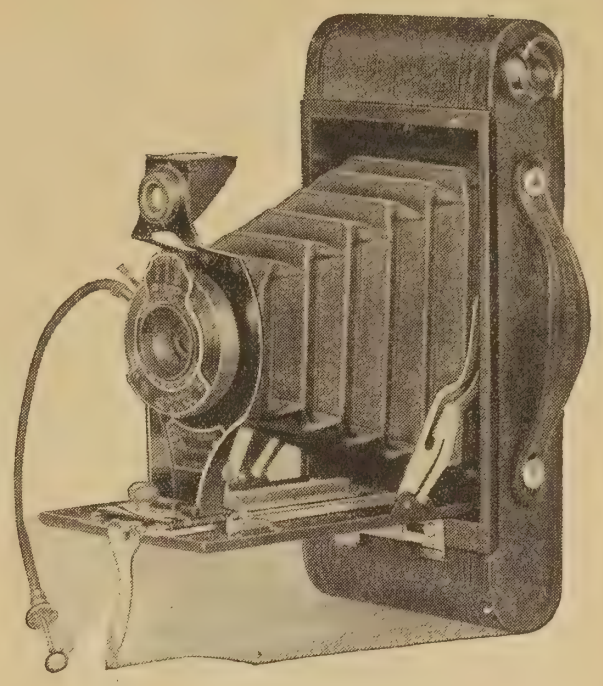
Following is a list of those entries bringing $200 or more and buyers:

Sam Ubert, Wisconsin	
Lady With Netherland Mercedes 4th	$290
John Carter, Wisconsin	
De Kol King Lyons Nudine	$225
Jewel Mechthilde Dulcina	200
Fayne De Kol Maud Johanna	230
Sarcastic Jewel Mechthilde 5th	245
E. B. Thorpe & Son, Wisconsin	
Indi Hengerveld Alcartra	$300
Harry A. Brown, Wisconsin	
Indi Lyons Mernan De Kol	$250
M. F. Green, Wisconsin	
Silva De Kol Piebe Fayne	$215
Helen Doris Johanna De Kol	200
R. P. Ames, Wisconsin	
Netherland Royal Mechthilde 2d	$265
Pauline Aaggie Mercedes	400
Tirania Pauline Mercedes	400
John L. Fischer, Wisconsin	
Johanna Segis Aaltje De Kol	$205
Cornelia Aaggie Mercedes	290
J. Altman, Wisconsin	
Pearl Alcartra Pontiac De Kol	$200
John Wehrunge, Wisconsin	
Diamond Johanna Netherland	$205
Carl Kuhnke, Wisconsin	
Prince Lethel Magnet	$205
Mulbrandt Bros., Wisconsin	
Maud De Kol Colantha	$240
Kohle and Veenje, Wisconsin	
Colantha Doodle 3rd	$200
Edw. F. Schroeder, Wisconsin	
Sub. for Catalog No. 28	$230

It is a terrible indictment of our modern civilization when this great country is in the period of what almost might be called economic chaos because of our great surplus food supply, while, across the seas in both directions, almost half the world is suffering for want of food.—HENRY C. WALLACE, Secretary of Agriculture.

It is Kodak Made.

The No. 2A Folding BROWNIE



$10.00

Honest workmanship has become a habit in the Kodak factories, and it is in those factories, in the skilled hands of Kodak workmen and under Kodak superintendence, that the Brownie cameras are made.

The 2A Folding Brownie gives a happy combination of real convenience and efficiency with genuine economy. The pictures are 2½ x 4¼ inches, a really satisfactory size, yet not so large as to make the film and printing costs high. The folding feature makes it convenient to carry; the excellent finish is both durable and pleasing.

The Kodak Ball Bearing shutter, with which this camera is fitted, is quiet and certain in action. It has snap-shot speeds of 1/25, 1/50 and 1/100 of a second and the usual "time" features.

The Meniscus Achromatic lens is of excellent quality and each one is carefully tested.

Like all Kodaks and Folding Brownies, the No. 2A is autographic—provides the means for dating and titling the negatives at the time the exposure is made. This camera has two tripod sockets, a finder and an accurate focusing scale.

The price, ten dollars, includes the excise war tax and the films are but thirty cents for six exposures. Picture taking with a Brownie camera is very simple and is less expensive than you think.

Catalogue of Kodaks and Brownies free at your dealer's or by mail.

EASTMAN KODAK COMPANY, ROCHESTER, N. Y., *The Kodak City*



The Safety Zone

A building protected by Shinn Lightning Rods is in a Safety Zone—Lightning cannot possibly damage it. Over 200,000 buildings in the U. S. and Canada, including many Government buildings, are already protected by the Shinn System.

Shinn-Flat

Lightning Rods Prevent Loss

Your house, barn and other buildings, and the lives of your family, are in constant danger unless they are properly protected. You can't afford to gamble on Lightning, by leaving your own buildings unprotected for another season. Don't wait for Lightning to strike—get protected now before it is too late. Send for free book explaining the Cause and Control of Lightning.

Lightning Can't Strike if Shinn Rods There First

W. C. SHINN MFG. CO.
1237 Lytton Bldg. Chicago, Ill.

(75)



PAT. 7-2-07 &9-10-15

ANTI-COW-KICKER

Save your temper, your cows, your milk. Does not excite the cow, nor disturb the flow of milk. Indispensible for breaking heifers, cows with sore teats, or vicious kickers. Cannot wear out. Put on or off in 15 seconds. Guaranteed to be an absolutely perfect anti-kicker, or put on loosely as hobble for cow, horse or mule. Price $1.15 Postage extra. Weight 2 lbs. Send for it **today**, when you need it you won't have time.

DAIRY EQUIPMENT CO.
Dept. H. Topeka, Kansas

BETTER FENCES FOR LESS MONEY
40 Rods Forty Dollars

CARBO TENTION SYSTEM FENCES

Self-aligning—Keeps Straight
Fences any Weather or Strain—One Man can Build—Portable yet Permanent—No Concrete is Necessary—WRITE—



CARBO STEEL PRODUCTS CO
2607 W. 111th St. CHICAGO, ILL.



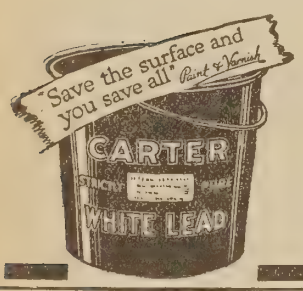
For this barn 50 x 34 with 12 ft. corners and 14 ft. gable, 8 gal. of paint will give it two coats.

To make 8 gal. of pure lead and oil paint tinted a light slate or a warm gray, requires:

100 lbs. CARTER WHITE LEAD
2 to 4 lbs. Tinting colors (ground in oil)
5 gal. Linseed Oil
1 qt. Drier (if raw oil is used)

CARTER WHITE LEAD and these other ingredients of pure paint may be purchased nearly everywhere paint is sold at retail and the dealer will cheerfully help you to figure out how much paint will be required for any painting you wish to do, what tinting colors will be required to produce the shade you select, and what it will cost at present market prices.

You will find everywhere that the cost of this pure paint is so reasonable that you can afford to paint all your farm buildings with it. You will also find **CARTER WHITE LEAD** so easy to mix and spread, to cover so well and to wear so long that your paint problem will be solved for all time.



Carter White Lead Co.
12042 So. Peoria St., Chicago, Ill.

Hillcrest Farms Ayrshires

Consignment to the National Sale
Springfield, Mass., June 7

Howie's Flash Girl 4th 44010 Imp. — Advanced Registry Record 9766 lbs. of milk, 366.42 lbs. butterfat; 3.75% test as a two-year-old.

The sire of this cow, Brae Rising Star 8187, is one of the best known sires in Scotland, and her dam, Howie's Flash Girl 2nd 26759 has a Scotch record of 11,281 lbs. milk in 45 weeks.

We are also consigning a beautiful heifer from this dam. Born March 1919 and bred March 1921 to Iroquois Victor Hugo. The sire of this heifer is Auchenbrain White Beauty Champion 18175.

Hillcrest Farms, Hamilton Square, N. J.
J. E. BURTIS, Owner.

Wisconsin Holsteins Sell Well

State Sale Averages $500

Speaking from the buyer's standpoint, the Wisconsin Holstein breeders' annual state sale, held May 17 at the state fair ground, was an unqualified success. From the standpoint of the consignor this was not entirely true. Heifers, both open and bred, were most in demand and at good prices, while 30-lb. cows and those with good year records went begging at from $625 to $1,200, bargain day prices for such as these that were backed by first class breeding.

Silver Spring Farm consigned the highest priced animal of the sale, Sir Bess Ormsby Mercedes, a splendid five-year-old son of S. P. O. M. 37th. His daughters are now making good records, which fact combined with his individuality and breeding made him one of the most desirable of the sale entries. He was purchased by the Cumberland Holstein Club of Wisconsin.

The top price for females was $1,200 paid by John Puls for a 30-lb., 1,113-lb. cow sired by Sir Johanna Piebe from a good record granddaughter of Hengerveld De Kol. She was consigned by L. A. Wiese.

Three other females and one bull sold for $1,000 or more, making a total of 6 to reach that figure. The entire 65 head brought $32,360, just short of a $500 average. Out-of-state buyers came from Indiana, Illinois, and Mexico.

Haeger, Mack, and Kelley did the selling with Voss in the box.

Following is a list of those animals selling for $500 or more and buyers:

F. J. Southcott, Wisconsin	
Alice Pontiac Pet	$1050
H. E. Dickenson, Wisconsin	
Elmora Fobes Mooie	$500
Loraine Ormsby Mercedes Homestead	680
Della Ruth Ormsby Mercedes	550
Sweet Homestead Butter Maid	700
Froemming Bros., Wisconsin	
Summit King Segis Pontiac Beets	$1025
Mildred Segis of Mountain View	730
Fred Ashman, Wisconsin	
Walcowis Pontiac Creamelle	$710
Sen. Thomas Grant, Indiana	
King Juliet Ormsby	$575
Harvest Farms, Wisconsin	
Barbetta Hengerveld De Kol	$1100
I. M. Halverson, Wisconsin	
Mayflower Hengerveld De Kol	$625
W. T. Rawleigh Co., Illinois	
Harvest Lake View Lass	$975
Beauty Beets Segis 2d	1000
Geo. W. Pope, Wisconsin	
Clothilde Pietertje De Kol 4th	$580
Cumberland Holstein Club, Wisconsin	
Sir Bess Ormsby Mercedes	$1300
Jno. Puls, Wisconsin	
Caroline Princess Pontiac 2d	$1200
Zaru A. Stealy, Illinois	
Netherland Segis Betsy	$650
Herbert Lepein, Wisconsin	
Walcowis Sir Ollie	$860
Minowaki Farm, Wisconsin	
Walcowis Ollie Snowflake	$675
Walcowis Ollie Ornetta	660
Miss Fobes Iowana Sir Ollie	525
D. K. Zimmerman and H. Stahl, Wis.	
Queen Almeda Enterprise	$530
Fairlawn Farm, Wisconsin	
King Canary Oak Butter Boy	$560
F. G. McCann, Mexico	
Columbine Changeling Mondamin	$525
Bergman Bros., Wisconsin	
King Jess Evergreen De Kol	$600
Wheeler & Smith, Wisconsin	
Colantha Gladi Parana 2d	$725

Second Illinois Holstein Sale

The Second Illinois State Sale held at Wheaton, May 6th, demonstrated anew the interest in pure-bred Holsteins, for beginners bought them in spite of a very discouraging money market. Seventy-six females sold for an average of $326.60.

The top of the sale was that splendid cow, Juma Longfield Homestead, who was state champion 4-year-old with 1,035.56 pounds butter in 365 days. She went to Warwood Farm, Illinois, at $1,500.

As was remarked at the close of the sale nearly all of the offering was taken by beginners and men with small herds. While a good deal of value was given for the money, the consignors seem to have been reasonably well satisfied.

On Saturday the 7th a sale of young dairy bulls was held. This bull sale was planned and put on with a view to the needs of progressive dairymen and it probably was fully as great a success as was expected. The attendance was small. But the 42 head of young bulls were pretty easily absorbed at an average of $173.50. Most of them remained in the contiguous territory. The top of the bull sale was $1,100 for the son of Buffalo Creek Farm's cow, Lavera Hortensia Bawn 2nd, with 1,050.55 pounds butter in 365 days. This calf, a nice straight, stretchy, fellow sired by a 30-lb. son of Sir Korndyke Bess, was taken by E. E. Bain of Illinois.

The same could be pretty truly said of the female sale, for breeders realize that often the price received is not the only value connected with sales of this kind. At that, the prices received were markedly better comparatively than are being received by farmers for any other farm products at the present time.

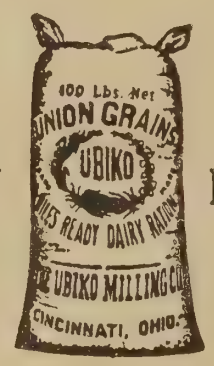
Illinois. R. N. THOMPSON, Sec.

Indiana Holstein Champion

The Holstein cow, Indiana Lizzie Alcartra, owned by Morgan Brothers, Indiana, has broken the seven-day record for two-year-olds in that state with a production of 519.4 lbs. milk containing 14.07 lbs. fat. This cow is a granddaughter of King Segis Pontiac Alcartra. Two of her junior two-year-old sisters have recently made good records. Indiana June Alcartra, as a junior two-year-old, produced in seven days 353.1 lbs. of milk containing 16.02 lbs. fat, and Indiana Lucile Alcartra 387.6 lbs. of milk containing 13.71 lbs. fat.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

Lowest Price in 5 Years

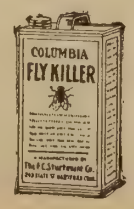
BUY  NOW

Get the Original—It contains Pure Corn Distillers Grains

Summer feeding is just as important as winter feeding. Union Grains is the very best supplement to pasture. It is easily digested and therefore cooling. It will keep your herd in condition all year round and maintain top-notch production.

Milk Record Cards Free—Write to

The Ubiko Milling Co.
Dept. F, Cincinnati, O.



Kill EVERY fly
and destroy ALL lice on animals and poultry with sure-killing
Columbia FLY Killer
If your dealer won't supply you, send direct. Send prepaid on receipt of price: ½ gal., 90c; 1 gal., $1.50; 5 gals., $6. Salesmen and agents wanted.
F. C. Sturtevant Co., Hartford, Conn.

Fox River Valley Guernsey Sale

Members of the Fox River Valley Guernsey Breeders' Association held a very successful sale at Appleton, Wis., May 6, selling 52 head for $14,835, just short of a $300 average. The 44 females sold brought exactly a $300 average, the 7 bulls $214.

These are really excellent figures considering the fact that $520 was the top price of the sale. Fred Sy, Wisconsin, paid this for Susan of Homestead 2d, a yearling granddaughter of Imp. Hayes Cherub 2d from an A. R. granddaughter of Governor of the Chene. She was consigned by Jamison Bros.

A brother to this heifer from the same herd was the highest priced bull, going to Walter Behnard for $435.

Love and Benjamin did the selling with Chas. L. Hill in the box.

Following is a list of those animals selling for $250 or more:

E H. Kerklin, Wisconsin	
Paget's Tidy	$310
Louis W. Glocke, Wisconsin	
Polly of Homestead	$325
Harry Lewis, Wisconsin	
Queen Greta's Daughter of Homestead	$325
Louis Glocke, Masche Bros., Walter Behnard, Wisconsin	
Secret Cherub of Homestead	$435
Fred Sy, Wisconsin	
Susan of Homestead 2d	$520
Guy Anderson, Wisconsin	
Helen Sherman	$400
France Folsom's Luzette	370
Pride's Polly of Grand View	300
Speckled Juliet	335
Mrs. L R. Pierce, Wisconsin	
Yeoman's Flora Lady	$330
F. J. Rueping, Wisconsin	
Beatrix of Ingalwood	$350
Mabel's May Queen	385
Rilma's Lady Cherry	310
Fair Oaks Darling	310
A. O. Frederick, Wisconsin	
Marna's May Queen Maiden 2d	$300
Edwin J. Bergman, Michigan	
Dottie of Crystal Springs	$375
Jay B. Deutsch, Michigan	
Marna's Fanny	$435
Stanley Jamison, Wisconsin	
Lilly's Polly Lilly	$340
John Huss, Wisconsin	
Lady Jenny of Maple Grove	$275
Robert Jamison, Wisconsin	
Daisy's May of Pleasant View	$310
Beauty's Milkmaid of Pleasant View	265
A. W. Schmidt, Wisconsin	
Kitty's May of Pleasant View	$325
Lawrence Pierce, Wisconsin	
Starlight's Blanchflower of Pleasant View	$375
L. M. Welles, Wisconsin	
Sequel's Lady of Grand View	$260
C. J. Fries, Wisconsin	
Senorita Aaggie	$300
Maude of Adlehurst	275
Darling Rose of Wilco Farms	370
O L. Bestul, Wisconsin	
Lillian Glenwood's Alfa	$400
L. M. Olson, Wisconsin	
Countess of Navarino	$320
Elton N. Morgan, Wisconsin	
Frances Folsom Quivelette	$330
John Kuettel, Wisconsin	
Harriette of Stratford	$300
F. J. Glaser, Wisconsin	
Showme's Pride	$260

Creditable Guernsey Records Recently Completed

Among the good records completed by Guernsey cows recently is that of Ollie's Princess of Windermere, the new champion class AA Guernsey cow of Illinois. Her production is 13,341.9 lbs. milk and 793.67 lbs. of butter. She replaces her stable mate, Contrafuria, by a margin of 48 lbs. and secures fifth rank in Class AA for the breed. She is owned by F. K. Babson of Four Pine Farm.

In Virginia, Aimable's Belle of Inverness, owned by J. P. Agnew, has completed a production of 10,591.9 lbs. of milk and 572.63 lbs. of fat in Class EE. This rates her as a champion in her class for the state.

May Rose Leda of Jean du Luth is the new champion class FF cow of the breed in Minnesota, replacing her stable mate, May Rose Dally, in this class. The champion's record is 10,770.6 lbs. of milk and 569.94 lbs. of fat.

Valley Gem Farms of Washington have made an unusual record in their first testing. Two of the first three cows put on for Advanced Registry work have qualified for class leadership, and the third was a close competitor. Nan of Birchwood now holds second place in Class EE with 12,932.8 lbs. of milk and 627.13 lbs. of fat, and Gana of Valley Gem holds fourth place in Class GG with 13,285.1 lbs. milk and 632.85 lbs. fat. A three-fourths sister of Nan of Birchwood produced 10,419.2 lbs. milk and 543.79 lbs. fat in Class EE.

Broad Ripple Farm Guernseys Sold

The dispersion of the Broad Ripple Farm Guernsey herd at Waukesha, Wis., May 19, drew but a small crowd although most of these were buyers.

The 39 head offered brought $11,580 with $1,150 the top price, Geo. and J. W. Konrad paid this for Duchess of Maple Hill, a wonderfully good six-year-old daughter of Langwater Hayes Rosie's King of the May from a good daughter of May King's Vrangue of Ingleside. Added to her breeding and excellent individuality was her record of 535.92 lbs. fat as a yearling, making her a bargain even at the price.

Love and Benjamin did the selling with Sale Manager F. E. Fox in the box.

Following is a list of those animals selling for $300 or more, prices, and buyers:

Theo. Gloeckler, Wisconsin	
Bessie's Yeksa Starlight	$320
Creamland Blanch	320
B. M. Caples, Wisconsin	
Cooper's Lady Richmond	$330
Creamland Agnes	370
Lord's Dottie of Tillybarden	380
R. R. Schuartz, Wisconsin	
Creamland Faith	$350
Geo. Konrad, Wisconsin	
Criterion's Milkmaid	$330
Geo. and J. W. Konrad, Wisconsin	
Duchess of Maple Hill	$1150
Frau of Meridian 2d	310
M. S. Kellogg, Wisconsin	
Dairymaid's Maggie of Fox Valley	$300
F. J. Rueping, Wisconsin	
Lake Shore Fannie	$325
Lily Rose of Maple Hill	350
Dan Claffey & Son, Wisconsin	
May King's Dolly of Ingleside	$305
Aug. H. Vogel, Wisconsin	
Milk Maid's King	$450
Jas. A. Connell, Wisconsin	
Philip's Lake Shore Lady	$310
Fruit Bros., Wisconsin	
Rex of Broad Ripple	$550
J. L. Davis, Wisconsin	
Sunnybrook Mignonette	$425

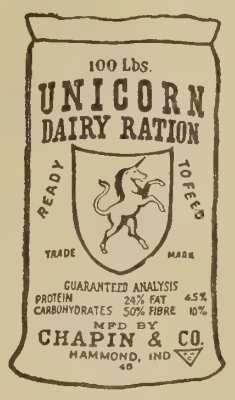
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Grass alone will not keep your heavy milking cows doing their best.

Start feeding grain *before* they begin shrinking in milk flow or become thin from insufficient feed.

Remember that when a cow falls off in production, due to lack of feed, it is nearly impossible to get her up until she freshens again.

Grain fed *now* will pay you a profit in many ways:



1. More milk every day—for more days.
2. Cows freshening in the fall will keep in good condition and not require so much extra grain to get them in proper shape.
3. Cows fed grain now will produce more heavily next winter on the same amount of feed because their reserve flesh will not have been used up while on grass.
4. By feeding grain now and keeping cows in tip-top shape, vigorous calves are assured.

Unicorn Dairy Ration and home-grown grains, half and half, make an ideal ration with fair pasture.

As pastures become poor, increase the amount of Unicorn and decrease the home-grown grains.

Do not forget that Unicorn Dairy Ration gives the cow the necessary factors of PALATABILITY, BULK, VARIETY and SAFETY, with an ample supply of proteins and mineral matter.

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HOARDS DAIRYMAN JUNIORS

A DEPARTMENT FOR THE DAIRY FARM BOY

Filling the Corn Popper

[Continued]

"Every one here!" greeted Bruce's father to the all ready assembled members of The Poppers who had gathered for their final instructions for the work of the club to which they had all pledged themselves.

"All but them Callenbach twins," Bill triumphantly announced after glancing over the crowd of enthusiastic juniors, as if to emphasize the fact that his presence in the club would be the means of keeping them out. "I didn't think they would stick," he added bombastically. "They hain't much on doing any more than they have to," and he broke forth into a forced guffaw in which he apparently expected some of the others to join. But in this he failed, for his coarse remarks were reflected in a cloud of disgust from the expectant faces of his friends.

"Let's wait a few minutes, dad," Bruce suggested. "They'll be here all right, you can just bank on that. When they say they'll do a thing, they'll stick and besides they have more work to do than any other one of this club, yes, or any two of us put together. They work, they do! I've seen them and believe me their dad doesn't let them loaf on the job," and he stared straight into big Bill's sullen face as he spoke.

That the part Bruce had taken in defending the twins was well taken was evidenced on all sides from smiles and nods to clapping of the hands, and Bill was silenced for the time at least. "Here they are now," Bruce shouted, glancing in the direction of the opened front gate. "I knew they'd come," and he dashed forward to greet them.

"Good evening, boys," said Mr. Carter, stepping outside the circle as he extended a hand to each of them. "We were just a little worried that you had backed out," he remarked good naturedly.

"Naw, we wouldn't do anything like that," Jake grinned in his bold way so that every tooth in the front of his square, chubby face was exposed to full view. "We wanted to quit work early today so's we could get an early start, but dad made us keep planting right up to six o'clock and then after that we had to eat our supper and do all the chores, and alone, too, 'cause he and ma went to town right after supper to do some trading, so's he wouldn't have to waste any time going tomorrow," the other twin volunteered, and all in a single breath, so anxious was he to justify their tardiness.

"Well, never mind, boys," said Mr. Carter sympathetically, "we are glad that you have come and now we can go to work." The twins were received into the circle of their neighborhood companions with a genuine boyish interest and there was not one, other than big Bill, who was not glad that they had come.

"Now, boys," said Mr. Carter after all had sunk into comfortable positions upon the soft green grass of the well kept lawn, "we will get down to business. Bruce and I have figured it out that if we each grow a quarter of an acre of pop corn, there at least will be enough to supply the neighborhood even if some of us do not have a very good crop and also that this much land will be placing us on a businesslike basis. And I want to say right here, boys, that, although it may seem like a very small matter to grow that much, it will be quite a problem for each of us to do ourselves. Helping dad with his crop is one thing, but to grow a crop of your own is quite another when you have to do all the work alone."

"I don't think that dad will allow us that much land," Jake interrupted as he arose and shifted uneasily about in the coarse, dusty cowhides that covered his feet. He told us at noon today when we were talking about it that all we could have is a strip just back of the barnyard and I don't think that is a quarter of an acre. You know the piece I mean, Jimmy, the one where we drowned out that woodchuck a couple of weeks ago."

"Why, that's more than a quarter of an acre," Jimmy answered, "and you are lucky to get that, too, because it is so near the barnyard. All you'll have to do is to pitch the manure right over the fence and you know corn likes plenty of that stuff. Sure that is enough ground," he assured him, "and you'll beat us all with that piece. I think your dad is just playing right into your hands by giving you that piece. I'd say you are lucky fellows!"

"Well, maybe if you think it is all right, it is," he assented somewhat reluctantly. "It doesn't matter anyway, for that's all dad will let us have this year."

"I wouldn't worry about that, Jake," encouraged Mr. Carter. "You'll find that there will be plenty of ground for our purpose and probably enough in addition for some melons."

"Sure there's enough," added the other twin. "I heard dad telling ma that he hated to let us have that half acre because he wanted it for potatoes. Yes, I am sure he said a half acre," he reflected, "and I'll take dad's word, he's usually right when it comes to a show down."

"That's the spirit I like to see, boys," resumed Mr. Carter, "and now that Jake has his ground, we'll proceed. I want to say something about what Jimmy suggested a moment ago regarding the use of manure for corn. Corn wants a lot of that stuff we call fertility if we expect it to make a good growth. I guess we all know that judging from the way the manure has been going onto the land this spring, and I dare say that many of us have hands that will testify to that fact," he laughed. "But I just want to emphasize this in connection with our club work. Pop corn is like any other kind of corn in this respect and I hope that we are all planning for a bumper crop and plenty of manure will go a long way in producing it. How about it, Jake, do you think that you will be able to give your quarter of an acre a liberal dressing of manure?" he asked.

"Sure I will, if my hands hold out that long," he grinned. "They're pretty sore tonight," he explained as he picked at the numerous hard callouses that the fork had made on the palms of his hands. "I'll get it there though," he added as he bashfully drooped his head.

"That will be splendid," enthused Mr. Carter, "and I hope that we can all be depended upon to do that very thing. In fact, right in this connection, I have something in mind that I was going to tell you all later on in the evening, but I guess I might just as well let it out now."



ANXIOUS TO SEE THE JUNIOR PAGE

At the mention of this, every one was instantly alert, including Bill who since the arrival of the twins had seemed to be rather dejected. "Gee, I wonder what he's going to say," whispered Jake to his nearest neighbor, who happened to be Jimmy Webb.

"I don't know, but I'll bet I can guess," returned Jimmy in an undertone, but sufficiently audible so as to be heard. "He's going to offer a prize of some kind to the one that grows the biggest crop of the best quality. You wait and see!"

"Exactly what I am going to do, Jimmy," Mr. Carter smiled. "There is to be a prize of some kind for the one of us who has the largest crop. Just what it will be, I am unable to say at present, but I can assure you all that it will be something that any boy will be glad to have."

"Do you know what it is going to be?" whispered the other twin to Bruce. "No, I don't know any more about it than you do," he answered. "I'll be the last one to know it too," he added.

"No, you needn't try to guess what it is going to be, boys," he remarked as he noted the eager looks on the faces and the earnest whisperings that were passing back and forth. "And I'm not doing this to make each of us do his best, for we will all do that anyway, but I do think that we should reward the member who can claim the distinction of doing the best job. And when the prize is awarded we will all be together in just such a meeting as we are having tonight, so until the time comes no one will know who the winner is or what the prize is to be. How does that strike you?" he concluded.

"What do you think about it, Bill?" he asked, evidently making an attempt to cheer him up. "Do you think that you can compete with all these fellows and stand some show of winning?"

"Yes, with all excepting Bruce," he answered sulkily. "He's got the advantage over all of us, 'cause you can help him so much."

"All right then, Bill, I'll stay out of that part of the program, if you think that will be fairer," Bruce snapped.

"I should say not," Jimmy broke in. "There isn't any reason why we should not trust our leader. No, sir, Bruce is in on it and I'd laugh if he happened to win the prize. Come on out of it, Bill, you big baby! If you're going to whine like that instead of getting down to business, we'll all beat you to it." And before any one could say a thing further, he asked, "How many here are in favor of Bruce competing for the prize with the rest of us? Say Aye." Instantly so many voices spoke the word that it seemed as if there were a hundred or more present instead of the enthusiastic twenty-five. "That's settled then, Mr. Carter," he concluded, "now we can go on."

"Jimmy's right, Bill," continued Mr. Carter. "You can trust me for playing square and I doubt if Bruce will get as much help from me as the rest of you. I want him to find out many things for himself. And I want you all to do this too. Make the job just as much your own as you can. The fellow who assumes the greatest responsibility is the one who usually wins. Bob Ramsay is a good example of that and you surely have all read the stories about Bob and Jimmy Greene in Hoard's Dairyman."

"This seed has all been tested, boys," he said, as he lifted a small sack from a basket at his side containing many others. And it is all the same kind of seed too, so that no one can claim any advantage there. It's the best kind of pop corn to grow, because it's the favored Baby White Rice. There is really more than enough in each sack to plant a quarter of an acre, and I don't want you to think that all of it must be planted. If you plant from four to five kernels to a hill, that will be plenty because, if it is planted thicker, there will be too many plants and they will not yield as well. But since pop corn is smaller than field corn, I think we may well plant the rows a little closer together, say about three feet each way instead of three feet six inches. And speaking of planting makes me think of another thing. We should aim to have the patch looking as good as possible. So the straighter the rows the better it will look, and the easier it will be to cultivate it. Now are

there any questions as far as we have gone?"

"I'd like to know what is the best way to make straight rows," the other twin shot out, and how are we to plant it?"

"That's a good sensible question," commented Mr. Carter, "and I'll call on Bill to answer it."

But Bill was not in a position to answer a question like this. In fact, he hardly knew what the question was so interested had he been in poking fun at the questioner. The insolent sneer quickly left his reddened face which colored deeper and deeper as he dropped his head, saying as he did so, "I don't know."

"I'm so sorry I asked you, Bill," Mr. Carter excused himself, "but I thought you knew judging from the way you acted." This little bit of honest sarcasm served its purpose admirably and Bill felt very much chagrined.

"Perhaps Jake can tell you," suggested Mr. Carter. "How about it, Jake?"

"That's easy," Jake put in with eagerness. "We've got an old marker at home that dad used to use. I guess brother doesn't know where it is, but I do and I saw it just the other day when I was searching for eggs in the old shed. We'll just use that to make the straight rows and then we can use the old hand planter to plant it with," he concluded with a satisfaction that he had answered the question right.

"Well, that is one way," Mr. Carter approved, "but I don't see any reason why you can't use the regular corn planter," he suggested. "All you will have to do is to set the planter a little closer so that too many kernels will not be dropped in a hill. This will be the quickest way to do the job and it won't be so much work either. That's the way Bruce will plant his and so I am going to suggest that you all do the same if you have a planter on your farm. Jake's way is all right though and he can use it if he wants to.

"But the real work will begin when the corn starts to come up because then the weeds are starting also, and we'll all have to do our very best to fight them. The cleaner your patch is kept the better are your chances for winning the prize and it won't be at all out of place to use the hoe in addition to the cultivator."

Here he paused as he wrinkled his brow as if in deep thought. Finally he asked, "I wonder if there are any boys here in this club who can give the reasons for cultivating corn!" Up shot a dozen or more hands. "All right, Jake, we'll let you tell us," he said.

Jake feeling the importance of the position in which this recognition placed him, rose to his feet and began. "First of all we do this to keep the weeds down, because if we don't they will take too much of the water and food from the soil and besides will crowd the corn plants too much when they are small by taking up too much of the space and shading the plants. Besides this," and here he gulped once or twice for he was talking very rapidly, "the roots of the weeds crowd the roots of the corn plants and that is bad too."

"That is very good, Jake, and it is exactly right. I couldn't have said it better myself, but still I can think of one or two more reasons," Mr. Carter suggested. "So can I," Jake shot out as he quickly arose to his feet again. "But I thought you just meant about the weeds."

"No I meant all about cultivation, Jake," he answered.

"Well, sometimes a crust forms over the soil after a heavy rain and then it is a good plan to cultivate to break the crust. It loosens up the soil and lets the air in and the roots of plants have to have air as well as the leaves," he added, "anyway that's what our teacher told us when we studied about corn."

"Your teacher was right," commented Mr. Carter, "and I am glad that you mentioned this point."

"I know another reason," interjected Jake's brother without waiting to be recognized."

"Well, what is it?" asked Mr. Carter turning in his direction.

"It's to keep the moisture in the soil by keeping a loose surface. If we don't do that the soil dries out faster and if we have dry weather very long, it may hurt the young corn plants."

"That is also very good," approved their leader, "and I am quite surprised to find that you know so much about this subject. The reasons have been well stated and with sufficient clearness to make us all appreciate why we should keep our corn fields clean."

"Now unless there are questions which any of you may have, we'll call this part of the program done as soon as Bruce and Jimmy get these sacks of seeds distributed."

"Wonder if we'll get any ice cream tonight," Jake whispered to his neighbor, and a disappointed look spread over his face when he heard Mr. Carter announce that this would be all he had to say for this meeting.

"But before you go," he added, "I want you all to come into the house for awhile," and he started to lead the way.

Instantly Jake was on his feet hurrying to the side of Mr. Carter. He was pretty sure that his hopes of refreshments were to be realized for what other reason could Mr. Carter have for asking them in. But again he was disappointed for as soon as they had all been seated, Mrs. Carter started to entertain them on the piano, accompanied by Bruce on the violin. The selection was a difficult one and the boys marveled with envy the skill with which their playmate handled the bow. Each number that was played was applauded with more enthusiasm than the preceding one and it was not until most of the songs familiar to their boyhood had been played that they evidenced satisfaction. To be sure, Jake had enjoyed all this, but his spirits rose about fifty per cent when he heard Mrs. Carter telling Bruce that it was time to serve the ice cream and cake.

"You deserve the first dish, Jake," laughed Bruce as he entered with the loaded tray, "for telling us so much about why we should keep our corn patch clean," and before he had passed on to the next one, Jake had made away with at least two heaping spoonfuls of the delicious luxury, and no one excepting Bruce knew of the second dish which he greedily devoured.

That night as Jake and his twin were preparing for bed, he remarked, "Say, Pete, do you think dad is playing into our hands, as Jimmy says, by giving us that piece of ground for our pop corn?"

Junior Letter

Hoard's Dairyman Juniors:—I have two little pigs that will weigh about 26 lbs. each. I also have a sow which will have little ones some time in July. I think I will sell my pigs.

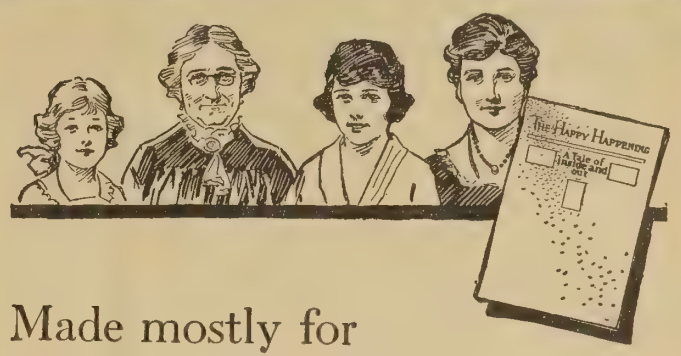
Father has a black sow which had 11 little pigs; she laid on one but she has the rest. Father sold six. They are seven weeks old today.

One of our cows got a little calf recently. We have four other ones coming in now most any time.

Father and I plowed yesterday although it was almost too wet. We have only about two days' plowing yet with two teams in the corn ground.

Pennsylvania. William Gemberty.

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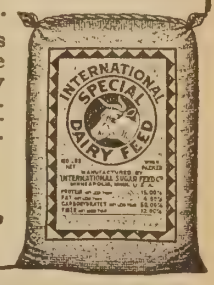
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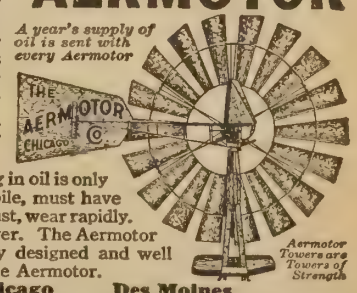


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Ten registered Holstein cows, 37-lb. herd sire, young bulls and heifer calves. PHILIP LEHNER, Princeton, Wisconsin. 20-2

Holstein grade heifer calves, two to four weeks old from tuberculin tested herds. Crated $22. Pure-bred bulls from tested sires $75 and up. Shipped C. O. D. WAUKESHA COUNTY HOLSTEIN BREEDERS' ASS'N., Waukesha, Wisconsin. 20*

Herd of nine females and bull, cows all in milk, six have A. R. O. dams up to 24 lbs., 3 to 6 years old, 30 to 31-lb. sires. T. B. tested. $1,500.00. N. S. MARTIN, Kenton, O. 20-2

Herd bull for sale, Star Cold Spring Dutchland, No. 234492. Three-fourths white, four years old, quiet, sure breeder, good individual. Sire, Dutchland Creamelle Schuiling Boy, No. 145234, a 31-lb. bull. Dam, Bianca Pontiac Star, No. 273363, a 26.30-lb. cow. S. M. SCHMITZ, Lone Rock, Wis. 20-2

For Sale—Registered bull calf six months old. Best of breeding. ERNEST A. GEBHARDT, Palmyra, Missouri. 20-2

My entire herd of grade Guernseys for sale. Also a few choice heifer calves at $30.00 delivered. SHADY HILL FARM, Whitewater, Wis. 23*

Guernsey heifer calves. Can ship you 10 at once about 4 weeks old. Calves out of my own herd, so know what I am shipping. $30 each crated, F. O. B. Waukesha. WERN FARMS, Waukesha, Wis. 18*

For bargains on May Rose bulls with type and production, write KUHTZ BROS., Waukesha, Wis. 21*

Guernsey calves six weeks old, $20. F. O. B. Knapp. THOMAS HAGERTY, Knapp, Wisconsin. 2*

Guernseys—Registered males and females, all ages. Breeding and type unexcelled. Grade cows, yearling heifers, heifer calves. No better quality anywhere. Tuberculin tested. Prices reasonable. Why not buy through an association and from breeders in the business to stay? Write your wants today. F. E. FOX, Secretary Waukesha County Guernsey Breeders' Association, Waukesha, Wisconsin. 6*

May Rose Guernsey bulls for sale. Sire, Langwater Frenchman. Dam's A. R. records 500 to 660 lbs. fat. Federal Accredited herd. HOMER RUNDELL, Livingston, Wisconsin. 12*

Offer sons of Murne Cowan's King World's highest bred Guernsey bull. RICHARD F. KLEMM, Baraboo, Wisconsin. 17-5

Pure-bred cows and heifers. Have about 10 cows and heifers for sale, all guaranteed. Have several classy young bulls for sale from dams with 500 pounds fat or better. All animals are priced low and guaranteed. FRISSDALE FARM, Hopkins, Minn. 17-4

For Sale—One pure-bred Guernsey cow and heifer calf two weeks old. OTIS D. GOOCH, Orfordville, Wisconsin. 20-spl

I am overstocked and must sell some very choice registered Guernsey cows, heifers and bulls. Federally tested. GEO. W. ADAMS, Nashotah, Wis.

A high class registered Guernsey bull calf 5 months old—$75. B. MCADAM, Mosinee, Wis. 20-3

Entire Herd for Sale. Five registered, first calves. Three registered calves. One registered bull, two years old. Four grade cows. All good producers and from well-bred stock. Priced worth the money. B. A. DILL, Clayton, Ohio.

St. Lambert bull calves for sale from excellent dams and sired by Golden Rioter of Roycroft, dam's record over 700 lbs. Splendid offering at $50. BROOKSIDE JERSEY FARM, Lancaster, Wis.

STOCK BUYER

Registered dairy cattle bought and sold. EDWARD A. WALTER, 111 Monroe St., Chicago. 18*

Will buy for you, dairy cattle of any breed, grades or pure-bred. DAVID W. WILLIAMS, Lake Forest, Illinois. 6*

Save 30 per cent by buying your cattle through J. D. POWERS, Fort Atkinson, Wis. 12*

We buy and sell dairy cattle of all kinds. Car lots of registered and high grade Holsteins a specialty. F. B. GREEN & SONS, Evansville, Wis. 18-*

Registered or Grade dairy cattle selected. W. R. GATES, Fort Atkinson, Wis. 19-*

FOXES

Foxes Wanted—100 young Reds. ROSS BROWN, McFall, Alabama. 19-2

STOCK WANTED

Wanted—Ten good Holstein cows on shares. Must be tuberculin tested and free from abortion. I have young bull from 25,000 lbs. milk and 900 lbs. butter cow. WILBUR H. HINKLE, R-11, Springfield, Ohio.

Wanted—Registered Holstein heifers from six to twenty months old, in exchange for forty acres in Traverse County, Minnesota. F. J. STEIDL, Wheaton, Minnesota. 20-2

DOGS

German Shepherd, airedales, collies, and old English Shepherd dogs. Brood matrons, puppies, farm helpers. 10 cents for instructive list. W. R. WATSON, Box 520, Oakland, Iowa. 20*

POULTRY

Baby chicks $11.00 per 100 up. Postpaid. Catalogue free. FARROW-HIRSH CO., Peoria, Illinois. 9-16

Live Broilers now wanted. Highest prices paid for poultry, veal, pigeons, lambs, etc. Quick returns, fair treatment. C. E. MC NEILL & CO., 325 West So. Water St., Chicago, Ill. 17-*

Baby chicks, greatly reduced prices. Pure-bred, bred-to-lay from free range flocks. White Leghorns, Buff Leghorns. Barred Rocks, White Wyandottes. Send for catalog. WANDSCHNEIDER'S HATCHERIES, Box 1, Fort Atkinson, Wisconsin. 16-4

Baby chicks $10.00—100 up postpaid. Catalog free. UNIVERSAL BABY CHICK CO., Peoria, Ill. 19-4

Baby chicks, greatly reduced prices. Pure-bred bred-to-lay from free range flocks. White Leghorns, Buff Leghorns, Barred Rocks, White Wyandottes. Send for catalog. WANDSCHNEIDER'S HATCHERIES, Box 1, Fort Atkinson, Wisconsin. 20-2

SWINE

For Sale—Large type Chester White fall and spring boars. PAUL HORLAMUS, West Bend, Wis. 19-2

Berkshire boars, ready for service at reasonable price. BRUNO HOPPE, Cedarburg, Wis. 19-4

Duroc bred sows, service boars, spring pigs of prize breeding. PHILIP LEHNER, Princeton, Wis. 20-2

The real kind Poland China pigs—two months old. Big Orange and Jumbo strain. Either sex, $20 each. G. W. BLAKE, R-8, Janesville, Wisconsin.

MACHINERY

For Sale Cheap—A small lot of standard make Swedish Cream Separators, 400 pounds capacity, $29.00, 500 pounds capacity, $34.00, 700 pounds capacity, $39.00. These are all new machines, wonderful bargains. THOMAS TAFFEE, Box 355, Lansing, Mich. 18*

One Waterloo Boy 12-20 tractor good as new. One Grand Detour Jr. 3-bottom plow, new. Two 16-inch pulverizers new. H. C. KARSTEN, Huntley, Illinois. 10*

One double-unit Pine Tree Milker, complete with piping for twenty head, nearly new, $200. H. A. NEWMAN, R-7, Kent, Ohio. 18-3

For Sale—$375—A 4-unit and extra double unit Sharples Milker in fine condition. All newly rubbered. Write to CLARENCE A. BARBER, R. 2, Springfield, Illinois. 19-2

Hinman Milker outfit complete, perfect condition. Will sell cheap. W. MORCK, 2531 Grand Ave., Minneapolis, Minn. 20-3

For Sale—1 slightly used Perfection Milker. C. B. SIKKING, Springfield, Ill. 20-3

Empire Double Unit milker, latest type pulsator. Very good order. ROY NYCUM, Mt. Carroll, Ill.

PRINTING

Hoard's Dairyman Art Department designs your letter head free. Just tell us your breeds of stock. Book of 5,000 Farm, Ranch and Cottage names 25 cents. Ask for samples of letter heads, envelopes, shipping tags, cards, milk tickets, etc. Poor stationery is more of a damage than a help. Be sure and give correct post office address, including state. Address HOARD'S DAIRYMAN, Art Dept., Fort Atkinson, Wisconsin. 8-tf

LIGHTNING RODS

Lightning Rods—Exclusive agency and quick sales to live dealers selling "Diddie-Blitzen Rods." Our copper tests 99.96 per cent pure. Write for agency. Prices are right. L. A. DIDDIE CO., Marshfield, Wis. 9*

TOBACCO

Kentucky Tobacco—Direct from growers. Save 75% on your tobacco bill. Rich, mellow leaf, aged in bulk. Chewing and smoking. 3 lbs., $1 postpaid. KENTUCKY TOBACCO ASS'N, D309, Hawestille, Ky. 18-4

HAY

Alfalfa and prairie hay for sale. Prompt shipments. Personally inspected loading. Wire or write GUNN HAY CO., Lexington, Nebr. Reference Lexington State Bank. 11*

Clover, alfalfa, sugar beet, prairie. Owner's price, easy terms. Submit trades. GASEL, Thief River Falls, Minn. 19-5

FEED BAGS

We buy second-hand bags, pay one-half freight on 200 or more. LINCOLN BAG CO., Springfield, Illinois. 10-spl

FEEDS

Dried Beet Pulp—the wonderful dairy feed. Now reduced prices. Ask your dealer or write THE LARROWE MILLING COMPANY, Detroit, Michigan or Los Angeles, California. 12*

STANCHIONS

Crumb's Stanchions are guaranteed to please the purchaser. They are shipped subject to trial in the buyer's stable. They are right. Send for booklet. WALLACE B. CRUMB, Box H, Forestville, Conn. 15-10

SALESMEN

Salesman wanted to sell Sure Stop Cattle Poke direct to farmers. For particulars address FRANK J. GRADY, 2119 Corry St., Madison, Wis.

FARMS FOR SALE

For Sale—2,000 acres fine hardwood timberland, birch, white ash, maple, white pine, spruce. Sawyer County, Wisconsin. Logging would pay handsome profit. Land delightfully situated for stock ranch. Two trout streams, six springs. Also 130-acre dairy farm, buildings new, on lake shore in Barron County. W. A. HANCE, Freeport, Illinois. 7*

I have a few choice improved and partly improved farms in the famous potato and dairy region of upper Michigan, 40 to 160 acres. Low prices and easy terms. JOHN MAJOR, P. O. Box 198, Marinette, Wisconsin. 16-13

Hardwood cut-over land, silt loam, clay sub-soil. Neither sandy nor gravelly; close to town; good roads; good schools; in the heart of the dairy country. You deal directly with the owners. No agents and no commissions. Easy terms. Also improved farms. Write for map and Booklet No. 4. NORTH WESTERN LUMBER CO., Land Department, Stanley, Wisconsin. 1*

For Sale—130-acre dairy farm, buildings new, on lake shore in Barron County, Wisconsin. W. A. HANCE, Freeport, Illinois. 18-*

Farms near New York City. Dairy, grain, potato, fruit, poultry. 752 pictures sent free. SLOCUM FARM AGENCY, 141-T Broadway, New York City 18-4

40 acres Idaho land near Jerome for sale or exchange for Holstein cows. Bargain, $100 per acre. S. A. WOLCOTT, Gilmore City, Iowa. 19-2

20 good equipped dairy farms, milk gathered. Get 200 catalogue. Best markets, buildings, bargains. ROYAL BROWN, Ashland, Ohio. 19-2

A beautiful irrigated farm of 240 acres, adjoining county seat town. All advantages. Paying $5,000.00 per year now and improving. Fine improvements. Stocked with registered Holsteins. Price $100 per acre. Write MARK HUNT, White Sulphur Springs, Montana. 19-2

Write for my farm catalogue describing thirty real bargains, best corn and clover land in state. SAM IVERSON, Colfax, Wisconsin. 19-4

Farms for sale. We own and control several choice Livestock farms in famous Prairie belt of Mississippi. Write us what you want. HANSON & COCKRELL, Macon, Mississippi. 19-*

Dairy Farms—Clark and Taylor Counties, Wisconsin. Good soil. Send for list of farm bargains. OWEN REALTY CO., Owen, Wis. 16-5

Land producing from $100 to $1,000 per acre, in 5 to 40-acre tracts, on payments from $50 to $300 down. Send for booklet. Address THE MAGNOLIA STATE LAND COMPANY, Iola, Kansas. 20-2

Attention Dairy Farmers—Write for our booklet, "Dairying in the South" and get our proposition on co-operative Dairying. High class proposition and only high class dairy farmers wanted. Contract backed by one million capital. Address GA-FLA DAIRY FARMS, Ashville, Fla. 20-4

438-acre farm, well equipped for dairy or fine stock raising, good location, near large city. Priced to sell. Terms. 8,000 acres unimproved land well located on paved road, citrus, farming and live stock proposition. $6 per acre, cheap, terms. Wanted man or men with money to help organize development corporation as promoters, to develop finely located ranch of 3,243-acre live stock proposition, chance to double money in short time, grass year round. Two good dairies for sale, milk wholesale and sells high. Lands close in, citrus, farming and live stock proposition, $15 per acre, also groves, farms, all sizes, at reasonable prices. Terms. IDEAL FARM CO., Lakeland, Florida. 20-2

Alabama Black Belt—1,370 acres as good land as can be found in the state, 800 acres best natural alfalfa land. Over 200 acres now seeded. Began May 16th harvesting second crop alfalfa for 1921. Plenty good clover and other grass pastures. Overflowing wells. In heart of Annual White Sweet Clover Section. Ideal dairy and hay proposition. I am living on this farm which is in full operation. Plenty labor cheap. Address DOBBINS, R-1, Uniontown, Ala.

Rusk County, Wisconsin. The buckle of the clover belt. 16,000 acres of good clay loam land from which to select. Very small payment down, with no more payments for five years. For detailed information, come to Ladysmith, or write T. C. JONES, Ladysmith, Wisconsin. 20-4

New York Farm Agency, Westfield, N. Y. has the bargains. Maps, lists, information free. 20-spl.

For Sale—One of the best stock and dairy farms in Eastern Montana. 3,000 acres, 160 acres irrigated. $30,000 cash required. Annual sales of dairy products and live stock $30,000. Intend to retire. Address BOX 772, care Hoard's Dairyman.

240 acres in Clark County for dairying. 130 acres cleared, rest pasture. Good buildings. Sell with or without stock. 37 milk cows, all farm tools, 7 horses, 6 miles from town, 1 mile from cheese factory and school. L. ALBRECHT, Withee, Wis.

Small dairy near town, forty acres, good improvements, healthy climate, reasonable for quick sale. Owner, WRIGHT SHAW, Deming, New Mexico.

We are sub-dividing the beautiful eight thousand-acre Corporation Ranch in northern California into ideal dairy farms. Abundance of water, productive land and Sportsmen's Paradise. Write for particulars. FAVELL-UTLEY REALITY CO., Lakeview, Ore. 20-2

$2,800 secures 320 acres with 39 cows, horses, crops, machinery, tools, harnesses, vehicles, equipment included; rare opportunity splendid prosperous section, close R. R. town, advantages; productive loam tillage cuts 80 tons hay; 40-cow spring-watered pasture; estimated 200,000 ft. timber, vast quantity wood; fine orchard 60 apple trees, pears, plums, cherries, berries; good 10-room house, spring water, delightful shade, wonderful view, 3 big barns, garage, etc.; quick sale price $7,800, with $2,800 down, easy terms. Details page 29 Illustrated Catalog 1100 Bargains. Free. STROUT FARM AGENCY, 150 DL Nassau St. New York City.

For Sale—680-acre stock ranch, plenty of stock water; 200 acres under cultivation; 100 acres of alfalfa, cuts 60 to 70 tons of native hay; all fenced, fair buildings; price $25 per acre or will sell stock and all equipment. For further information write H. C. FLEISCHER, Sheridan, Wyoming.

FARMS FOR RENT

To lease on shares a 240-acre ranch 12 miles north of Hayden, Routt County, Colorado. 4-room house with bath, big stone barn, James equipment. Cuts 75 tons of alfalfa hay. All under irrigation. Farm machinery complete. Twice a week rural mail delivery. Telephone. 12 head of registered Ayrshire cattle. 320 acres of Government land adjoining place that can be homesteaded. Good consolidated school within 3 miles. Only married man with references need apply. Will make a partnership deal after one year of leasing on shares. Will make a deal with a future to it for the right party. F. R. CARPENTER, Hayden, Colorado.

Registered Jersey Dairy and Farm for rent. Forty miles from Jacksonville, Florida. Good market for products. Renter gets 60% of products, 50% of increase. Finest and healthiest climate in United States. Renter must be experienced, and have plenty of own help. Address J. W. BUCHANAN, Folkston, Georgia.

AGENTS WANTED

Representatives wanted to write hail and cyclone insurance every township in the Northwestern states. Little experience necessary, good commissions. Write quick. ST. PAUL MUTUAL HAIL AND CYCLONE INSURANCE COMPANY, 805 Pioneer Bldg., St. Paul, Minnesota. 12-12

Yes Sir, we have a special opportunity for you during spare time, an opportunity to do some good work in your neighborhood, for the betterment of dairy farming, that will pay you in cash for the effort you put forth. Write for our "Special Opportunity Getting Together" folder. Address HOARD'S DAIRYMAN, Fort Atkinson, Wis. 2-tf

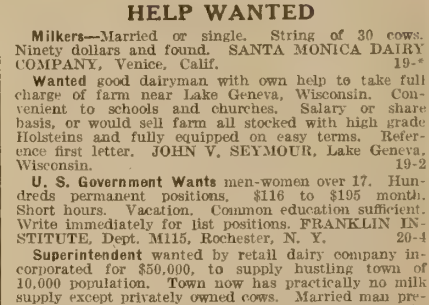
Agents—Mason sold 18 Sprayers and Autowashers one Saturday. Profits $3.00 each. Square deal. Particulars free. RUSLER COMPANY, Johnstown, Ohio. 20-spl.

TANNING

Let us tan your hide. Cow and horse hides for fur coats and robes. Cow and steer hides into harness or sole leather. Catalog on request. THE CROSBY FRISIAN FUR CO., Rochester, New York. 10-17

LUMBER

Lumber and shingles at reduced prices. Farmers' trade our specialty. Best quality. ROBERT EMERSON CO., Box 1150W, Tacoma, Wash. 19-5



Advertising in this department is 7c per word. Remit in advance.

HELP WANTED

Milkers—Married or single. String of 30 cows. Ninety dollars and found. SANTA MONICA DAIRY COMPANY, Venice, Calif. 19-*

Wanted good dairyman with own help to take full charge of farm near Lake Geneva, Wisconsin. Convenient to schools and churches. Salary or share basis, or would sell farm all stocked with high grade Holsteins and fully equipped on easy terms. Reference first letter. JOHN V. SEYMOUR, Lake Geneva, Wisconsin. 19-2

U. S. Government Wants men-women over 17. Hundreds permanent positions, $116 to $195 month. Short hours. Vacation. Common education sufficient. Write immediately for list positions. FRANKLIN INSTITUTE, Dept. M115, Rochester, N. Y. 20-4

Superintendent wanted by retail dairy company incorporated for $50,000, to supply hustling town of 10,000 population. Town now has practically no milk supply except privately owned cows. Married man preferred. Must be capable of installing plant from the ground up, and know herd management and marketing thoroughly. Substantial interest in concern can be secured by right party. Liberal salary. We expect best of references with first letter. FRANK M. FOOTE, McGraws, W. Va.

Wanted—Married, cattle foreman who can accomplish profitable results with 100 head registered Guernseys. Must furnish good clean substantial board for necessary help for cattle department. Will be expected to keep place in good condition and able to handle help to good advantage. Mention age, nationality, habits, size of family, salary expected and past employers as references, in first letter. Address BOX 771, care Hoard's Dairyman.

Wanted—Single man to help in milk room and creamery. State wages. SPRING GROVE FARM, R-7, Fort Wayne, Ind.

Wanted—Single man as herdsman, Registered Holsteins, experienced with A. R. O. work and capable of handling help. Give references and salary expected. Address BOX 770 care Hoard's Dairyman.

Wanted—By a bachelor, a middle-aged or elderly lady as cook and housekeeper. Must be honest and good natured. Gentlemanly treatment and best farm home guaranteed. State farm life experience, age, wages and character. MEADOWBROOK FARM, Hilbert, Wisconsin.

Wanted—A good woman to keep house in widower's home. Good wages. ALBERT HAULEY, R-3, Spencer, Medina Co., Ohio.

POSITIONS WANTED

Wanted—By a young single man, age 26, position on a large stock farm, as herdsman or assistant to owner. A good feeder, calf raiser and milker. Capable of taking care of minor veterinary troubles. Understand the use and care of milking machines. Can come at once. State salary in first letter. Address BOX 765, care Hoard's Dairyman. 19-2

Cook—Former employer wishes to secure position for middle aged widow woman as cook for large farm. Fully capable of taking charge of boarding house and running it in an economical, orderly manner. Can furnish best of references besides our own unqualified recommendation. Address BOX 735, care Hoard's Dairyman.

Single man, intelligent, of clean habits, with two years' farm experience, desires position on up-to-date dairy farm with good people. State salary and full particulars. Send pictures if possible. Address BOX 769, care Hoard's Dairyman.

Position Wanted—As cow tester, distributor or manager. Address BOX 773, care Hoard's Dairyman.

Mexico Wants Dairy Cows

HOARD'S DAIRYMAN:—According to J. F. Ivey and J. T. Cornelius of Texas, who have just returned from Monterey, Mex., where they went with a carload of Jersey cows, there is a big demand in that country for this class of animals. They report that sales were readily made and that the call for more was urgent. Another carload will be made up for immediate shipment to that city. Mr. Ivey, being thoroughly conversant with the Spanish language and having an excellent understanding of conditions, will take up his residence in Monterey to care for the selling end of their business, while Mr. Cornelius will remain in Texas and look after purchasing and shipping. This first shipment was made by express via Laredo, but the next will go via Brownsville in the hope that better rates and service may be had.

Mr. Ivey states that, contrary to reports, affairs in the southern republic are assuming normal, and that while business is necessarily a little backward, due to the long period of revolution, the people as a whole are hopeful and forcing things ahead in a very encouraging manner.

Texas. W. D. HORNADAY.

DON'T PUT OFF

Seeing your friends and having them join in for a club of subscribers.

Waupaca Guernsey Sale a Success

The Guernsey sale held at Waupaca, Wis., May 5th, under the supervision of the Waupaca County Guernsey Breeders' Association was a decided success. No big prices were paid but the bidding was brisk and the animals were in excellent condition. Considering the fact that this was the first Guernsey consignment sale ever held in the county the consignors should be congratulated on their excellent showing. The attendance of about 700 indicates a rapidly growing interest in good Guernseys in this county and there is no doubt but that Waupaca County will soon stand out as the place to buy high class animals of this breed.

The highest priced animal, Fortune's Hope, was consigned by L. S. Murat and purchased by Ernest Weiland, Wisconsin, for $425. F. J. Reuping purchased Alvilda's Beauty of Major for $400. She was consigned by Chris Joch & Son of Weyauwega. Laura's American Pansey also sold for $400. She was consigned by Ben Jacklin & Sons and purchased by Mrs. Pope West.

Auctioneers Love and Benjamin did the selling assisted by Chris R. Joch. Gavin McKerrow acted as pedigree expert.

Following is the list of animals selling for $300 or more and purchasers:

L M Rowe, Wisconsin	
Jewel's Romona	$380
M L. Mills, Wisconsin	
Linetta's Una Young	$310
J H Regan, Wisconsin	
Weyauwega Daisy	$300
Mrs Pope West, Wisconsin	
Laura's American Pansey	$400
F J. Rueping. Wisconsin	
Alvilda's Beauty of Major	$400
Oscar Moe, Wisconsin	
Bob's H. S. Lily	$325
McKerrow Farms, Wisconsin	
Verna of Hillside II	$300
Ernest Weiland, Wisconsin	
Fortune's Hope	$425
B F. Sheridan, Wisconsin	
Lord Yeomans Bessie of Braeside	$330
A. A Glocke, Wisconsin	
Beauty of Clover Leaf	$375

County Agent and Farm Bureau

The printed agreement between the States Relations Service and the American Farm Bureau Federation, defining the relationship between the county agent and the Farm Bureau, is off the press. The agreement states:

"The County Farm Bureau is a voluntary organization of people engaged in farming and has for its object the promotion of the economic and social interests of agriculture, including research and education, the farm home and the rural community. It is non-secret, non-partisan, and non-sectarian, and it is its policy as an organization not to engage in commercial activities. It is open to both men and women on equal terms. While it may engage in other activities it is greatly interested in the promotion of the co-operative extension work in agriculture and home economics organized by the state agricultural colleges and the United States Department of Agriculture under the Smith-Lever Extension Act and related federal and state laws. It may, therefore, co-operate with the Extension Service of the State Agricultural College and the Department by contributing of its funds toward the maintenance of one or more extension agents in the county and joining in the work of the Extension Service through its committees and otherwise under agreements with the state extension director. The farm bureau is organized with a president, secretary, treasurer, and executive committee, who will themselves, or through other representatives of the farm bureau. solicit memberships, collect dues, handle its funds, and in general manage its affairs."

Dispersal of
A Great Ormsby Herd

Owatonna Minnesota — **71 HEAD** — **June 16th 1921**

TAYLOR AND CHRISTGAU, well-known Holstein breeders of Owatonna, are dissolving partnership and will disperse their entire herd of 65 head of exceptionally well-bred, large, typy animals at Public Sale on June 16th, sale starting at 10:30 a. m.

MCDONALD BROS. of Medford are consigning six head—six of their best females.

An Exceptional Offering of Ormsby Blood

The Herd Sires— *They Will Be Sold*

SIR ORMSBY HENGERVELD SEGIS—A paternal brother to PIETERTJE MAID ORMSBY and from K. S. P. BELLE, one of the greatest transmitting daughters of KING SEGIS PONTIAC, the sire of "COUNT."

SIR BESS ORMSBY ALICE—A son of the 1235-lb. bull, SIR KORNDYKE BESS, and out of a 34-lb., 1034-lb. granddaughter of SIR PIETERTJE ORMSBY MERCEDES. Two close up crosses of "Sir P. O. M." through 1000-lb. cows! Most of the females are with calf to this bull.

Among the Females—

A 2-year-old daughter of SIR P. O. M. 41ST now going a 900-lb. gait.

Twelve daughters and ten granddaughters of SIR ORMSBY HENGERVELD SEGIS.

Several granddaughters of SIR PIETERTJE ORMSBY MERCEDES.

Four daughters of SIR ORMSBY AKKRUMMER BANOSTINE, 31-lb. grandson of DUCHESS SKYLARK ORMSBY and brother to a 39-lb. cow.

Daughters of the full brothers of PIETERTJE MAID ORMSBY.

A daughter of the 40-lb., 1000-lb. bull, WOODCROFT PERFECTION.

And daughters of such great sires as JOHANNA BONHEUR CHAMPION; KING LILITH PONTIAC SEGIS, the $25,000 full brother to "COUNT"; CANARY JESSIE FOBES; CHAMPION JOHANNA,

66 FEMALES—All Large, Straight, Beautiful Individuals and All Young. Many with large records.

Nothing is Reserved. The Catalogs Tell Half the Story. To know the Other Half You Must See These Two Great Herds From Which the Cattle Come.

AUCTIONEERS—Mack, Krause, Hanson. Scott In The Box.

Minnesota Holstein Breeders' Association

SALE MANAGERS

406 Market Bank Building, Minneapolis, Minnesota

Grandson of King of the Pontiacs

From an A. R. O. granddaughter of King Segis Pontiac Konigen for $75 crated f. o. b. here.

BELLWOOD PONTIAC KONIGEN, born Oct. 20, 1920. Sire, King Pontiac Pondyke, a 32-lb. son of King of the Pontiacs. Dam, an A. R. O. heifer who is a granddaughter of the $35,000 bull, and Diona Konigen Pietertje 2nd, a 35.94-lb. cow. Mostly white, a good individual. Send for pedigree and photo.

Federal Accredited Herd 10232

C. W. BRAY,

Bellwood Farm, Bridgeport, Pa.

200-Acre Farm For Sale

Located in Dodge County, Wisconsin, one of the best dairy sections. Near good markets, cheese factory, creamery, churches and schools. 150 acres under cultivation, 50 acres timber and pasture with running water. Buildings: frame barn 40x100, hip roof, silo, house, garage, granary, chicken and hog house. Reasonable price and easy terms. Write owner, Chas. Hagen, 707 Drew St., Appleton, Wis.

Genesee Co. Breeders' Ass'n

First Sale—June 14

Davison, Mich., Fair Grounds

30 Head Registered Holsteins all ages. Both sexes. Good individuals. Tuberculin tested—subject to retest.

For Catalogues Write

W. T. Hill, R. 2, Davison, Michigan

Learn Auctioneering

at World's Original and Greatest School and become independent with no capital invested. Every branch of the business taught. Write today for free catalog. **Jones Nat'l School of Auctioneering,** 38 N. Sacramento Blvd., Chicago, Ill. Carey M. Jones, Pres.

YOUNG H.-F. BULLS FOR SALE

From one year to a week old. Bred by 30-lb. sire and 44-lb. grandsire.

G. A. UITDENBOGERD, Rosemount, Minn.



A pipe won't burn your tongue if you smoke P. A.!

Get that pipe-party-bee buzzing in your smokesection! Know for a fact what a joy'us jimmy pipe and some P. A. can and will do for your peace and content!

And, you can wager your week's wad that Prince Albert's quality and flavor and coolness — and its freedom from bite and parch (cut out by our exclusive patented process)—will ring up records in your little old smokemeter the likes of which you never before could believe possible!

You don't get tired of a pipe when it's packed with Prince Albert! Paste that in your hat! Each fire up makes you happier! My, my, how P. A. and a jimmy pipe do ring the bell!

Prince Albert is sold in toppy red bags, tidy red tins, handsome pound and half pound tin humidors and in the pound crystal glass humidor with sponge moistener top.



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PRINCE ALBERT

the national joy smoke

Central New York Dairy Notes

State Fair Prizes for Calf Club Work—Competition will be keen in the state this year in junior calf club work. A fine list of premiums has been compiled, the Holstein-Friesian Association, the Guernsey Cattle Club, the Ayrshire Breeders' Association, the New York State Bankers' Association and the Fair Commission co-operating to insure attractive inducements. Besides the two-year-old Sabin prize bull, Prince Alcartra Segis, offered by the Bankers' Association for the best junior achievement, to become the permanent property of any county only after being won three times, there will doubtless be several prize bull calves for winners. The Sabin bull was last year won by Otsego County juniors and is with them now.

For individual awards in Holstein calves under 1 year, the first prize will be $24; second, $20; third, $16; fourth, $10; and fifth, $5. Only three prizes are offered for Guernsey calves the same as the first three under Holsteins.

Cow Testing Associations—Franklin County has a new cow testing association in which there seems much interest. Tioga County's test work is being carried out very successfully. Tompkins County dairymen are discussing starting an association.

Health Train Busy—Miss Anne Raymond of the Child Health Organization is busy for the month telling thousands of children of the 18 counties of the state on the New York Central lines all about the need of drinking milk and of eating vegetables in order to become strong and healthy. In Syracuse and many surrounding towns the Jolly Jester Clown is doing similar work while Happy, another health clown, is in Cortland and other places under the auspices of the tuberculosis clinics, teaching the same wholesome doctrines. Observers of the work done by these people say that school children will absorb and put into practice truths taught in this striking happy way with an enthusiasm impossible to arouse in any other way. About one-third of the school children are found to be undernourished and want is not always the cause. Thoughtlessness and indulgence on the part of parents cut a bigger figure than does poverty. Wrong food habits are also largely to blame.

New York. E. F.

Washburn County Holstein Breeders Organize

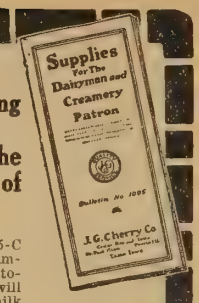
Twenty enthusiastic breeders of Washburn County, Wisconsin, met October 2, 1920, and organized a Holstein Association for that county. At the end of eight months, this organization is now numbered among the very best in the state. A picnic to celebrate its work is planned for June 10, when the following speakers will address the Association: L. L. Oldham, George C. Humphrey, and R. H. Rasmussen.

Two New Jersey Champions Illinois

Two Jersey cows owned by L. & C. Mason of Illinois have each become state champions in their classes. Lady Fox Pedro having produced 10,879 lbs. milk containing 587 lbs. fat now heads the junior three-year-olds. Miss E. P. Garnet began her test as a senior four-year-old and produced 11,804 lbs. milk containing 572 lbs. fat which makes her the new champion of the state for that class.

Pure-bred stock means better animals, more profits, more prosperous farmers and pleasanter farm homes.

Tips on Collecting Bigger Cream Checks From the Same Number of Cows



Our Bulletin 1005-C shows a number of simple, inexpensive up-to-date devices that will help you to deliver milk and cream in such a prime condition that the creamery will pay top-notch prices for it.

This Bulletin shows how the small producer with only ½ dozen cows can handle his milk and cream in the same sanitary and scientific way as the big fancy dairies and get the same fancy price for his products.

The Bulletin is free. A post card request will bring it.

J. G. CHERRY COMPANY
Cedar Rapids, Iowa



FILTER YOUR MILK

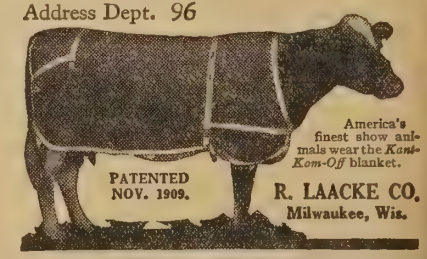
THE CHAPMAN STRAINER AND FILTER COMBINED will remove dirt, hair, bacteria, blood corpuscles and other substances which a strainer only cannot catch. This will greatly improve the quality and flavor of the milk and prevent it from souring quickly. It can be quickly taken apart for cleaning. Price each $2.50. Postage 30c extra. Cotton and gauze at extra prices here given. Dairy Special Sterilized Cotton 50c a lb.; in lots 25 lbs. or more, 45c.
Dairy Special Sterilized Gauze 8c a yard; in lots 100 yards or more, 7c a yard.

Milk Dealers and Dairymen Write for Big, Free Catalogue.

The Creamery Package Mfg. Company
68 W. Kinzie St., Chicago

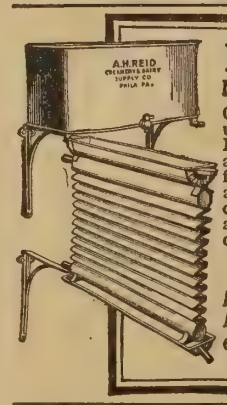
Cow Blankets

Here is the famous *Kant-Kom-Off* blanket endorsed by leading stockmen. Stays on ALWAYS. Can't be kicked off. Keeps cattle sleek, and a great fly protection. Write today for particulars. Ask about our FITS-ALL Show Halter. Address Dept. *96*



America's finest show animals wear the *Kant-Kom-Off* blanket.

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Milwaukee, Wis.



Reid's MILK COOLER

Get one now. Save the usual sour milk losses. Drives out animal odors and grassy flavor. By far the most efficient and easily cleaned cooler made. Reasonably prompt shipment of orders.

Write for prices at once or ask your dealer.

A. H. REID CREAMERY AND DAIRY SUPPLY CO.
69th St. and Haverford Ave.
Box C, Philadelphia, Pa.

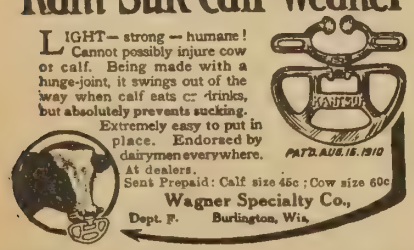
Eggs, Baby Chicks

8-week-old pullets. Won over 2,500 prizes 1917-18. Furnished U. S. Government and state schools, stock, eggs, chicks. Safe delivery guaranteed. Eggs, $7 for 100, $4 for 50, $1.50 for 15 chicks, Barred, Buff, White Rocks, S. & R. C. Reds, R. C. Black Minorcas, $15 per 100, $8 for 50, $4.50 for 25. White Wyandottes, Buff Orpingtons, S. C. Anconas, S. C. Black Minorcas, Buff and Silver Laced Wyandottes, $17 per 100, 50 for $9, 25 for $5. Pullets 8 weeks old $1 each. S. C. White and Brown Leghorn chicks, $12 per 100, $6.50 for 50, $4 for 25. Pullets 8 weeks old, 85c each. Partridge and Columbian Wyandottes, Light Brahmas, R. C. Anconas. Black Langshangs and White Orpington chicks $20 per 100, $10.50 for 50, 25 for $5.50. Pullets 8 weeks old, $1.25 each.

STERLING POULTRY FARMS
Box H, Sterling, Ill.

"Kant-Suk" Calf Weaner

LIGHT—strong—humane! Cannot possibly injure cow or calf. Being made with a hinge-joint, it swings out of the way when calf eats or drinks, but absolutely prevents sucking. Extremely easy to put in place. Endorsed by dairymen everywhere. At dealers. Sent Prepaid: Calf size 45c; Cow size 60c

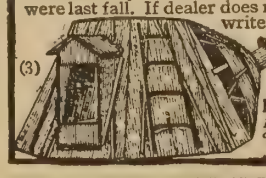


Wagner Specialty Co.,
Dept. F. Burlington, Wis.

THE PIONEER GAMBREL ROOF

Will fit any silo. Easy to put on. Strongly built. Attractive in design. Most convenient roof for filling.

Prices only a little over half what they were last fall. If dealer does not handle them write us direct. Price will surprise you.



PIONEER MFG. COMPANY
103 S. Main St.
Middlebury, Indiana
Makers of roofs and chutes, feeders and fountains.

Free Catalog in colors explains how you can save money on Farm Truck or Road Wagons, also steel or wood wheels to fit any running gear. Send for it today

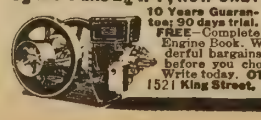


Electric Wheel Co.
31 Elm St., Quincy, Ill.

OTTAWA

1½ H-P Pulls 2½ H-P, NOW ONLY $38.50

10 Years Guarantee; 90 days trial. FREE—Complete Engine Book. Wonderful bargains. Get my prices before you choose any engine. Write today. OTTAWA MFG. CO. 1521 King Street, Ottawa, Kansas.



When writing advertisers please mention Hoard's Dairyman.

VETERINARY

Advice is given free in this department. Inquires must be signed by the writer, and should pertain to veterinary Matters only. Where an immediate reply and prescription are desired by mail, the inquiry must be accompanied by a fee of one dollar. In every instance it will be necessary to give a full description of the symptoms present.

Infectious Scours of Calves

The deadly form of dysentery of new born calves popularly known as "calf cholera" or "white scours" is infectious, being caused by germs of the colon bacillus type. Other germs, including the bacillus abortus of Bang and another causing pneumonia are, no doubt, in some cases associated with the colon bacillus, so that a mixed infection is present. The germs enter by way of the navel (umbilicus) in the womb, or vagina, or just after birth. Infection may also occur by way of the mouth.

The affected calf within a few hours or days of birth becomes "deathly sick", stops nursing, lies down, tucks its head into its side, appears partially unconscious, scours, weakens, dies, and quickly becomes bloated and decomposed. In some cases the calf bloats or bawls from birth and is so puny and weak that it is termed a "living abortion" by the attendant. Medicinal treatment rarely succeeds, but changing the ration of the pregnant cow and not allowing the calf to take its mother's milk at birth may lessen the liability to attack.

Preventive measures generally prove effectual if thoroughly and persistently applied. Immunization of new born calves with polyvalent calf dysenteric serum does not suffice. That treatment should, however, be given to each new born calf on every farm where the disease has been prevalent, and our readers should at once consult their veterinarians about the matter. It is likewise necessary to put into effect the following prophylactic measures: The calf at birth should at once be placed in a perfectly clean, disinfected, whitewashed, light, well bedded, and well ventilated box stall in which a case of white scours has never occurred. There should be at least two such box stalls or pens on every small dairy farm and several of them where many cows are kept. After use by one calf the pen should be thoroughly cleansed, disinfected, and freshly bedded in readiness for the next.

The moment the navel cord has been severed, liquids present in its stump should be squeezed out and the part saturated with tincture of iodin, and then frequently dusted with powdered starch. If the cord does not quickly shrivel and dry more tincture should be applied. Hypodermic treatment with polyvalent serum against dysentery should also be given instantly at birth. Before allowing the calf to nurse for the first time the cow's udder and teats should be cleansed and then disinfected with a saturated solution of boric acid, and this should be done daily for at least a week if the calf is allowed to suck. Care must also be taken to prevent contamination of the udder by discharges from the vagina of the cow. With that end in view the vagina should be syringed out daily with a mild antiseptic solution prescribed by the attending veterinarian, and the tail should also be kept clean.

It may be added that experiments have been made in immunizing the pregnant cow with biologics, so that her calf will not contract the disease, but thus far the treatment scarcely has proved sufficiently successful to warrant general use. The polyvalent serum, fairly effective as a preventive of the disease, has also considerable merit as a remedial agent and should be used at once in that way should a calf start scouring.

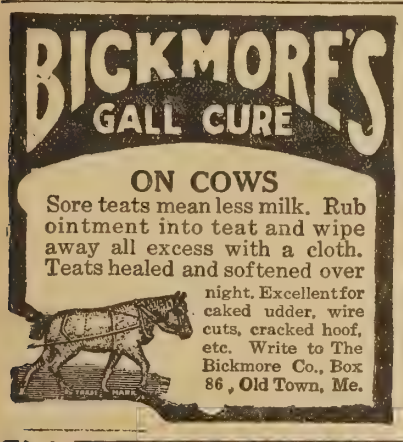
Distemper

Our horse has distemper. Will our two cows take it, especially when allowed to drink from the same vessel? If they do take it, will not the disease unfit their milk for use in the home? I hold that it will do so. I fear for my children to use the milk. Can not something be done to help distemper?

Maryland. (MRS.) C. H.

Distemper (strangles) of the horse is not communicable to man or cattle, but affected animals should be watered from pails. That is, of course, a sanitary measure which should be adopted when an animal is afflicted with any disease. If a description of the symptoms is furnished we shall be glad to prescribe treatment. The term "distemper" is often erroneously applied and one should be careful lest glanders be the real disease present. That disease is communicable to men.

A study of one of the best agricultural counties in New York State shows that 55 per cent of the farms have automobiles and that over 50 per cent of the use of automobiles is for business purposes.





ABSORBINE
TRADE MARK REG. U.S. PAT. OFF.

Reduces **Bursal Enlargements, Thickened, Swollen Tissues, Curbs, Filled Tendons, Soreness from Bruises or Strains;** stops Spavin Lameness, allays pain. Does not blister, remove the hair or lay up the horse. $2.50 a bottle at druggists or delivered. **Book 1 R free.**

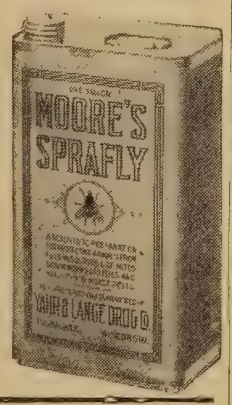
ABSORBINE, JR., for mankind—an antiseptic liniment for bruises, cuts, wounds, strains, painful, swollen veins or glands. It heals and soothes. $1.25 a bottle at druggists or postpaid. Will tell you more if you write. Made in the U. S. A. by
W. F. YOUNG, Inc., 254 Temple St., Springfield, Mass.

MOORE'S SPRAFLY

Protects cattle and horses from flies. Allows them to feed in peace. Is easily applied with a sprayer. Saves double its cost in extra milk. An oily liquid, it spreads quickly, sticks fast, and goes far. Absolutely harmless, and satisfaction guaranteed.

Ask your dealer for
MOORE'S SPRAFLY
Put up in 1-gal. cans only.

Manufactured by
Yahr & Lange Drug Co
Milwaukee, Wisconsin



DAISY FLY KILLER PLACED ANYWHERE ATTRACTS AND KILLS ALL FLIES. Neat, clean, ornamental, convenient, cheap. Lasts all season. Made of metal, can't spill or tip over; will not soil or injure anything. Guaranteed effective. Sold by dealers, or 5 by EXPRESS, prepaid, $1.25.



HAROLD SOMERS, 150 De Kalb Ave., Brooklyn, N. Y.



America's Pioneer Dog Medicines

BOOK ON
DOG DISEASES
And How to Feed
Mailed free to any address by the Author
H. CLAY GLOVER CO., Inc.,
118 West 31st Street, New York



Ask us any questions about your feeding problems. If your dealer cannot supply you with Buffalo Corn Gluten Feed, tell us who and where he is. Write today to Corn Products Refining Company, Feed Department, 17 Battery Place, New York City.

"FEED UP"—and What This Means to Every Dairyman

THE first flush of grass, and the way cows avail themselves of it, tempts many dairymen to reduce the amount of feed at this time of the year.

This is the wise thing to do, but for a short time only.

Start feeding again lightly after the first flush of grass, or your cows will shrink to such an extent that they will not come back strong for the fall work.

If you feed *Buffalo Corn Gluten Feed*, with a fair amount of mill feed, your cows should give from three to four pounds of milk per pound of grain fed.

Your herd needs Buffalo Corn Gluten Feed—in summer as well as in winter—in order to make it a real source of profit to you.

You cannot afford to overlook these facts, or neglect to take a broad view of the cost and return from your herd. Then you will order Buffalo Corn Gluten Feed.

Corn Products Refining Co.
New York Chicago

"Try It Out Yourself"

says the Good Judge



And you will find how much more satisfaction a little of this Real Tobacco gives you than you ever got from a big chew of the ordinary kind.

The good, rich, real tobacco taste lasts so long you don't need a fresh chew nearly as often. So it costs you less.

Any man who uses the Real Tobacco Chew will tell you that.

Put up in two styles

W-B CUT is a long fine-cut tobacco
RIGHT CUT is a short-cut tobacco

Weyman-Bruton Company, 1107 Broadway, New York City

Association Notes

(Continued from page 819)

—I. V. Otto made the first 30-lb. record to be made in this county with 604.5 lbs. milk and 30.65 lbs. fat and is still going a 30-lb. gait 2 weeks after test. Out of the 24 herds tested, 9 unprofitable cows were sold. Milk conditions are fair in this community, the average price for 4 per cent being $2.70. Butter sells for 55c per pound. Feed prices are slowly coming down. Corn and cob meal sells at $24 per ton; bran, $34; oats, $36; oil meal, $50; cottonseed meal, $45; dried brewers grains, $44; hay, $18.

North Branch, Pennsylvania:—Six unprofitable cows were sold. One pure-bred Holstein bull was purchased. The ten high fat cows of the association were owned by six men. They were all Holsteins except one and averaged 1,400.28 lbs. milk. 50.317 lbs. fat. Three per cent milk sold for $3.38 per cwt. Milk retailed for 12c per quart; butter for 50c per pound; cheese, 30c. Mixed hay sold for $18 per ton; corn silage, $6; corn stover, $8; root crops, $8; ground oats, $29; corn and cob meal, $24; linseed meal, $51; cottonseed meal, $42.50.

Eatonville, Washington:—April 30 marked the end of the sixth month of this association's work. At present there are thirteen members and a total of about 150 cows are tested each month. The winners for the month of April are George Nelson, first, for the best individual cow, a grade Jersey, (59.52 lbs. fat) and John Malm, second, a pure-bred Holstein, on 51.61 lbs. fat.

Arkansas, Wisconsin:—Five boarder cows were sold and one pure-bred Guernsey bull bought for breeding. Clover hay is most all killed out and some farmers are sowing oats and peas for hay. During April market milk sold for $2.10 per cwt. The creamery paid 47c per pound for fat and the cheese factory, 42c. Butter retailed for 42c per pound and cheese for 25c. Oats sold for $20 per ton; barley, $26; corn, $26; bran, $22; oil meal, $46; gluten, $34.

Head Your Herd

With a Son of Imp. Sailor Boy

whose daughters are now making such good records. We have a number of good ones from A. R. dams at reasonable prices. Write

John P. Crozer, Upland, Pa.

Manitowoc County Guernseys

Choice bull calves from one month to serviceable age, some from A. R. dams. Also some good grade females. For particulars write

George W. Kiel, Secy,
Manitowoc, R. 5, Wisconsin

Guernsey Bulls

GET A BULL, with Langwater, Pencoyd, May Rose or Haye's Cherub breeding. Prices reasonable, quality considered. Grades in limited numbers.

Fox River Valley Guernsey Breeders' Association,
Harry Leppla, Secy. Appleton, Wis.

Guernseys

Best May Rose breeding. Both sexes and all ages from an Accredited Herd. Write your wants and send for lists.

E. S. Person, Minot, N. D.

Guernsey Females

bred to an outstanding son of Ne Plus Ultra, one of the greatest sires of the breed. Fifty head from which to select.

MEADOWLAND FARM. Litchfield, Conn.

Guernsey Bulls
Special Low Prices

Guernsey bulls by Beauty Eagle's Bonny Boy 42893, he by Bonny Boy of Riverdale 29070 (noted show bull), and out of Beauty Eagle 18117, 846 lbs. fat, or a son of Glenwood's Champion 15639 (24 A. R. daughters) out of daughter of Langwater Demonstrator 16451. Splendid high producing dams. Send for sale list.

LA BELLE KNOLL FARM, Oconomowoc, Wis.

Pleasant Acres Guernsey Farm
Is Offering For Sale

Bull calves of May Rose breeding from 3 to 14 months old. The dams of these calves either have A. R. records or are now on A. R. test.

Clyde E. Fruit, R. 1, Waukesha, Wis

70 of Wisconsin's Best

AT THE

Southern Wisconsin

Guernsey Breeders' Sale

June 7—Fort Atkinson, Wis.

A Sale where you are guaranteed courteous treatment and absolutely square business dealings. Every consignor stands back of the liberal guarantees to protect you.

Don't fail to attend whether you wish to buy or not. *It will be worth your while.*

James H. Murphy, Sale Mgr., Delavan, Wis.

When Writing to Advertisers, Mention Hoard's Dairyman

Minnesota Guernsey Breeders' Ass'n

Second Annual Consignment Sale

St. Paul, Minn., State Fair Grounds June 14, 1921

—OFFERING:—

SIX BULLS

Sired by:	*Dams:*
Golden Lassie Julian.	Zenobia's Alberta.
Starlight's May Rose King.	Imp. Victoria of Sarnia.
May Rose Secret of Pencoyd.	First Dawn's May Rose.
Maxim of Linda Vista.	Loyal Polly Blossom.
Ladysmith's Cherub.	Sequel's Deanie.
Florham May Day.	Jasminum's Rose.

45 FEMALES

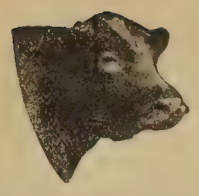
Daughters of:

May King of Linda Vista
Cora's Governor of Chilmark
Flying Ace
May Rose of Searchlight
Bell Buoy of Linda Vista
Ingle Side King Chesterbrook
Cora's Noble King
Ultra King of Edgemoor
Clara's Sequel

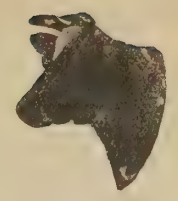
Meeting and Banquet, Monday, June 13, at Hotel Radisson, Minneapolis

Sale — Tuesday, June 14

L. V. Wilson, Secretary, University Farm, St. Paul, Minnesota



Economy in Production ← GUERNSEYS → Quality of Products



The Guernsey is a medium sized cow that produces with greatest profits large quantities of milk and butterfat of the highest quality. She is exceptionally gentle and responds promptly to good feed and care. Send for our free literature.

THE AMERICAN GUERNSEY CATTLE CLUB, BOX H46, PETERBORO, N. H.

Last Call For The Last Sale of the Wisconsin Guernsey Sale Circuit.

June 9, Waukesha, Wisconsin

Waukesha Co. Guernsey Breeders' Ass'n — 57 Reg. Guernseys

This is the 18th and Semi-annual Sale to be conducted by the Waukesha County Breeders. Their consignments are of the highest type and standard. You cannot go wrong with "Waukesha County Bred-for-production Guernseys."

Watch for these offerings and others equally as good:

ROYAL'S PRIDE OF MAPLE HILL by Langwater Royal 4th and out of Lady's Pride of Maple Hill A. R., 618.9 lbs. butterfat at 3 years.
KING OF THE MAY'S FERN, out of Fern's Beauty of Pinecliff A. R., 744.29 lbs. butterfat.
NORMANDIE'S MAID A. R. milk 8719.4 lbs., butterfat 382.9 lbs. at 3 years. On retest.
CHRISTABEL'S ROSE OF WAUKESHA A. R. milk 8923.4 lbs., butterfat 494.4 lbs. at 3 years.
PEARL'S ULTRA TOPSY out of Pearl's Topsy A. R. milk 7271 lbs., butterfat 432.7 lbs. at 2 years.
GOVERNOR'S ROSETTE OF WALNUT RIDGE on test, in 60 days has made 95.99 lbs. butterfat.
DOLLY'S MAY KING OF CEDAR LAWN, dam's record 644.86 lbs. butterfat.
ONE DAUGHTER of Langwater Hayes Rosie's King of the May A. R. sire of 16 A. R. daughters.

Auctioneers—Love, Benjamin, McGuire. Write for catalogue to

Waukesha Co. Guernsey Breeders' Ass'n,—F.E. Fox, Sec., Waukesha, Wis.

Remember sale of Registered Guernseys at Waukesha, June 8th, owned by Chas. O. Govin, Menomonie, Wis.

REGISTERED GUERNSEYS

Chas. O. Govin, Owner
Menomonie, Wis.

Sale at Waukesha, Wis., June 8

Many fine individuals are offered, backed by the best blood of the breed, such as Masher Sequel, Raymond of the Preel, Governor of the Chene and May Rose.

Females bred, are bred to Ramee's Ace of Waukesha, a grandson of Imp. Itchen May King A. R., Grand Champion, National Dairy Show, 1920.

Auctioneers—Love, Benjamin, McGuire.

Send for Catalog to F. E. Fox, Sales Mgr., Waukesha, Wis.

(Remember the Annual Consignment Sale of Guernseys, Waukesha, on June 9th.)

GUERNSEYS FOR SALE

Pure-breds { 70 Cows; 61 Heifers and Heifer Calves; 162 Young Bulls and Bull Calves
Grades — { 116 Cows; 115 Heifers and Heifer Calves

Other Live Stock: Breeders are listing with us other dairy cattle, beef cattle, horses, sheep, and swine. Write us if you want stock. We will answer promptly.

BANKER FARMER EXCHANGE.
D. H. Otis, Director. 1822 Chadbourne Ave., Madison, Wis.

MR. GUERNSEY BREEDER

we are offering bulls of May Rose, Glenwood and Yeksa breeding out of A. R. cows. Our records range from 450 lbs. to 864 lbs. of fat; ages from 2 months up to serviceable age for $100 and up.

Can spare a few fine females.

CORIUM FARM, F. J. Rueping, Owner, Fond du Lac, Wisconsin

Mound City Farm Guernseys For Sale

May King's Reputation of Mound City (63800) born Dec. 3, 1919.

Sire—May King's Vrangue of Ingleside (15430). Dam—Alma Ethel, three records namely 495 class G, 621 lbs. class AA and 704 lbs. class A. Alma's King of Mound City (63801) born Dec. 23, 1919. Sire—Cinderella's King of Mound City (40476). Dam—Alma Lehigh (43704). 340 lbs. fat class G, 648 lbs. fat class A. Rose's May King of Mound City (63802). Born March 19, 1920. Sire—May King's Vrangue of Ingleside (15430). Dam—Rose of Little Platt (55717) record of 667 lbs. fat in class AA now fourth in her class. Some younger bulls of equal breeding.

Chas. A. Wilkins, Platteville, Wisconsin

A May Rose Bull

He Will Suit You

He is Gumption of Koshkonong Place, ready for heavy service and as straight as a line. His sire is Anton's King Cecil, one of the best May Rose bulls in the state. His dam is Gladness of K. P. (414.68 lbs. fat Class G), a daughter of Gilt Edge of K. P. (15 A. R. daughters).

Write me today about him.

A. R. HOARD, Fort Atkinson, Wisconsin

Homestead Farm

Offers for sale bulls from 11 to 13 months of age from A. R. dams. Also a few young bull calves of excellent breeding, and three A. R. cows. Write for sale list or come and see them.

JAMISON BROS., Appleton, Wis.

Tilden Farms Guernseys

FOR SALE: Several typy, May Rose bulls out of A. R. cows and sired by Hope's May Rose of Maple Hill (35903), whose dam is a class leader with 776 pounds of butterfat at 3 years. Also several choice pure-bred females and a few excellent grade cows. Herd on Federal Accredited list.

TILDEN FARMS
James H. Murphy, Mgr. Delavan, Wisconsin

GORDONDALE GUERNSEYS

3 bull calves offered for sale. They have excellent breeding and dams have or are making good A. R. records. Write for further information, they are priced to sell.

Herd under Federal Supervision
L. E. GORDON, JR.,
Nelsonville, Portage Co., Wisconsin

A Real Buy — Serviceable May Rose Bull

Sire: A son of Langwater Steadfast, 19 tested dams average 714 lbs. fat. Dam: A splendid daughter of Gov. of the Chene, with 526 lbs. fat, Class D.

This fellow is a top-notch individual and full of pep. Priced to sell. Don't overlook this bargain.

Federal Accredited Herd.
Norwind Farm, Sheboygan, Wis.

HONESTY PRIDE OF BIRCHFIELD 44580



Sire — Langwater Warrior 26509
Dam — Langwater Honesty 49479
10,536.9 lbs. milk, 517 lbs. fat, at 2 yrs. and 5 months

We are now offering a few splendid sons of Honesty Pride of Birchfield. From cows with A. R. records or now on test. Everyone is a straight backed, growthy, vigorous youngster. These young bulls will put type and production in your herd. Prices range from $150 to $300.

Quality Guernseys **HIGHLANDS** *Tuberculin Tested*

NYE H. FREEMAN, Herdsman, Linwood, New York

Thorn Hill Farm Guernseys



Have several well bred young Guernsey bulls for sale at reasonable prices. All my own breeding. May Rose and Glenwoods, out of A. R. cows with records from 500 to 750 lbs. of fat. Write for sales list to

AUGUST ZIESING, Deerfield, Ill.

Do You Want A Guernsey Bull

Closely related to Pergue's Crescent A. R. with a record of 13,316.9 lbs. milk and over 582 lbs. fat in Class EE and dropping two calves within the year, entitling her to second place in her class? Some excellent young bulls closely related to Pergue's Crescent ready to head your herd. Write for descriptive circular, or come and see them.

Ernest W. Sass, Box H, Streator, La Salle County, Illinois

Iowanola Guernseys

We are offering

A Very Fine Son

born July 25, 1920, out of Imp. Kitchener's Express 43925, his dam has 592 lbs. of fat, and out of Franseca of Homa Della who has 12,855.2 lbs. of milk and 640.09 lbs. of fat in Class D. This is a very typy calf and should appeal to any one in need of a bull. Correspondence solicited.

MOUNTAIN BROS.,
Carrier 403, Des Moines, Iowa.

642 Pounds Fat

is the average on the A. R. daughters of Bellfounder, the sire of Countess Prue, the World's Champion Guernsey and My Fancy, eighth in Class A.

We offer bull calves carrying 15%—50% of this consistently high producing blood.

Prices $225.00 to $600.00.

The demand is keen; write today.

FALCON'S FLIGHT FARMS,
Litchfield, Connecticut.

Hillswold Farm

Shrewbury, Mass.

Registered Guernsey bull calves for sale. Dams in Advanced Registry and tuberculin tested. Prices right, and animals guaranteed to suit. **W. A. Cloues, Mgr.**

MR. FARMER

Kill the Scrub Bull

Now is the time to buy young bull calves from A. R. dams. Reasonable prices. Write for complete information.

BAY CLIFFS STOCK FARM
Jay B. Deutsch, Owner
Big Bay, Michigan.
Accredited Herd

Wern Farm Guernseys

I am offering for sale 20 head of choice Grade Guernsey springers coming with first and second calf. Also have two bulls highly bred along May Rose lines just ready for service, that I will sell. For full particulars, write, wire, or come and see the stock.

Wern Farm, Waukesha, Wis.

Harbor Hill Guernseys

Masher's Galore 8572 A. R.

Increased the Average Production Credit of 12 A. R. daughters out of A. R. dams by 181 lbs. We offer his double grandson out of another daughter also making a better record than her dam.

C. H. Hechler, Superintendent
Box 30, Roslyn New York

Guernsey Bulls

Our last 9 official records average over 510 lbs. fat, including all ages. Our herd sire has 8 A. R. daughters, including one with 572 lbs. fat in Class GG. His three nearest dams average 822 lbs. fat. Send for pedigrees and prices on young bulls with this backing.

Folly Farm, Box 587, Libertyville, Ill.

Guernsey Bulls For Sale

Polly's Anchor No. 42845, born August 24, 1916, and Imp. Bluebird of Lakeside No. 45329, born June 15, 1917. Good, straight bulls, very gentle and sure breeders.

For Sale by
RADISSON FARM, ANOKA, MINN.

GRASSLAND FARMS GUERNSEYS

Choicely bred males and females for sale. (The natural increase of the herd.)

Herd federal tested for tuberculosis. Send for sales list. Satisfaction guaranteed.

Taconic, Conn., Litchfield Co., (C. N. E. R. R.)

The Mixter Farms

For Sale at farmers' prices,—**bull calves** sired by May Rose bulls and out of May Rose dams with records of 500 to 700 lbs. fat. Also a number of producing females—animals that will be a credit to any herd and prove profitable in dollars and cents.

Write us before purchasing elsewhere. Mixter Farms have bred over 3,000 pure-bred Guernseys. **J. S. Clark, Supt., Hardwick, Mass.**

300 Guernsey Females.

Langwater Traveler

Carries 50 per cent blood of Imp. King of the May, greatest bull of the breed.

His dam is Langwater Lustre, A. R. 806.10 lbs. fat, fifth cow in Class C. She is the second highest testing daughter of King of the May. His sire is Langwater Holliston, sire of Langwater Levity, sold for $6,000.00 and leading cow in Class EE. Traveler's daughters are averaging over 500 lbs. of fat with their first calves. His first daughter to freshen will be a class leader in FF. We offer some excellent bull calves by Traveler out of May Rose cows with fine records. Federal Accredited Herd.

CHICONA FARM GUERNSEYS
A. L. Gile, Prop., Chinook, Washington.

14 GUERNSEY BULLS

10 Heifers or A. R. Cows

your choice out of 75 head. All born and raised in our own barns. Herds accredited and guaranteed free from abortion, non-breeders and calf scours.

11 years of State and Federal testing without ever finding a single reactor or having a single case of abortion or a single non-breeder. $10,000 reward to anyone who can disprove the above statements.

No better GUERNSEYS anywhere at any price. Send for bargain sale list.

MATH. MICHELS & SONS, Fond du Lac, Wis.

2 Guernsey Bulls

No. 1—A son of Bob Rilma's Monogram, whose dam and sire's dam have records averaging 887.5 lbs. fat. His dam, a daughter of Langwater Hambro, made over 400 lbs. fat in Class G., 10 months old and well grown.

No. 2 is from a 519-lb. cow and sired by a son of Lord Waukesha from a 717-lb. 13-year-old dam. They're priced right and they must be as represented.

Write me for further information.

RALPH TRATT, Whitewater, Wis.

Cows and Wheat in Kansas

HOARD'S DAIRYMAN:—The dairy cow is gradually driving back the Kansas wheat fields. One of the best evidences of this was displayed recently when hundreds of people attended Reno County's first dairy show consisting of 104 fine dairy cattle exhibited by dozens of breeders who live in the heart of the Kansas wheat belt. J. B. Fitch, head of the Kansas State Agricultural College dairy department, predicted that in a few decades, Hutchinson, now a grain and milling center in the state, would be known as a dairy center. To support his prediction Professor Fitch pointed to high school classes in agriculture, from five western Kansas towns, attending the show in order to study dairy cattle types.

All the cattle exhibited were registered stock, bred by farmers who began their herds not many years ago in a small way. Many started with a few cows imported from other states. "From the offspring of those few cows the golden color of Kansas wheat fields is becoming spotted with the color of the Jersey and of the Holstein," said one of the exhibitors. "And our farmers will be able to live in better homes when that is done. I know that was the case with me."

Kansas. D. STALLARD.

Rob Roy Farm Ayrshires

Auchenbrain White Beauty's Good Gift



AUCHENBRAIN WHITE BEAUTY 2D

Having sold my farm, I will sell at private sale my entire herd of Ayrshires consisting of 33 head and including White Beauty's Good Gift, 18057, the only living son of the world's champion Auchenbrain White Beauty 2d, the greatest Ayrshire cow living, whose sire was Imp. Kate's Good Gift, 15426, and whose dam was Imp. Auchenbrain Brown Kate 4th with a milk record of 23,022 lbs. and a butter record of 1,080 lbs. This bull shows the vigor and elasticity of a two-year-old, has a good disposition and is a sure and quick stock getter. He is guaranteed absolutely free from tuberculosis, having passed three successful tests within the past year. With him are 20 of his daughters, ranging from three months to three years old, and 4 of his sons, ranging from three months to a year old, all of the choicest breeding and many from A. R. O. dams. Herd free from tuberculosis and contagious abortion and will be sold subject to Federal test if so desired. Here is the chance of a lifetime. Come and see them and get your first choice. I must sell.

J. W. MUDGETT, **Ellicottville, New York**

BROWN SWISS



BETTY OF LAKE VIEW

Breed Brown Swiss Cattle

They prove their superiority over other breeds when subjected to trying conditions on the farm, by keeping in good flesh and filling the pail while other cows grow thin and reduce their yield. You can prove this to your satisfaction.

BROWN SWISS CATTLE BREEDERS' ASS'N
IRA INMAN, Secretary, Beloit, Wis.
William B. Hale, Pres., Aqueduct Bldg., Rochester, N. Y.

JUBILEE FARM

Box 747. Peoria, Illinois.

All Females Withdrawn from Sale Until After the
ILLINOIS BROWN SWISS BREEDERS' ASSOCIATION SALE
MORTON, ILL., APRIL 21
and
FIRST NATIONAL CONSIGNMENT SALE
PEORIA, ILL., MAY 26
A number of line-bred bulls for sale.

On Account My Poor Health

Dispersing Entire Herd Brown Swiss

Consisting of one cow 4 years old, one cow 3 years old, 2 heifers 2 years old bred to freshen next September, and 1 heifer 15 months old not bred. All registered and excellent dairy type and breeding. Priced for quick sale at $1,000. Guaranteed free from all disease.

A. W. Blankenburg Lakefield, Minn.

AYRSHIRES

Ayrshire Stock

of all ages for sale. Satisfaction guaranteed

L. W. McCONNELL, Wellington, Ohio

Two Registered Ayrshire Bulls

ready for service. Also a few heifers and bull calves Herd tuberculin tested. A. R. O. breeding

Herman Ihde, Neenah, Wis.

Delchester Farms Ayrshires

Tell us your wants and we can supply them at prices you can afford to pay.

Aged cows, bred to Glenury, an A. R. son of Finlayston.

Aged cows, bred to Rena's Baron of Highland, an outstanding son of Baron's Best of Bargenoch.

Heifers, bred to these two great sires.

Young heifers.

Bull calves.

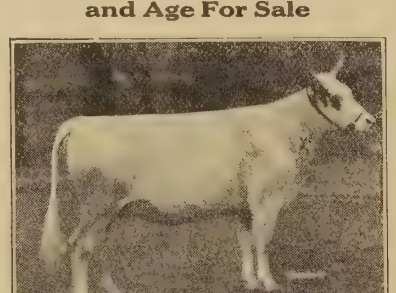
All the above stock carries some of the best producing blood of the breed with A. R. ancestry on both sides.

Herd free from tuberculosis

DELCHESTER FARMS
Edgemont, Del. Co., Penn. - Thomas W. Clark, Supt.

Ashbrook Farm Offers

Ten Heifers of this Type and Age For Sale



STRATHGLASS GARDUM SNOWDROP

Also the first prize bull calf at the Eastern States Exposition by Foulton Ambassador. This will make someone a good herd.

L. E. ORTIZ, Prop., Morris Plains, N. J.

Weymouth Farms

"Ayrshires of Quality"

All cows on Advanced Registry Test. Herd Tuberculin Tested.

We can supply you a herd sire of choicest breeding.

MARTIN A. TOWLE, Mgr.
NORTH WEYMOUTH, MASS.

FOR SALE

Registered Ayrshires

Cows and Heifers. One bull fit for service. Also some choice young bulls and heifer calves. Best of Breeding.

Dan Haurahan, Oconomowoc, Wis.

Pure-bred Ayrshire Cattle For Sale

Best of breeding. Calves sired by a Grandson of Brown Kate, record 1,080 lbs. butter in year.

Wm. Nisbet & Sons, Richland Center, Wis.

MIDDLESEX MEADOWS FARM

OFFERS

Two outstanding AYRSHIRE BULL CALVES for sale for immediate shipment

No. 1—MIDDLESEX WHITE CHANCELLOR 25273, born September 17th, 1920.
Sire—Cavalier's Netherall Chancellor 21216, who sired the winning bull calf at this year's National Dairy Show.
Dam—White Heather of Highland 42752, who stood 2nd in the aged cow class at the same show (this year's National) and who has two good Roll of Honor records.

No. 2—MIDDLESEX MANCHESTER, born March 10th, 1921.
Sire—Auchenbrain Toreador (Imp.) 24761, record priced bull of the breed and Grand Champion at Maryland, New York, Connecticut, and New Jersey State Fairs this year.
Dam—Bida Clinton 31489, who has three A. R. records that average 11,000 lbs. of milk, 453 lbs. of fat, 4.17%; and whose two-year-old daughters will have records of over 10,000 lbs. of better than 4.00%.

Both bulls have excellent individuality, and are fit to go into any show ring and hold their own. They should develop into extra good herd sires. Prices reasonable—we **KNOW** you can't get as good as these two for any less money elsewhere.

A. Henry Higginson (Owner). W. R. COUTTS, (Supt.)
South Lincoln, Massachusetts

75 Head **Ayrshire Dispersion** **75 Head**

Shannon Bros'. Entire Herd

TO BE SOLD AT

Cloverdale, British Columbia, June 22

Herd under Dominion supervison for tuberculosis and free from abortion. Choice production-bred Ayrshires from a herd where three Canadian champion records have been made. Grandsons of a champion offered. Clean, reliable, proven stock. For catalogues write

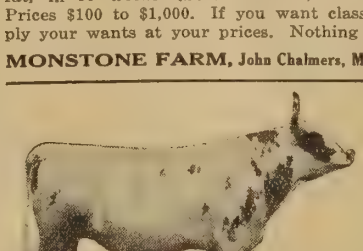
Shannon Bros., **Cloverdale, B. C.**

Monstone Farm Ayrshires

"Production — Size — Individuality"

Bull calves out of dams with A. R. records of 10,000 lbs. (and better) of 4% milk—Winners in show ring—Sired by Lessnessock Gem's Good Gift Imp.—Winner in show ring and proven prepotent sire—Weight 2,250 lbs. in breeding condition—Whose dam made 8,930 lbs. milk, 4.05% fat, in *56 weeks* (Scotch record)—Sire's dam 10,342 lbs. milk 365 days (Scotch record)—Prices $100 to $1,000. If you want class and a square deal, correspond with us. We can supply your wants at your prices. Nothing but the best. Herd Federally tested.

MONSTONE FARM, John Chalmers, Manager, IPSWICH, MASSACHUSETTS



We Have For Sale

the well bred Ayrshire bull, Bargenoch "Drexel" (18474) Imported. Bred by John Logan, Bargenoch, Scotland. Born Feb. 2nd, 1919. Color white and red. Sire, Bargenoch Magnificent (9579). Sire of Bargenoch "Royal Champion" sold at Bargenoch sale, 1919, for $7,267.00.

Dam, Bargenoch Victoria (37003). Scotch record: 9,221 lbs. milk, 4.23% fat in 43 weeks; 11,070 lbs. milk, 4.50% fat in 47 weeks.

BARCLAY FARMS, John Cochrane, Manager, ROSEMONT, PENNSYLVANIA

World's Champion AYRSHIRES

200 head Fully Accredited, Tuberculosis Free for 3rd consecutive year. 100 records average 13,454 lbs. milk. Many cows weigh over 1400 lbs. For large, healthy, productive Ayrshires, address:

Penshurst Farm, Narberth, Pa.

BLACKBURN FARM

Home of Addington's Champion

Grandfathers—Nox'emall and Finlayston.
Father—Rena's Champion—17 A. R. daughters
Mother—Addington Queen 3d—Two mature records each over 19,000 lbs.

Fully Accredited Tuberculosis Free Herd.

SEWICKLEY, PENNSYLVANIA

Community Breeders' Clubs

(Continued from page 818)

two-thirds vote of the members present at any regularly called meeting of the Executive Board.

A number of counties are now organizing or reorganizing breeders' associations using the Community Club plan. The Barron County Holstein breeders adopted the new plan on February 25. The Guernsey Breeders' Association of the same county is also reorganized under the plan. There are at present nine community clubs in the Holstein and also nine in the Guernsey Associations in Barron County. The membership has been increased in each association fourfold. New interest has been aroused and each club is imbued with a spirit of doing a definite piece of work.

The Cumberland Club of Barron County conducted a sale of young pure-bred bulls on February 26th, selling sixteen fine young animals. Eight of these went to replace scrub sires in the surrounding territory. The Guernsey Club of Turtle Lake, Barron County, is pushing a cow testing association and will soon have the same in operation. The Nasonville Club of Wood County has outlined its plans for the year 1921. The club has sixteen members. Each member proposes to secure one new member.

Each club member pledges to secure at least one pure-bred female this year. The club proposes to promote calf clubs for boys and girls, also a cow testing association and a drive against the scrub sire. And so we might go on and enumerate the activities of local clubs. Many single activities of a local club are equal to a similar activity on the part of the whole old association. Yet in a county we may have from six to ten or twelve clubs each capable of equal accomplishment.

The following plans and activities have been enumerated for the local clubs:

1. A complete sales organization, composed of the leader and secretary in each community whose business it would be to know of surplus stock, and who it is presumed would be paid for knowing. This should be a definite commission for sales arranged. This plan would help to move bulls to where they belonged. This organization could work through the secretary of the county executive board and the county agent's office especially on deals outside of the county.

2. The annual meeting of the association could be held in a different community each year and be connected up, perhaps, with a local fair, the meeting presumably to be held in the summer. This would insure a large attendance.

3. Community fairs could be held at which time the best stock could be selected to be sent on to the county fair and farther still if warranted. Community sales could also be held at the same time.

4. Special meetings and demonstrations including stock judging could be held by the community club, perhaps on the best farms. This would lead to greater progress as a result of the exchange of experiences, etc. Winter meetings of this character as well as summer could be held.

5. The meetings of the executive board will be well attended by the various leaders. These men would feel responsible to their local associations for the action of the executive board and would thus feel more of an obligation to attend meetings than is true under the present arrangement.

When writing advertisers please mention Hoard's Dairyman.

SWINE

Raise Your Own Duroc Boar

We have weanling boars of the best type and most popular breeding from $20.00 up crated F. O. B. Glenwood, with registration papers. Write for booklet with full information and our guarantee to satisfy.

Bertley Farms, Glenwood, Ill.
Just out of Chicago.

Cedar Crest Farms

have never possessed a finer lot of
BERKSHIRES
than at present. Let us name you prices on fall and spring boars and young gilts.

J. K. Dering, Owner, Lake Villa, Ill.

Early to Market—Full Weight



51 per cent of all hogs marketed in the United States in 1918 were Duroc-Jerseys.

Duroc-Jersey hogs have proved themselves in championship shows as well as on the market.

Duroc-Jersey hogs raise large families and put on weight quickly. They are hardy, easy feeding animals that mature at an early age, and are uniformly red in color.
Write for our Free booklet "*Duroc-Jersey Hogs Are Prolific and Profitable.*"

The National Duroc-Jersey Record Association. Dept. 300 Peoria, Ill.
The largest swine record association in the world—12,000 members

SALE ANNOUNCEMENTS

June 4—Guernseys. Folly Farm Guernseys at Fond du Lac, Wis. Chas. L. Hill, Mgr.
June 6—Holsteins Austinburg, Ohio. Ohio Holstein-Friesian Ass'n., H. C. Barker, Field Secretary, Tiffin, Ohio.
June 7—Ayrshires. National Ayrshire Sale at Springfield, Mass.
June 7—Guernseys. The Southern Wisconsin Guernsey Breeders' Ass'n. Sale, Ft. Atkinson, Wisconsin.
June 7 and 8—Holsteins. Oneida County Holstein Club and Herkimer County Breeders, Clinton, N. Y. W. G. Comstock, Sec'y.
June 8—Guernseys. Complete Dispersal Sale of the Chas. Govin herd of Menominee, Wis., at Waukesha, Wis. F. E. Fox, Sale Mgr.
June 9—Holsteins. First Annual Bred Heifer Sale, Thorp, Wisconsin. W. H. Krause.
June 9—Holsteins. First Annual Sale, Holstein-Friesian Co-operative Association of New Jersey, Trenton, New Jersey. J. W. Bartlett, Secretary, New Brunswick.
June 9—Holsteins. Elkhart Co. Guaranty Sale. Col. L. Stuckman, Mgr.
June 9—Guernseys. Waukesha County Guernsey Breeders' Ass'n. Eighteenth Semi-Annual Sale of Registered Guernseys at Waukesha, Wis. F. E. Fox, Sec.
June 9—Guernseys. Massachusetts Guernsey Breeders' Sale. Leander F. Herrick, Sale Mgr.
June 10—Holsteins. Loyal, Wis. R. M. Jenks, Sale Mgr.
June 14—Guernseys:—Minnesota Guernsey Breeders' Annual Sale. State Fair Grounds, St. Paul. L. V. Wilson, Secretary.
June 22—Ayrshires. Shannon Bros. Dispersal Sale, Cloverdale, B. C., Canada.
Oct. 19—Holsteins. Chester Co., Pennsylvania, Holstein-Friesian Breeders' Guaranty Consignment Sale. C. J. Garrett and F. C. Brinton, Jr., Mgrs.
Oct. 19—Guernseys. Michigan State Sale of Registered Guernseys at Lansing, Mich. F. E. Fox, Waukesha, Wis., Sale Mgr.
Feb. 21-22, 1922—Holsteins. Iowa Holstein-Friesian Association's Annual Sale.

JERSEYS

Improve Production Increase Size

By using a
HOOD FARM SOPHIE TORMENTOR JERSEY BULL
Four generation Pedigrees and prices on request.

HOOD FARMS, Inc.
Lowell - - Mass.

Tell us about your herd and we will make suggestions as to the kind of a bull you need.
JIMMY DODGE, MGR.

Illahee Farm Jerseys

R. of M. Herd Headed by a son of Pogis 99th of Hood Farm, and Lass 63rd of Hood Farm; record 862.5 lbs. butter as junior three-year-old. Young stock both sexes and mature cows for sale.
ARTHUR KELLY, Hudson, Wis.

JERSEYS—DUROCS

Just one bull old enough for service and a few young calves. Hood Farm breeding.
F. R. Constance & Sons, Waupaca, Wis.

Register Merit Jersey Herd

At Head, Mona's Jacoba Premier grandson: Pogis 99th of Hood Farm. Dam, Mona's Jacoba, record 806 lbs. butter; Granddaughter Jacoba Irene, young stock; St. Lambert breeding for sale. **R. C. Green & Son, Albion, Wis.**

Ten Splendid Jersey Bulls

Good type, 6 to 18 months old. Heifers bred and open. Hood Farm Torono, King Sappho King, Loretta D. Bright Prince, etc. blood lines. Free from abortion. Dams are in the R. of M. or on test. Accredited herd.
Address: J. Q. Emery & Son, Edgerton, Wis.

HERE'S YOUR OPPORTUNITY

Bull calf born March 4, 1920, sired by a grandson of Majesty's Western King and out of a R. of M. daughter of Ibsen's Chief. For full pedigree and price write
E. E. HILL & SONS, Tomah, Wis.

Valley Farm is Offering

Several bulls, 6 to 12 months old, from R. M. cows. Sired by Golden Maid's Viscount and Kilda's Royal Majesty, two of the best Island bred bulls living. At prices to sell. Write
FRED STUBLEY, Black Earth, Wis.

Hillcrest Jerseys

Bull calf born March, 1920. Sired by Imp. grandson of Golden Fern's Noble. Priced right for quick sale. Write
ROLLIE VANDERVORT, TOMAH, WIS.

The Elms Jersey Farm

A few young cows, bred heifers and unbred heifers, for sale at from $150 to $250. Write for pedigrees and descriptions.

Thos. T. Bacheller, Jr., Mgr.
Forest Lake, Minn.

JERSEY BULL

Seventeen (17) months of age. From Register of Merit Dam with record of 577.38 lbs. fat at age five years, seven months; solid color.
For full pedigree and price write
SHEFFIELD FARM, Glendale, Ohio

For Sale

Splendid Jersey bull, one year old; pedigreed stock. Address
SEEHEIM CORPORATION,
Marine Trust Bldg., Buffalo, N. Y.

Montpelier Jerseys

Three young bulls ready for service. Trace three times to Oxford Lad. Fine typy individuals. Right in every way.
Montpelier Manor Farms, Laurel, Md.

POLLED JERSEYS

Breeders' names and Spillman's "Inheritance of the Poll Character in Cattle" mailed free.
CHAS. S. HATFIELD, Secy, R4, Box 5, Springfield, Ohio.

HOLSTEINS

Edinboro Lake Farm

Show Type HOLSTEINS Production

Six state yearly record champions 1918-19.

We offer bull calves by Sir Paul Veeman Hengerveld and Sir Ormsby Skylark Fredericka, out of yearly record dams with type.

Edinboro, Pa.

SONS

of Sir Echo Sylvia Johanna—
⅞ Brother to the $106,000 Bull

From high bred fine individual A. R. O. cows up to 30 lbs. Several on test now. All good, straight individuals, backed by lots of milk and butter. Some are ready for service. Priced very low. Write for catalog.
(*Herd Under Federal Supervision*)
CHESTNUT HILL FARMS,
G. A. Burdick, Mgr., Gibsonia, Pa.

ORIGIN FARM

HORNLESS HOLSTEINS, Registered and A. R. O. Animals, all ages, for sale. Federally Tested.
GEO. E. STEVENSON, Scranton, Penna.

Holstein Bull Bargain

Royal Breeding—Splendid Individual

Carries 43¾% blood of Pontiac Korndyke, the greatest of all sires, 25% of blood of King Segis Pontiac and 12½% blood of King Segis. None better. 4 others ready for service. First $250.00 check gets him.
Wm. N. Osborn, Wanatah, Ind.

YOU CAN'T DO BETTER FOR THE MONEY. Bull calf born Aug. 17, 1921. Mostly white, a show bull and well grown. His 3 nearest dams average 28.47 lbs. Sire is a 32.7-lb. grandson of King of the Pontiacs. Send for pedigree and photo. Have only 2 other bull calves besides this one. C. I. REAMER, Prop., Utopia Dairy Farms, North Liberty, Ind.

THE TRAVERSE HERD

We have what you want in
BULL CALVES
the large, fine growthy type, guaranteed right in every way. They are from high producing A. R. O. ancestors. Dams' records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.
Traverse City State Hospital, - Traverse City, Michigan

The Pontiac Herd

"Where the Champions come from"

Offer Bull Calves sired by sons of *Pontiac Korndyke, Hengerveld De Kol, Pontiac Dutchland, or Admiral Walker Pietertje.*
Do you want a Pontiac in your herd?
PONTIAC STATE HOSPITAL, Pontiac, Mich

For Immediate Acceptance—

Three young bulls ready for service—Holsteins.
No. 1—Sire a 30-lb. bull. Dam a 27.5-lb. cow. Price $300.00.
No. 2—Sire 30-lb. bull. Dam 23-lb. 3-year-old. Price $250.00.
No. 3—Sire 30-lb. bull. Dam 16-lb. cow. Price $100.00.
King of the Pontiacs breeding, well grown and good individuals. Send for extended pedigree.
R. F. JOHNSON, Assumption, Ill.

Whitehurst Farms

BULLS FOR SALE FROM SEMI-OFFICIAL DAMS. Priced Right.
A. F. Randolph, Prop., Canton, Ill.

INCREASED PRODUCTION GUARANTEED

We guarantee any Jersey bull we sell to increase the average production of any herd

OR MONEY REFUNDED

YOU TAKE NO CHANCES. Our guarantee insures increased production and profit. Bulls for sale, ready for service.

AYREDALE STOCK FARM
F. W. Ayer, P. O. Box 713, Bangor, Maine.

N. B. Write us the size and producing ability of your herd, and we will describe and price a bull guaranteed to increase their production.
By mentioning "Hoard's Dairyman" we will know you are asking for a guaranteed bull.



HOLSTEIN CATTLE

Fred H. Lee, Plymouth, Michigan, writes:

"I have 26 head of Purebred Holsteins, all descendants of my two original cows. I have become owner of a large farm, near Detroit, which otherwise would have been impossible. I have not been able to back Holsteins but Holsteins have had to back me."

Send for Free Booklets

The Holstein-Friesian Association of America

101 American Building, Brattleboro, Vermont

Sir Pietertje Ormsby Mercedes 41st

is proving to be one of the very best sons of S. P. O. M. His sons and daughters have wonderfully good type. His daughters are making remarkably good 7-day and long time records.

We Have a Few Sons For Sale

from dams with mighty good records. A few are just about ready for service. One of them will suit you.

Write us for complete information.

Gustave Pabst's Hollyhock Farms

Fred J. Southcott, Manager — Dousman, Wisconsin

Loyal Holstein Breeders'

Semi-Annual Sale

Loyal, Wis., June 10 65 Top Notch Holsteins

Watch next week's issue for complete information.

R. M. JENKS Sale Manager, Loyal, Wisconsin

Catalogs Ready June 1



Yearly Records

Choice Young Bulls

from one to fourteen months old for sale. Sired by Cloverlawn Johanna Piebe whose five nearest dams average 1,070 lbs. of butter, 23,809 lbs. of milk a year. Herd numbers 140 head, forty cows with yearly records. State exactly what you want

JOHN PULS, - HARTFORD, WISCONSIN

Ready For Service

Born March 1, 1920

SIRE: OAK DE KOL OLLIE HOMESTEAD, Grand Champion, National Dairy Show 1916-17. He is a maternal brother to IOWANA SIR OLLIE and OLLIE JOHANNA SIR FAYNE, and the sire of PIEBE LAURA OLLIE HOMESTEAD KING.

DAM has 725 lbs. butter in 365 days at 3 years, 6 months. She is a daughter of SIR JOHANNA FAYNE (25 daughters now average over 20,000 pounds) and her dam is from a 25-lb. sister to PIETERTJE MAID ORMSBY.

Send for pedigree and price.

IOWANA FARMS, (Herd Under Federal Supervision) **Davenport, Iowa**

HOLSTEIN COWS

We offer for sale a number of cows, heifers, bulls and calves of all ages. Some sired by King Korndyke Veeman whose two nearest dams average over

WISCONSIN STAR STOCK FARM,

HEIFERS and BULLS

37 lbs. butter in 7 days and bred to King Sadie Vale Walker who is a son of the youngest 29-lb. cow in the world. Come and see them or write to

ED. M. SCHULTZ, Hartford, Wis.

Cows and Heifer

A Few Good Bulls

Because I am overstocked, I am offering some very good registered females for sale. They either have A. R. O. records or are from A. R. O. dams.

Can also offer some excellent young bulls by a 33-lb. sire and from A. R. O. dams with records up to 28 lbs.

Every animal sold is guaranteed to be as represented.

Write or come and see for yourself.

J. D. McDonald West Salem, Wis.

Send For Our Bull Sales List

Three bulls of serviceable age—four others will be old enough for service in a month or two—others three months old and older. Almost all of them sired by SIR ORMSBY BEAUTY PONTIAC SEGIS, the son of a 37-lb., 1112-lb. three-year-old daughter of KING SEGIS PONTIAC COUNT.

If it will be of an accommodation to the purchaser, we will accept a six months' note in payment, WITHOUT INTEREST, or will accept payment on installment plan basis.

Pinehurst Farms Co., Sheboygan Falls, Wis

LIGHT COLORED 800-lb. BULL

Dam—a 4-year-old daughter of Sir Sadie Cornucopia, finishing a yearly record of over 800 lbs. She made 731 lbs. at 3 years. Sire—Woodcrest Sir Clyde, son of Alma Clyde (33 lbs. and 970 lbs.), and sire of 16 20-lb. 2-year-old daughters and two over 30 lbs. Bull was born May, 1920, is ¾ white and Federally tested. Reasonable terms.

W. B. BARNEY & SONS Chapin, Iowa

Bull Calves

by

SIR BESS ORMSBY FOBES

out of

Cows with 7-day records now on semi-official; two-year-olds milking as high as 70 lbs. and mature up to 92 lbs.

LINDEN LAWN STOCK FARM

B. W. RABENHORST, Jefferson, Wis.

$100 to $200 Buys A Bull From A Good Record Dam

Am offering several for those prices sired by a 26-lb. bull and from A. R. O. dams with records up to 25.46 lbs.

Write at once. They'll go fast.

H. W. Crawford, R. 5, Campbellsport, Wis.

Bull of Ormsby Breeding

We offer Chief Segis Lyons Ormsby No. 280751 Born March 8, 1919, a grandson of Sir Pietertje Ormsby Mercedes 41st. His sire a 33-lb. bull; his dam a granddaughter of Sir Pietertje Ormsby Mercedes, who had more 1,000-lb. daughters than any other sire in the world. Also some splendid bull calves ready for service, from A. R. O. dams. Herd tuberculin tested. Write for prices.

Schermerhorn Farms, Mason City, Iowa.

Son of Lieutenant Rag Apple

from a daughter of Admiral Urmagel Burke a real combination, light in color, priced right, serviceable. State and Federal accredited herd.

BLUEBELL FARM, Riceville, Iowa.

Holstein Bulls

At Reasonable Prices

Breeding considered from 3 months to 18 months of age. From both tested and untested dams and sired by some of the best bulls of the age, such as

King Pietertje Ormsby Piebe 4th
King Pietertje Ormsby Piebe 2nd
Colantha Wayne Ormsby
Wolfspring Sethje Mooie Pontiac

Write for prices and descriptive list
Herd under Federal Supervision

STATE HOSPITAL AND COLONY FOR EPILEPTICS

Woodward, Iowa.

Serviceable Bulls For Sale

Sired by Pabst Pontiac Hengerveld, a son of King Pontiac Champion from Pabst Hengerveld Colanthus (31.5 lbs. butter in 7 days, 1,057 lbs. in a year.

These are nicely marked, well grown youngsters out of good producing dams. Several are ready for service, others are younger.

Write today.

John Alexander, Baraboo, Wis.

BULL CALF

Sire's dam, butter, 1 yr., 848 lbs.; her daughter, 1,055 lbs. Grandsire's dam, 987 lbs. at 11 yrs.; her full sister, 1,344 lbs.; another, same dam, 1,322 lbs. Dam, Miss Pietertje Alexina 3d, sister to Miss Pietertje Alexina 2d, 1,290.91 lbs. A dandy calf, priced right. Write quick to

McKAY BROS., - - CADDOA, COL.

DON'T PUT OFF

Seeing your friends and having them join in for a club of subscribers.

1000---HERD---1000

Quality Holsteins

GRADES AND PURE-BREDS

Just now we have a splendid lot of grade heifers. Write for our pure-bred bull list.

Jefferson County Holstein-Friesian Breeders' Association,

A. F. Gafke, Secretary, Jefferson, Wis.

Good Holstein Calves

Bargains for the next 60 days. Grade heifers. Purebreds either sex. Order your Duroc-Jersey pigs to be shipped at three months old. Pairs or trios not akin.

J. C. BOLGER, Waterloo, Wis.

OLD DEERFIELD HERD

For Sale—Holstein Bulls 4 to 7 months old. Sired by King Piebe Korndyke Johanna No. 210876. Prices $50 to $60.

Young cows $200 to $300. Some $175 and up. Reg., transferred f. o. b. cars my station.

CARL FOLL, R. F. D. Deerfield, Wis.

ORMSBY BULL - Born Feb. 28, 1919

Sire, King Ormsby Pontiac De Nijlander, whose two nearest dams average over 30 lbs.

Dam, Aaltje Hengerveld Tritomia Segis. A. R. O. 17 lbs. at 3 yrs., next dam 29.68 in 7 days. Color light, fine individual. Ready for service. Price $300.

Fairview Stock Farm Whitewater, Wis., W. G. Marshall, Prop.

I-N-V-E-S-T-I-G-A-T-E—Pure-bred Holstein bulls sired by Wisconsin 3-year-old at National Dairy Show 1920. Herd tuberculin tested. Pure-bred Duroc pigs sired by Great Wonder Sensation.

RIDGEHURST STOCK FARM,

Glen C. Ramsey Ft. Atkinson, Wis.

The Count-Piebe Combination



KING SEGIS PONTIAC COUNT
"The Marvel of All Sires"
Whose daughters have broken more World's Records than the daughters of any other sire.



PIEBE LAURA OLLIE HOMESTEAD KING
"The Present Day Sensation"
The only bull in the world with five 20,000-lb. two-year-old daughters.

Will Triple Your Milk Check Because It Will Put Production Into Your Herd

And more than triple the price you are getting for your calves. Because it combines individuality with production, it has given us thirty cows at Arden Farms that have **each produced $1,000 worth of milk per year. Do you want that kind?**

We Offer
Sons of "Count" from Daughters of "Piebe"
Sons of "Piebe" from Daughters of "Count"

We have the finest line of young bulls we have ever raised at ARDEN FARMS, priced in accordance with present financial conditions. LIBERAL TERMS GIVEN IF DESIRED.

J. M. Hackney, 602 Merchants Bank Building, **St. Paul, Minnesota**

MINNESOTA HOLSTEINS



MISS KORNDYKE AKKRUMMER ORMSBY
30-lb. 4-year-old, 39.67 lbs. butter at full age.
(Owned and developed by J. B. Irwin.)

"The Home of the Ormsbys."

BARGAINS IN BULLS

A few richly bred choice young bulls ready for service.

on the bargain counter for a clearance sale.

Let us give you a good individual well bred at a very low price while they last. Tuberculin tested. Guaranteed in every respect and ready to ship. Come and see them.

Woodlake & Clover Farms,
JOHN B. IRWIN, Sta. F, Minneapolis, Minn.

Registered Cows and Heifers

We have on hand more females than we usually carry so are able to offer some good ones for sale. A number have A. R. O. records and most of them are from tested dams. Bred to a yearly record sire and themselves backed by yearly producers.

Address correspondence to Axel Hansen, formerly with John B. Irwin.

MINERAL SPRINGS STOCK FARM, - - SAVAGE, MINNESOTA
Stuart—McIntyre—Hansen, Owners.

Address correspondence to Axel Hansen, formerly with John B. Irwin.



Lola Segis Pontiac Homestead

the highest record bull in southern Minnesota, heads our herd. His sire, Piebe Laura Ollie Homestead King, has more daughters that as 2-yr.-olds have produced 20,000 lbs. milk in a year than any other. His dam, a 34-lb. 4-year-old daughter of King Segis Pontiac Count, has 3 records averaging 33 lbs. and has made over 1,000 lbs. in 1 year. We have a few serviceable bulls and younger from A. R. O. dams for sale.

Clover Lea Farm, W. W. Walker, Owner. **Austin, Minnesota**



Sir Walker Segis Homestead

The best show bull and son of the great bull, PIEBE LAURA OLLIE HOMESTEAD, out of a "COUNT" daughter, BEAUTY BEETS WALKER SEGIS, world's greatest heifer, with two yearly records over 25,000 lbs. milk and 1,000 lbs. butter in heifer form, and a seven-day record of 35.03 lbs. butter from 730 lbs. milk.

We offer several choice bulls, one month to a year old, out of high yearly record and A. R. O. cows, at very reasonable present day prices. Pedigrees and photos will be sent.

A. J. LASHBROOK, - - Northfield, Minnesota

Good Cows For Sale

THE MINNESOTA KIND

ey are all by a 36-lb. sire, are bred to a son of ng Korndyke Colantha Ormsby, and are due freshen this fall and winter. They are from o 5 years old and absolutely straight and right. ck of barn room forces us to sell. rite or come and see them.

J. Brosious, - Stillwater, Minn.

Grandsons of Sir Pietertje Ormsby Mercedes

he sire is Sir Pietertje Ormsby Mercedes 22d on of Minnesota's first 1000-lb. cow. These ls are all nicely marked, straight top lines. ry good individuals from good A. R. O. dams. or pedigrees and prices, write

J. GROVER, - GLYNDON, MINN.

Grandsons of

uchess Skylark Ormsby and of S. P. O. M. 38th

Good Ones — From Yearly Record Dams. Priced to Sell.

POPLAR HOLLOW STOCK FARM,
ram D. Scott, Prop., Richfield Station
Minneapolis, Minn.

Registered Holsteins

r Sale—Four heifers from good sires and tested . Bred to our 34-lb. sire, Count and Piebe ding. Are good individuals, priced $1,175. Herd r State supervision.

CK & WHITE STOCK FARM, Melrose, Minn.

Get A Calf

We have a grand bunch of youngsters on hand. Come and pick out a calf while you have a big choice. Grow him to suit you. Saves you money and we are selling them as cheaply as we can. Show calves that are backed by generations of official testing and careful breeding. Sons of DUTCHLAND CREAMELLE COLANTHA LAD No. 165049. His yearly daughters all average over 834 lbs. of butter at 26 months of age.

GRAHAMHOLM FARMS,
H. R. Searles, Mgr., Rochester, Minn.

A BULL BARGAIN

Bull calf born July 19, 1920.
Sire's nine dams average over 1,000 lbs. butter in year.
Dam has over 500 lbs. butter in 263 days.
This calf is an excellent individual.
Straight top line. Price $500.

MANKATO HOLSTEIN FARMS
Marlow & Randall, Mankato, Minnesota.

Bull Calf

advertised last week is sold. Here is another good one ready for light service. Sired by a 30-lb. bull. Dam a 14-lb. 2-year-old who will be tested again next spring. Priced so reasonable that you can't afford to be without him. $150.00 for immediate sale.

V. R. Holmes, Anoka, Minn.

COME TO BISCAY

for your next purchase of pure-bred or grade Holstein cattle, mature or young stock. Large selection, also a few select male calves to offer. Located near station.

BISCAY SALES CO., BISCAY, MINN.

A LINE-BRED "41st" BULL CALF FOR SALE



SIR PIETERTJE ORMSBY BESS BURKE
Born Dec. 20, 1920

A real showy calf, straight as a line and of ORMSBY type

His dam and sire's dam are both daughters of SIR PIETERTJE ORMSBY MERCEDES 41ST, the only son of Spring Brook Bess Burke. His dam is on yearly test as a junior two-year-old and bids fair to go 800 lbs. The sire's dam made 28.93 as a 3-year-old and 26.82 as a 2-year-old.

THIS CALF WILL GROW INTO MONEY —SEND FOR PHOTOS, PEDIGREE AND FULL PARTICULARS.

E. C. Schroeder Farms

(Under Federal Supervision)

MOORHEAD, Minnesota

"DUKE"

The only place you can buy sons of serviceable age sired by DUKE PIETERTJE KORNDYKE ORMSBY

The bull selling at the last Minnesota state sale for $33,000.00 is from the herd where he stood for three years prior to the sale. "Duke's" dam now has three records above 1,000 pounds, the last one was 1,190 pounds.

Now is the opportune time to buy one of these bulls as their sisters will be given every opportunity. Get a son now and be in line. Clean bulls from a clean herd. Prices reasonable. Write

EDW. H. ULRICH, Biscay, Minn.

REGISTERED BULLS

FROM TESTED DAMS

Sired by a 30-lb. son of Colantha Johanna Lad and a 26½-lb. son of Laura Piebe Ollie Homestead King. Well marked, straight individuals from two months to 2 years old. Priced to suit present conditions.

GEO. H. ELWELL,
Minneapolis, Minnesota.

Fairhurst Herd

On the Accredited List

We offer young bulls, fine individuals and well grown. Sired by 33-lb. bull and from dams with records up to 30 lbs. Write for pedigree and price.

KITTLE BROS., Holland, Ohio.

Holstein Bulls At Farmers' Prices

We are not in the game to get rich but to help promote the breed by offering pure-bred bulls at the lowest prices, enough to cover raising. Write for prices and descriptive list. The Ormsby kind.

RAMSEY COUNTY HOME,
J. E. McMahon, Supt., North St. Paul, Minn.

We Still Have

Two sons of King Segis Pontiac Fayne Star that are ready for service. They are real ones. Let us mail you a bull circular. Won't cost you a cent and we like to do it.

Flecks Farm, Faribault, Minn.

RICHLY BRED

HOLSTEIN BULL CALVES

out of A. R. dams and sired by our two richly bred herd sires — **King Piebe Ormsby Mercedes,** a 35-lb. son of Sir Korndyke Bess and every dam in pedigree over 22 lbs. and **King Pietertje Mercedes Ormsby,** a son of Sir Pietertje Ormsby Mercedes and out of a 19-lb. senior two-year-old dam.
Herd tuberculin tested. Write for information or visit herd.

P. FROST SPAULDING FARM CO.
C. L. Spaulding, Mgr., Warren, Minn.

Build For The Future

On long time records. We make no other kind. Six-month-old Holstein bull calf for sale. Sire's two nearest dams average 931 lbs. in year. Dam has 1,077-lb. sister, is making 1,000-lb. record herself this year. Price $250. Write for pedigree.

A Federal Accredited Herd.

B. A. Norris, Anoka, Minn.

Pontiac Breeding on Both Sides

Here is a show bull—ready for service. His sire is a son of IT who is out of a former world's champion 37-lb. daughter of Pontiac Korndyke. His dam is a 28-lb. granddaughter of King Segis Pontiac. For price and pedigree write

G. G. BURLINGAME,
98 Chambers St., New York, N. Y.

A Carload of Exceptional Producers
GRADE OR PURE-BRED HOLSTEINS.

We recently purchased a large number of grade and pure-bred cows thrown on the market by the unsettled condition of the milk market in this section. They are large typy animals, due this spring, tuberculin tested and just the kind we like to get. Will average close to 10,000 lbs. a year. If you need such cows, write at once.

Also grade heifer calves, pure-bred cows, heifers and bulls of all ages.

Every Sale Means a Completely Satisfied Customer.

RIVER MEADOW FARMS, Portlandville, N. Y.

Accredited Holstein Sale — Austinburg Ohio June 6th

At the farm of Chas. Whiting, one-half mile north of Austinburg.



55 HEAD COWS AND BRED HEIFERS 55
ALL FROM ACCREDITED HERDS

CHAS. WHITING, AUSTINBURG, BECAUSE of the death of his son, will sell his entire milking herd of 19 cows including Majella Maid Korndyke with 28.20 lbs. butter, 510.9 lbs. milk in 7 days, and her excellent three-year-old daughter, both bred to a 29.46-lb. grandson of King of the Pontiacs. Also several other relatives to this great cow. Only four of these cows have reached mature age, the remainder being 2 to 4 years of age. Also a yearling bull out of the 28.20-lb. cow.

DR. H. O. FREDERICK, ASHTABULA, OHIO, will sell 12 excellent cows and heifers all bred to Daisy Hill Pontiac Fries, a son of King of the Pontiac's son (out of Pauline of Brightview with 1119.91 lbs. butter. 25,606 lbs. milk 365 days) and out of Lady De Kol Fries 2d, who has just made 29.46 lbs. butter 7 days and is on yearly test.

E. D. HUMPHREY & SON, GENEVA, will sell 13 cows and 7 bred heifers. These cows are all 2- and 3-year-olds, all milking and part of them will be bred at sale time. The heifers are all bred for fall freshening.

Besides this excellent lot of cattle, Mr. Whiting will offer for sale his 92-acre farm, all under plow, with good house, excellent barn, steel stanchions for 38 cows, silo and an ideal location for a modern dairy. Every animal from an accredited herd. Every animal guaranteed a breeder. Will accept bankable notes, six to nine months' time at 7%.

Buyers will be met by auto at Hotel Ashtabula, Ashtabula, Ohio.

Under Management of

OHIO HOLSTEIN-FRIESIAN ASS'N, Howard C. Barker, Field Sec., Tiffin, O.

"SPOT"



Elf Aaggie Fayne Johanna
Milk 27949 lbs.
Butter 1001 lbs.

Breeders of Holstein Cattle

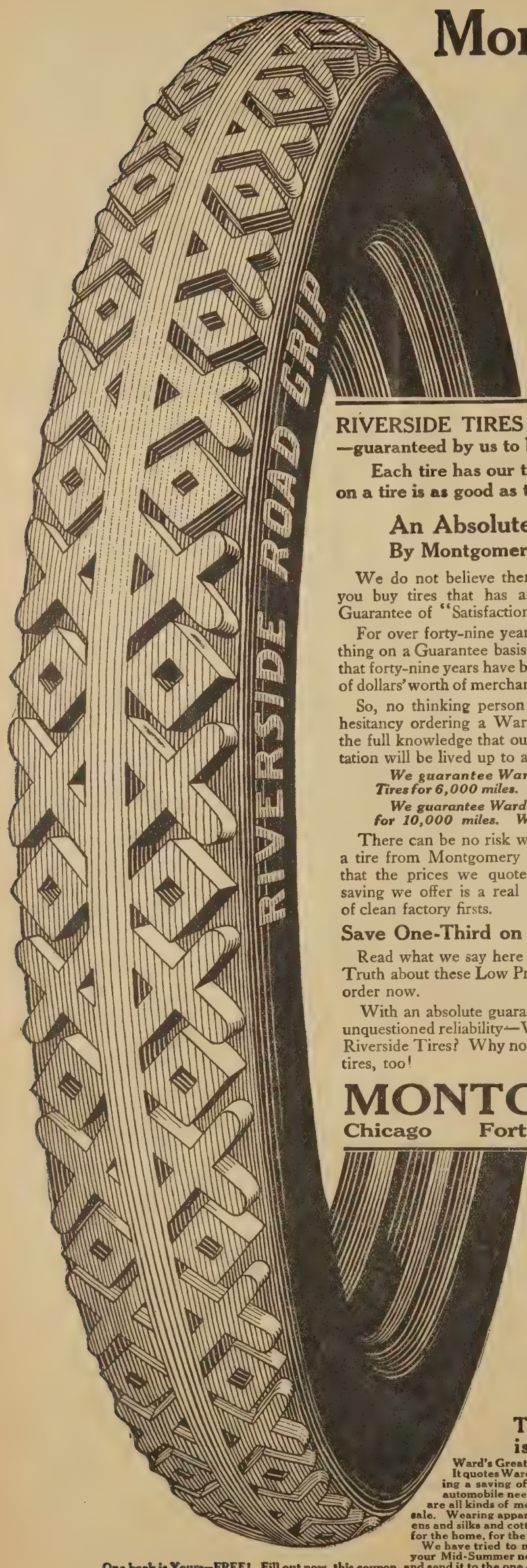
2 WORLD } RECORD COWS IN OUR HERD
4 STATE }

Holstein Bull Calves For Sale

A Few Exceptional Individuals Ready for Service

Write for Bull Sale List

LISLE FARMS CO., LISLE, ILL.



Montgomery Ward & Co.

RIVERSIDE TIRES

Special Sale Price

$9.95 30 x 3½

This price good only until July 31st

Guaranteed **6,000** Miles

Shipping Weight, 13 Pounds

Sent by parcel post within 150 miles of any of our five houses for 17c postage; within 300 miles for 30c postage; within 600 miles for 55c postage.

Riverside Cords

$17.25 30 x 3½

This price good only until July 31st

Guaranteed **10,000** Miles

Shipping Weight, 17 Pounds

Sent by parcel post within 150 miles of any of our five houses for 21c postage; within 300 miles for 38c postage; within 600 miles for 71c postage.

RIVERSIDE TIRES are NOT Seconds. They are clean, factory firsts of the highest quality—guaranteed by us to be made as good as tires can be made.

Each tire has our trade-marked name—"Riverside." And the name "Riverside" stamped on a tire is as good as the name "Montgomery Ward & Co." written on a check.

An Absolute Guarantee
By Montgomery Ward & Co.

We do not believe there is any firm from whom you buy tires that has an equally old, time-tried Guarantee of "Satisfaction or Your Money Back."

For over forty-nine years, Ward's has sold everything on a Guarantee basis. Millions of customers in that forty-nine years have bought hundreds of millions of dollars' worth of merchandise under that Guarantee.

So, no thinking person can have any doubt, any hesitancy ordering a Ward's Riverside Tire—with the full knowledge that our forty-nine-year-old reputation will be lived up to absolutely.

We guarantee Ward's Riverside Fabric Tires for 6,000 miles. We mean exactly that.

We guarantee Ward's Riverside Cord Tires for 10,000 miles. We mean exactly that.

There can be no risk whatsoever in your ordering a tire from Montgomery Ward & Co. We know that the prices we quote are very low. But the saving we offer is a real saving on the finest grade of clean factory firsts.

Save One-Third on YOUR Tires, TOO!

Read what we say here about prices: "The Plain Truth about these Low Prices"—and then send your order now.

With an absolute guarantee, backed by a house of unquestioned reliability—Why not at least try Ward's Riverside Tires? Why not save one-third on YOUR tires, too!

The Plain Truth
about these Low Prices

First let us say that we believe you will ***never again buy tires at such low prices***—unless there is some great discovery of a new way of making tires.

Just consider that before the war, rubber was 60 cents per pound and formerly it was $1.10 per pound. During the war, rubber actually went down to 50 cents per pound.

Last spring the tire business was demoralized. Rubber went to 18 cents per pound. Cotton broke from 40 cents per pound to 12 cents. It is said that 40,000 people moved away from Akron—the great tire making city.

And there, with everything at the low mark, was the opportunity we are always looking for. with cash in hand, to secure a saving for our customers.

With some great change in making tires—some discovery—you may some time in the years to come buy tires cheaper. But otherwise, Ward's prices in this Summer Sale will be the lowest prices at which you ever bought standard, high grade, guaranteed factory firsts.

Do You Own a Buick, Packard, Cadillac, or Hudson?

We quote here our great Mid-Summer Sale Price on a 30 x 3½ tire for Overlands, Fords, Maxwells, Dorts, Chevrolets, etc.

But you who own Buicks, Packards and other cars, write for the book below, our July-August Sale Book. It offers you a saving of one-third on all sizes of Fabric Tires—and on Ward's Riverside Cord Tires—guaranteed for 10,000 Miles.

MONTGOMERY WARD & CO.

Chicago Fort Worth Kansas City St. Paul Portland, Ore.



This Great Sale Book is YOURS—FREE!

Ward's Great July-August Sale Book is ready. It quotes Ward's low prices on all sizes of tires—offering a saving of one-third. On tubes and many other automobile needs the saving is very large. But there are all kinds of merchandise in this great reduced price sale. Wearing apparel for women, men and children; woolens and silks and cotton goods at startling prices. Everything for the home, for the farm.

We have tried to make this book a complete offering of your Mid-Summer needs—at wonderfully low prices.

One book is Yours—FREE! Fill out now, this coupon, and send it to the one of our five houses that is nearest you.

MONTGOMERY WARD & CO. G54
Chicago, Fort Worth, Kansas City, St. Paul, Portland, Ore.

I enclose { check / money order } for $.....Please send me

NUMBER OF TIRES	SIZE	Riverside	PRICE	POSTAGE	TOTAL
	30 x 3½	Fabric Tires	$9.95		

NUMBER OF TIRES	SIZE	Riverside	PRICE	POSTAGE	TOTAL
	30 x 3½	Cord Tires	$17.25		

Name.....

Address.....

IMPORTANT:—If you order from Portland, Ore., add 50c to cover the extra freight cost to us of shipping tires by the carload to Portland, Ore.

MONTGOMERY WARD & CO.
Chicago, Fort Worth, Kansas City, St. Paul, Portland, Ore.

Please send me free my copy of Ward's Great Mid-Summer Sale Booklet G54.

Name.....

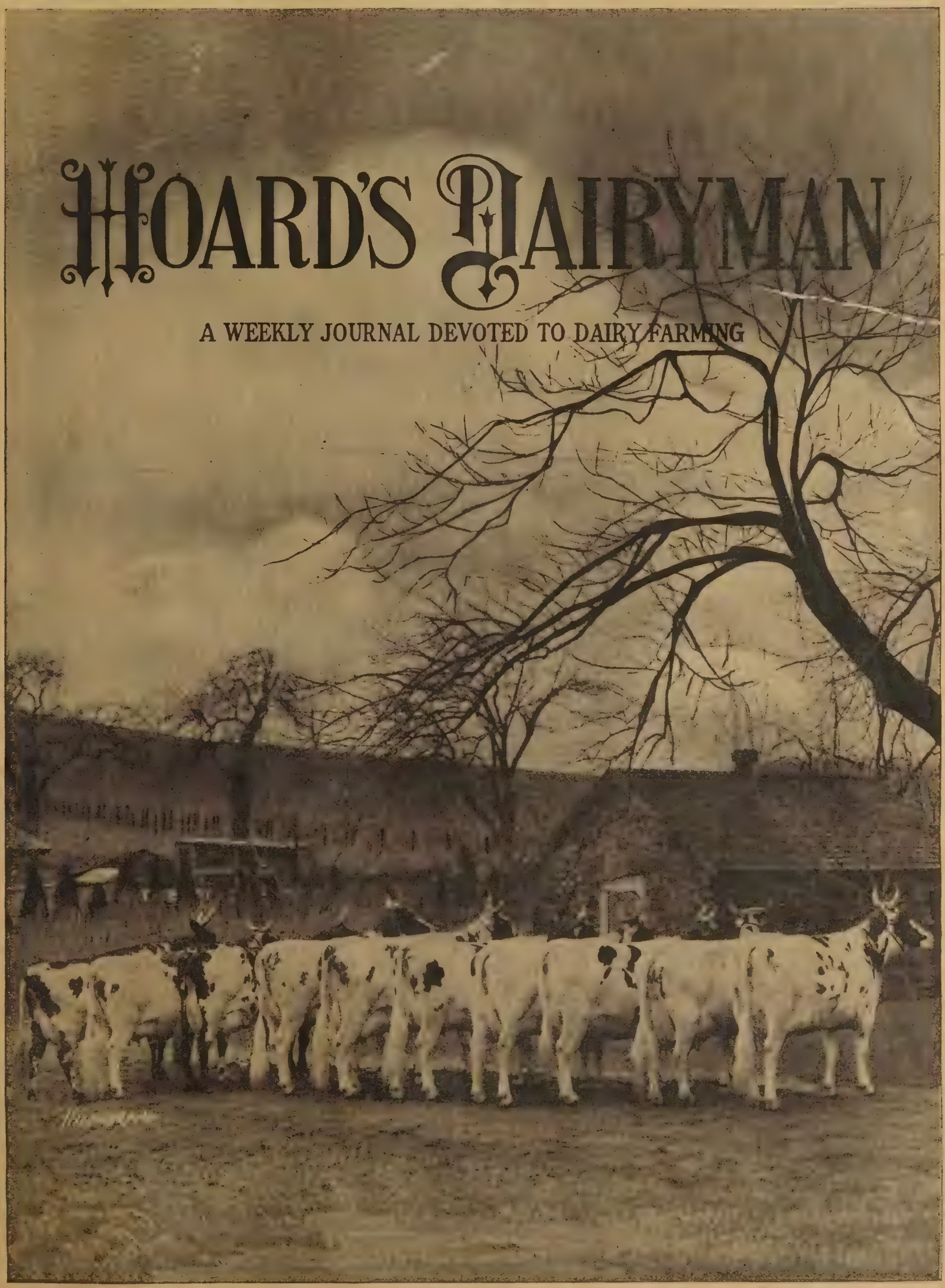
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IMPORTANT: Send this coupon to nearest one of our five houses given above

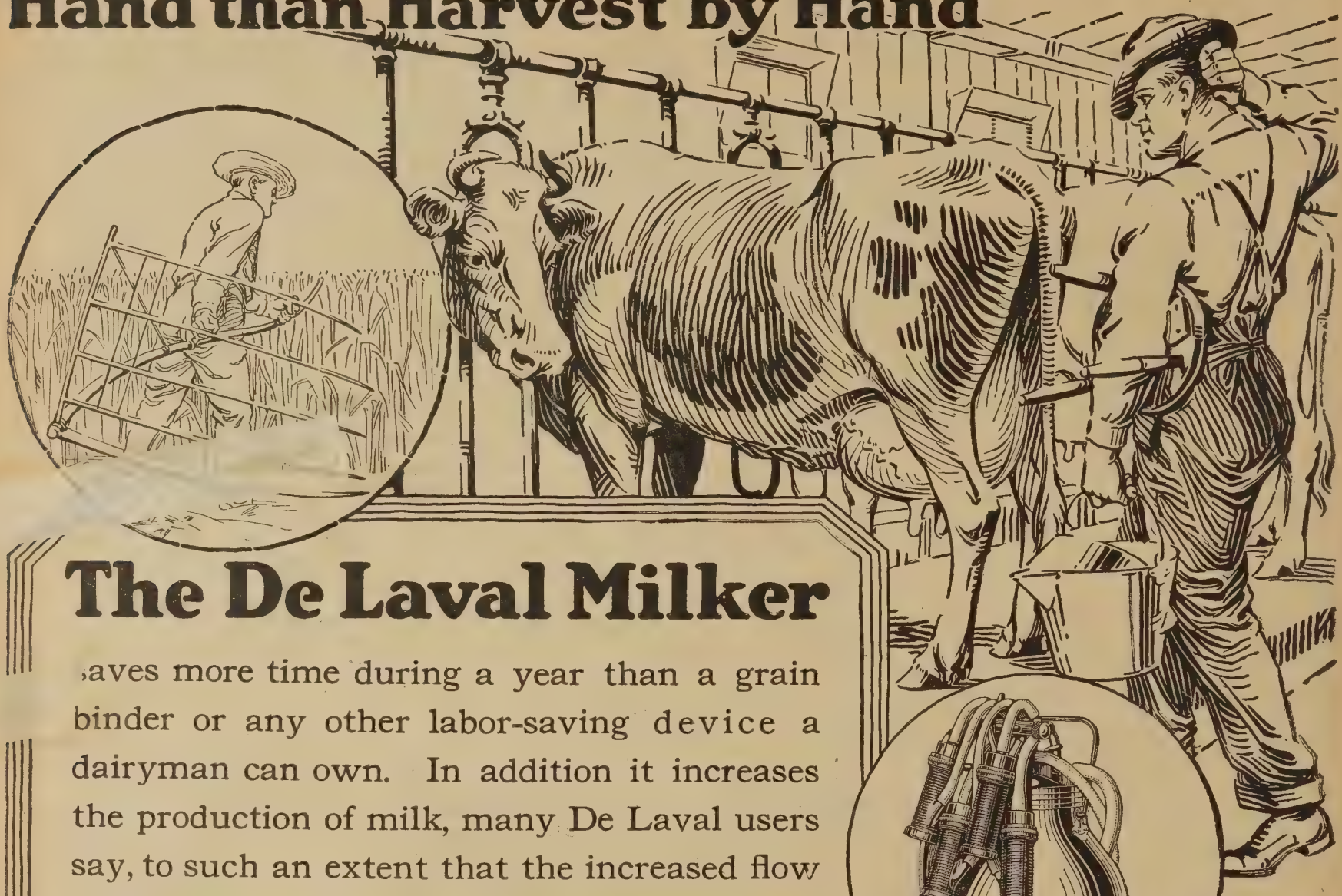
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HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING



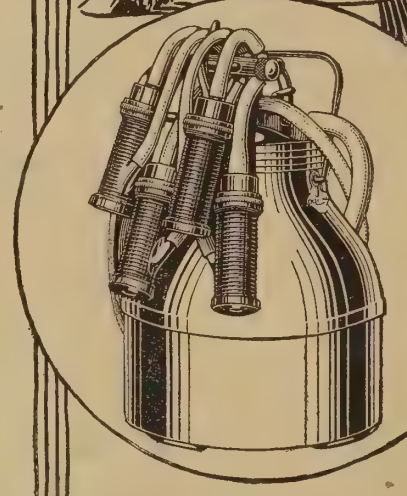
No More Reason why You Should Milk by Hand than Harvest by Hand



The De Laval Milker

saves more time during a year than a grain binder or any other labor-saving device a dairyman can own. In addition it increases the production of milk, many De Laval users say, to such an extent that the increased flow alone pays for the milker.

EASY TERMS can be arranged so that you can use the De Laval Milker while it pays for itself. Send for complete information.



A Better Way of Milking

The De Laval Separator Company

NEW YORK	CHICAGO	SAN FRANCISCO
165 Broadway	29 E. Madison St.	61 Beale St.

Sooner or later you will use a De Laval Milker or Cream Separator

HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING

Volume LXI — FORT ATKINSON, WIS., JUNE 10, 1921 — Number 21

Plan of Milk Marketing Organization

C. LARSEN, ILLINOIS

NO one plan of milk marketing organization can be applied in all details everywhere. Conditions vary and the relative importance of the purposes to be accomplished will vary.

General Organization Plan

Viewing the general organization plan as a whole and as now practiced and endorsed by the Illinois Agricultural Association, it may be classed under three main heads.

First, organization of the milk producing territory tributary to the milk supply of large cities.

Second, organization of the districts supplying milk for cities of about fifty thousand inhabitants or less.

Third, organization of the milk producing territory more scattered and more suited to creameries, cheeseries, and small condenseries.

Organization for Large Cities

In the larger cities there are already well established, well financed, and well equipped companies for the distribution of milk to the consumers. In these cities it is not considered a good plan for the co-operative milk marketing companies, for the present at least, to attempt to distribute the milk.

The milk producers organize chiefly, first, to handle and manufacture the surplus milk more economically than can the distributors; second, to supply a uniform supply of fresh milk of high quality for the distributors and thus prevent old milk from being delivered to the consumers; third, to strengthen their selling or bargaining position; fourth, to insure a dependable and stable milk market; fifth, to prevent difficulties so likely to arise in the many transactions between producer and consumer; and sixth, to be in a position to give the best publicity possible to milk as a food and encourage increased consumption.

How far a milk marketing organization of a large city should extend its activities out into the milk producing field is a question. In most instances in the Central West, the special market milk producing territory ceases at about one hundred miles from the city. In such places it is reasonably clear that the marketing association should include the whole territory under one management.

In other cases the milk producing territory is continuous for several hundred miles in several directions from the city. Though the milk in the out-lying territory may not have been used for the city supply it is nevertheless present in right quality and quantity to be used for city purposes. In such instances, it appears that separate local organizations in the outlying milk producing territory, or separate pools under the same general management, will serve the milk producers better than will a continuous branching out or extension of the one marketing organization. In other words, there is a limit to which one organization can spread and still serve its membership co-operatively and satisfactorily.

Organizations for Smaller Cities

The second field includes the territory near the cities having a population of about fifty thousand and less. Some of these cities have poor milk distributing systems. The milk producers usually do a considerable part of it themselves. Some of these cities have no milk ordinances, and, if they have them, little attention is given to their enforcement. In cities of this size, there is a great opportunity to improve the quality of market milk through businesslike methods of distribution.

The conditions of the milk supply largely determine whether the co-operative milk marketing company should sell to dealers only, or whether it should do the distributing also. In one city in Illinois, having a population of about twenty thousand, a co-operative milk marketing company was organized. The milk distribution was already in good hands and the distributors were willing to co-operate with the organized milk producers. In another city of about thirty-seven thousand inhabitants, milk producers and many small milk venders were in the business of distributing milk. Here it was thought best that the milk producers should do the distributing also.

Scattered Milk Territory

The third territory comprises the milk producers who are interested in general farming. It may include territories producing milk for condensed milk plants, cheeseries, creameries, and cream shipping stations. In order that the whole dairy industry may market intelligently it is important that this field be organized also.

This territory should be organized to help the milk producers, and not for the primary purpose of keeping that milk away from the larger cities. We must not lose sight of the fact that the price of milk is influenced by several factors, such as: Value of butter, cheese, condensed milk, and other dairy products; competition of milk with other food products at given prices; cost of producing milk; cost of distributing milk; buying power of the dealers, and selling power of the producers. All of these factors will continuously influence the price of milk and therefore should be carefully considered in the orderly and systematic marketing of all milk, no matter in what territory it is produced.



CHICAGO CITIZENS WHO BELIEVE IN MILK

The Kozminski school held the record last year for the largest percentage of underweight children. To correct this condition the Parent-Teacher Association has arranged for a daily supply of milk to the school. The four children pictured here seem to favor the arrangement.

State Sales Organization

Eventually it is hoped that these various co-operative dairy marketing organizations may form a state sales organization. These various co-operative organizations should manufacture products of better quality than does the average plant at the present time. This high quality and dependable supply should create outlets at good prices.

Specific Plans of Organization

In the organization of a co-operative milk marketing association at least five factors are considered fundamental.

Co-operative From Beginning to End

First, the milk marketing company should be completely co-operative. There should be a distinct need in the community for such an organization. The milk producers should be interested. They should feel that they are a part of the organization. If they do not, the marketing company will not have maximum success. The future success of the milk marketing company must be measured by the intelligent and interested shareholders and not by the indifferent and unintelligent members. The more co-operative and the more representative a marketing organization is made the more complete will be the interest of its members and the more strength the organization will have.

Under the co-operative law of Illinois it is possible for a few men with little capital to organize a co-operative marketing company, elect their officers, and shape the policies, and then proceed to secure the membership of the mass of milk producers. In this manner a ring of self-appointed leaders can head the organization, but they probably will not succeed well in holding a big marketing association together. Our plan is to sell shares to as many as possible and then call a meeting of all of the subscribers to elect a board of directors and approve by-laws and policies. In this manner the organization is made more representative and the milk producers are more likely to become really interested and remain interested and loyal.

Further, the co-operative plan provides for one pool and the same price to all at a central market for like grades and quality. It is in this connection that most difficulties in co-operative milk marketing arise. We believe the principle of one price and one pool in one organization is correct, difference in transportation considered. However, local conditions may necessitate a partial deviation.

Provide Ample Finances

Second, it is important to plan for ample finances. Make capitalization plenty large the first time. The stock which cannot be sold may be held as treasury stock and sold later. A successful marketing organization will expand. The capitalization should not be less than $1 per pound of milk to be handled daily. Further, we believe that the par value of each share of stock should not be less than $100. It is true there are small producers who feel they cannot afford to invest that much. Such milk producers must either stay out of the marketing company or invest the $100. It may be said that if the value of each share is $25 or $50, then practically all of the smaller milk producers will subscribe for at least one share and the larger milk producers can take several shares. In practice it does not seem to work out that way. Most milk producers, whether they are able or not, will take only one share. If

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Alta Crest—A New England Farm Rejuvenated

THERE'S a pull to Alta Crest. You leave wishing you could stay and are glad when fortune permits your return. There is inspiration in this big successful agricultural enterprise, where the desire for profit has not prevented the development of all that is beautiful and artistic in rural New England and yet where a practical, sane management coaxes satisfying returns from a none too willing soil.

If it is true that "God made the country and man made the town" it must be admitted that until A. H. Sagendorph bought Alta Crest Farms, the Deity had left many things undone, if these 1250 acres were ever intended for agricultural use. Reclaimed from the "rock-bound" fields of Massachusetts, Alta Crest stands out in bold relief in typical New England surroundings as an example of what brains and a vision can bring about.

A day is quickly spent at Alta Crest. The new barn, replacing one destroyed by fire in 1918, claims much time from one who appreciates the best in dairy structures. It is attractive in design, practical, unusual in plan but suited to its purpose, well ventilated, and windowed for maximum sunlight. The upper part, shown to the right in the illustration, has 26 stanchions and 8 box stalls, and the lower part, 19 stanchions and 6 box stalls. It has fire proof hay space, ample silage storage, and plenty of room for concentrates. A second barn constructed some years ago supplements it in housing the herd.

Fields Reclaimed

If a visitor is first of all a lover of the soil he finds delight in the broad expanse of fertile, productive fields—where a straight furrow well over a mile long can be turned. Here midwest operations are carried on by power farming, when the fields on all sides are yet "half and half", being about equally divided between stones and soil. One interested in the Eastern States Exposition idea of the rejuvenation of New England agriculture must find courage and comfort here for the New England farm offers more satisfying studies to one who understands the difficulties overcome. Alta Crest is demonstrated proof that abandoned farms can be brought back into the fold of profit makers. If "the eye of the master fatteneth his cattle," Alta Crest is an example of the eye of the master fattening a whole landscape. For out of rocky, unproductive fields so full of stones and tribulation that the purchase price of the first 160 acres was only $2,200, and, of the next 420 acres, $8 an acre, has come one of the best farms in all New England. Where the chief crop was formerly material for stone fences and roads, land now produces three tons of hay, and oats and silage corn in proportion.

Fame From Ayrshires

Alta Crest is chiefly famous for its Ayrshires. Nowhere else on the farm has Mr. Sagendorph succeeded so well in combining the artistic with profitable utility, notwithstanding the fact that the new stable itself is difficult to surpass in this respect.

This farm has long rendered the breed a great service. Its pictures, its advertising, and its show herd have given many a present owner his first interest in the breed. Alta Crest Ayrshires have individuality—a clean-cut, fixed character not soon forgotten. They have come to mean something definite in the way of type. But the dairy farmer demands more than perfection of conformation—the "proof of the pudding" in a dairy herd is a record of production. The breed has needed nothing else so much as a convincing demonstration that the two—milk flow and beautiful lines—can go together.

The American dairy farmer has long stood by the show ringside and admired the Ayrshire. Her beauty of type attracts every lover of perfection in animal form. But the dairy farmer must be, first of all, practical. He desires beauty in his herds but cannot afford it at the expense of net profits. So far as the Ayrshire goes there are many, many Missourians among farmers—yet to be shown. They have admired the red and white cow and wished for her superior breed qualities in their own herds but turned away with the expression, "A beautiful cow, but —". They have demanded proof that this cow of finished form could milk. Creditable records were published for the breed but they were not made in many instances by the cows the dairy farmer saw in the ring. They lacked the many little perfections which characterize Ayrshire show type.

"Proof of the Pudding"

Until July 8, 1920, no cow at Alta Crest had been milked more than twice a day though private records show productions as high as 60 pounds. To that date no Advanced Registry records had been started. From July 8, last, cows have been put on test as they freshened. In their consistent production Alta Crest now furnishes a "convincing demonstration" of a successful combination of form and function. In April, 1921, thirty-three cows, according to the test supervisor's data, were milking 45.5 lbs. Several of these are well toward the end of their records and twelve are two-year-olds. A thirteen-year-old in her first six months has made 10,259 lbs. milk, 428.48 lbs. fat. Is there need for better proof that "cows with type will milk"? A thirteen-year-old promises to set a new breed record, two-year-olds hit above the 50-pound mark, ten daughters of that age by one sire averaging 47 lbs. A seventeen-year-old cow in half a year has exceeded the record for that age and gives promise of keeping at it.

The breed's characteristic of longevity is well illustrated at Alta Crest. When the cows in most herds are long since gone, these Ayrshires are yet in their prime, producing bountifully and dropping calves which reproduce their dams' merits at maturity. Thirteen-year-olds milk like young cows; a seventeen-year-old came out of the barn, when these notes were taken, with the vigor and sureness of a two-year-old and, posed with the stable as a background, stood without fault of conformation or apparent evidences of her years. At least twenty cows in the herd are thirteen years or more. These old foundation matrons, from which the fifty-pound two-year-olds are descended, have every mark of production. They have the appearance of milkers—long bodied, strong-chested, deep middled cows with the faultless udders which make the Ayrshire an Ayrshire.

The Foundation

The first Ayrshires came to Alta Crest in 1909. Among the great cows secured the greatest was Castlemain's Violet, "The finest cow," says Mr. Sagendorph, "I have ever laid my eyes on." In 1913 an importation of 26 head was brought from Scotland. Descendants of these and of animals brought from Canada make up the major part of the present herd. The breeding operations of the farm have centered about the son of Castlemain's Violet, Alta Crest Wheel of Fortune, who now has forty daughters in the herd. Castlemain's Violet was by Netherton Millwheel by Castlemain's Wheel of Fortune out of Castlemain's Sweet Marie, the dam of Castlemain's Violet—a pretty piece of line breeding.

In service now are Lessnessock Searchlight, first prize two-year-old at the 1920 National and by Casabianca, and Alta Crest Ace out of a foundation cow and by Alta Crest Gold Coin by Alta Crest Wheel of Fortune. The senior herd sire is Morton Main's Lord

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ABOVE, THE NEW BARN DESIGNED AND PLANNED BY MR. SAGENDORPH; BELOW, TYPICAL ALTA CREST AYRSHIRE TYPE

AYRSHIRE ASSOCIATION ACTIVITIES

Remarks of A. Henry Higginson before the 46th Annual Meeting of the Ayrshire Breeders' Association at Springfield, Massachussetts, June 8th

IT gives me great pleasure to welcome you all here at our 46th annual meeting. I hope our members from the West do not mind visiting us again this year; I had hoped that our annual meeting would be in the West. As you know the executive committee of the Association planned to hold the meeting and sale in Milwaukee this year, but our western members felt that the time was not propitious for holding a sale in the West and felt—and I think rightly—that the meeting and sale should go hand in hand. I sincerely hope, however, that before another year has rolled by times will have changed for the better, and conditions will be so much improved that we can hold our meeting and sale at some point more easily accessible to those who live in the West, whose interest in the Ayrshire cow has meant so much for her advancement. I feel sure that Easteners will all be glad to come west, and I know that we shall be received with the same hearty welcome which we have always tried to extend to our western fellow breeders here. That the breed will benefit much by the change I am sure. None of us can afford to be selfish—we have a great breed, and we must be willing to share it.

It has been in many ways rather a hard year for breeders of all kinds of pure-bred live stock, dairy cattle, beef cattle, sheep, and swine, and the interests of the breeders of Ayrshire cattle have suffered with the rest. Though the price of feed has dropped and to a certain extent the price of labor with it, the cattle market has been very bad and it has been hard to obtain good prices, even for the best of stock. The almost impossible rate of exchange with all South American countries has put a stop to all exportation of animals to that part of the world and prospective buyers have taken their orders elsewhere. Were it not for that fact I think the Ayrshire cow would have gotten a good start there, and, even with conditions as they are, the interest evinced by South American buyers leads me to believe that as soon as the rates change there will be a good demand for good Ayrshires in excess of the supply.

But if trade with South America has been temporarily held up, trade with those parts of the Northwest hitherto undeveloped along dairy lines has been steadily on the increase—and I predict that with the National Dairy Show held in Minneapolis this fall there will be a good demand for our cattle within the year. But you must not forget that in order that the dairymen of the Northwest should want our cattle they must be made to realize what a great breed we have, and we must leave no stone unturned to demonstrate its good qualities.

This brings me to the most serious part of my message to you. During the year that I have had the honor to be your president, it has been my constant endeavor to try to find out in what way I could best help our breed. I have been to a good many fairs and sales during the last year, done a good deal of listening, and very little talking. Little by little I've been forced to a conclusion which I am very loath to accept, but which is I feel nevertheless true, that, instead of being at the head of the procession where she rightfully belongs, the Ayrshire cow is to-day at the tail-end of the four great dairy breeds. She has come to be regarded by many as "the rich man's cow" to be looked at admiringly by visitors on Sundays, not as the commercial cow that we've tried to make her. It is not true, of course, but that is the opinion of many men who do not know, men who are about to embark in the dairy industry and who, after hearing this criticism, start in with another breed. I think I know what has caused this—and I think I know the remedy, but we must resort to it at once if we wish to put the Ayrshire at the head of the procession instead of where she is to-day.

The trouble is that we have thought too much about show ring type, about show winnings, and too little about production. Show ring type is all very well, and must not be lost sight of, but a cow is made to produce milk, not to look at. As long as we give prizes in the show ring to good looking cows without milk records, or without proper milk production in their pedigrees, we are going to continue standing still, and it will not be long before we begin to slip backwards. What is the use of buying a cow that will not make at least 10,000 lbs. of 4 per cent milk? She will not pay her way these days and she will breed the kind of calves we don't want. We send a sales committee to examine into the show ring conformation of cattle for our National Sale—but how often does one hear the question asked, "How good is her record?" There is just one way to safeguard the whole situation and that is the adoption of a dual standard for the show ring, a standard which shall give so much credit to the proven production of an animal or of its immediate ancestors in the case of males and immature females, that a cow with no production stands no chance. None of us would want to see an ugly, misshapen cow win a class. Why should we not feel the same way about a cow that couldn't come up to at least the Advanced Registry requirements? Our brothers across the water in Scotland have realized that animals that have good records must be given credit for what they have done, and it is high time that some such rule is put through in this country. Let us have show ring conformation by all means, let us show our animals, but let us lay more stress on production in the future than we have in the past.

This has been a year full of occurrences which may mean a great deal in the future of the breed, and when you have read the report of Mr. Sagendorph who has acted as chairman of your executive committee during a great part of the year, and who has brought the Ayrshire Digest (formerly the Ayrshire Quarterly) to its present state of perfection, admitted by everyone to be the best of all the breed publications, I think you will feel that something worth-while has been accomplished. But the weather hasn't been clear all the time—there have been clouds in the sky, which at one time looked pretty serious, but which I am happy to say have now I think cleared away for good, and, as "every cloud has its silver lining", I predict a very happy and prosperous year for the beginning twelve months.

In laying down my duties as president, I want to thank all those who have helped me during the year by their co-operation and support, to thank in particular the members of the board of directors who have stood by me so loyally in time of need. I wish to say to the man whom you may choose as my successor that he is very fortunate in having such a set of men to work with,



WINNERS AT THE HIGHLAND AGRICULTURAL SOCIETY AYRSHIRE SHOW AT AYR, SCOTLAND, WHERE PRODUCTION WAS CONSIDERED IN MAKING AWARDS

Above, group of cows, each a first prize winner in her class; center, Hobsland Lucky Boy, champion bull, owned by Thomas Barr; below, left, Hobsland Nancy 6th, first prize four-year-old cow in milk and champion, owned by Thomas Barr; and Dunlop Fulmmery, first prize two-year-old, owned by Mrs. E. L. Houison—Crawford.

In placing the animals form, symmetry, and constitution were given 30 points; mammary development, 35 points; and authenticated milk yield in the case of a cow, 35 points; or authenticated milking pedigree in the case of bulls or heifers, 35 points. In allowing points on production a minimum and maximum were fixed. The minimums for a heifer and cow are 500 gallons and 650 gallons respectively, with a maximum of 850 gallons of milk in a year for a heifer and 1000 gallons in the case of a cow, the butterfat requirement being 3.8 per cent. One point was allowed for every 10 gallons in excess of the minimum requirement.

Much controversy has occurred in Scotland between two factions of breeders, one holding out for the old tight-vesselled, short-teated show type common in America a generation ago, and the other for the larger, more rugged cow of heavy milking qualities. In the Ayr show this year the latter group of breeders put their ideas of show ring requirements into use. Not all breeders were pleased with the results of selections by the new system but the general feeling was one of satisfaction. It is expected that some changes will be made but that the general scheme of giving credit for production will be continued.

Students' Stock Show

E. G. WOODWARD, State College of Washington

COMPETITION always adds zest to an undertaking. For that reason the annual Live Stock Show and Mock Sale held by the students of the College of Agriculture in the State College of Washington has shown itself of material benefit in supplementing classroom instruction. This year's show and sale was a decided improvement over the event as held in previous years. Exactly forty head of dairy animals were fitted and shown by the students, as well as about thirty-five head of fat stock and horses.

All of the work in fitting and training these animals for the show was done outside of classroom hours, and there is no doubt but that the stock successfully taught a good many things to the students which the instructors had vainly tried to teach in the classroom. Many of the students spent as much as two hours a day for two or three weeks in fitting and training their animals, so that the show, when finally staged, compared favorably in many respects with the live stock exhibitions to be seen at some of the fairs.

The program for the day included a judging contest early in the forenoon followed by a contest in showmanship during which time the contestants were subjected to the most rigorous sort of an examination in showmanship by Judge H. C. Davis of Washington. In the afternoon, the Mock Sale was held, in which fourteen head of fat stock and horses were disposed of. It is perhaps fortunate that no money changed hands, else some fathers in the state of Washington would have issued hurry calls for their sons to return home, and the State College would have suffered a heavy loss of students.

All animals were appraised by committees of prominent breeders as they came into the sale ring. The only information the appraising committees had regarding the animals was in the catalog of the day, so students and committees worked on the same basis.

The students recorded their bids on cards printed for the purpose, each being required to enter a bid on each animal passing through the sale. In awarding the prizes for bidding the difference between the appraised valuation and the students' bid was calculated and the man with the lowest total difference was awarded the prize.

It is notable that the most prominent dairy cattle breeders of the state took an active interest in this event, either by attending in person or by offering prizes.

Prizes were offered in each of the three breeds represented: Ayrshires, Holsteins, and Jerseys for showmanship, bidding, and fitting. The fitting prizes were awarded by a committee who went over the animals about six weeks previous to the show at the time the students selected the animals they were to fit. This same committee examined the animals again on the day of the show, and awarded the prizes to those students who had made the greatest improvement in their animals.



Ed. Kellaway, Idaho, and Chinook Cavalier Carrie with which he won the H. C. Davis sweepstakes trophy for showmanship.

Following is a list of the awards:

Fitting: Jersey, trophy offered by Waikiki Farm, awarded to R. W. Holt; Holsteins, trophy offered by Hollywood Farm, and awarded to C. N. Carlsen; Ayrshire, trophy offered by E. W. Van Tassell, and awarded to Miss Adah Proctor.

Showmanship: Jersey, trophy offered by Cyrus Gates, and awarded to Edward Roberson; Holstein, five dollars cash, offered by Hollywood Farm and awarded to C. E. Egbert; Ayrshire, blanket offered by R. Laacke Manufacturing Co., Wisconsin, and awarded to Ed. Kellaway.

The sweepstakes trophy offered by H. C. Davis was awarded to Ed. Kellaway.

Bidding: Jersey, trophy offered by David McLeod and awarded to Jack Plaskett; Holstein, trophy offered by Carnation Stock Farm and awarded to Marvin D. Gross; Ayrshire, trophy offered by Carnation Milk Products Co. and awarded to E. W. Farr.



Preparing their animals for the show. These students worked one to three hours a day for two or three weeks in fitting their heifers. Both students and calves are benefitted by the experience.



General view of the Holstein line-up. There were nineteen entries in this class. The third cow from the end is Mapleview Myra De Kol 2d, first prize winner at the Pacific International last fall.

Sunflower Silage Experience in Northern Michigan

D. L. McMILLAN, MICHIGAN

IN the summer of 1919, we planted one acre with an ordinary grain drill, sowing 10 pounds of Mammoth Russian sunflower seed to the acre in rows 24 inches apart. This was cut when it was about one-third in bloom, put into a silo, and fed out to the herd. The cows seemed to relish the silage, and we could see no difference, practically, in the milk production than when fed pea and oat silage. We were so well satisfied with the sunflower as a silage crop that we put in 7½ acres in the summer of 1920. This was seeded May 29th, in rows 32 inches apart, 9¼ lbs. of seed to the acre. This gave us too thick a stand, so we went through with hoes, and blocked the plants so that they were from 6 to 10 inches apart. The field received three cultivations, and at that time were so large that they spread out until the leaves touched one another between the rows.

As we had no corn harvesting binder to cut the crop, we made a V-shaped sled with cutting knives on each side, so as to cut two rows at a time. These knives were old cross-cut saws, sharpened on the back, and bolted to the sled. The field was cut when approximately one-half the plants were in bloom. The sunflowers lay on the ground for one-half a day after cutting to allow part of the moisture to evaporate, then were hauled to the silo, each load being weighed as it was brought from the field. The yield was 24.6 tons per acre. There was no more difficulty in running the sunflowers through the silo filler than there would be with corn. When one-half of the silo was filled, eleven tons of peas and oats were cut in, the balance being filled with sunflowers.

This silage made last fall was fed to the dairy herd and the sheep. Careful records were kept of the milk production and observations were made regarding the palatability and the general health conditions of the animals on the two kinds of silage. The same grain ration was fed during the time we were feeding sunflower and the pea and oat silage. The change from sunflower to pea and oats silage was made on Jan. 17, and back to sunflowers on Feb. 13. The average daily milk production for the last 15 days before changing from sunflower to pea and oats silage was 484.6 lbs. The average for the 27 days while feeding pea and oats silage was 483.8 lbs. The average daily milk production for the 15 days after making the change back to sunflowers was 466.2 lbs.

The cows relished both types of silage about equally well, but owing to the more bulkiness of the pea and oats, they did not consume more than 35 lbs. per head per day, while they would take 40 lbs. of the sunflower silage. This comparative test would indicate that, pound for pound, the peas and oats silage was a little better than the sunflower silage, but was about equal in palatability and ability to produce milk when the animal was allowed to consume the amount desired. From the standpoint of economy, the sunflower silage has the advantage, as it can be produced for about one-half the cost of the pea and oat silage. The reduced production in the last quotation is due, somewhat, to a more advanced stage of lactation.



SLED USED FOR CUTTING SUNFLOWERS AT THE UPPER PENINSULA STATION OF THE MICHIGAN AGRICULTURAL COLLEGE

Our crops experimenter, Mr. G. W. Putnam, is experimenting with the crop to determine the amount of seed and distance between the rows that will produce the greatest amount of tonnage of the best quality of forage for silage purposes. His last year's test would indicate that rows from 30 to 36 inches apart, seeded from 6 to 8 lbs. per acre, will give the most satisfactory results under our conditions. This work will be continued for at least three years before sufficient data can be secured to publish definite results.

Considerable experimental work must be done to determine at what stage of development the sunflower plant will give the greatest feeding value. The objection to letting the plant get too nearly matured is that rosin develops in the plant during the last stages of development, which produces a dark colored, ill-smelling, and somewhat unpalatable silage, and there is also more crude fibre. The

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American Farm Bureau Notes

Ohio joins the 100 per cent farm bureau column. Every one of the 88 counties in the Buckeye State has voted affiliation with the Ohio Farm Bureau Federation. The other 100 per cent farm bureau states are Iowa, Indiana, New Hampshire, and Delaware.

Indiana Federation's New Secretary

Perry Crane has been appointed secretary of the Indiana Federation of Farmers' Association to succeed Maurice Douglas, who resigned when appointed by Governor Warren T. McCray to serve as a member of the Public Utilities Commission of Indiana. Mr. Crane is a dairy farmer at West Lebanon, Ind., and a well known breeder of Guernsey cattle. He will assume charge of the Indiana secretary's office July 1st.

"The Truth-in-Fabric Bill, providing for compulsory branding of cloth as to content, is again up in Congress, and hearings upon this bill began June 1st."

Organization Progress

North Dakota is launching membership drives in Richland, Ranson, and Renville Counties. Lincoln and Polk Counties in North Carolina have been added to the Farm Bureau list, and Guilford County has finished its drive. Arkansas reports new farm bureaus in Desha, Lincoln, Dallas, Lonoke, and Poinsett Counties. Lauderdale County Ala., has completed a farm bureau. Wisconsin is preparing for membership drives in a dozen counties in the southwestern part of the state.

The Farmer Pays the Freight

A representative of the transportation department of the American Farm Bureau Federation appeared at the Interstate Commerce Commission's hearing in Denver on May 19 and presented the following statement:

"The prices of farm products are set by competitive conditions. The price of farm products is fixed at the market, and not at the farm itself. The farmer receives the market price less the freight. The manufacturer adds the freight to his cost of production. It is because the farmer must so pay the freight in every case that the increase in freight rates affected the agricultural interests of the nation so seriously. When you add to this increase in the marketing costs the unprecedented fall in prices of farm products, it becomes evident that the farmer has reached the crisis and must be able to put his hay, grain live stock, fruits, and vegetables on the market at less cost, if he is to avoid bankruptcy.

"The Interstate Commerce Commission can properly reduce rates, if such a reduction will mean an increased volume of traffic and the consequent increases in the net revenues of the carrier. Testimony is abundant to show that the farmer simply refuses to send his goods to market at the present level of freight rates. Attention is called to the average prices received on the farm in April, 1920, and April, 1921, as shown by the department of labor. Potatoes dropped from $2.96 per bushel to 79c; hogs from approximately $14 per cwt. to $9; beef cattle from $9 to $6 per cwt.; sheep from $11 to $5 per cwt.; wheat from $2.34 to $1.34 per bushel; oats from 91c to 39c per bushel; wool from 51c to 9c per pound; beans from $4.41 to $3.89 per bushel. Potatoes, sheep, corn, oats, wool, and beans are all selling today at prices less than the 1916 level.

"According to the Department of Labor Statistics, farm prices are 25 per cent above pre-war (1913) and all commodities are 62 per cent above, while reports to the Interstate Commerce Commission show that railroad revenues per net ton mile are 66 per cent over 1913.

County Farm Bureaus Save You Money

A report by the States Relations Service of the Department of Agriculture, summarizing the work of the county agents in 1920, shows that during the year the county farm bureaus and the county agents helped to organize 1,988 co-operative associations. These co-operative associations did a business totaling $39,562,964, resulting in a saving to the farmers of $2,899,764. The total business done by all co-operative associations co-operating with the Farm Bureau and the county agent amounted to $375,714,660, and resulted in a saving to the farmers of $21,152,773. This item alone resulted in a saving of $31.33 to each member of the county farm bureaus.

An effort was made to have a tariff on hides and vegetable oils included in the emergency tariff law. The farm bureau is preparing to make requests for duties on these products in the permanent tariff bill.

The Tincher Bill on control of speculative grain trading is still in the Senate Agricultural Committee.

Ayrshire Meeting at Middlesex Meadows

The annual meeting of the Ayrshire Cattle Breeders' Association of New England was held at A. Henry Higginson's farm, Middlesex Meadows, Massachusetts, May 18. A large number were in attendance and a very enthusiastic meeting was held.

Robert L. Knight, Rhode Island, and Charles W. Wilson, Vermont, were elected directors for three years W. Grant Fancher, Massachusetts, was elected secretary-treasurer for one year.

J. G. Watson, secretary of the Ayrshire Breeders' Association of America, gave a very interesting address on the progress and prices of the Ayrshire cow both in Scotland and here and of the census he is now compiling of the New England Ayrshires. Professor J. M. Fuller of the New Hampshire State College gave a very pleasing talk on the breeding of the Ayrshire at the College, beginning in a small way without a large expenditure of money and of the wonderful records made today.

Massachusetts. W. GRANT FANCHER.

Iowa Dairy Calf Club Exhibit

The first boys' and girls' dairy heifer club exhibit held in Iowa will be at the 1921 State Fair. A premium list of $600 is offered, the Iowa State Fair, the Iowa State Dairy Association, and the state associations of Guernsey, Holstein, and Jersey breeders co-operating.

Classes are provided for heifer calves under one year, heifer calves one year and under two, and champion heifers. Only those calves will be eligible to compete for this premium list which are enrolled in one of the pure-bred dairy calf clubs in Iowa. The members of these calf clubs will make the trip to the Iowa Fair and be regularly enrolled in the State Fair Club Camp.



". . . places far apart are brought together, to the present convenience and advantage of the Public and to the certain destruction, in time, of a host of petty jealousies, blindnesses and prejudices, by which the Public alone have always been the sufferers."
From Charles Dickens' Preface to Pickwick Papers.

The Advance of Understanding

Even romance of sixty brief years ago could not imagine the great advance heralded by the passing of the stage coach. The railway and telegraph were coming into their own; but the telephone had not been so much as dreamed about.

Yet the wise men of that day saw the imperative need. They saw the value of every step which brought people into closer communication with each other. They knew this to be the one way to increase understanding; and to eliminate the "host of petty jealousies, blindnesses and prejudices, by which the Public alone have always been the sufferers."

Then came the telephone. And with its coming time and distance are swept away and a hundred million people are made neighbors.

Places far apart are brought together by 34,000,000 conversations a day over the Bell System.

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—land similar to that which through many years **has yielded from 20 to 45 bushels of wheat to the acre**—oats, barley and flax also in great abundance, while **raising horses, cattle, sheep and hogs** is equally profitable. Hundreds of farmers in Western Canada have raised crops in a single season worth more than the whole cost of their land. Healthful climate, good neighbors, churches, schools, rural telephone, excellent markets and shipping facilities. The climate and soil offer inducements for almost every branch of agriculture. The advantages for

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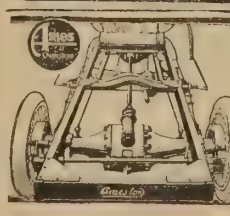
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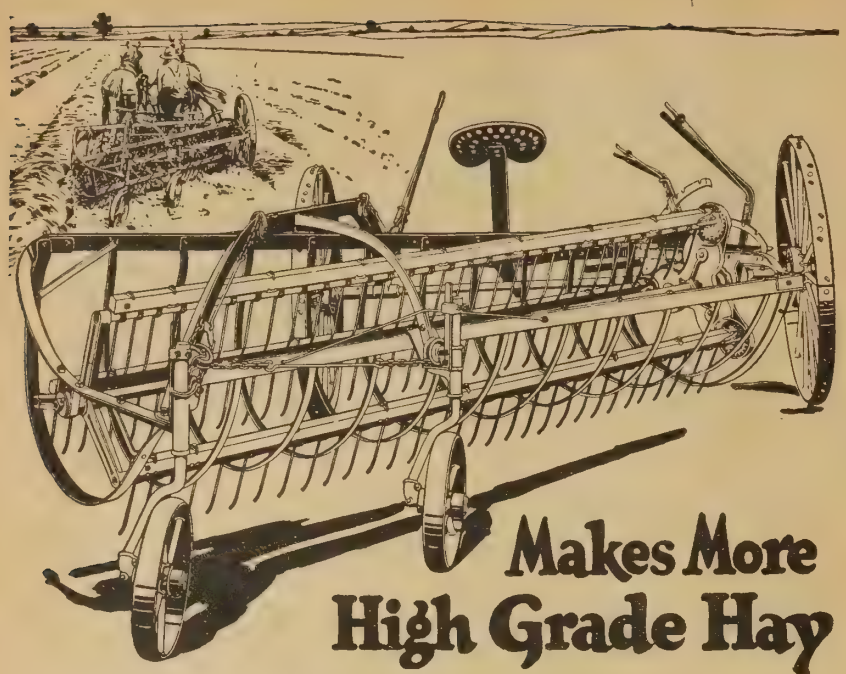
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With this rake you can follow the mower closely, rake while leaves are still active and place the hay on clean stubble in loose, fluffy windrows through which the air circulates readily—the bulk of the leaves inside, stems outside. The hay is not sun-scorched, but is air-cured—the ideal way—"Nature's Way" of curing hay.

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FREE BOOK—"Better Farm Implements"—114 pages describes the Dain System of air-curing hay. Also illustrates and describes briefly the entire line of John Deere Farm Tools. Write today, address John Deere, Moline, Illinois, and ask for package DS-714.

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Cow Testing Associations

RECORDS, PRICES OF FEEDS, FAT, AND MILK

Following is the summary of reports received during the week and up to the time of going to press of this issue:

State	Association	Tester	Month	No. of cows tested	No. of cows producing over 40 lbs. fat	Fat production of high cow	Owner
Penn.	Lycoming	Floyd Mutchler	May	302	69	73.5	Flock Bros.
Ky.	McCracken Co.	Ben A. Marsh	April	161	14	53.4	Yopp & Hayden
Penn.	West Branch	Hiram Savidge	"	212	30	62.1	H. R. Remley
"	Clinton—Wayne Co.	K. S. Bailey	"	360	73	62.9	F. S. Wildenstein
Wis.	Monticello	H. T. Albrecht	"	495	132	86.2	Pierce Bros.
"	West Bend	Martin Lange	"	396	92	68.4	Jno. Opgenarth
Penn.	So.—Franklin Co.	H. M. Graff	"	272	33	71.3	E. S. Grim
Ohio	Erie—Lorain	Fay L. Campbell	"	215	31	71.4	A. J. Portman
Wash.	Skagit Valley	Claude Riese	"	510	161	92.2	F. H. Gallacher & Sons
Penn.	West Chester	Allen Goodman	May	448	76	85.9	Westtown School
Wis.	Elkhorn—E. Troy	E. D. Burr	April	542	82	87.9	M. Westphall & Sons
"	Empire—Osceola	Palmer Simonson	"	482	140	98.2	Chas. Bandry
Va.	Fairfax No. 2	F. H. Pease	"	418	21	52.9	B. H. Wittig
Ohio	Athens Co.	Wade Portz	"	353	53	67.6	Hope Bros.
Wash.	Snohomish Valley	A. C. Sweet	May	260	122	71.1	Frank Ulrich

Association Notes

West Bend, Wisconsin:—The condensery paid 50c per pound for fat during April; the creamery, 40c; and the cheese factory, 45c. Milk retailed for 6c per quart; butter, 40c per pound; cheese, 20c. Barley sold for 75c per bushel; oats, 45c; corn, 56c; bran, $28 per ton; middlings, $28; oil meal, $46; gluten, $39; hominy, $26; Wisconsin Balanced Ration, $42; clover hay, $23; International Special Ration, $40; silage, $7; alfalfa hay, $25.

Monticello, Wisconsin:—Two pure-bred Holstein bulls were bought to replace inferior ones in grade herds. Two more members are testing herds for tuberculosis. During April, market milk testing 4 per cent sold for $2.35 per cwt. Six cents were paid for each point above. The creamery paid from 30c—50c per pound for fat. Milk retailed for 10c per quart.

Lycoming, Pennsylvania:—During May market milk testing 3 per cent sold for $2.30 per cwt. and four cents were paid for each point above. The creamery paid 40c per pound for fat. Milk retailed for 13c per quart and butter for 50c per pound.

West Branch, Pennsylvania:—One member had his herd tuberculin tested. Another sold three unprofitable cows. A concrete watering trough was built on one farm. During April market milk testing 4 per cent sold for $2.30 per cwt. Mixed hay sold for $17 per ton; corn silage, $6; cottonseed meal, $42; linseed meal, $52; wheat bran, $38; corn and cob meal, $21; ground oats, $26; corn stover, 5c per bundle.

Clinton, Pennsylvania:—Several cows were sold as unprofitable. Twenty-two out of 25 members have signed for the accredited tuberculin test. This community is far in the lead in Wayne County due to the good spirit shown by the testing association members. A grade Holstein owned by Bert Kennedy still leads in the production of milk and butterfat. Her record for eight months is 1,116 lbs. milk and 410.7 lbs. butterfat. During April, market milk testing 3 per cent sold for $2.10 per cwt. The creamery paid 44c per pound for butterfat. Butter retailed for 47c per pound. Feed cost as follows: hay, $18 to $20 per ton; gluten, $50; bran, $36—$38; cottonseed meal, $47—$50; oil meal, $47; corn meal, $34.

Southern Franklin County, Pennsylvania:—One profitable and one unprofitable cow was sold. Two pure-bred bulls were purchased. Five pure-bred Holstein cows were officially tested for Advanced Registry. Market milk testing 3.5 per cent sold for $2.54 per cwt. and 22c per gallon. The condensery paid 45c per pound for fat and in addition 50 cents per 100 lbs. milk. The creamery paid 45c per pound for fat and the cheese factory, 42c. Milk retailed for 10c per quart; butter, 35c per pound, and cheese, 30c. Bran cost $40 per ton; oats, $42; corn and cob meal, $20; cottonseed meal, $45; linseed oil meal, $45; hay, $15; stover, $6; silage, $6.

McCracken County, Kentucky:—One unprofitable cow was sold. A pure-bred Jersey bull replaced a scrub bull. A pure-bred Jersey bull calf was placed with one dairyman who had been breeding to the "handiest" bull. Market milk testing 3.8 per cent sold for $2.73 per cwt. The creamery paid 30c per pound for fat. Milk retailed for 15c per quart and butter for 40c per pound. Bran sold for $1.10—$1.25 per cwt.; mixed feed, $1.40—$1.50; crushed corn, $25 per ton; cottonseed meal, $25.

Vermilion, Ohio:—The farmers received $3.25 per cwt. for 3.5 per cent milk and $2.00 a hundred for surplus milk. Oats sold for 45c per bushel; corn, $1.00 per cwt.; cottonseed meal, $40 per ton; oil meal, $49; bran, $30.

Grand Isle Co., Vermont:—Ray Allen has learned after eight months of testing that his cows will qualify for the Advanced Registry so has entered three to start. Other members are considering official work in the near future. Frank Knight's fourteen grade Holsteins averaged 38.8 lbs. butterfat and 1,065 lbs. of milk. Hay is $20 per ton, silage $8 per ton and grain mixtures from $35 to $56 per ton. The highest prices are for the ready-mixed rations.

Cabot, Vermont:—Five hundred cows in twenty-six herds are tested regularly. Fourteen cows reacted to the tuberculin test and 9 unprofitable cows were sold. Twenty-two members are mixing their grain at home, the majority buying their feed from the co-operative exchanges in Washington and Caledonia Counties. The grain rations cost from $42 to $54.20 per ton. The mixture used most is 200 lbs. bran, 300 lbs. cottonseed meal, 300 lbs. corn meal, 200 lbs. ground oats, 100 lbs. oil meal, and 100 lbs. wheat middlings. Hay is worth from $13 to $20 per ton and silage $6 to $8 per ton.

Elkhorn-East Troy, Wisconsin:—Ten cows sold as unprofitable and twelve cows sold as reactors to tuberculosis. The average returns for one dollar expended for feed were $1.40 and the average feed cost of one pound of butterfat was 37c and of 100 lbs. milk, $1.44. We expect these figures to change considerably as the cows are being turned to pasture. During April, market milk testing 3.5 per cent sold for $2.35 per cwt. The condensery paid 53c per pound for fat. Butter retailed for 38c per pound and

cheese for 28c. Bran sold for $24 per ton; middlings, $24; oil meal, $34; brewers grains, $32; ground oats, $26; silage, $6; mixed hay, $22.

Empire-Osceola, Wisconsin:—During the past month five cows have been sold for beef and two have been sold for dairy purposes. Most of the cattle are out on pasture and there is plenty of hay and silage left to be fed when the pastures get dry. The condensery paid 50c per pound for fat during April, and the cheese factory, 48c. Alfalfa cost $16 per ton; silage, $8; clover hay, $16; bran, $29; oil meal, $45; cottonseed meal, $45; oats, $26; barley, $28; corn, $30.

Fairfax, No. 2, Virginia:—Market milk testing 3.5 per cent sold for $3.70 to $4.20 per cwt. during April. Silage sold for $10 per ton; alfalfa hay, $30; mixed hay, $20; cottonseed meal, $42; beet pulp, $45; bran, $37; corn meal, $36.

Snohomish Valley, Washington:—Twenty-five unprofitable cows have been disposed of for beef purposes. The fat average for our herds increased from 28 lbs. in December to 40 lbs. in May. Market milk testing 3.2 per cent sold for $2.50 per cwt. The creamery paid 28c per pound for fat. Milk retailed for 10c per quart and butter for 30c per pound. Feed prices: Ground barley, $44; ground corn, $44; soy bean meal $55; ground oats, $45; shorts, $35.

A Year's Report

The completed records of the Southern Blair Cow Testing Association for the year ending April 30th, 1921, compare very favorably with those of the year ending the same date 1920. The herd producing the highest amount of milk per cow in 1920 was owned by H. B. Replogle, while in 1921 it was owned by W. M. Howett. Mr. Howett can claim considerable credit because his herd average increased from 6,989 pounds per cow in 1920 to 10,130 pounds per cow in 1921. He accomplished this unusual increase with practically the same cows.

The average production for the last year in the 19 herds summarized was 7,324 pounds of milk and 288 pounds of butterfat per cow. Cost figures, including grain, roughage, pasture, labor, hauling of milk, interest, depreciation and general expense, plus 10% for managerial ability, show that the 1,544,000 pounds of milk produced, cost on an average $3.89 per 100 and per pound of butterfat 79 cents. At this rate it cost 8.4c per quart.

The highest production in butterfat per herd was that of Thurman Hileman. The cow having the highest butterfat production, 511.3 pounds, is owned by C. E. Little.

A year ago the association records showed the cost of milk to be $3.37 per 100, or 7.2c per quart.

It will be interesting to the average reader to note that in order to produce 100 pounds of milk the average cow ate about the following ration: Silage, 70.5 lbs.; hay, 16.01 lbs.; stover, 25.16 lbs.; grain, 27.82 lbs. In addition to this the labor required per 100 pounds of milk, 3.3 man hours and .9 horse hours.

The summary given for 46 associations completing work during 1920, gave as the average production for 19,680 cows, 6,141 pounds milk and 248.4 pounds butterfat.

Palatable Corn Stover

While the silo is the best place to store corn, yet there is the occasional farm where it seems impractical to have a silo. Corn stover is not a palatable feed and various methods have been suggested to make it more desirable in feeding dairy cows. The following suggestions come from one of our New York readers who states that this plan was adopted on his farm and found very satisfactory last year:

"The corn stover was stored on the third floor of the barn. The stalks were fed through the feed cutter and allowed to accumulate on the floor below. A little salt was sprinkled at intervals over the cut mass, but a great amount of salt was not used. After lying for a time, the piles warmed up enough to make the cut stover soft. It was then fed to the cows and they ate it readily."

Alta Crest—A New England Farm Rejuvenated

(Continued from page 848)

Barrylyndon, senior and grand champion at the 1920 National.

Fourteen months ago Alta Crest took on a new function and became an importing as well as a breeding institution. William Hunter, formerly a member of the Canadian firm from which Mr. Sagendorph purchased his first Ayrshires, becomes a partner in Alta Crest. The effort of the firm is now directed toward maintaining the breeding ideals of the past and conducting an importing business of equal standard. The fifty-four head brought over last year included animals which won championships at many 1920 shows. Morton Main's Lord Barrylyndon, National grand champion, was one of the fifty-four.

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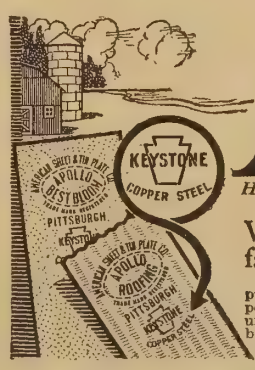
THE price radically reduced is $150 *less* than this car ever sold for before; *Quality* is higher than ever! *Rugged* as ever! *Economical* as ever! *Comfortable* as ever! Its gasoline averages 25 miles per gallon. The unquestioned leader among *Low Priced* cars to own and use!

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Roadster, $695; was $895 — Sedan, $1275; was $1475

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Fort Atkinson, Wisconsin

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EDITORS
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C. L. BURLINGHAM

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All foreign countries in the Postal Union $2.50 a year; not in the Postal Union $3.00, including postage.

Correspondents must not expect us to acknowledge the receipt of letters containing remittance for subscription. The receipt of Hoard's Dairyman is sufficient notification that money has been received. The label on the paper will show date to which subscription is paid. In case of renewals, if date on label is not changed within two weeks after remittance is sent, inform us at once.

We solicit advertisements of meritorious articles needed by the farmer. We try to keep our advertising columns clean and wholesome, that they may merit the patronage and confidence of our readers. Unwholesome, immoral, and quack medical advertising are excluded. A sincere effort is made to exclude frauds, irresponsible and unscrupulous firms. We will always take it as a favor to be notified whenever any advertiser's dealings with a subscriber are in bad faith or evidence a lack of business honor. Advertisers generally recognize the readers of Hoard's Dairyman as an up-to-date class of farmers, who farm with business-like methods, and we hold our columns for the patronage of only those with whom our readers can deal with profit and satisfaction.

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Entered at Fort Atkinson, Wis., as second class matter.

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Coming Events

June 22-25—Tuberculosis Eradication Conference, State House, Boston.

Jersey Cattle Notes

For week ending May 20:

Number of animals registered: bulls, 286; cows, 856; total, 1,142. Number of transfers recorded: bulls, 235; cows, 626; total, 861.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

Fifty-third Meeting of Jersey Cattle Club

JUNE first, for the fifty-third time, the American Jersey Cattle Club met in annual session in New York City. A very fair year's progress was reported, considering agricultural conditions, especially those in the South where the Jersey has her stronghold. Although registrations and transfers during the past twelve months failed to equal the record of a twenty-five per cent increase over the previous year, as reported at the fifty-second annual meeting, Register of Merit testing registered a goodly gain. Club statistics indicate a substantial improvement during the past ninety days, a fact from which the members drew much encouragement.

A pleasant incident of the meeting was the presence of a number of the oldest Jersey breeders in the country. Among them were Mr. E. L. Howe of New Jersey, the only surviving charter member of the club. J. S. Hosford of New York, a breeder for thirty-five years but only recently a member, was present, as was Geo. Blanchard of Maine, a member since 1882, two years after the club was chartered, and a breeder of Jerseys since 1874.

A conspicuous feature of the annual Jersey gathering was the small number of club members in attendance, only 58 of the 927 being present. Two hundred fifty-three proxies were accepted but no occasion arose for their use. Much of the discussion of the day concerned various means for developing a greater interest in the club among Jersey breeders. President M. D. Munn gave expression to a general sentiment when he said: "If the breed is to expand and fulfill its function it must do it on the every day dairy farm"—an institution almost without direct representation in the meeting.

A resolution was passed which permits the nomination of candidates for the board of directors by mail as well as from the floor of the annual meeting. It was offered in the belief that it will give those members who do not attend annual meetings a larger voice in determining who shall represent them on the board.

A recommendation was passed asking the directors to consider the advisability of holding annual meetings of the club outside of New York State, that being made possible for such an organization by a new law passed by the New York legislature.

Although there has been a considerably increased agitation for a reduction in the club's $100 membership fee and one member was present with thirty proxies for a reduction, it was voted to be the sense of the meeting that the fee should not be changed.

A storm of protest, led by J. E. Dodge of Massachusetts, arose when it became known that the board of directors had on the previous day approved a plan for substituting a 305-day Register of Merit test for the present 365-day record period. As finally modified after a lively discussion the resolution of the directors simply gives the shorter test official approval with that for a full year.

Secretary Gow's Report

Secretary R. M. Gow's report shows registrations to be only 191 fewer than for the preceding year when the total was 43,119. The number of cows recorded was 31,455 and of bulls, 11,473, the number of imported animals being 374. In the past year 45,228 animals were transferred, a decrease of about 1000 below the number reported in 1920.

In the past year the number of cows on test was increased eight per cent and the number of herds, six per cent. The number of cows entering the Register of Merit in the year ending May 1, 1921, was 2,672 making the total number of cows in the Register, 13,427.

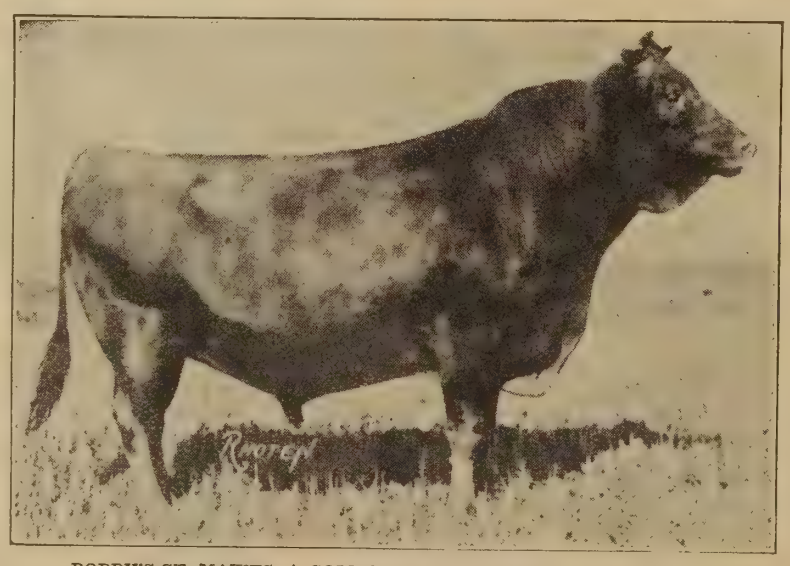
Forty-seven per cent of the club's receipts, according to Mr. Gow, go to breed promotion. "This work," he says, "has been carried on during the year with greater vigor and a better organization than ever before."

A new form of extension activity is what are termed regional field units. Groups of states organize into regional units for co-operative breed promotion work. The American Jersey Cattle Club engages to pay one-third of the expense of such units, up to $2,500. Two such units, the Southwest covering Missouri, Kansas, Nebraska, and Arkansas, and the Tri-State, covering Illinois, Indiana, and Ohio, are now in operation.

The Club's bank balance is reduced $10,871.60 from that of a year ago. The gross receipts for the twelve months totalled $209,874.44 and the expenditures, $220,746.04.

Election of Offices

For the sixth time, M. D. Munn was re-elected president of the Club, his service being continuous since 1915. Following a eulogy by Geo. W. Sisson of New York, Mr. Munn was given an ovation by the members. Geo. T. Chaffee was re-elected treasurer. The new directors elected were: P. H. Frelinghuysen, New Jersey; Hugh Bonnell, Ohio; Guy S. Miller, California; David Moulton, Maine; to replace the retiring members, Geo. W. Sisson, New York; P. B. Weissinger, Kentucky; Meldrum Gray, New Mexico; I. R. Blackburn, Ohio.



POPPY'S ST. MAWES, A GOLD MEDAL JERSEY BULL OWNED BY GEO. BIERSDORF OF OREGON

There are fourteen gold medal sires in the breed and of these seven are from Oregon, five qualifying within the past year. Three of these bulls were bred by Ed. Cary, the breeder of Poppy's St. Mawes.

To qualify for the gold medal class, a bull must have at least three daughters, from different dams, which have records of 700 lbs. or more of fat in a year and carried a living calf at least 155 days of the test. Poppy's St. Mawes' daughters are: Poppy's Olga, 794.26 lbs.; Poppy's Koffee Rosaire, 731 lbs.; and Poppy's St. Mawes Rose, 711.99 lbs.

Cooper's Average $857

84 Linden Grove Jerseys Sell for $72,025 in Decoration Day Auction

At the twenty-first consecutive Decoration Day sale of Linden Grove Jerseys, 84 head brought an average of $857. These represented four importations and included animals bred in America. The auction was one of the best ever held by T. S. Cooper and Sons.

The top price of the day was made by the home bred bull calf, Simone's You'll Do's Fontaine by a son of Imp. Oxford You'll Do and out of a daughter of the Plymouth Lad. R. J. Fleming, Canada, was the buyer at $3,500.

S. A. Guy, Louisiana, was the heaviest buyer, taking ten head for $13,350 including three at $2,500 or more. The Cid's Model headed the list at $2,625, the blood of The Cid being the feature of this year's auction. Another daughter, The Cid's Handsome Stella, went to Mr. Guy at $2,600.

R. C. Tway of Kentucky took six head for $7,525, his top being a yearling grandson of Imp. Oxford You'll Do at $1,750. The cow, Sea Lad's Milk Maid, a granddaughter of The Plymouth Lad, went to B. H. Bull & Son of Canada for $1,925.

From South Carolina

HOARD'S DAIRYMAN:—In your editorial column you ask "What would the dairy farmers think if they were advised to use cottonseed meal as a fertilizer as recommended by the 'Progressive Farmer' "?

I assure you our farmers will soon be using the seed for fertilizer if there does not soon develop a market. Why cannot Wisconsin farmers experiment as North Carolina farmers are doing and use the whole seed, oil and all, chopped up with corn nubbins and cobs for winter feed? This mixture when seasoned with a little meal is the favorite concentrate here. During the summer our little Jerseys thrive on crab grass and underbrush found along the terraces. We have as yet been unable to make good pasture and there is but one silo in the county.

At the last meeting of our co-operative gin the secretary was authorized to sell 50 tons of cottonseed to the highest bidder among the South Carolina cotton oil mills. I doubt that he will be able to get $17.50 per ton, the price of 1,000 lbs. of cottonseed meal on our local market.

North Carolina. A. F. CORBIN.

The Filled Milk Fight

The bill prohibiting the manufacture and sale of filled milk in Wisconsin passed the Assembly by an overwhelming majority, and the Senate committee reported it out unanimously for favorable consideration after a strenuous two-day hearing. The filled milk manufacturers have introduced a substitute regulative measure in hope of defeating the original. On June 2nd the Senate referred these measures to the committee of the whole for a rehearing, which took place on June 7th. It is expected that the original bill will pass and receive the approval of the Governor, thus outlawing the imitation milk from Wisconsin.

Washington, D. C., Weekly News

[SPECIAL TO HOARD'S DAIRYMAN]

WASHINGTON, JUNE 1—Secretary of the Treasury Mellon, prior to the confirmation of the appointment of D. H. Blair of North Carolina as Commissioner of Internal Revenue, issued a Treasury Order again postponing the date of taking effect of the neutralized butter ruling until July 1. This is the third postponement while awaiting the appointment of a Revenue Commissioner under the new administration.

Commissioner Blair comes into the office after a hard fight in the Senate over his confirmation. He is a North Carolina attorney and representative of cotton manufacturing and tobacco interests, a life long Republican, and a sound, successful, and experienced business attorney. It was too much for the butter interests who have but little contact with the Revenue Commissioner to expect a man in this place who had special knowledge of the butter controversy, and as this could not be expected this new commissioner is as satisfactory as could be had. He took office June 1.

The contest over the neutralizer ruling has served to crystallize some matters which have been pending for several years, and perhaps will lead to legislation at this session of Congress to settle once for all the controverted questions of butter, ice cream, and perhaps other dairy products standards.

As to the neutralizer ruling itself, the question of whether butter made by the neutralizer process is "adulterated" within the meaning of the butter law, and the definitions of adulteration, which have come to be legally known as the result of the operation of the pure food law is now pretty sure to have another analysis and a new statement of the law from the new attorney general. The postponement order issued May 27, had received the approval of the secretary of the treasury in person on May 20, and this means that Secretary Mellon had found time to himself look up the situation. His action in postponing the ruling can only mean that he is not satisfied with the decision of the previous revenue commissioner and will seek a review. Secretary of Agriculture Wallace has already indicated that he will urge a re-submission of the facts to the attorney general and Attorney General Daugherty who has already had the matter called informally to his attention has stated that it was one of several matters "left on his doorstep" by the preceding administration. The indications are that by July 1 either the ruling will have been reaffirmed or reversed. During the same interval, and dependent somewhat upon what happens in this matter, a decision will have been reached as to the probabilities of getting legislation on this and other dairy matters.

There is again a rumor of an attempt to repeal the ten-cent tax on colored oleomargarine. An eastern senator is said to have determined to again make the effort.

On this subject dairy interests should keep their powder dry. The National Dairy Union has dug up the interesting item that the bulk of oleomargarine demanded by export trade is colored, and the colored oleo made for export escapes all taxation. The fact that foreign consumers, who do not have the information before them as to the vital differences beween butter and oleo, still predicate their demand on resemblance to butter, which shows what will happen here if the bars are let down and this competition permitted.

From behind the closed doors of the Ways and Means Committee some information is beginning to leak out as to tariff schedule as proposed for the general bill, and as to conflicts and contests which are developing between members of the committee. The bill was expected out last week, and the delay caused a lot of questions to be asked, some of them leading to some interesting information.

As was to be expected the vegetable oil schedule is one of the points of conflict. This has been reported by the sub-committee on chemicals, Hon. Nicolas Longworth, chairman, and it is not satisfactory to dairy interests, southern oil producers, or to Chairman Fordney and a number of members of the committee, as nearly as can be learned. Your correspondent has not been able to learn the exact amount of the tariff reported, and so can not state on his own knowledge, but apparently reliable statements made in the Washington newspapers say that two cents a pound is all the tariff that has been reported.

The other members of this subcommittee are Representative Copeley of one of the biggest milk producing districts in Illinois, and the other, Congressman Hadley of the great dairy state of Washington.

On the full committee there are Representatives Hawley of Oregon, Young of North Dakota, Green of Iowa, fully committed to fair protection for agricultural interests, and Chairman Fordney of Michigan who is considered friendly at all times. A big part of the work on this vegetable oil case has thus far been carried by the southern tariff congress, and it is now time that the dairy interests were in action on this matter. Conversation with many members of Congress indicates that the trouble is not antagonism, but inertia and lack of information. The vegetable import oil business is a matter of comparatively recent development, as tariff matters go. There was not oil enough brought into the country eight years ago to cause any great stir over this tariff; now it is coming in by millions of pounds, in a business developed as a war time measure—a food administration measure—which like a lot of other war and food administration measures has its aftermath.

Not only will the members of the Ways and Means Committee welcome information on this subject, but there is not a member of the House but will welcome fair expressions of opinion and statements of fact on this subject. That is the way their opinion is formed, from the information they get from their constituents, and if the butter and milk men do not tell their congressmen about what vegetable oils are doing to them, who will tell them?

With a very few exceptions, it can be said that there is hardly a member of the House who is antagonistic to fair tariff protection to every agricultural interest. That agriculture must be prosperous if the rest of the country is prosperous, is now understood as never before in Washington. President Harding, in his recent conferences with great financial interests relative to foreign trade and foreign financing, has made it plain that his first thought is for a market for farm products. This outlet for the farmers' crops is in every one's mind. But while the leaders have this friendly feeling and general interest, it must not be understood that they will take the laboring oar to get either foreign outlet for farm crops or tariff protection for the American agricultural products threatened with certain cheap tropical products or the products of cheap coolie or peasant labor. If the cottonseed oil industry, the butter industry, the swine growers, the wool growers, or the corn growers, are in danger from this source, they must take up their own fight and must let every member of Congress know the facts.

The Undernourishment of Children

S. R. WINTERS, WASHINGTON, D. C.

MILK is a foe to undernourishment, a statement vividly subscribed to by the contrasting study offered in the accompanying illustration. The absence of this vital fluid in the diet of babies and growing children is an ally, negatively expressed, to inadequate nourishment. Surveys in rural districts and cities alike support these claims.

Recently Miss Jessie Hoover, milk specialist of the Dairy Division, United States Department of Agriculture supervised a milk campaign in Winston—Salem, North Carolina, where it was determined that of 5,647 school children, 2,123 drank no milk. Health authorities weighed and measured 1,866 white children and found 16 per cent underweight, attributable to insufficient nourishment. Similar observations as to 1,806 colored school children revealed a condition of 15 per cent lacking in weight conducive to bodily comfort and stamina. The per capita consumption of milk in this world-renowned tobacco and industrial city was determined by a survey, indicating that each person drank less than one-half cup of milk a day.

Undernourishment also intrenches itself in rural areas. One of the wealthy sections in a county of Kansas is a notable illustration. Of 639 children in 30 school districts, 140 were at least 10 per cent underweight, and only 42 per cent of them included milk in their daily diet. In three townships in Iowa 51 per cent of the children were sparingly developed in flesh and weight. A survey in New York, embracing a period of three years, shows that the percentage of undernourishment had increased from 5 to 21 per cent, the accompaniment of a curtailment of milk consumption by 25 per cent. An examination of 10,000 school children in Chicago revealed the fact that 40 per cent were underweight, and to the surprise of the government investigators, 57 per cent were children surrounded by pleasing environments of comfortable homes in a residential section of the city.

Forty campaigns in cities and rural sections throughout the United States, covering a period of two years, have been directed by the Dairy Division in an effort to stimulate an increased milk consumption. Beginning in Connecticut in 1918, where six cities endorsed the movement, the idea spread until the following cities have sponsored milk campaigns: Detroit, Pittsburgh, Kansas City, Topeka, Davenport, Iowa City, Akron, Spokane, Seattle, and Madison. Iowa and Kansas enlisted for state-wide action for two years. Miss Hoover, milk specialist of the Dairy Division, in suggesting objects of a milk campaign, says: "Two important reasons for undernourishment in children are poverty and lack of understanding of the nourishing properties of certain foods. What milk campaigns do to teach the value of milk for the growing child is that much added to the general progress of child welfare."

A milk-feeding demonstration conducted in the schools of Kansas City strikingly reveals the value of milk in the diet. Thirty-seven per cent of the children were undernourished at the outset of the demonstration. A school lunch composed of milk and graham crackers, supplied continuously for four months, reduced the percentage of undernutrition from 37 to 25 per cent. Five months later, favored by the diet of milk and crackers, only 3.7 per cent of these children were underweight. A testimonial from the president of a women's college in the South is a liberal endorsement of the efficacy of the vital fluid: "For 67 years we have never had a death of a boarding house student. We have our own herd of dairy cows. What milk we can not use we sell. We went through the influenza epidemic safely by keeping the dormitories heated evenly, and then feeding milk."



A LESSON IN BEFORE AND AFTER TAKING

At the left is the photograph of an undernourished child taken before receiving the attention of a doctor and a visiting nurse. At the right is the photograph of the same child, now well nourished, after receiving properly prepared, clean milk at regular hours. This photograph was secured through the U. S. Dairy Division.

A study of one of the best agricultural counties in New York State shows that 71 per cent of the farm houses have not been painted in the past five years.

EDITORIAL COMMENT



"INDIVIDUALITY brought the money and records and even breeding played second fiddle." This statement was made by Editor Price of the Holstein-Friesian World concerning the Brentwood Holstein Sale. Individuality of an animal is important, and it would be fatal for any breeder to ignore it, but to place it ahead of both records and breeding is a signal of danger. Why do we breed pure-bred cattle?

J. M. HACKNEY, vice-president of the Holstein-Friesian Association, in the Holstein-Friesian World has said: "Fairly well bred pure-bred animals will continue to be worth from $250 up in accordance with the record back of them for it is the records that make them worth the money. In other words, it is the proof of their value. There are a lot of us who believe in the show animals, and we want the right type, but there would not be any of us engaged in the business, if they did not produce milk."

Mr. Hackney states clearly why we breed pure-bred cattle.

THE dairy farmers have found that it requires eternal vigilance to prevent so-called dairy substitutes from claiming their markets. Isn't it strange that the greatest benefactor of the human race, the cow, should be kept constantly on the warpath to protect her products from fraud and deception? Perhaps we should complacently accept this condition for, in the make-up of the world, struggle holds a prominent part on the stage.

Dr. Hart has said: "Milk is our only protective food." That is, when milk forms a portion of our diet we are pretty sure of being properly nourished. In view of this, both the consumer and the dairy farmers must be alert to the danger of so-called dairy substitutes.

NATIONAL DAIRY SHOW

The committee of one hundred, made up of men engaged in various branches of industry in the Twin Cities, and appointed to assist in making the National Dairy Show of the largest value to the Northwest, has begun its active work. It has brought the various business interests in contact with Mr. W. E. Skinner, manager of the National Dairy Show, for the purpose of laying plans for this year's dairy exposition which will be held at the Minnesota Fair Grounds, October 8th to 15th. Mr. J. M. Hackney of St. Paul is chairman of the committee.

ENSILING CLOVER AND ALFALFA

Those who have not an adequate supply of silage for the short grass period, which invariably comes in the later part of July and August, will find it advantageous to ensile some of the alfalfa or clover crop. This would provide silage for a period when it is needed as much as, if not more than, during the winter. Hot weather, flies, and dry pastures are no conducive to large flows of milk. If the dairy farmer is not alert to the requirements of his cows the flow of milk decreases abnormally fast. Silage and a little meal should be fed during the drouth seasons. They will not only help to sustain the flow of milk, but will put the herd in better condition for next winter's work.

Further, the first crops of clover and alfalfa come at a time when it is difficult to make good hay and on account of rain extra labor is required in curing and storing the hay. Some have come to the conclusion that the simplest and cheapest way of curing the first crops of clover and alfalfa is to ensile them. Under certain conditions this would be the best way, no doubt, but under average conditions, especially where corn is grown, the acreage of legumes is limited. Just enough clover or alfalfa hay is raised to supplement the silage during the regular feeding season. In the building of winter rations it is important that an adequate supply of alfalfa or clover hay be provided.

Notwithstanding this there are many instances where a part of the first crops of clover and alfalfa can be ensiled with profit. Succulent feed in July and August is fully as essential as during the winter.

PAYING FOR CHEESE

The Wisconsin Cheese Producers' Federation until the present time borrowed money in order to pay their patrons upon the same basis as private corporations. Last year during the flush of season, this organization borrowed more than $250,000 and the total interest charged for the year amounted to $10,000. This interest money came out of the pockets of the patrons of this co-operative enterprise and shows what it cost to pay for the cheese promptly.

Through the recommendations of the Wisconsin College of Agriculture and the State Division of Markets, the Federation has adopted a new plan for paying for cheese. Cheese manufactured in June will be paid for on July 20; this plan will be carried out the same for all months. It means the Federation will have opportunity to market June cheese and receive a large portion, if not all, of the money by July 20. It would seem that the patrons of co-operative organizations would understand that when they have no operating capital this plan is essential and that when co-operating upon this basis the producer receives a larger return for his product.

If the patron understood why it was necessary for a co-operative organization to defer payments, those who are working against this form of organization could not use the argument effectively that a particular co-operative company was about to fail. There is no such thing as failure in a co-operative enterprise if the members will sell their products to it and wait until the money is returned for their products before they require payment.

BANKER AND FARMER

George A. Fox, Director of Finance of the Illinois Agricultural Association, is attempting to bring about a closer relationship between the banker and the farmer. In a series of meetings held in Illinois, he pointed out the relationship of agriculture to the various other industries of the country. He showed the bankers that 50% of the country's purchasing power is on the farm and what it means to have a system of agriculture that is permanent and efficient; and in order that the farmer may be properly served the banker must extend to him a different credit than is given to the manufacturer and other business men.

Mr. Fox stated that in the past agricultural colleges and other agencies urged the farmer to increase his production, but he showed that the farmers do not make the most money in the years of greatest production. He said: "The farmer has come to realize that he must not only produce well but he must market well. He has done bankers and manufacturers the honor of adopting some of their business methods. He is learning to market his products as well as to produce them. Production alone can't bring the stability to agriculture that is necessary. Consider that 35 per cent of the capital in business is invested in marketing machinery and it must be seen that the farmer must also develop his marketing machinery. There was never a depression in agriculture but that the rest of the country suffered from the same depression."

It is important that all bankers of the country thoroughly understand that the marketing program of the farmer is not being contemplated to secure monopoly or to injure any other business, but to improve the method of getting his products into the hands of the consumer. It is recognized by leaders in agriculture that the law of supply and demand must regulate the price, but a system of marketing farm products which permits a little surplus to depress the prices of farm products relatively lower than other commodities is not a good thing for the farmer or for the other business interests of the country.

No nation is safe unless it has at all times some surplus food in storage. To accomplish this it is necessary to have a surplus of food for protecting the nation against famine in the lean years that may come, and in order to not have it operate against the prices of farm products a better system of marketing must be brought about.

AN AGRICULTURAL INQUIRY

A resolution providing for a special commission of agricultural inquiry has been favorably reported by the Agricultural Committee of the Senate and approved by the Rules Committee of the House. The purpose of this commission is to investigate agricultural conditions and to determine why farm commodities have been liquidated more than other commodities and why agriculture has not been properly financed.

It is our opinion that creating an agricultural commission of inquiry would be desirable. It would have authority to gather various facts pertaining to the marketing of farm products and other information which would be of value to the farmers of this country. We are firmly of the belief that it is not sufficient to remonstrate against conditions but that we must get exact knowledge in order to locate our trouble and to bring about effective corrective measures. It is easy for anyone to complain, but fault finding has never helped any industry. What we need is more knowledge and fewer opinions. Knowledge clarifies issues, while opinions may befog them.

If this commission is made up of capable and honest men who have a desire to get at the bottom of our economic conditions, it may be able to present a plan which will assist in bringing about a more speedy readjustment, in establishing various agencies for the purpose of serving agriculture, and in overcoming practices which are now disturbing proper relationship.

Senator Lenroot of Wisconsin has said of this resolution: "Nothing like it has ever before been suggested to Congress. The farmers have builded greater than they know. If the spirit of the resolution is faithfully interpreted and intelligently adhered to, we will find out the cause for the ailments which we now know are afflicting the country."

Congressman Cockran of New York has said: "I am in hearty sympathy with the concurrent resolution providing for the appointment of a commission to inquire into the present condition of agriculture and if possible to suggest remedies for the depression under which it is suffering."

Congressman Robinson of Kentucky says: "I am anxious to know the trouble and to remove the causes."

It would be a good thing if every reader of Hoard's Dairyman interested in securing knowledge of our present economic conditions would write his congressman and senators, urging them to support the resolution which has been recommended by the Agricultural Committee of the Senate and approved by the Rules Committee of the House.

Three Men Overcome Moldy Silage

Reports as to moldy silage continue to come to us in apparently increasing number. A year ago, we saved out three such inquiries and in writing these men recently we asked them for their experience during the past season. As these replies cover three different states and all of them report success from the earlier ensiling of their corn, it would seem to indicate that perhaps one of the largest causes for moldy silage is the practice of

ensiling corn when too dry. We give below the letters from these three men and would ask other readers to send in their experiences along this same line:

Mr. Ross Shindeldecker of Michigan writes: "My silage this year was good to the last feed. The corn from which it was made was planted late and was still green when put into the silo. Most of the ears were in the milk and I thought it was too green to make good silage but it was never better and the cattle eat it with relish. Whether I have been filling my silo when the corn was too ripe, I am unable to say but I have decided to try filling again this year when the corn is green."

Mr. J. F. Puterbaugh of Ohio writes: "My ensilage has made a marked improvement over the 1919 product. I believe this improvement is due first to the fact that I used my own cutter this time, while last year I used a neighbor's that had only two knives. The four knives on my cutter seemed to cut the corn better and it apparently packed closer. In the second place, I ensiled the corn when it was considerably greener. The year before, I believe my main difficulty was due to the fact that the corn was too dry to pack well. I had some that spoiled in bunches at the top this year but it was not all the way through the silo as last year."

Mr. R. H. Van Slambrouck of Minnesota writes: "After studying the situation over carefully I came to the conclusion that the trouble might lie in the fact that the cement foundation (it is a stave silo) was built with quite a prominent shoulder sticking out into the silo, and it was my belief that this might hinder the silage from settling properly. This we remedied by slanting boards from the shoulder to the wall of the silo, being very careful to make a nice smooth job of it. We filled one week earlier than usual, the corn was real green, although the ears were beginning to mature, and used no water. We were very careful about tramping, having from two to three men in the silo at filling time. The result was splendid silage, with little or no mold. Just what was the real reason for the better silage, I am not sure, but I am more or less inclined to think that while some of the other things mentioned above might have helped, I have always been more successful with silage when the stalks were yet entirely green, just before the lower leaves begin to dry up. You will recall that in my previous letter I wrote that I had been filling when the lower leaves began to die and the corn quite mature, adding a small amount of water through the blower."

Cistern for Liquid Manure

Please give me information concerning concrete liquid manure pits. We have twenty head of cattle and three horses; all to drain to the one pit. Would like to know size required, etc. I figure on emptying once a year.

Pewaukee, Wis. K. V. T.

I have visited a large number of farms where liquid manure cisterns are used, but I have yet to see a liquid manure pit designed to hold the urine from a herd for the entire season. The average cow will void from twenty to thirty pounds of urine in twenty-four hours. If we suppose that in the course of a year, half, or even a third, of this is dropped in the barn where it can be recovered it would necessitate the construction of a cistern having a capacity of from five to nine hundred cubic feet per head of stock kept on the place. This would be an exceedingly large tank. Even if it were practical to build one this size I can not see any advantage in having storage space large enough to require emptying it only once a year. Even under most favorable conditions there is a constant deterioration of the valuable nitrogen content of the liquid, and the longer it is stored the greater will be this loss. For this reason those who make the best use of the liquid manure remove it from the cistern during nearly every month of the growing season.

Liquid manure gives excellent results when applied to grass land just as early in spring as the ground begins to thaw. Top-dressing of small grains gives big returns. Cultivated crops may be side dressed to advantage. The liquid manure is beneficial when applied up to the very time the ground of meadows and winter grains begin to freeze up in the fall. Hence it is only during the real winter months that it is not possible to apply it.

If there is no place in the field to apply it the liquid may well be pumped back over the solid heap and allowed to again find its way to the cistern.

Concrete construction makes probably the most efficient and durable liquid manure cistern. Such a reservoir should be of a size sufficient to provide about twenty cubic feet of storage space for every head of cattle kept on the farm. It is best when making building plans to provide for any future expansion of the herd. A liquid manure cistern may be built cylindrical or with square sides. If of the former type it should have a diameter of eight feet and a depth of ten feet to take care of the excrement from twenty head of cattle. If of the latter type the dimensions of the pit for about the same capacity should be about five by eight by ten feet deep. A six-inch wall thickness is considered sufficient for liquid pits of this size.

In selecting the site for the manure cistern one should be sure to so place it that the top will be lower than the bottom of the manure pit, so that the drainage from the pit will flow into the cistern as also the liquid from the manure gutters in the barn. The cistern will work most effectively in preventing deterioration of the urine if it is partly or entirely submerged below the surface of the ground. A tight cover should be placed over the cistern having a manhole to permit cleaning it out. A diaphragm pump works well to pump the liquid into the distributing carts.

Wisconsin C. A. LeCLAIR.

Beet Seed in Ration

I have several thousand pounds of sugar beet seed which has tested out 85%. Will you advise if this seed is ground to a meal if it can be fed to dairy cows with some other grains?

Maryland. J. B. W.

So far as I have been able to find there is no American data on the suitability of sugar beet seed for stock feeding. However, I find in Pott's "Handbuch der tierischen Ernahrung und der landwirtschaftliche Futtermittel" Volume II, the statement that sugar beet seed which does not germinate has been used with good success in Europe for feeding fattening cattle and also for horses and swine, when ground and mixed with other concentrates.

According to this authority the composition of beet seed is as follows: Dry matter, 89.5 per cent; crude protein, 14.3 per cent; crude fiber, 28.9 per cent; nitrogen-free extract, 32.2 per cent; ether extract, 8.4 per cent; mineral matter, 5.7 per cent.

It should be noted that the beet seed runs rather high in crude fiber so that we would not expect it to have anywhere near as high a value as farm grains. However, as it undoubtedly has considerable feeding value, it should not be wasted. European authorities estimate that the ground beet seed has two-thirds to three-fourths the feeding value of wheat bran. I would not advise having the beet seed form the only concentrate, but would feed two to three, or possibly four, pounds per head daily in a mixture of other suitable concentrates to dairy cattle.

University of Wisconsin. F. B. MORRISON.

Sweet Clover for Nitrogen

Sweet clover offers the most promising indications that the problem of supplying a cheap source of available nitrogen (nitrate) for farm crops can be solved. Bulletin 233 of the Illinois Agricultural Experiment Station just issued sets forth the merits of sweet clover in its ability to conserve the nitrate of the soil, to add nitrogen to the soil, and, by its rapid decomposition, when plowed under, to produce nitrate in ample amounts and at the proper time for the corn crop.

Results obtained from fields in various sections and of different soil types where sweet clover seeded in wheat has been plowed under in the spring of the second year for corn, are presented showing the influence of this practice on the nitrate content of the soil.

Corn occupied all the plots concerned in the study. The large nitrate requirement of this crop made it desirable to study the effect of the sweet clover treatment in its presence. It was found that the plots on which sweet clover was growing in the spring contained more nitrate than untreated soil or manured soil, and that within three or four weeks after the sweet clover was plowed under the nitrate content of the soil was in most cases doubled and continued to increase in spite of the fact that the corn crop was utilizing considerable nitrate on these plots. The critical period in the growth of corn usually occurs between June 25 and July 15, when the greatest demand for nitrate occurs. It is shown by the study that sweet clover may be relied upon to furnish sufficient nitrate nitrogen for the corn crop, and that it properly meets the critical feeding period above mentioned. The results were as outstanding on gray silt loam as on the brown silt loam.

From the data on the nitrate content of the soil and the nitrogen content of the sweet clover tops, it is clear that a material addition of nitrogen was made to the soil, from the air, through the growing of the clover. The information contained in this bulletin deals directly with a vital factor in crop production and proves the value of green sweet clover as a cheap source of available nitrogen for corn. It emphasizes the importance of this crop in well-planned systems of soil improvement. —A. L. Whiting, Illinois College of Agriculture.

Ensiling Corn Stover in Spring

HOARD'S DAIRYMAN:—In regard to ensiling corn fodder will state that I have been doing this for the past three years with very good success. I have two silos 12x34 feet each and the past three years have not had enough silo room, so I would fill one silo with the dry stalks as soon as it was fed empty or some time in February or March.

I always stack my stalks next to the silo when dry enough to stack. The corn was ensiled with an ordinary silo filler. I used two three-quarter inch hose, ran same into blower and fed machine rather slowly, barely lapping bundles. This grade of silage kept very well; in fact, there were no moldy spots as is sometimes the case when fall filling with dead ripe corn. This silage was not fed for four months after being ensiled as I always fed the other silo of fall ensiled corn first and used this spring cut silage for summer feeding.

There seemed to be no difference as far as palatability is concerned. My cows ate that silage just as well as fall silage. In fact, fall cut silage made from immature corn is rather sour whereas if it is ensiled in spring or winter it will not be sour. I noticed very little, if any, difference in amount fed and results. Some of my neighbors that saw this silage could hardly believe it to be spring silage. They said they never saw or smelled better silage. I do think that a little more of spring cut silage spoils on top when not opened for four months as it is not quite as heavy and for that reason does not pack so well.

Wisconsin. WM. H. TAMM.

HOARD'S DAIRYMAN:—I have tried ensiling corn stover in the spring twice and in both cases found it practically worthless. In both cases, I ran a three-quarter inch stream in the blower while filling and then let it run for two nights and a day after filling, but even with this amount of water it did not moisten the corn thoroughly and it was left so dry that it did not pack well and so molded very badly.

The first time I filled during the Christmas holidays. The fodder had been outside and had a great deal of ice and snow on it. When I started to feed, this silage was as dry as shredded fodder but it had molded. The last time I tried this method, I filled in the fall right after seeding, husking out the good corn. About half of this ensilage could be fed but the cattle did not care for it and did not do well on it.

I recommend that farmers fill the silo when the corn is at the proper stage or else feed it as corn fodder or corn stover.

Virginia. D. RAY WHITESEL.

Ration for Cows on Pasture

From the following feeds please balance me a ration to feed Holstein cows running on grass: corn, 60c per bu.; oats, 40c; cottonseed, $40 per ton; bran, $1.10 per cwt.

Clarkesburg, Ill. C. W. S.

A very good mixture of grain for cows on grass is 300 lbs. ground corn and 100 lbs. ground oats or bran. Grass provides all the protein required for producing good flows of milk. This is especially true when the grass is good and before the dry season begins. The amount fed at this time will have to be determined by the milk flow of the cows and the condition of the pastures. Since grass provides an adequate supply of protein, we suggest a mixture of meal rich in carbohydrates. Then, too, it has been found that corn alone is a good supplement to pasture. There are some properties in corn that make it one of the best feeds when cows are grazing.

If desired, a mixture of 500 lbs. ground corn, 100 lbs. ground oats, 200 lbs. bran, and 100 lbs. cottonseed meal could be made for supplementing the pasture.

DAIRY MARKET NEWS

May Milk Prices

(From Report by U. S. Bureau of Markets)

Table I represents a comparison of the net prices received during May by producers in 3,102 local markets for fluid milk (test 3.5%) f. o. b. local shipping point or distrbutor's plant.

Table I—May Producers' Prices by Geographic Sections

Sections	Range of prices per cwt.	Comparison of average prices 1921 May	1921 April	1920 May
United States	$1.23—$4.05	$3.52	$2.60	$3.17
New England	2.81— 4.03	3.18	3.31	3.77
Middle Atlantic	1.94— 3.22	2.51	2.42	2.89
E. North Central	1.45— 3.00	2.19	2.40	3.01
W. North Central	1.23— 3.00	2.31	2.54	3.29
South Atlantic	2.38— 4.05	3.30	3.45	4.30
E. South Central	1.51— 2.90	2.16	2.46	3.17
W. South Central	1.75— 3.70	3.02	3.24	3.87
Mountain	1.57— 2.91	2.32	2.50	2.98
Pacific	2.03— 3.50	2.82	2.95	3.43

Table II shows for certain representative city markets the prices of standard grade milk (Grade B, test 3.5%) received by producers f. o. b. city and paid by consumers during the month of May.

Table II—May Producers' Prices F. O. B. City and Consumers' Prices

	Producer receives per cwt.	Consumer pays per qt.
Birmingham, Ala.	$2.98	
Phoenix, Ariz.		$.15
Little Rock, Ark.	2.80	.15
San Francisco, Cal.	3.60	.15
San Diego, Cal.	3.67	
Denver, Colo.	2.10	.11
New Haven, Conn.	3.95	.15
Washington, D. C.	3.30	.13
Atlanta, Ga.	2.94	
Chicago, Ill.	2.56	.14
Indianapolis, Ind.	2.10	.13
Des Moines, Ia.	2.45	.12
Topeka, Kans.	2.25	.12
Louisville, Ky.	1.85	.11
New Orleans, La.	3.74	.16
Baltimore, Md.	3.19	.14
Boston, Mass.	3.65	.15
Detroit, Mich.	2.30	.13
St. Paul, Minn.	2.50	.11
Kansas City Mo.	2.99	.13—.14
St. Louis, Mo.	2.55	.14
Butte, Mont.	2.07	.13
Lincoln, Neb.	1.58	.10
Carson City, Nev.	2.91	.10
Trenton, N. J.	3.48	.13
New York, N. Y.	3.15	
Raleigh, N. C.	3.82	.18
Fargo, N. D.	2.21	.13
Cleveland, Ohio	3.10	.14
Cincinnati, Ohio	2.50	.13
Oklahoma City, Okla.	2.10	.12
Pittsburg, Pa.	3.02	.14
Philadelphia, Pa.	2.86	.11
Providence, R. I.	3.85	
Sioux Falls, S. D.	3.00	.12
Memphis, Tenn.	2.90—3.48	.17
Dallas, Tex.	3.50	.15
Salt Lake City, Utah	3.02	.12½
Richmond, Va.	4.34	.14
Seattle, Wash.	2.52	.12
Spokane, Wash.	2.55—3.25	.13—.15
Wheeling, W. Va.	3.00	.16
Milwaukee, Wis.	1.92	.09

The prices quoted for producers are for milk testing 3.5 per cent and delivered f. o. b. city, from which must be deducted the various transportation costs in order to get the actual price paid the producer at his railway station. In certain cities the prices given apply only to that portion which is considered as the producer's average production, the surplus being handled either by the producers' association or the dealers at somewhat lower prices. Detailed information as to the selling arrangements between producers and dealers in various markets may be secured by writing Division of Dairy Products, Bureau of Markets, Washington, D. C.

The prices given in Table II have been compiled on the comparative basis of milk testing 3.5% fat, different cities varying from 3% to 4% as the basic fat requirement on which prices are fixed. Certain markets pay on a straight price per pound fat, but most of them set a price per hundred pounds milk of a certain test and then add to or deduct from this price a certain number of cents for each one-tenth per cent in test above or below the basic test. The most usual allowance is from 3 to 5 cents for each one-tenth per cent, or "point" as usually called.

The prices paid by consumers given in Table II are for average testing milk delivered in quart bottles. It is the grade of milk most generally sold in these cities and in nearly all cases is for pasteurized milk.

To reduce the prices per hundredweight, given in these tables, to either a gallon or a quart basis divide by 11.63 or 46.33 respectively.

Prices at Country Shipping Stations

Prices paid during May per hundred pounds for standard grade milk (Grade B, 3.5%) at the dealers' country receiving stations or at producers' railway shipping points, as also prices f. o. b. city, are given in Table III.

Table III—May Producers' Prices Per Cwt. F. O. B. City and at Country Stations

	F. O. B. city	At country stations*
New Haven, Conn.	3.95	$3.60
Washington, D. C.	3.25—3.37	2.32
Chicago, Ill.	2.54—2.58	2.05
Baltimore, Md.	3.19	2.32
St. Louis, Mo.	2.55	1.89
Trenton, N. J.	3.48	2.91
Buffalo, N. Y.	2.88	2.58
New York, N. Y.	3.15	2.50
Cleveland, Ohio	3.10	2.65
Cincinnati, Ohio	2.50	1.65
Pittsburg, Pa.	3.02	2.14
Philadelphia, Pa.	2.86	2.50

*Prices reported for all of the above cities represent those agreed upon by dealers and an active producers' marketing association. For the freight zone to which these prices apply see Hoard's Dairyman for April 15th.

Retail Prices

Table IV gives for a few cities the retail prices of special milk, certified milk, cultured buttermilk, cottage cheese, and cream testing 18 to 20% butterfat.

Table IV—May Retail Prices to Consumer

Cities	Special milk per qt.	Certified milk per qt.	Buttermilk per qt.	Cottage cheese per lb.	Light cream per ½ pt.
	Cts.	Cts.	Cts.	Cts.	Cts.
Boston	18.5	27		13	
Buffalo	14	26	9	14	20
Baltimore	18		14		
Chicago	22	25	11	13	16
Cleveland	20	32	15	15	20
Colorado Spgs.	15		6	10	10
Des Moines				15	12
Louisville			7		11
Milwaukee	13	25	7	10	14
Minneapolis		23	15	12	13
New York	18	27–28	11	10	20
New Orleans	20	30	14		18
Philadelphia	15	28	12		16
Pittsburgh					17
Richmond	16		14		14
San Francisco			15	20	16
Spokane			8		14
Salt Lake City	15		7	15	15
St. Louis	17–18	24–25	18	12	18
Wash., D. C.	14	28	20	12	19

Cheese Trading Light

(Report by U. S. Bureau of Markets)

Cheese markets during the week ending May 28 failed to take on the activity which dealers have been expecting, but on the whole the amount of cheese which is moving into trade channels has increased materially over what it was a month ago. Within another few weeks conditions are expected to show considerable change.

Another factor which seemed to have been in part responsible for lighter trading during the week than had been anticipated was the difference in prices on the two cheese boards in Wisconsin. The new Farmers' Call Board held its first meeting May 23, and on most styles prices were higher than those which resulted from selling on the Wisconsin Cheese Exchange. The result was that when dealers tried to base their selling prices on the quotations of the former, there was some confusion, and a little readjustment had to be made. In this connection it might be mentioned that the prices reported daily by the U. S. Bureau of Markets represent actual selling prices as they may be influenced by either or both of the Boards. It should be borne in mind, however, that the Bureau quotes dealers' wholesale selling prices, while the Board prices represent more nearly what is paid the factories. There is, therefore, a margin of difference between the two prices to take care of dealers' handling and selling costs.

As current receipts show up better, it will become more difficult to move goods which are not fancy, for storing interest is centered wholly on good quality cheese, and there are still those who have poor quality stock from last year on their hands, on which they now are absorbing losses. There has been considerable export buying at New York at around 14c, but with buyers now offering only 13c this business is expected to slow up temporarily.

The average wholesale prices on American cheese (style Twins) for the week ending May 28, 1921, and for the corresponding week a year ago were as follows:

	Week ending May 28 1921	1920
	Cents	Cents
New York	16.00	30.50
Chicago	14.50	27.41
Boston	16.00	30.91
San Francisco	14.42	24.96
Wisconsin	13.96	26.83

The receipts of cheese at these markets were 4,732,636 lbs. as compared with 3,597,695 lbs. a year ago and 4,346,314 lbs. a week ago.

New York Butter Market

New York City, May 31:—The strike of the porters and truck drivers which was a protest against a reduction of wages and against the open shop is now virtually settled with the union men completely defeated. The strike was not so much against the wage reduction but against the principle of the open shop. It was apparent from the outset that nothing could be gained by the strike and there was no question regarding the outcome. The Industrial Relations Committee of the New York Mercantile Exchange handled the situation very competently and little confusion resulted from the strike. At no time were the strikers unruly as ample production was given the market section by the police and by private detectives who were employed to assist in breaking up the strike. Many of the strikers were refused employment when they wished to return to work and are now seeking employment elsewhere. The principle of the "open shop" now seems to be completely established in this market.

During the strike considerable quantities of butter accumulated at railroad terminals and wharves which necessitated much re-icing. With the calling off of the strike, the greater part of that butter was unloaded which made today's receipts quite heavy, the aggregate being in excess of 15,000 packages. However, the butter is being rapidly absorbed as much of it is being moved direct to storage warehouses, some is being put away by receivers for their customers and there is considerable open speculative buying. On the whole there is encouraging activity in the market. While prices have scarcely varied during the past week, butter has moved freely and the general tone of the market is the best that it has been for several months.

The quality of the butter being received is much higher than it has been for several years. It is quite apparent that creamery operators remember the trying conditions of the past year and have made active efforts to improve the quality of their product. This is especially true of the centralized butter that is coming to this market. The arrival of a small shipment of Danish butter during the past week illustrates why it pays to produce fancy butter. The 300 casks of Danish butter that were received were sold to dealers at a price of 1c above the extreme top quotation for our domestic butter. It undoubtedly is true that an active market will be worked up for Danish butter in spite of the fact that a higher tariff duty is now levied on imported butter. Fancy trade demands high class butter and is willing to pay high prices for it.

There is a feeling in the market that the prices which prevail at the present time will remain fairly constant during the month of June. Very little butter, comparatively speaking, has been placed in storage as yet and great quantities must be stored during the coming month or there will be a shortage of supply during the fall and winter months. There might be an upward trend to prices during June but for the fact that production is at high point and will continue large during the coming two months. While census statistics show a reduction in cow population of practically one-half million animals, there seems to have been a culling out of the poorer stock with the result that actual production is somewhat above normal. Centralized creameries report an actual gain in butter production of about 30%.

On Tuesday of last week, extras were quoted at 28½c. On the following day the price advanced ½c, since which time there has been no price changes of consequence although there has been a slight variation in quotations on undergrades. At the close today quotations are as follows: Extras (92 score), 29c; higher scoring than extras (93 score or higher), 29½@30c; firsts (90—91 score), 27½@28½c; firsts (88—89 score), 26@27c; and, seconds (83—87 score), 22@25c. W. B. LIVERANCE.

Steadier Butter Markets

(Report by U. S. Bureau of Markets)

During the week ending May 28 butter markets were more active. Demand was chiefly for the finer grades of creamery and for fine centralized cars, but a notable thing about the market was the way in which undergrades, including even off-grade lots, were absorbed on most markets. Prices on these grades were low of course, but were closer than the usual range. The rather easy placing of this sort of butter is further proof of the good consumptive demand. Cheap butter is proving a strong competitor against butter substitutes.

The average wholesale prices on 92-score butter at five of the principal markets for the week ending May 28, 1921, and the corresponding week a year ago were as follows:

	Week ending May 28 1921	1920
	cents	cents
New York	28.83	60.00
Chicago	28.00	53.46
Philadelphia	29.92	60.33
Boston	29.50	57.91
San Francisco	31.33	51.50

The receipts of butter at these markets were 14,853,590 lbs. as compared with 9,734,128 lbs. a year ago and 14,930,239 lbs. a week ago.

Cheese Prices for May

Cheese prices during May took a further decline of about 4c on both Twins and Longhorns. The daily quotations of the U. S. Bureau of Markets show the following average prices for American cheese (style Twins) for the three large markets in May, 1920 and 1921:

	Average price May 1921	May 1920
	Cts.	Cts.
Wisconsin Boards	14.22	24.96
Chicago	14.45	25.28
New York	16.22	27.88

Longhorns averaged 14.21c on the Wisconsin Boards as compared with 29.5c in May a year ago.

CHICAGO, June 3—Butter—Creamery, extras, 28c; standards, 28c; dairy, firsts, 22@26c; seconds, 17@22c.

Eggs—Ordinary, 18@19c; firsts, 21¾c.

Cheese—Twins, 14c; Young Americas, 16c.

SHEBOYGAN FALLS, Wis., June 1—Cheese—On the Wisconsin cheese exchange at Plymouth on Tuesday twenty factories offered 4,850 boxes of cheese. All sold as follows: Three hundred fifty Twins at 14¼c; 3,300 Daisies at 14c; 400 Double Daisies at 13¾c; 100 do at 13¾c; 50 cases Young Americas at 14c; 625 cases Longhorns at 14c; 25 boxes square prints at 14c. These prices compared with a week ago show an advance of ¾c on Twins, 1½c on Daisies and squares, 1¾c on Double Daisies, 1c on Young Americas and Longhorns.

Carload Prices of Hay and Feed at Important Markets May 28

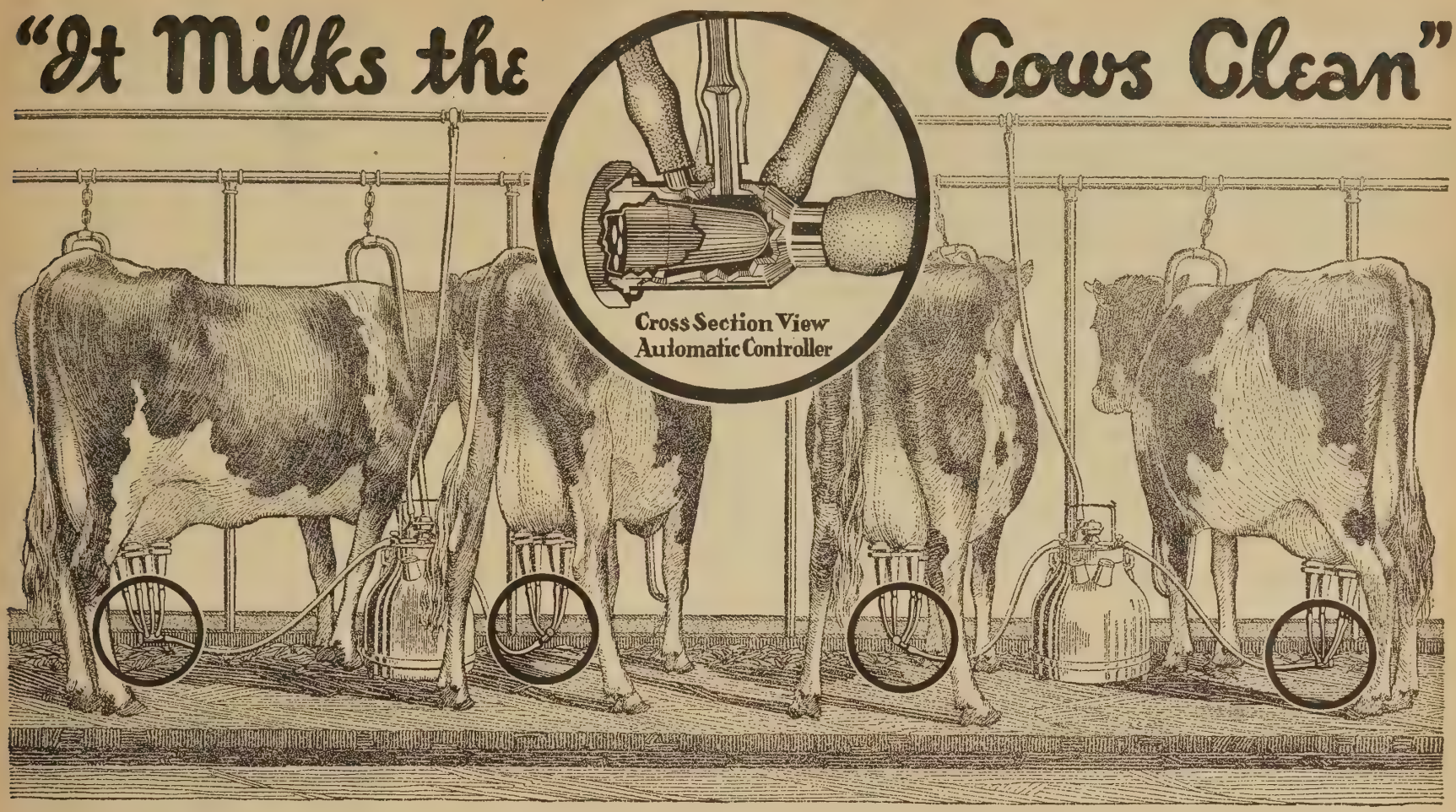
(In dollars per ton)

Commodity	New York*	Philadelphia	Baltimore	Richmond	Atlanta	Jacksonville	New Orleans	Memphis*	Cincinnati*	Chicago*	Minneapolis*	Omaha*	Kansas City*	St. Louis*	San Francisco*
HAY															
Timothy and clover:															
No. 1 Timothy	29.50	†23.00	.....	26.00	30.00	28.50	31.00	26.00	21.50	23.00	20.00	.....	.....	.....	.....
No. 1 Clover, mixed	24.00	.....	18.00	23.00	29.00	27.00	.....	.....	18.00	17.50	17.00	.....	.....	.....	.....
No. 1 Clover	22.00	.....	15.00	22.00	.....	.....	.....	.....	15.00	16.00	†16.00	.....	.....	.....	.....
Alfalfa:															
No. 1 Alfalfa	.....	.....	.....	.....	33.00	.....	.....	25.00	19.00	24.00	†20.00	20.00	.....	.....	20.00
Standard Alfalfa	.....	.....	.....	.....	28.00	.....	.....	24.00	18.00	22.00	†18.00	17.50	.....	.....	18.00
No. 2 Alfalfa	.....	.....	.....	.....	26.00	.....	.....	21.00	13.00	20.00	15.00	11.00	.....	.....	15.00
FEED—Bagged															
Wheat Bran:															
Spring	26.00	24.75	26.00	25.50	28.25	28.50	.....	.....	22.50	18.50	15.50	.....	.....	.....	.....
Soft Winter	27.00	.....	28.00	29.00	28.25	.....	.....	22.00	23.00	.....	.....	.....	.....	.....	39.00
Hard Winter	.....	.....	.....	.....	.....	.....	27.00	.....	22.50	.....	.....	15.50	.....	.....	.....
Wheat Middlings:															
Spring (Standard)	25.50	24.25	25.00	26.00	29.00	29.00	30.00	.....	22.00	18.50	15.50	.....	.....	.....	.....
Soft Winter	.....	30.00	27.00	32.00	32.00	.....	.....	.....	23.00	.....	.....	.....	.....	.....	49.00
Hard Winter	.....	.....	.....	.....	.....	.....	.....	.....	22.00	.....	.....	20.50	.....	.....	.....
Rye Middlings	.....	22.00	.....	22.00	.....	.....	.....	.....	21.00	.....	14.00	.....	.....	.....	.....
High protein meals:															
Linseed	36.00	34.00	.....	.....	.....	.....	34.00	.....	36.00	32.00	30.00	33.50	.....	.....	.....
Cottonseed (41 per ct)	.....	41.00	.....	.....	.....	.....	35.00	.....	.....	37.50	.....	.....	.....	.....	.....
Cottonseed (36 per ct)	37.50	39.00	37.50	37.50	30.50	32.50	.....	30.50	32.00	35.00	.....	.....	.....	.....	36.00
No. 1 Alfalfa me'l (med)	.....	31.50	30.00	.....	.....	.....	28.00	24.50	26.00	25.00	.....	19.50	.....	.....	22.00
Gluten feed	34.60	34.21	35.00	.....	.....	.....	.....	.....	29.30	26.50	.....	.....	.....	.....	.....
Hominy feed (white)	31.00	31.00	29.50	30.50	34.00	.....	30.00	.....	25.00	24.50	.....	19.50	.....	.....	.....
Ground barley	.....	.....	.....	.....	.....	.....	.....	.....	38.00	30.00	22.00	.....	.....	.....	.....
Beet pulp	25.00	27.50	28.00	29.00	.....	38.00	37.00	.....	27.00	.....	.....	.....	.....	.....	30.00

*Hay quotations represent average of cash sales at these markets. †Nominal.

Straw:—Straw prices steady and practically unchanged except at Philadelphia where prices have declined from $3 to $4 per ton. Receipts generally are very light. No. 1 wheat straw—Philadelphia $16.50, Baltimore $14.50, Pittsburgh $15.50, Cincinnati $12, Chicago $12.50, Minneapolis $8, Richmond $14. No. 1 oat straw—Baltimore $15.50, Pittsburgh $15.50, Cincinnati $12, Chicago $13.50, Omaha $9, Minneapolis $9.50. No. 1 rye straw—New York $24, Philadelphia $18, Pittsburgh $16, Cincinnati $18, Chicago $15, Minneapolis $9.50.

"It Milks the Cows Clean"



The Burrell Automatic Controller

IT IS obvious that an easy milker requires less suction in the teat-cup than a hard milker. It is equally plain that less suction is required during the main part of the milking, when the milk flows easily, than toward the end of the milking.

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An important feature of the Burrell Automatic Controller is that this balance between the amount of milk flowing and the amount of suction in the teat-cups is secured without any change in the speed of pulsation, which must always remain constant.

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Made of high-grade thoroughly waterproofed felt and *surfaced with crushed slate* in beautiful natural slate colors, either red or green. Laid in strips of *four shingles in one* at far less cost in labor and time than for wooden shingles. Give you a roof of artistic beauty worthy of the finest buildings, and one that resists fire and weather. Need no painting.

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Made of the same durable slate surface (red or green) material as the Multi-Shingles, but cut into individual shingles, 8x12¾ in. Laid like wooden shingles but cost less per year of service. Need no painting.

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Plan of Milk Marketing Organization

(Continued from page 847)

the value of each share is $100 a certain number of milk producers will subscribe. Later on terms of payment can be given and those who would have subscribed at the lower par value will subscribe at the higher par value when terms of payment are given. Milk producers soon learn to understand that a $100 investment for marketing their farm products is very small as compared with the investment in production.

The securing of the stock is done systematically. The county farm bureaus co-operate. Just previous to the stock soliciting the farm adviser or county agent plans and advertises advance meetings of milk producers. Local farm leaders and leaders of the stock selling force explain the purposes and plans of the marketing association.

Insofar as possible all plans for the soliciting are perfected at this meeting. The routes are laid out; the names of milk producers on each route are listed; the names of auto drivers for the solicitors on definite dates are secured; and the solicitors or canvassers are then fitted in to this program. The driver is a local man. The solicitor with him is a farmer and experienced in canvassing and represents the Illinois Agricultural Association. Our solicitors sold over $200,000 worth of stock and secured more than 3,000 five-year milk contracts in about two months' time.

There should be ample money with which to secure well-equipped plants for receiving, weighing, and testing all of the milk and for handling and manufacturing the surplus milk without going into debt. The psychology of the marketing organization is largely shaped around the finances. If an organization is in debt, if its credit is poor, if the meetings of the directors and stockholders have to be devoted chiefly to figuring out some way of raising money for meeting certain deficiencies, and if the milk producers cannot receive their full pay promptly, the work of the organization is generally handicapped, and much difficulty will be experienced in making contracts for the sale of products.

There is nothing so effective in dampening the interest in any organization as to be financially distressed It is a mistake to promote a business and then trust to loyal support of milk producers and good luck to finance it. Finance the enterprise first, and then invest according to immediate needs and according to the purse, and always have a "nest egg" left. If the annual report to the stockholders can show that property is paid for, and that there are several thousand dollars in the treasury, the psychological effect is good. Nobody cares to have anything to do with an organization that is always financially embarrassed. Such an organization has difficulties in securing a good board of directors, good management, and to secure enthusiastic support from the patrons and stockholders. On the other hand, if the finances are in good shape and some reserve on hand, an atmosphere of interest and enthusiasm permeates the entire organization. In planning for a marketing organization there is nothing more important than to provide for ample financing and then select conservative management who will not promote beyond ability to pay and beyond ability to keep proper records of all transactions.

Secure Milk Contracts

Third, secure contracts from

$7.50 = After 30 Days Free Trial

The Belgian Melotte Separator — with the wonderful Self-Balancing Bowl. No other like it.



30 days' free trial—then, if satisfied, only $7.50 and a few easy payments — AND — the wonderful Belgian Melotte Separator is *YOURS.*

No Money Down!

Catalog tells all—*write.*

Caution! U. S. Bulletin 201 shows that vibration of the bowl causes *cream waste!* The Melotte bowl is *self-balancing.* Positively cannot get out of balance therefore cannot vibrate, Can't remix cream with milk. *The Melotte has won 264 Grand and International Prizes.*

Catalog FREE

Write for new Melotte catalog containing full description of this wonderful cream separator and the story of M. Jules Melotte, its inventor. Don't buy *any* separator until you have found out all you can about the Melotte and details of our 15-year guarantee which is infinitely stronger than any separator guarantee. Write TODAY.

Runs so easily, bowl spins *25 minutes* after you stop cranking unless you apply brake. No other separator needs a brake. Bowl chamber is *porcelain lined.*

The Melotte Separator, H. B. Babson, U.S. Mgr.
Dept. A-285 2843 W. 19th Street, Chicago, Ill.

FARMER'S FRIEND EGG CARRIER



Carries Eggs Safely

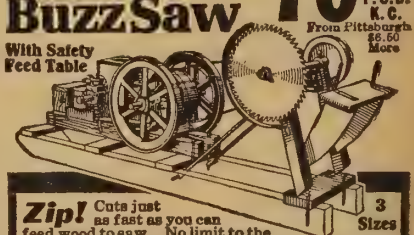
Holds 12 Dozen—Strong and Durable. When eggs are delivered, filler can be folded and placed in bottom of carrier which can then be used to carry home groceries or other purchases. Excellent for shipping incubator eggs.

Big Mail Order Dairy and Milk Dealers' Catalogue Free.

THE CREAMERY PACKAGE MFG. COMPANY,
68 W. Kinzie St., Chicago

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With Safety Feed Table



Zip! Cuts just as fast as you can feed wood to saw. No limit to the amount of wood you can cut. **WITTE Power Buzz Saws** are built in 3 sizes—small, medium and large. **Engine and Saw Complete.** No farm should be without one. Description and prices FREE. We also make Log Saws, Tree Saws and big Portable Saw Rigs. Specify kind you can use, and we will quote you special. 3 Sizes

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1642 Oakland Ave., Kansas City, Mo.
1642 Empire Bldg., Pittsburgh, Pa.



"PELOUZE" Dairy Scales

Three Sizes: 40, 60 and 120 lbs. by Tenths of a Pound.

Guaranteed Accurate

Made to comply with Departments of Weights and Measures. Large Circular Dial, with distinct, black figures and graduations. Patented adjustable hand for obtaining the tare weight of empty pail.

Order direct or through any leading Dairy Supply house. Specify "Pelouze."

No. D. 40 $3.75
No. D. 60 $4.85
No. D. 120 $5.25

PELOUZE MANUFACTURING CO
233-242 East Ohio Street, Chicago

KING SEGIS PATENT LOCK

Ear Tags, Bull Staff and Rings. Description and prices sent on application. 300,000 of these ear tags have been sold without adverse criticism. 500 of these Bull Staffs are used by the best breeders in the business.



H.A. Meyer, Syracuse, N.Y.

Dried Beet Pulp

Dried Beet Pulp makes the whole ration more palatable and digestible—resulting in greater milk production without greater cost.

The LARROWE MILLING CO.
Detroit, Mich.

milk producers to market milk through the organization for a term of years. If possible, the marketing company should secure contracts to handle not less than 80 per cent of the milk in the tributary territory. This means not less than 80 per cent of each and all shipping points, and not 80 per cent of the milk in the territory.

Our experience has been that it is easier to secure milk contracts than it is to secure the stock subscriptions.

The marketing company should have the selling of sufficient milk so as to supply the dealers with all milk needed by them. A total supply contract rather than a pound contract should be secured from the dealers.

Without quantity of milk the selling power is diminished and may even be paralyzed. The buying power of the dealers is usually united. To make the law of supply and demand act fairly, the selling power of a milk marketing organization should be about on the level with the buying power of the dealers. This cannot obtain unless the marketing association actually has the sale of about 80 per cent of the milk produced in the tributary territory.

Well Equipped Surplus Plants

Fourth, the plans also provide facilities for handling and manufacturing the surplus milk. So far, the plans have provided only for manufacturing butter and cheese and for the sale of sweet cream. It may be necessary to include the manufacturing of condensed milk and ice cream and even powdered milk. When a milk marketing organization begins to manufacture surplus milk, it is considered safer to manufacture the more staple and standard products, such as butter and cheese, and to sell sweet cream to ice cream manufacturers.

To equip for manufacturing condensed milk, powdered milk, and ice cream is expensive, and the details of manufacture are more numerous and more vital. A high type of sales organizations is also required. Both of these conditions do not fit in well with the operation of a newly organized co-operative marketing association.

The surplus milk can be manufactured into a very high quality of butter and cheese which will demand the highest possible price. High quality should be the watchword of any milk producers' marketing association.

When enough of this high quality product is manufactured, a special market may be created and the co-operative selling of the various marketing associations on the terminal market should prove profitable.

It is very important that these surplus plants be located so as to serve the greatest number of milk producers and the largest volume of milk and not located according to the "pull" of certain directors of the marketing company.

If the milk producers will co-operate, they will back the marketing program with money; if they will hire the best of management and produce and manufacture high quality of products, I see no reason why the co-operative milk marketing plan should not be a great improvement over the old individual uncertain method of marketing milk.

Feeding Silage

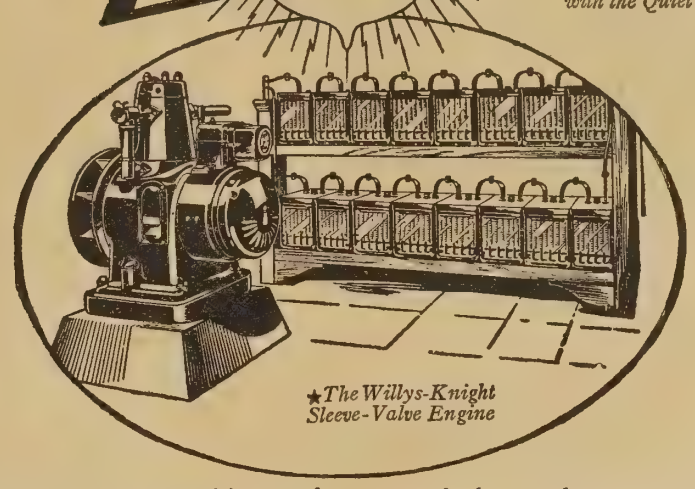
HOARD'S DAIRYMAN:—May I make a practical suggestion in these news notes on methods of feeding silage during the summer months? In a recent issue of Hoard's Dairyman, you advise feeding off one-half of the silage at a time, either losing the silage on top of the other half or saving somewhat by covering with tar paper, canvas, wet straw, or other material. Here is a method that I myself have found desirable: Start feeding from the front of the silo and feed the silage down two or three feet. Then throw the spoiled silage from the back half over the good silage in front and tramp it down thoroughly, wetting if necessary to make it pack. Then feed the back down until it is two or three feet lower than the front. Then throw back the same spoiled silage as was transferred in the first place and keep on with this practice until the silo is empty. This reduces spoilage to a minimum.

Ontario. F. E. ELLIS.

Uncle Ab says that the man who helps to scatter sunshine never stays long in the shadows.

Willys LIGHT

Power and Light with the Quiet Knight★



★*The Willys-Knight Sleeve-Valve Engine*

THERE could be no better evidence of keeping faith with the public than this—to share our ability to produce quality products on a quantity basis with everyone in North America who needs electricity.

In the famous Willys Light we have swept aside precedent and given every home the benefit of bed rock quality at rock bottom prices.

At its present low price of $525 there can and will be no further reduction. Already we are meeting the farmer more than half way—giving him the great advantage of a practical, complete power and light plant, backed by national resources and service, at an unheard-of price.

This wonderful reduction in price is no more extraordinary than the wonderful service Willys Light is giving hundreds of homes.

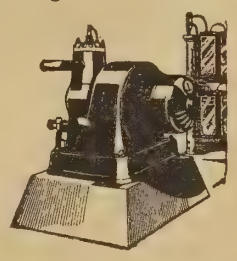
The famous Willys-Knight engine is only one exclusive superiority, in addition Willys Light has fifty distinct advantages. These combined with its new low price warrant your immediate action. See your nearest Willys Light dealer or write for booklet.

Willys LIGHT JUNIOR

$295

—And here is the Electric Plant that will revolutionize farm lighting—Willys Light Junior. Somewhat smaller but in every other respect measuring up to Willys Light quality, this plant is big enough for lights and small power uses. At this low price, you can now have the electricity you have been waiting for.

Willys Light Junior has the wonderful Auto-Lite engine generator, a battery of ample capacity and is of standard voltage.



Wonderful Dealer Opportunities Available

Address Department 501

WILLYS LIGHT DIVISION—ELECTRIC AUTO-LITE CORPORATION, TOLEDO, OHIO



Churn Butter With Less Work

Take work out of butter making. Get a Sturges Steel Churn. Has no corners for dirt —all steel—smooth as a china bowl inside. Can't soak up milk. Lasts a lifetime. Easy to handle. Beautifully finished in red and blue. See your dealer or write us for circular No. 51X.

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Sturges Steel Churns



A Low-Cost Scientific Equipment For the Farm Dairy

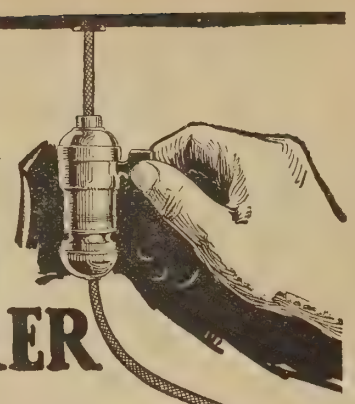
Just because the creameries can't get the sweet, rich, high-test cream which alone can make the best grade of butter, they lose, and the farmers lose, several millions of dollars a year. This is a fearful price to pay for dirt and sourness caused by careless, insanitary methods in the farm-dairy.

CHERRY BULLETIN 1005 C describes inexpensive equipment that will permit the small producer to deliver to his creamery as "fancy" a grade of cream as the millionaire "gentleman farmer" produces.

The Bulletin is free. Ask for it.

J. G. CHERRY COMPANY
Cedar Rapids, Iowa

A Turn of the Switch Starts the HINMAN ELECTRIC MILKER



Here is a sturdy, compact, simple little machine that marks an epoch in the evolution of American dairy practice.
"Milking cows by electricity"—the dream of every dairyman and helper who has ever drudged and sweat and worked twice daily under cows—is now an actual, demonstrated fact.

Light Weight—Extremely Simple

The Hinman Electric embodies all the tried and proved principles of the famous Standard Hinman Milker. It consists of motor, reduction gears and pump in one light, compact unit, and the well-known "valve-in-chamber" and pail in the other unit.

It is ideal in its simplicity. Requires no installation. Connect the cord to electric light socket, turn on switch, attach teat cups and you are milking.

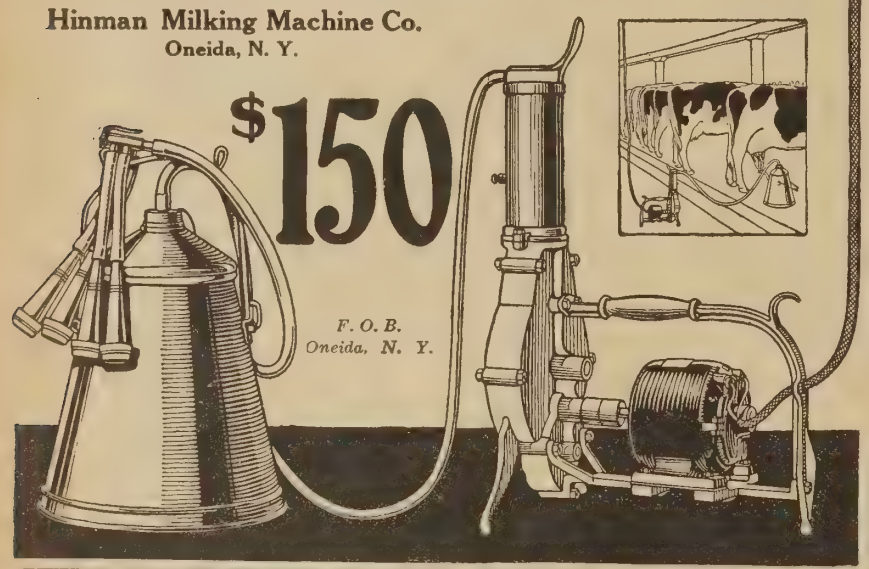
The power unit is a 1-6 H.P. Genera Electric Motor coupled to enclosed, quiet running gears that run a rigid pump of Hinman design. Pump has automobile type piston, connecting rod and bearings and Hinman relief valve. The entire unit is so light and so simple as to be easily operated by twelve-year-old boy. Motors furnished for any current.

Get the Facts—See a Machine

If you have electricity and keep cows, by all means get the facts. The Hinman Electric is designed for dairies of any size—one cow or more. If you do not have electricity, get the facts about the Standard Hinman Milker.

Literature and information is free. Send for it today.

Hinman Milking Machine Co.
Oneida, N. Y.



Kiel Anti-Tip Low Down Farm Wagon



Front Wheels Turn Like an Auto

The Best **FARM WAGON** ***Buy***
Turns within its own length—write and let us explain why it wont tip. *Descriptive Circular Free.*
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Let me send you my Special Low Price and 10 Days' Trial Offer on the famous OTTAWA Pressure Cooker, GOOD FOR CANNING. Complete set of Aluminum Utensils comes with it. Cooks whole meal at once. Saves ⅔ in time, work and fuel. Write today.
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3 BIG BARGAINS



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Rideezee INNER TIRE

Will pay big money to men with autos. Install Rideezee, the BETTER THAN AIR INNER TIRE. Cheaper than tubes, a light resilient substance guaranteed ten years. Equip your car at agent's price. Sell to friends. The business of the future.
RIDEEZEE CO., ST PAUL, MINN.

Washington Calf Clubs

HOARD'S DAIRYMAN:—Forming dairy calf clubs among boys and girls has become almost as popular in Washington as organizing cow testing associations, which is saying considerable, for there is a veritable revival of interest in these effective checks on the production of the herd. Apparently the reviving interest of adults in making the dairy pay has had its effect upon the youngsters, or perhaps it is vice versa, but at any rate both boys' and girls' dairy clubs and cow testing associations are being formed, in several instances, in the same counties or communities.

In Jefferson County, in the Chimacum community, the Holstein breeders had hardly completed the organization of a pure-bred bull association before the youngsters were out with plans for a pure-bred Holstein heifer calf club, "to demonstrate and teach dairy principles, stimulate property ownership, and encourage interest in pure-bred cattle; to demonstrate the building of a pure-bred herd from one cow; to show the value of co-operation in the use of meritorious sires; and to develop leaders among the boys." County Agricultural Agent R. J. McKenna helped them organize, and Dan Yarr, one of the leading Holstein breeders of the county, has agreed to act as leader, to meet with them and advise and assist them where necessary. They will meet regularly to check records and to discuss matters of interest. The boys who "belong", several of whom have already provided themselves with heifers, are John Nisbet, Elmer Cook, John Broderson, Steve Bishop, Chas. Broderson, Arthur Cook, Thomas Yarr, Floyd Tucker, Wilbur and Walter Bishop and Charles Twiggs. The community is well known for its dairying, and co-operation has proved successful there.

Walla Walla County, which ranks low in number of dairy cattle raised but high in possibilities for development, has a dairy calf club that promises to become the largest in the state. County Club Leader F. L. Shannon and Ralph H. Tuttle, president of the county Holstein-Friesian Association, have already imported and distributed one carload of pure-bred black and whites, and they expect the demand for others to necessitate importation of two more, probably mostly Holsteins. J. H. Compau, dairy project leader of the county farm bureau, has assisted, as have also W. F. McCormick, G. Weerda, and Charles Baker, local breeders. Membership in the club is limited for the most part to boys and girls from families which own their farms. There must be five in a group to make it a standard club, but beyond these requirements the only one is a love for stock and a desire to raise at least one pure-bred heifer. The Walla Walla country has been devoted largely to alfalfa and wheat raising and to beef cattle, but with all three of these lines hard hit by unfavorable conditions of the past two or three years, dairying is coming to be regarded there with much greater favor.

Representative Lew Hubbard and Warren Lincoln, a pure-bred Jersey breeder, made it possible for four boys in Thurston County to have a Jersey calf apiece and to organize a club at Yelm. The former took the boys' notes for one year at 6 per cent for the purchase price of the calves, which Lincoln had made as low as possible to help the thing along. The delivery of the calves was made a gala occasion, and 100 people turned out. County Club Leader W. H. Dunham and Dairy Project Leader D. R. Hughes of the farm bureau advised the boys to care for their property, which are aristocratic descendants of Sophie 19th of Hood Farm. Members of the club are Howard B. Meyer, Geo. W. Cozens, Chester F. Royse, and LaFayette J. Parker. It is the first to be organized in Thurston County, where a cow testing association has also been formed recently to co-operate with dairymen of adjoining Grays Harbor County in testing cows.

Washington. G. N. ANGELL.

Wisconsin Holstein Breeders' Northern Sale

The primary purpose of the Wisconsin Breeders' Northern State Sale held at Marshfield, Wis., May 26, was to offer high class foundation Holsteins with the expectation that they would be purchased largely by Central Wisconsin breeders, and in this respect the sale was successful.

Bidding, however, was slow from the start and had an outside buyer been in attendance he could have secured some excellent bargains.

R. F. Weymouth purchased the top priced animal for $535. This was a 1,150-lb. 3-year-old grandson of Friend Hengerveld De Kol Butter Boy consigned by Albert Zenzel and Wachsmuth Bros.

A 29.99-lb. 6-year-old cow with 690 lbs. milk in 7 days topped the females at $510. She was consigned by Geo. I. Sassman and purchased by R. F. Clark. The entire 59 head brought $16,020.

Mack, Krause, and Clark did the selling with Everson in the box.

Following is a list of those animals bringing $300 or more and buyers of same:

R. F. Clark, Wisconsin	
Pauline Hengerveld Julip	$510
J. H. Reed, Wisconsin	
River Valley Ormsby	$300
F. G. Lehman, Wisconsin	
Juliana Betz of Rock	$400
H. J. Sipple, Wisconsin	
Madison Elizabeth	$350
Edw. Peissig, Wisconsin	
Barron Pauline Princess	$330
B. O. Smith, Wisconsin	
Princess Beauty Pontiac	$305
John Wuethrick, Wisconsin	
Canary De Kol Bawn Korndyke	$345
Aaggie Pontiac Beauty	300
Dodge Co. Jewel Ormsby	400
Harvest Spofford Agatha	325
M. T. Kelley, Wisconsin	
Piebe Oak Spofford 2d	$440
Sam Suter, Wisconsin	
Johanna Lyons Cornucopia Korndyke	$330
J. A. Schmidt & Sons, Wisconsin	
Johanna Fobes Wit	$300
Johanna Best De Kol Banostine	400
Thos. Cook, Wisconsin	
Sir Bess Ormsby	$360
Ed. Fay, Wisconsin	
Nell Pontiac Ormsby	$445
Ruby Lass Pontiac Nell	505
C. L. Butler, Wisconsin	
Harvest Cornucopia Agatha	$390
Jas. L. Chrouser & Sons, Wisconsin	
Catalog No. 61	$390
R. F. Weymouth, Wisconsin	
Producer	$535

Ayrshires in California

Shasta County, situated in the upper end of the great Sacramento Valley of California, with its fertile river bottom lands under irrigation and surrounded by foothill ranches watered by mountain streams, is undoubtedly destined to be one of the greatest dairy counties of the Union when its people awake to its possibilities, which they are fast doing.

Two years ago no one would talk cows; each had his own get-rich-quick crop to grow. Now the same man is planting alfalfa and seriously thinking cows, while the newcomers, who are fast absorbing the surplus irrigated lands, invariably tell you that as soon as they can get alfalfa started they intend to dairy.

Wyndham's Dairy, realizing some years ago that this was an Ayrshire county, started to build up a grade herd by the use of bulls from high producing families and also got one pure-bred heifer, but unfortunately most of her calves were of the wrong sex. However, enough heifers matured to prove to Mr. Wyndham that he was on the right track, so he sold a number of grades and replaced them with a carload of pure-breds from Canadian herds. Mr. Wyndham was determined that each cow should not only have good conformation and have made at least one creditable record production under ordinary farm conditions, but should have size and good sized teats. Among his selection is "Aaggie of Darroch", secured from the Angus Armour herd in Ontario, who was grand champion in Ontario in 1918, and in five years averaged over 11,000 lbs. of milk on twice a day milking; and Princess 4th from the Woodisse Bros. herd, who secured the silver cup in 1919 in her two-year-old form with a record of 10,765 lbs. of milk and 453 lbs. of butterfat on twice a day milking and running with the rest of the herd. These two cows, with others in the bunch, which have been milking several months are milking 40 lbs. each daily, though they have been less than a month in their new home. This herd should do a lot toward popularizing the breed in the West, where it is so little known, and give the dairymen of the district an opportunity to put bulls of the right kind at the head of their herds.

California. COUNTY AGENT.

The STANDARD FARM PAPERS

BEST— for the Reader therefore—

BEST— for the Advertiser

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	Guaranteed Circulation	Rate per agate line.
Pennsylvania Farmer, Philadelphia, Pa. (Rate 40c per line).		
Ohio Farmer, Cleveland, O., (Rate 70c per line).	255,000	$1.65
Michigan Farmer, Detroit, Mich. Rate 55c per line).		
The Progressive Farmer, Birmingham, Ala.	170,000	1.50
Breeder's Gazette, Chicago, Ill.	60,000	.80
Prairie Farmer, Chicago, Ill	150,000	1.20
Hoard's Dairyman, Ft. Atkinson, Wis.	90,000	.80
Wisconsin Agriculturist, Racine, Wis.	55,000	.45
The Farmer, St. Paul, Minn.	130,000	.90
Wallaces' Farmer, Des Moines, Iowa.	66,436	.60
The Farmer's Wife, St. Paul, Minn.	750,000	4.50
The Nebraska Farmer Lincoln, Nebr.	110,000	.75
Pacific Rural Press, San Francisco, Calif.	32,332	.27
	1,868,768	$13.42

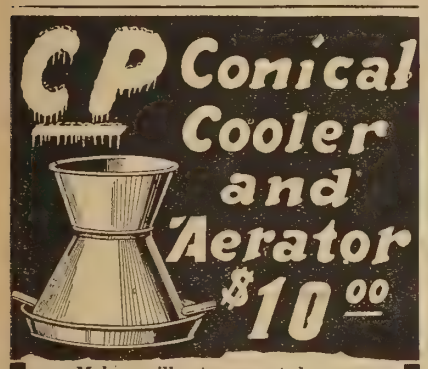
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Prevents growth of bacteria. Aerating removes stable and other oders and improves the flavor. Cools in one minute. Very durable, made of heavy weight best quality tin.

Mail order Dairy and Milk Dealers Catalog free.

Prices F. O. B. Chicago

No.	Capacity Quarts	Size Dairy	Price
2	18	1-25 cows	$10.00
3	34	25-50 cows	12.00
4	48	50-100 cows	15.00

THE CREAMERY PACKAGE MFG. COMPANY,
68 W. Kinzie St., Chicago, Ill.

CERTIFIED GRIMM ALFALFA

Take no chance of substitution—get the genuine, hardy, high-yielding seed which has given such successful results. We have already handled half the Certified Grimm produced in the world last year; we get it *from the growers*, with affidavit of purity and its ancestry back to source.

We can furnish scarified, recleaned Idaho or North Dakota grown seed with certificate giving name and address of growers.

60c per pound—Bags 40c

We have also Michigan-grown Wheat, Rosen Rye, Vetch, Winter Barley, etc.

Seed Department

MICHIGAN STATE FARM BUREAU
234 N. Cedar St. (8) LANSING, MICH.



For bedding most convenient, serviceable and sanitary. Write for prices.
Jagerson Fuel Company, Neenah, Wis.

New England Ayrshire Club

A special meeting of the executive committee of the New England Ayrshire Club was held in Boston May 6. Several plans were fully considered and unanimously adopted, the object of which is to develop a wider field for Ayrshire cattle in New England.

Arrangements were made with the Live Stock Improvement Co. Inc. of Massachusetts, as submitted by Joseph Ray of Franklin, whereby pure-bred calves can be placed with farmers in New England at a nominal cost, payment to be made in interest bearing stock of the Live Stock Improvement Co. Inc.

A report of the treasurer indicated a substantial surplus of cash on hand, nearly all of the dues for the current year having been paid. Several applications for membership previously proposed were confirmed and steps were taken to further increase the membership by inviting former breeders of the Club to renew membership again.

A vote was taken, authorizing a prize of $50 for the highest production in milk of any two-year-old heifer, bred and owned by any member of the Club, said contest to commence on or before December of this year, and due notice giving full conditions will be sent shortly to the members. There is already in the possession of the Club a fund that was given for this purpose by A. B. Marble, a former president. The committee also voted to appropriate $120 to be distributed at the rate of $20 each to six fairs.

It was decided to hold two fieldays this summer; one for the benefit of the members located in the northern sections of New England, and the other at a point that would be convenient for the southern members of the Club; and an invitation was accepted which was presented by Mr. Blondin, superintendent of the farm owned by Walter M. Parker at Auburn, New Hampshire; this fieldday to occur during the latter part of June.

The secretary was instructed to obtain information bearing on the number of breeders of Ayrshire cattle in New England and also the number of actual animals that are owned. A discussion was had in regard to the advisability of holding a sale under the auspices of the New England Ayrshire Club for the purpose of aiding the members in marketing their animals, and it was thought inadvisable to consider the sale at the present time, but arrangements are to be made to plan on a sale in the future.

A publicity committee was elected and special instructions were given to carry on an extended advertising campaign. Arrangements were made to publish literature bearing on the merits of the Ayrshire cow, together with a copy of the revised by-laws and a program for the future.

Considerable enthusiasm was displayed and much interest was shown in the future plans of the Club to develop its influence and assist the interests of the membership.

Massachusetts. WM. HANDY, Sec.

Pure-Bred Cattle in Georgia

The census bureau reports a total of 8,727 pure-bred dairy cattle in the state of Georgia, 7,033 of these being females. The totals by breed are as follows: Fourteen Ayrshires, 305 Guernseys, 1,700 Holsteins, 6,224 Jerseys, and 484 of other breeds.

A little planning will usually let you and the family take in the farmers' and community picnics. As promoters of neighborliness they are too valuable to be missed.



Primrose Prices Down!

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HOARD'S DAIRYMAN JUNIORS



A DEPARTMENT FOR THE DAIRY FARM BOY

Junior Hay Makers

While every junior has his own interests in the things of the farm, there is always the interest that goes with the general work that is necessary to operate the farm successfully. To know how to do certain things is a very important matter for farm boys but to know the reasons is a matter of quite equal importance, for the why of a thing usually determines to a large extent how it is done. Most junior farmers will be engaged in helping to make the beautiful meadows of clover and alfalfa that we now see into hay before long, and so we think that every junior should know some things about the fundamental principles upon which the making of good hay depends. The big task in making hay is to get the job done, but we should not lose sight of the fact that we want to make the best kind of hay that it is possible to make.

If you ask dad what the best kind of hay is, he will probably tell you that good hay has a bright green color, smells good, and has most of the leaves left on. This would indeed be a very good answer and whenever you see hay that has all of these qualities, you may know that it has been properly made. Now of course you may well ask how should clover and alfalfa be turned into hay so that the very best kind is had.

First of all we must determine when the crop should be cut, and to know when to do this we must keep some fundamental things in mind. To be sure we want to get the largest yield possible without sacrificing some of the other qualities that good hay should have. Therefore as a usual thing we allow the crop to make a large growth before cutting it. Clover is cut when in full bloom or just as some of the heads are beginning to turn brown. By this time there is just about as much dry matter as there will ever be and if we wait longer than this stage before cutting, the hay will not be as good because the stock will not eat it as readily.

Hay to be first class should be palatable. Cattle will digest it more efficiently and there will not be so much waste. Furthermore, if we waited much longer than this stage, many of the lower leaves would begin to fall off and then we would not get as much hay. In the case of alfalfa especially, we must also keep in mind the effect of cutting the first crop upon the growth of the second. We perhaps all know that when the new shoots are appearing at the crowns of the plants that will make the second crop, then it is time to cut the first one. If we wait much longer than this the new shoots will be clipped off and this will cause the second crop to make a slower growth. So here are three things that should govern us in making hay. First, we must get the biggest yield that is possible; second, we want to take the crop when it will make a palatable hay; and third, the effect upon the second or next crop should be considered. And while these are all very important, we should not lose sight of some other factors.

Hay furnishes starches, proteins, and fats for the stock in addition to those furnished in the grains they eat. And in order to become of any use in the animal body, they must be digested. At some stages in the growth of plants these food compounds are more digestible than at other times. Now, of course any farmer wants all of the digestible protein he can get in his hay. Usually the older plants become, the more woody they get to be and the less digestible they are when eaten by the stock. Our problem then is to get a large yield of palatable hay containing the greatest amounts of digestible foodstuffs. In clovers, this time comes when the plants are just ready to begin to fade their blossoms and in alfalfa, when the new shoots that make the next growth are starting upward from the crowns of the plants. These facts are the guiding principles of hay making with reference to the best time to take the crop for hay.

And now the task of making good hay! If you would weigh 100 lbs. of the green clover just as soon as it is cut down and then when it is fit to place in the stack, you would find that there has been a decided loss in its weight, in fact to be quite exact you would probably have about 30 lbs. of hay. This means that there has been considerable shrinkage during the drying process and we believe that every farm boy knows that this has been due to a loss of moisture. And right here is a very interesting and practical problem dealing with this very matter of making hay. Let us suppose that you have 5 tons of hay with a moisture content of 20 per cent. Can you figure the tons of green clover that it took to make it providing 75 per cent of its weight was moisture? Perhaps some of you will send in the answer the next time you write to us. This problem brings out a very important point in hay making. It is safe to say that from 60 to 80 per cent of the weight of the green clover or alfalfa is moisture and in order to make hay from it that is fit to stack or store away in the barn, this moisture content must be reduced to about 20 to 25 per cent. This is the chief thing that goes on when dad talks about curing or drying the hay. But this isn't all either. Did you ever notice what a fine odor comes from a mow of newly made hay? This helps to make the stock like it and we speak of it as the aroma of the hay. It disappears as the hay gets older and hay that has been very wet also loses its aroma.

One of the greatest difficulties in hay making is to save the leaves. If it is allowed to get too dry, they are bound to break off with the handling. In order to avoid this, hay should not be allowed to dry in the swath. If it is, the leaves get scorched and become very brittle. Some people make this mistake and then they have a very poor quality of hay, for with the loss of leaves there is a great loss in the feeding value. Dad probably has lived through the days when more of the hay was cocked up in the field to dry than it is today. When one starts to make hay nowadays he likes to do it as fast as possible because he usually has a great deal of it to make, and cocking it all up means a lot of extra work. With the improvement in haying machinery, we are able to work more rapidly and so now we do not see so much of the hay cocked in the field. If the weather is good, it is a good plan to allow the hay to remain in the swath long enough to become thoroughly wilted. This is called a partial drying in the swath. Then it should be raked into windrows and allowed to complete the drying process. If it is not allowed to get too dry before raking, a very good quality of hay can be made in this way, and thus the labor of cocking it up has been saved.

We often hear dad say, "Well, I guess we can haul hay tomorrow if the weather is fine," and we wonder how he knows. You never saw him determining in any mathematical way how much moisture was in the hay, did you? Of course you didn't! But he knows from experience, and he can tell by the feel of it. While there isn't any real set rule that he goes by, still there are some pretty safe guides that make him reason as he does. For example, if it feels cool when he touches it, and if he cannot wring out any moisture by twisting a bunch of it, it is ready to haul in. But if an actual moisture test was made at this time, you would probably find that it contained from about 15 to 25 per cent of moisture.

And did you ever stop to think that hay soaked with rains is not as good as that which has not been wet? Getting wet does several things that reduce the quality of the hay. First of all, it loses its color; and hay that has lost the bright green color it should have is not hay of first quality. Then, too, it has actually lost some of its weight. Scientists who have studied this problem state that the loss may be as great as 30 per cent. Dad knows that wet hay has its quality reduced and that is why he is so anxious to get all of his hay in before it gets wet.

Then there is another thing that it might be well for you to look into before leaving this study. Suppose your father puts away fifty tons of hay this season. Do you think that he will have the same amount by next winter? We can say from experience that he will not, because there is always a natural shrinkage in stored hay. Usually this amounts to about 7 to 15 per cent of the original weight and it is largely due to a further loss of moisture. Here is another sensible problem based upon this fact. Assuming that hay is worth $10.00 a ton when it is fit to haul from the field and allowing that it will shrink 10 per cent in the stack or mow, what should it be worth in March at this rate, providing no other factors are considered?

And do you know how to measure hay in the mow? Here are some pretty safe rules in regard to that matter. For clover hay in the mow after it has settled, it will take about 500 cubic feet to make a ton; for timothy, about 420 cubic feet; while for mixed hay, about 450 cubic feet. Knowing these facts, together with the dimensions of the mow and the depth of hay in it, one can easily figure the amount of hay he has.



DAIRY CATTLE JUDGING CONTEST AT BOYS' AND GIRLS' "CLUB ROUND-UP", PURDUE UNIVERSITY, INDIANA, MAY 3RD TO 6TH

Junior Letters

Hoard's Dairyman Juniors:—I received my fob, button, and creed. We own a farm of 80 acres. Most of the people around here run claims. We run a dairy. It is a fine job. We own 5 calves, 11 cows, one bull, and two horses, and I own one calf and fourteen chickens.

Virginia. Hayden Jones.

Hoard's Dairyman Juniors:—This season is rather behind because we have had so much rain and freezing weather. Some ground is not plowed and very little corn planted. It is going in fast from now on.

We have 75 acres rented, some in pasture and some in plow land.

Grandma and we have our cattle together. She has three. Kenneth, that's my brother, and I have three and father has a calf. Father has two horses and three pigs now. One of the cows is registered and the rest are grades. All of the stock is named. The cows begin with A and go down the alphabet. We are farther down the alphabet than seven letters because we have sold some.

Kansas. Warren Thurston.

Hoard's Dairyman Juniors:—I have been reading the junior letters and like to read them. My father has four grade cows, one heifer and three calves.

I am in the 6th grade at school and am 12 years old. We have one Fox Terrier female and 2 puppies. The female's name is Waynie Girl. We haven't named the pups yet. We also have nine hundred little chicks and 200 White Leghorn hens. We have 3 incubators that hold 940 eggs.

I wish the juniors good luck.

Missouri. Louis H. Diehl.

Hoard's Dairyman Juniors:—This is my first letter to the juniors. I am 10 years old and in the 6th grade at school. I go to the Mulberry Grove School. I have about one mile to go. My teacher's name is Mrs. Nora B. Ellis.

We have 5 Holstein cows and 3 calves which are all Holsteins too. We also have 3 horses. One of the calves is mine and I call her Retta. We have about 200 chickens and get from 12 to 15 dozen eggs a day. We live on a 40-acre farm which we rent. We have two geese.

I wish all of the juniors good luck.

Illinois. Nina Johnson.

Hoard's Dairyman Juniors:—I am 14 years old and in the 6th grade.

We have 8 work horses and one little driving horse and two little mules about one year old. We call them Abraham and Isaac. We bought Isaac and raised Abraham. One day Abraham kicked me under the right eye and

knocked me over and then he ran away with his head in the air.

We have about 68 head of cattle. We are milking 25 cows and shipping 10 and 11 cans of milk a day. Most of our cows are Holsteins. I milk four cows every night and morning.

I have three brothers older than I and two younger.

We have about 30 pure-bred Chester White pigs.

We have the White Orpington chickens.

If any of the juniors wish to write to me my address is Burdick, Indiana.

Harold C. Gring.

Hoard's Dairyman Juniors:—We have taken Hoard's Dairyman for some years and like it fine, always glad when it comes and it sure has a good reputation.

We live on a five-acre ranch. Suppose that sounds very small to the juniors, but that is all that people have where we live and some only have one-half acre and one acre. But the majority have about four or five acres. We have one very nice Jersey cow. She is very nice and gentle. She gives about four gallons of very rich milk when fresh. Our school will soon be out. I will be glad for in summer I go swimming at a nearby lake called Oswego Lake. We have lots of fun down there. I suppose many of the juniors get to see the Great Lakes real often. The weather here in Oregon is beautiful now. Everything is so pretty. Many wild flowers are out. Another girl and I went picking them. Had lots of fun and gathered a good many.

We have 6 chickens that lay fine. We get 4 to 6 eggs every day. We did have a great many of them, but as feed became so high priced had to sell them. I also have one little rabbit that I call Peter. We have five nice goats that have lots of woolly fur and that will soon be sheared after cold nights go away.

My birthday was April 12 and I got a pretty card and barrett, also box of writing paper and one box of pretty handkerchiefs. I had a pretty white cake with 13 pink candles on it. Had a fine time.

I hope to hear from some of the juniors. My address is R. 1, Oswego, Ore.

Dorothy Lawson.

Hoard's Dairyman Juniors:—Received the fob, button, and creed, with which I was very much pleased and I thank you very much. When my brother saw them he was real interested in the club and soon joined.

We planted our strawberries a few days ago and they are doing fine. The grain is now above ground.

I have four ducks and eight small ones. I also have three hens setting on duck eggs.

We are planning on planting a large patch of potatoes this year. My brother raised about an acre of beans last year and found them profitable so we intend to raise more this year.

We moved our raspberry patch this year and also planted some more gooseberry and currant bushes. We are breaking up our pasture this year and there is a lot of fencing to do.

I have a horse, buggy, and harness of my own. The horse's name is Bell. She is broke single, double, and to ride. I have no saddle but still I enjoy riding.

Wishing the juniors good luck and also some of them to write to me. My address is R. R. No. 5, Blooming Prairie, Minnesota.

Donald McNerney.

Hoard's Dairyman Juniors:—I believe I told you we had thirty head of cattle, but now we have thirty-seven, one of which was born tonight; he is a bull. We have had three bulls out of four calves. There are five or six more to calve soon or within two months. We are milking seven cows. I milk them all.

We have four brood sows. Two have pigs; one had five which all lived, the other had eight and one died; one is to farrow soon; the other lost her pigs.

I live on a 160-acre farm. We farm mostly in wheat.

Don't you juniors ever think that I do not take an interest in dairying because I do. We have no pure-bred cattle aside from three Shorthorns but they are not milch cows. But never mind, I will show you some day. I am going to try to do what the pledge says.

I want some of you juniors to write to me. I like to hear of your calves although I do not have them myself. I will answer.

With good luck to all juniors. My address is Williams, Mont. Wesley O. Stearns.

Hoard's Dairyman Juniors:—This is my first letter to the juniors. I am eleven years old and am in the fifth grade at school. My father takes Hoard's Dairyman and I read the junior pages every time the paper comes. My father has nine head of registered Ayrshire cattle. And I have a registered Ayrshire heifer sixteen months old. Her name is Miss Grace of Pine Hurst. How she came to have the name Miss Grace is because I was sick in the hospital when she was born so my father named her my middle name. She is a big heifer for her age. She is almost all white and has a straight back. We brought her and seven other Ayrshires clear from Southern Minnesota. Papa has three A. R. cows. We think Ayrshires are the only cows. If any of the juniors want to write to me my address is Arcade, N. Y. Anita Grace Cowles.



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Holstein heifer and bull calves. Pure-bred, registered and high grade. Splendid individuals and breedings. Delivered to you, $25 and up. Your inquiry will be given our best attention. BROWNCROFT FARMS, McGraw, N. Y. 5*

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Registered Holstein bull calves. World's record milk producing stock at farmers' prices. FREDMAR FARMS, 3558 Lindell Ave., St. Louis, Mo. 18-4

Listen! Your last chance to get some of those beautifully marked extra high grade Holstein heifer calves at greatly reduced prices. Registered bull calves $35.00 C. O. D. Look them over and if they don't suit don't pay for them. J. M. MCFARLAND, Watertown, Wisconsin. 18-4

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Ten registered Holstein cows, 37-lb. herd sire, young bulls and heifer calves. PHILIP LEHNER, Princeton, Wisconsin. 20-2

Holstein grade heifer calves, two to four weeks old from tuberculin tested herds. Crated $22. Pure-bred bulls from tested sires $75 and up. Shipped C. O. D. WAUKESHA COUNTY HOLSTEIN BREEDERS' ASS'N., Waukesha, Wisconsin. 20*

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For Sale—Registered Holstein bull, Sir Hoy Korndyke, one year old last April. Dam, Lady Dora Korndyke. Price $100. CLIFFORD TOBEY, Worth, Illinois.

Registered Holstein Bull, 19 months old, splendid breeding, first prize calf at two fairs 1920. Price $150. ARTHUR E. JOHNSON, Anoka, Minn.

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Registered Holstein-Friesian heifer calves. $40.00, satisfaction guaranteed. HILLCROFT FARMS, Walton, New York. 21-3

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Guernsey heifer calves. Can ship you 10 at once about 4 weeks old. Calves out of my own herd, so know what I am shipping. $30 each crated. F. O. B. Waukesha. WERN FARMS, Waukesha, Wis. 18*

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Baby chicks $10.00—100 up postpaid. Catalog free. UNIVERSAL BABY CHICK CO., Peoria, Ill. 19-4

Baby chicks, greatly reduced prices. Pure-bred bred-to-lay from free range flocks. White Leghorns, Buff Leghorns, Barred Rocks, White Wyandottes. Send for catalog. WANDSCHNEIDER'S HATCHERIES, Box 1, Fort Atkinson, Wisconsin. 20-2

March hatched cockerels from heavy winter laying Single Comb White Leghorns. $1.50 each. Satisfaction assured. R. A. ZIMMERMAN, Mayville, Wis.

MACHINERY

For Sale Cheap—A small lot of standard make Swedish Cream Separators, 400 pounds capacity, $29.00, 500 pounds capacity, $34.00, 700 pounds capacity, $39.00. These are all new machines, wonderful bargains. THOMAS TAFFEE, Box 355, Lansing, Mich. 18*

One Waterloo Boy 12-20 tractor good as new. One Grand Detour Jr. 3-bottom plow, new. Two 16-inch pulverizers new. H. C. KARSTEN, Huntley, Illinois. 10*

Hinman Milker outfit complete, perfect condition. Will sell cheap. W. MORCK, 2531 Grand Ave., Minneapolis, Minn. 20-3

For Sale—1 slightly used Perfection Milker. C. B. SIKKING, Springfield, Ill. 20-3

For Sale—Sharples (demonstrator) motor-milker, complete. Price right. D. WALKER, 595 Granville Rd., Newark, Ohio.

Perfection and Hinman Milker units, new and used, reduced prices. FELIX JULIUS, Stockton, Ill.

For Sale—One Number 12 Universal Milker Vacuum Pump, one double Unit Milker—has never been used. Bargain for quick sale. H. R. STAPP, 812 Kanawha St., Charleston, W. Va.

AGENTS WANTED

Representatives wanted to write hail and cyclone insurance every township in the Northwestern states. Little experience necessary, good commissions. Write quick. ST. PAUL MUTUAL HAIL AND CYCLONE INSURANCE COMPANY, 805 Pioneer Bldg., St. Paul, Minnesota. 12-12

Yes Sir, we have a special opportunity for you during spare time, an opportunity to do some good work in your neighborhood, for the betterment of dairy farming, that will pay you in cash for the effort you put forth. Write for our "Special Opportunity Getting Together" folder. Address HOARD'S DAIRYMAN, Fort Atkinson, Wis. 2-tf

TOBACCO

Kentucky Tobacco—Direct from growers. Save 75% on your tobacco bill. Rich, mellow leaf, aged in bulk. Chewing and smoking, 3 lbs., $1 postpaid. KENTUCKY TOBACCO ASS'N, D309, Hawesville, Ky. 18-4

HAY

Alfalfa and prairie hay for sale. Prompt shipments. Personally inspected loading. Wire or write GUNN HAY CO., Lexington, Nebr. Reference Lexington State Bank. 11*

FEED BAGS

Ship your bags to LARIMER BAG CO., Washington, D. C. 11-spl

LIGHTNING RODS

Lightning Rods—Exclusive agency and quick sales to live dealers selling "Diddie-Blitzen Rods." Our copper tests 99.96 per cent pure. Write for agency. Prices are right. L. A. DIDDIE CO., Marshfield, Wis. 9*

FARMS FOR SALE

For Sale—2,000 acres fine hardwood timberland, birch, white ash, maple, white pine, spruce. Sawyer County, Wisconsin. Logging would pay handsome profit. Land delightfully situated for stock ranch. Two trout streams, six springs. Also 130-acre dairy farm, buildings new, on lake shore in Barron County. W. A. HANCE, Freeport, Illinois. 7*

I have a few choice improved and partly improved farms in the famous potato and dairy region of upper Michigan, 40 to 160 acres. Low prices and easy terms. JOHN MAJOR, P. O. Box 198, Marinette, Wisconsin. 16-13

Hardwood cut-over land, silt loam, clay sub-soil. Neither sandy nor gravelly; close to town; good roads; good schools; in the heart of the dairy country. You deal directly with the owners. No agents and no commissions. Easy terms. Also improved farms. Write for map and Booklet No. 4. NORTH WESTERN LUMBER CO., Land Department, Stanley, Wisconsin. 1*

For Sale—130-acre dairy farm, buildings new, on lake shore in Barron County, Wisconsin. W. A. HANCE, Freeport, Illinois. 18-*

Farms near New York City. Dairy, grain, potato, fruit, poultry. 752 pictures sent free. SLOCUM FARM AGENCY, 141-T Broadway, New York City 18-4

Write for my farm catalogue describing thirty real bargains, best corn and clover land in state. SAM IVERSON, Colfax, Wisconsin. 19-4

Farms for sale. We own and control several choice Livestock farms in famous Prairie belt of Mississippi. Write us what you want. HANSON & COCKRELL, Macon, Mississippi. 19-*

Land producing from $100 to $1,000 per acre, in 5 to 40-acre tracts, on payments from $50 to $300 down. Send for booklet. Address THE MAGNOLIA STATE LAND COMPANY, Iola, Kansas. 20-2

Attention Dairy Farmers—Write for our booklet, "Dairying in the South" and get our proposition on co-operative Dairying. High class proposition and only high class dairy farmers wanted. Contract backed by one million capital. Address GA-FLA DAIRY FARMS, Ashville, Fla. 20-4

438-acre farm, well equipped for dairy or fine stock raising, good location, near large city. Priced to sell. Terms. 8,000 acres unimproved land well located on paved road, citrus, farming and live stock proposition. $6 per acre, cheap, terms. Wanted man or men with money to help organize development corporation as promoters, to develop finely located ranch of 3,243-acre live stock proposition, chance to double money in short time, grass year round. Two good dairies for sale, milk wholesale and sells high. Lands close in, citrus, farming and live stock proposition, $15 per acre, also groves, farms, all sizes, at reasonable prices. Terms. IDEAL FARM CO., Lakeland, Florida. 20-2

Rusk County, Wisconsin. The buckle of the clover belt. 16,000 acres of good clay loam land from which to select. Very small payment down, with no more payments for five years. For detailed information, come to Ladysmith, or write T. C. JONES, Ladysmith, Wisconsin. 20-4

We are sub-dividing the beautiful eight thousand-acre Corporation Ranch in northern California into ideal dairy farms. Abundance of water, productive land and Sportsmen's Paradise. Write for particulars. FAVELL-UTLEY REALITY CO., Lakeview, Ore. 20-2

Clover, alfalfa, sugar beet, prairie. Owner's price, easy terms. Submit trades. GASEL, Thief River Falls, Minn. 19-7

Big farm bargain in New York. 396 acres. Fine land. Big crops. Good buildings. Forty cows, four horses, machinery, hay, grain, everything goes for $17,000.00, $7,000 gets possession. U. G. DAVIDSON, Route 1, Oneonta, New York. 5-spl

Wealthy Western New York Farms. Why not get the best? Write NEW YORK FARM AGENCY, Westfield, New York. 21-spl.

Cut this out and learn today how settlers can get new made-to-order dairy farms with buildings, stock, tools, etc. First payment $300 to $700, balance 30 years. Location famous Chippewa Valley, heart of Wisconsin. Close neighbors, markets, railroads, schools, creameries, best soil, pure water. Great opportunity, must have some farming experience; several farms ready to move on now. Send today for free information. CHIPPEWA VALLEY COLONIZATION CO., DV, 203 Plymouth Bldg., Minneapolis, Minnesota. 21-2

For Sale—183-acre grain and stock farm, well improved, near town. For particulars write S. E. ROSS, Iola, Kansas. 21-2

200-acre dairy farm in foremost dairy community of the east. 60 miles north of Pittsburg, near Government operated creamery, ¾ mile church, school and R. R. House, tenant house, 2 barns. Good level land. Dairy farm for 25 years. Priced to sell account of sickness,—$75 per acre. OWNER, Lock Box 92, Grove City, Mercer County, Pa.

192-acre Dairy Farm with pair horses, crops, 8 cows, 2 heifers, herd sheep, flock poultry, cream separator, full implements, etc., thrown in; famous dairy section, prosperous farmers, productive farms; 2 miles hustling R. R. town, close city all advantages; broad fertile fields cut 85 tons hay; 25-cow spring-watered, wire-fenced pasture, estimated 1,000 cords wood, timber; 50 apple trees; pears, plums, cherries, grapes, berries; 500 sugar maples, full equipment; splendid 10-room house, metal roof, delightful shade; good 20-cow basement barn, cement floor, granary, poultry house, garage. To close out quickly only $6,600, less than half cash, easy terms. Big opportunity. Don't wait. Other farms described my Bargain Catalog. Free. J. H. TOBIN, Cortland, New York.

Productive 190-acre Farm with horses, crops, 10 cows and calves, machinery, tools, vehicles, harnesses, etc., everything waiting yield big returns; near R. R. town, advantages; dark loamy fields; spring-watered pasture 20 head; 500 cords wood, 50,000 feet timber; 50 apple trees; pears, cherries, good 2-story house with running spring water, delightful view; fine 15-cow barn, garage, tenant house; owner retiring $3,500 takes everything, easy terms. Details page 17 Illustrated Catalog 1100 Bargains. Free STROUT FARM AGENCY, 150 DL Nassau St., New York City.

PARTNER WANTED

Partner Wanted—Wanted dairy or business man with $12,000 to $15,000 to establish a dairy in the South in splendid climate where summer heat is never excessive. Close to best market where milk sells for $1.00 in summer and $1.20 in winter per gallon. Can raise all necessary feed. This is a rare opportunity. Have plenty of land and most of the necessary buildings. Am experienced dairyman and farmer myself. Address letters with all details to BOX 777, care Hoard's Dairyman.

FARMS WANTED

Want southern or central Wisconsin farm of from 80 to 200 acres with stock. WALTER MILLER, Brumder Building, Milwaukee, Wis.

TANNING

Let us tan your hide. Cow and horse hides for fur coats and robes. Cow and steer hides into harness or sole leather. Catalog on request. THE CROSBY FRISIAN FUR CO., Rochester, New York. 10-17

LUMBER

Lumber and shingles at reduced prices. Farmers' trade our specialty. Best quality. ROBERT EMERSON CO., Box 1156W, Tacoma, Wash. 19-5

FEEDS

Dried Beet Pulp—the wonderful dairy feed. New reduced prices. Ask your dealer or write THE LARROWE MILLING COMPANY, Detroit, Michigan or Los Angeles, California. 12*

STANCHIONS

Crumb's Stanchions are guaranteed to please the purchaser. They are shipped subject to trial in the buyer's stable. They are right. Send for booklet. WALLACE B. CRUMB, Box H, Forestville, Conn. 15-10

PRINTING

Hoard's Dairyman Art Department designs your letter head free. Just tell us your breeds of stock. Book of 5,000 Farm, Ranch and Cottage names 25 cents. Ask for samples of letter heads, envelopes, shipping tags, cards, milk tickets, etc. Poor stationery is more of a damage than a help. Be sure and give correct post office address, including state. Address HOARD'S DAIRYMAN, Art Dept., Fort Atkinson, Wisconsin. 8-tf

MAPLE SUGAR

Fancy maple syrup, $2.50 per gal.; sugar in 5- and 10-lb. pails, 35 cents per lb.; 2-oz. cakes in bulk, 40 cents; in attractive boxes, 45 cents. W. H. WARREN, North Pomfret, Vermont.



Advertising in this department is 7c per word. Remit in advance.

HELP WANTED

U. S. Government Wants men-women over 17. Hundreds permanent positions, $116 to $195 month. Short hours. Vacation. Common education sufficient. Write immediately for list positions. FRANKLIN INSTITUTE, Dept. M115, Rochester, N. Y. 20-4

Milkers—Married or single. String of 30 cows. Ninety dollars and found. SANTA MONICA DAIRY COMPANY, Venice, Calif. 19-*

Wanted—Two married men with boys old enough to work in dairy, also two single men for dairy. Good living conditions. J. S. DUNLOP, Pinehurst, North Carolina. 21-*

Wanted—Single man with clean habits to care for small dairy registered Holsteins. We want an ambitious, trustworthy man who likes cows and is willing to persevere with them. If you are not such, do not apply. Wages $40 per month and board. Location Northern Michigan. Address BOX 774, care Hoard's Dairyman.

Wanted—A first-class dry hand milker. Must be efficient and reliable. Good pay and permanent position. A. C. RAMSEYER, Smithville, Ohio. 21-*

Wanted—Single man for general farm work. Must be competent, alert and good horseman. Milking machine used. Wages $40. H. W. COIT, Galesville, Wisconsin.

Wanted on a large Holstein dairy farm in the state of Maryland, a capable man, married with small family as herdsman. Address BOX 779, care Hoard's Dairyman. 21-*

Wanted—Single assistant herdsman for herd of high class Guernseys. Modern barn and best of living conditions. Must be experienced in feeding cows on test, calf raising and be capable of taking charge in absence of herdsman. Give references and salary expected. FAIRYDALE FARM, Pawling, N. Y. 21-*

Wanted—College graduate as head of Department of Horticulture, Boys' Agricultural School. Excellent opportunity for practical worker and teacher of some experience. Apply, "RIGGS," Lakeville, Conn.

POSITIONS WANTED

Assistant Herdsman on large stock farm, Wisconsin preferred. Life experience in general farming, six years as owner. Can come at once. State wages. J. D. MILLER, care Fairhome Farm, R-3, Hayward Wisconsin. 21-*

Position wanted on gentleman's private place as farm manager by single middle-aged man. Thoroughly understand all branches of farming, orchards, vegetable gardening, expert in handling blooded cattle, fo testing and showing; handle men for results. Middle or far West preferred. First-class references from former employers. Address BOX 775, care Hoard's Dairyman.

Milk wagon driver, experienced, good hustler, can d milk room work. ROBERT M. JONES, Box 304 Spokane, Washington.

Farmer—Married, small family, wants place to ru on salary or shares. Prefer near St. Paul. BOX 175 Dawson, Minn.

Position wanted by experienced married herdsman JOHN DOBRATZ, Delano, Minn. 21-*

Farm and Dairy Manager, aged 30, open for position on a large farm or estate in process of development. Thoroughly understand livestock and dairying Full knowledge raising of all farm crops; modern methods. Experienced in all lines farm machinery construction work, drainage, and road work. Nothing but first-class proposition considered; state full particulars in first letter. Address BOX 778, care Hoard's Dairyman.

Expert Holstein man and up-to-date farmer with long years' experience desires position as manager of A-1 dairy farm. Willing to invest in the proposition by adding some fine Holsteins to the present herd Will work on salary and share basis. State all conditions in first letter. Address BOX 776, care Hoard's Dairyman.

Married man wants job on dairy. Two good milkers. 20 years a farmer. E. ALLEN, Wonewoc, Wis

County H.-F. Association in Connecticut

Breeders of Holsteins met at 11 o'clock May 5th at the Windham County Farmers' Association office Putnam, Connecticut, at the call of County Agent F. L. Davis, and formed the Windham County Holstein Association. E. C. Rogers was elected president; George H. Kimball, vice president; and William S. Warren secretary-treasurer. This is the first county Holstein association to be organized in the state of Connecticut.

Missouri Holstein Breaks Record

Beulah Johanna Korndyke, a junior 3-year-old Holstein heifer owned by John F. Bluhm, Missouri, has broken the record for her class in that state by producing in seven days 628.5 pounds of milk containing 20.24 pounds fat. On yearly test she produced in one month 2,633.1 pounds of milk containing 84.79 pounds fat. When credited with a handicap for her age, she was given first place among Missouri cows for the month in the "Cow Race".

Ideal Quarters for 1921 Show

THE illustration shown below is of the new cattle barn on the grounds of the Minnesota State Fair. This will house the machinery exhibits and the cattle entered in the 1921 National Dairy Show. The inside measurements are 398 feet by 233 feet with a mezzanine floor 34 feet wide, 12 feet above the main floor. The total available exhibit space is 61,360 square feet, a little more than used by the 1920 show in the stock yard buildings at Chicago.

Secretary W. E. Skinner writes of the 1921 quarters for the Show:

"This building will have cost over $400,000 when finished, and is one of the best show buildings that we know of in the United States. The glory of the whole thing is that there is no better space for one than for another. The whole exhibit will be on view to everyone entering the door. The obstacles are so few that one can get a glimpse of every exhibit in the place by standing just within the front door. An interesting feature is that we sold more space for this year's show on the opening of the space sale on April 14th than we ever sold on any previous first day—the entire ground floor being sold out, and a great deal of the mezzanine."



CATTLE BARN OF THE MINNESOTA STATE FAIR WHERE THE 1921 NATIONAL DAIRY SHOW WILL BE HELD

Sheboygan County, Wis., Sells Holsteins

Sheboygan County, Wis., held one of the most successful county sales of the season May 20 at Plymouth, Wis., selling 62 animals for an average of $225. Bidding was fast from the first, the entire lot being sold in less than 4 hours.

Isaac De Munck bought the highest priced cow, Yeslehtine Bess, a 28-lb. granddaughter of Sir Hengerveld De Kol Ormsby, for $675. She was consigned by S. A. Eastman.

Mack and Laux did the selling with Everson in the box.

Following is a list of those animals selling for $300 or more and buyers:

G. J. Kempink, Wisconsin	
Pinehurst Miss Ormsby Beauty	$305
J. E. Stauss, Wisconsin	
Kingwood De Kol Hengerveld Segis	$350
Admiral Neith Hengerveld	310
H. J. Goelzer, Wisconsin	
Segis Cornucopia Wa Wa	$305
Cora Eagle De Kol	335
J. E. Curtis, Wisconsin	
Bessie Beauty Belle 2d	$300
Laura Mechthilde Dale	300
Queen Carmeline Spofford	300
Bessie Piebe Mercedes	500
Johanna Peeress De Kol Fayne 4th	300
Floyd Kabmerton, Wisconsin	
Vickery Vale Hengerveld Concordia	$330
Isaac De Munck, Wisconsin	
Lady Palestine Pinehurst	$445
Yesletine Bess	$675
R. C. Stolper, Wisconsin	
Irene Bessie	$400
Otto Zemke, Wisconsin	
Daisy De Kol Pontiac Segis	$300
H. Ebenreiter, Wisconsin	
Cleveland Ormsby Irma	$400

Portage County, Wis. Sells Guernseys

Prices did not rule particularly high at the Portage County Guernsey Breeders' Sale held May 2, at Amherst, Wis., but the consigners generally considered the sale successful.

The 52 pure-breds offered brought just short of $10,000 with $705 the high figure. L. E. Gordon, Jr., paid this for a 638-lb. granddaughter of Caseterilius, that should do even better on retest. She was consigned by Geo. E. Larson.

Love and Benjamin did the selling with Sale Manager F. E. Fox in the box.

The following list includes those animals selling for $300 or more and buyers:

Earl Lea, Wisconsin	
Bernice of Pauline's Wood	$400
R. K. McDonald, Wisconsin	
Fern of Gordondale	$400
Jno. Blaski, Wisconsin	
Lady Jessie's Noretta	$405
T. J. Jensen, Wisconsin	
Noreen of Gordondale	$345
Paul N. Pope, Wisconsin	
Rosette of Gordondale	$310
L. E. Gordon, Jr., Wisconsin	
Tellus	$705
Goldie of Stony Creek Farm	300
Geo. W. Kiel and Jno. A. Pritzl, Wisconsin	
Gold Ollie's Secret	$305

Wisconsin Calf Club Started

County Agent E. S. Leverich of Eau Claire County, Wisconsin, writes that boys' and girls' calf club work for 1921 is already well started in his county. Twenty-five boys and girls now own calves, the breeds represented being Guernsey, Holstein, and Jersey. A "Calf Club Special" will be added to the cattle classes at the county fair and all of the twenty-five members are pledged to show their calves. The calves are purchased outright by the club members. The banks accepted notes for them. The present aim is to continue the work so that the calves are owned until they come in milk and until Advanced Registry records can be made on them.

Ayrshire Advanced Registry

One hundred and thirty-six Ayrshire records completed in the last quarter year average 10,715 lbs. milk, 429.6 lbs. fat.

In the junior three-year-old division, Leto's Rosette, owned by Glen Foerd Farms, Pennsylvania, appears with a new world record of 16,448 lbs. milk, 650.11 lbs. fat. Ring Heather of South Farm, owned by the same farm, becomes a class leader, silver medal winner, and the living junior two-year-old champion of the breed with a record of 15,093 lbs. milk, 700.64 lbs. fat.

In the Roll of Honor division of 300 days, 162 animals have qualified during this last quarter with an average of 10,065 lbs. milk, 403.28 lbs. fat. There are two new champions in this division. The junior four-year-old, Pechora's Pride, owned by Matthew Hannah, Vermont, with a record of 12,395 lbs. milk, 406.67 lbs. fat, and the junior two-year-old, Ring Heather of Highland, with a record of 12,941 lbs. milk, 595.58 lbs. fat.

Pure-bred Dairy Cattle

The census report for Arizona shows a total of 3,108 pure-bred dairy animals owned on 562 farms. Of these cattle, 2,152 were females and 956 males. By breeds the number were as follows: 109 Ayrshire, 48 Guernsey, 1,778 Holstein, 669 Jersey, and 504 other breeds.

The report for Florida shows a total of 2,930 pure-bred dairy animals owned on 1,003 farms. Of these cattle, 2,514 were females and 416 males. By breeds the number were as follows: 46 Ayrshire, 68 Guernsey, 337 Holstein, 2,380 Jersey, and 99 other breeds.

The report for California shows a total of 19,144 pure-bred dairy animals owned on 3,959 farms. Of these cattle, 14,064 were females and 5,080 males. By breeds the number were as follows: 595 Ayrshire, 36 Brown Swiss, 1,145 Guernsey, 12,189 Holstein, 3,832 Jersey, and 1,347 other breeds.

"He Advised Me to Find Some Better Material"



On April 8, 1921, Mr. Frederick L. Stover, R. D. No. 2, Grand Rapids, Mich., wrote for information about Circle A Cork Brick. His letter relates an occurrence all too familiar to dairymen and breeders.

I noticed your advertisement of "Circle A Cork Brick" for cow stall floors. I have also talked with several users of your product, who are well satisfied with it. ••••••

I have a small herd of Jerseys that I keep as a side line, and find them very profitable indeed. About two months ago a valuable cow slipped in her stall, causing her to abort, and my loss was a very fine bull calf and a large bill from the veterinarian, who immediately told me the cause of the trouble. He advised me to find some better flooring for the stalls and pens if possible.

Will you please send me your booklet "Better Stall Floors" and a sample of "Circle A Cork Brick"?

TO avert similar accidents in your barn, to guard against the expense and trouble caused by broken bones, strained tendons, twisted joints, abortion and still-born calves, you need a floor which offers a safe foothold and eliminates the danger of slipping.

Take Circle A Cork Brick for example. Composed of finely ground cork and asphalt, they are resilient and easy underfoot. They make a floor which, wet or dry, is never slippery, but is always safe and certain to the tread.

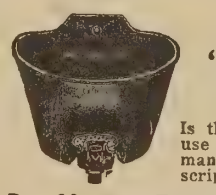
Circle A Cork Brick are non-conductors of heat. Hence they are warm to the touch and protect the cows against rheumatism, garget, and other diseases which are caused by cold, insanitary floors. By promoting the well being of the herd and increasing the profits realized from more and better milk, Circle A Cork Brick will pay for themselves in a short time.

The 28-page book, "Better Stall Floors" tells you why Circle A Cork Brick are a profitable investment. We shall be pleased to send you a copy, together with a sample brick, which you may subject to any tests you desire.

Armstrong Cork & Insulation Company 112 Twenty-fourth Street PITTSBURGH, PA.

Circle A Cork Brick Floors
FOR DAIRY BARNS AND HOG HOUSES

Water in the Stable a Necessity



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Is the leader. Why not use the best? Write to the manufacturers for a descriptive circular.

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POUGHKEEPSIE, N. Y.

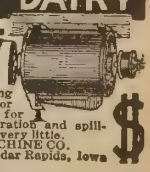
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They will herd your stock, guard your flock and rid your place of vermin. A playmate for the children and a household companion. Largest breeders of white collies in the world.

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Thos. Shover, Prop,
Dept. D, Monticello, Iowa

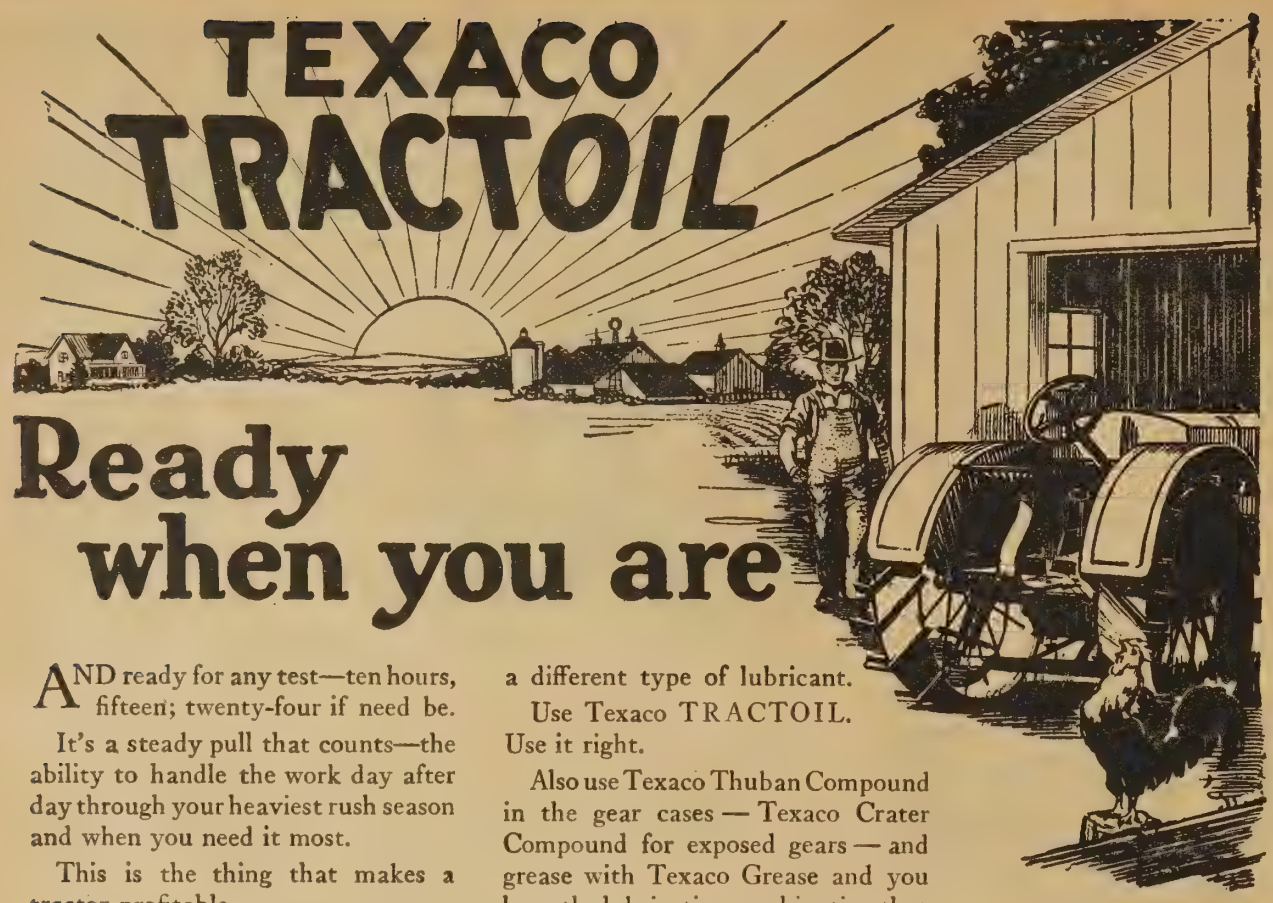
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Cedar Rapids Speed Governor controls speed of all machinery like separator, churn, fanning mill, washing machine. Changes speed of any or all instantly while in motion. Fine for separators. Steady speed saves vibration and spilling. Insures closer skimming. Costs very little.
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Dept. H.D.1 Cedar Rapids, Iowa

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

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Ready when you are

AND ready for any test—ten hours, fifteen; twenty-four if need be.

It's a steady pull that counts—the ability to handle the work day after day through your heaviest rush season and when you need it most.

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Texaco TRACTOIL is made for tractors.

It has the right body. The body which is different from a motor oil, because the work a tractor does at full speed and constant load demands a different type of lubricant.

Use Texaco TRACTOIL. Use it right.

Also use Texaco Thuban Compound in the gear cases — Texaco Crater Compound for exposed gears — and grease with Texaco Grease and you have the lubrication combination that makes for real tractor performance.

Ask your dealer for Texaco TRACTOIL— and the grade you need, "B", "C" or "D". It is supplied in 33- or 55-gallon steel drums, in wooden barrels or half barrels, or in 5-gallon sealed cans.

There's a Texaco lubricant for every purpose on the farm.

TEXACO Motor Oil

The uniform oil that keeps your motor active. It is a fine, lasting oil that completely retains its lubricating properties despite engine heat. It so perfectly seals the clearance between piston and cylinder, that no gasoline can leak into the crank case. Thus full compression is secured, and every last ounce of power used that the gas has to give. Be certain to get the can with the red Star and green T.

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The BUCKEYE patent perforation gives you better ventilation. And its sturdy steel rib construction makes it the staunchest crib on the market.

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The Thomas & Armstrong Co., 108 Main St., London, O.



SALE ANNOUNCEMENTS

June 10—Holsteins. Dr. H. H. Carr Dispersal Sale.
June 14—Guernseys:—Minnesota Guernsey Breeders' Annual Sale. State Fair Grounds, St. Paul. L. V. Wilson, Secretary.
June 16—Holsteins. John Stotzer, Somerdale, Ohio.
June 22—Ayrshires. Shannon Bros. Dispersal Sale, Cloverdale, B. C., Canada.
July 1—Guernseys. Dispersal Locust View Farm Guernseys, Garfield, Ohio.
Oct. 19—Holsteins. Chester Co., Pennsylvania, Holstein-Friesian Breeders' Guaranty Consignment Sale. C. J. Garrett and F. C. Brinton, Jr., Mgrs.
Oct. 19—Guernseys. Michigan State Sale of Registered Guernseys at Lansing, Mich. F. E. Fox, Waukesha, Wis., Sale Mgr.
Oct. 25-26—Holsteins. Lake Mills Semi-annual Consignment Sale at Lake Mills, Wis.
Feb. 21-22, 1922—Holsteins. Iowa Holstein-Friesian Association's Annual Sale.
April 1, 1922—Oak Hill Stock Farm Dispersal Sale at Crown Point, Ind.

Sunflower Silage Experience in Northern Michigan

(Continued from page 850)

breeding ewes relished both types of silage about equally well, and we could see practically no difference in the results.

After checking up on the work with sunflowers at the different experiment stations, we have reason to believe that the sunflower is destined to be a large factor in the development of the live stock industry in counties too far north to produce well matured corn for silage. In the more southern counties of the state, also southern Wisconsin, the plant seems to rust badly, which causes the leaves to drop off. During the past two years we have had but little trouble that way at the Upper Peninsula Experiment Station. It is possible that climatic conditions may be such that the rust will have a very damaging effect during some seasons. However, Professor Spragg is now working to develop a rust resisting sunflower that will give us the high producing qualities of the variety now used.

We have gone far enough in experimental work in the Upper Peninsula with sunflowers to be confident that the crop will give a high production of a very palatable silage that has a better feeding value than the corn that is now produced. Another factor that favors the production of the sunflowers in preference to corn, is the fact that it is much more frost resistant during its latter stage of development.

Filled Milk a Common Enemy

HOARD'S DAIRYMAN:—There seems to be at last one common ground where the milk producer and the milk distributor should unite forces against a common enemy, and that is in the field of filled milk opposition. The filled milk business is destructive to the interests of both. Both need to leave no stone unturned to wipe out this industry which can have no excuse for existence. In a country whose storehouses are crammed with unused real milk products, why should the people have an inferior substitute offered them?

They are not saving money when buying this slightly cheaper product as they have nothing when it is bought that can in any way replace milk, as it lacks the vital elements of the latter. Scientists tell us that 90% of the vitamines of the skimmilk basis used has been removed, and is replaced by cocoanut oil which has no vitamines.

About 80 per cent of the total cottonseed oil production in 1920 went into lard substitutes, besides oil from peanuts, soy beans, corn, palm, and palm kernel oils. This is a big competition with hog raising but one which does not menace public health so strongly as does the cocoanut oil used in milk and butter substitutes.

In 1916 practically no vegetable oil was used in this country in milk or colored butter substitutes, it being confined to the manufacture of skin foods, machine lubricators, soap making, and kindred industries. In 1917 this country used a very small amount, 725 lbs. in margarine form, as an experiment largely to determine how the public liked this diverting of soap making materials into human food. Every one ignored the danger signals and in 1918 there were 112,494 lbs. of purely vegetable margarines in the market.

Still no one woke up and in 1919 the people bought and used 9,792,694 lbs. of the stuff, all this in colored form. Meantime the uncolored product had flourished much more strongly from the very start, there being used 1,941,932 lbs. of it in 1916., 21,803,482 lbs. in 1917, 88,861,472 lbs. in 1918, 132,906,154 lbs. in 1919, and 186,569,182 lbs. in 1920.

Filled milk production started much more recently and already has assumed enormous proportions. Judging by the growth nut margarines have made, if dairymen and milk distributors and manufacturers of condensed and powdered milks do not unite with the general public in eliminating this harmful food substitute from the market at once, where in three or four years' time will the milk and milk products industries be?

New York. E. F.

New Guernsey Champion

Laudholm Delight, a Guernsey owned by Laudholm Farms, Maine, is the new Class GG champion in New England with a record of 12,541 lbs. milk, 607.58 lbs. fat. She also ranks fifth in Class GG for the breed, and is one of the two youngest cows to qualify for class leadership in this division. She is a daughter of Florham Monarch, an A. R. son of Ne Plus Ultra.

VETERINARY

Advice is given free in this department. Inquires must be signed by the writer, and should pertain to veterinary Matters only. Where an immediate reply and prescription are desired by mail, the inquiry must be accompanied by a fee of one dollar. In every instance it will be necessary to give a full description of the symptoms present.

Summer and Winter Dysentery

When dairy cows become severely affected with dysentery the economic loss is great as there is a serious shrinkage in milk secretion. Loss of flesh also occurs in all cattle and the disease sometimes is so virulent that it causes death. Ordinary diarrhoea is characterized by abnormal looseness of the bowels and rarely has very serious effects, but dysentery is always a matter of grave concern and should at once be given the best attention of the veterinarian and owner. The term is usually applied to that form of diarrhoea in which blood appears in the evacuations and that indicates inflammation and often ulceration of the lining membrane of the intestinal tract.

Grazing cattle sometimes are suddenly attacked by violent dysentery which may quickly affect every animal in the herd and its most severe form proves fatal. The animal soon recovers from a mild attack if given proper treatment, but suffers a serious shrinkage in milk flow which may continue until a subsequent calving.

The disease is caused by a protozoan microorganism (coccidium) which invades the mucous membranes of the intestines. Contaminated drinking water is, we think, a probable source of infection. The attacked animal strains, passes liquid, foul-smelling, gassy feces stained with blood or containing clots of blood. The presence of blood has given rise to the terms "red dysentery" or "bloody flux" and "bloody murrain", sometimes applied to the disease. The latter term also was at one time applied to anthrax or charbon. As soon as blood is seen the animal becomes deadly sick, stops eating and ruminating, weakens, staggers, goes down, becomes unconscious and dies in convulsion. In mild cases the symptoms do not become aggravated and tend to subside in a day or two.

Treatment proves futile in malignant attacks but usually succeeds in those of milder form. The entire herd should at once be moved to a different pasture where pure water is available. Affected animals should be stabled and put under the care of a trained veterinarian who may employ opium and morphin, not obtainable by the owner under the Harrison drug act. Other remedies likely to prove beneficial are acetic acid, catechu, creosote, capsicum, eucalyptus, salol, and subnitrate of bismuth. The veterinarian gives the drugs or combinations of them which in his experience have proved most effective.

The germ-caused form of dysentery which attacks cattle in winter and early spring quickly affects every member of the herd, young and old. Food and water, always to be suspected as sources of casual germs, cannot be assigned as the true ones in many outbreaks of this disease, for it occurs simultaneously on many farms. It does not quickly subside, often runs a protracted course, and always seriously affects milk secretion. The bowel discharges are mushy, chocolate-colored, and not foul-smelling as in the summer disease.

The veterinarian at once isolates attacked animals and administers one or other of the drugs already mentioned, beechwood creosote being particularly effective. Stimulants in strong coffee are also beneficial.

Supernumerary Teat

I have a yearling Jersey heifer with a supernumerary teat about one-half the size of others. Is it necessary that it be removed and if so should I employ a veterinarian?

Wilder, Ida. W. I. T.

The supernumerary or extra teat may be removed by amputation, for which operation it would be best to employ a qualified veterinarian, or by ligation which can be done by anyone. Both operations should be done when the heifer or cow is not giving milk. In some instances, the normal teat and the extra one are so close together that they may be milked as one and when that can be done, an operation is not advisable. In such cases the two teats sometimes are joined by a web of tissue, both being normal, and in that condition the web should be separated by cutting with scissors or a scalpel.

When a supernumerary teat yields milk simply amputating it may not suffice, it often being necessary to obliterate the secreting gland of the additional teat. That is done by cutting and cauterization. The ligation method of removing a supernumerary teat consists in tying a fine cord very tightly around the base of the teat to stop circulation. That causes sloughing, after a time, and until this occurs it is well to apply pine tar once or twice a week. Such teats, however, are best removed when the animal is quite young.

Productive soils must have humus. It is cheaper and better to make it at home. Grow legumes.

Does Hot Water Kill BACTERIA?



Tests by the U. S. Bureau of Chemistry on milk and cream cans freshly washed and *steamed*, showed *200 million* bacteria to the cubic centimeter in the first rinse water and *13 million* after the fourth rinsing.

Hot Water at 110° Gets Only 1/3 the Bacteria

STERILAC

Disinfects — Deodorizes — Sterilizes

Wherever disease germs lurk, in home, dairy, feed and water troughs, etc., *Sterilac* brings sanitation. Used with alkali, *Sterilac* cuts the cost of cleaning and kills bacteria. Used in the rinse water (which itself contains germs) *Sterilac* cuts down the bacterial count to practically nothing.

Sterilac is many times as effective as carbolic acid, is practically tasteless and odorless, does not attack rubber, metals, fabrics, varnish. So safe you can use it to purify drinking water. Withstands hot weather and may be used in hot water.

Sample to Make 10 Gallons—FREE

Bottle to make 75 gallons, $1.00; to make 300 gallons, $3.00. Comes as a powder—no loss from breakage or freezing in shipment. Dissolve in water as you need it.

Ask your dealer for Sterilac or order direct, TODAY.

Dealers Wanted

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Cow Waters Herself

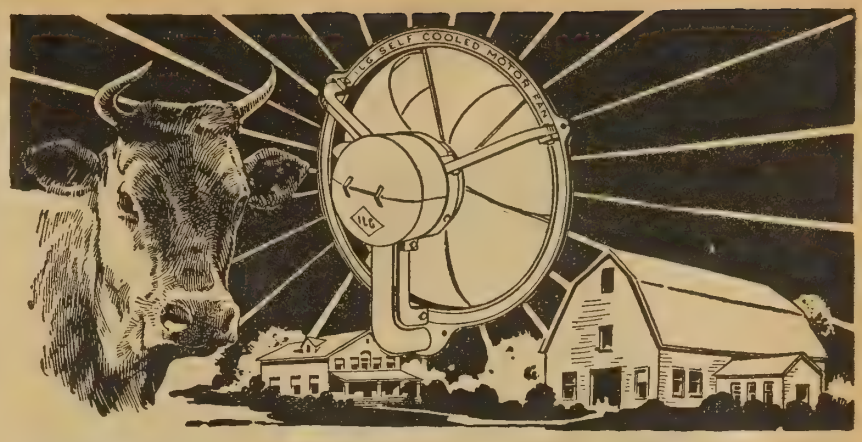
With this wonderful new **Libbey Automatic Water Bowl.** Each bowl controls own water supply. Animal moves lever, opening water valve, when it starts to drink. Lever swings back closing valve when animal stops drinking. No float tank required. Bowls may be put at different heights or in any stall or pen. Cannot overflow; cannot get out of order; almost no water left in bowl. Most sanitary bowl ever sold. **Prevents spread of contagious diseases.** Increased milk yield quickly pays back cost. Saves labor; saves feed. Write today. Also for Catalog . . if interested in Stanchions, Stalls, Carriers, etc. Sent free.

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YOU couldn't grow strong in foul air—you wouldn't long be healthy—you'd have no appetite, no ambition if you had to breathe the poisoned odors of manure and excretions.

It's the same way with a cow. The deadly gasses from dung in the cowbarn ruin her digestion—poison her hay and other foods—sap her vitality and prevent her from giving you a maximum supply of good milk.

Ventilate Your Cowbarn with an ILG

FARM BARN POWER VENTILATOR

The ILG FARM BARN POWER VENTILATOR thoroughly drains the cowbarn of all poisoned fumes which arise. No expensive or complicated installation of flues or ducts are required. It's simple to install and economical to operate. Made for 32-Volt D. C. and 110-Volt Standard Currents.

Write direct for literature or ask your electrical or hardware merchant for a demonstration.

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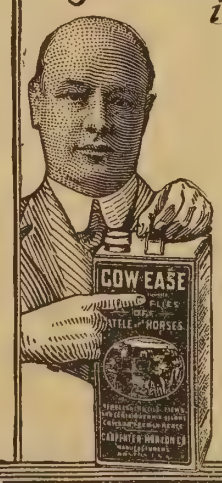
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COW-EASE is a clean, liquid preparation of the right consistency for applying with a sprayer. For 20 years I have guaranteed it to keep flies off cattle and horses and in all that time it has given absolute satisfaction to farmers the country over. It neither gums the hair nor blisters the skin. Beyond being humane and sanitary it is profitable as well, for a herd sprayed regularly with **COW-EASE** throughout the fly season will yield more and better milk.

Ask your dealer for **COW-EASE.** If he cannot supply you, send me your order per my liberal trial offer below.

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TRIAL OFFER—If your dealer cannot supply you, send his name and $1.80 and I will deliver prepaid, a half gallon can of COW-EASE and sprayer for applying. West of Missouri River and Canada $2.00. Give both postal and express address as we ship the cheapest and quickest way.

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KEEPS FLIES OFF CATTLE AND HORSES



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MANUFACTURERS

44th to 45th St. on Oakley Ave., Chicago

Iowa Guernsey Breeders Meet

The regular summer meeting of the Iowa Guernsey Breeders' Association was held at the Iowanola Guernsey farm, Des Moines, May 25th. This herd and plant have been built up by Mountain Brothers, two young men who have demonstrated what can be done by applying good, practical business principles to the management of a dairy farm. Their herd, which is one of the choicest in the Middle West, numbers about seventy-five head and they are doing regular, consistent A. R. work as well as capturing some of the choicest trophies in state and national show rings.

The Mountain Bros. are producing first quality Guernsey milk for city trade. Their stables and plant are thoroughly modern in every respect, and their only problem is to keep up with the demand.

The meeting as usual was a picnic affair. A goodly number from all parts of the state were in attendance and a spirit of optimism prevailed.

In the forenoon a judging demonstration was given by Mr. Chas. L. Hill and Professor H. H. Kildee. After lunch, which was served by the Mesdames Mountain upon the lawn in front of the residence, the regular program took place. Professor Kildee spoke with his characteristic enthusiasm upon the subject of constructive breeding. He emphasized with definite illustrations the fact that the farmer who pins his faith to the pure-bred dairy cow is not bewailing hard times nor is he staggered by the problems that are making pessimists out of many of those who cannot see any good in dairying. He also brought out the value of the pure-bred sire in increasing the productivity of the average farm herd, and he advocated greater co-operation among farmers in the purchase and use of such sires.

Mr. Chas. L. Hill of Wisconsin followed Professor Kildee with the subject of "The Guernsey Cow as a Servant of Mankind". He showed how the Guernsey cow helps solve the dominant problem of the high cost of living. She can use the products of the farm to make the choicest of human food—Guernsey milk—in a most economical and profitable manner. Modern conveniences in the home and on the farm follow the Guernsey cow. Mr. Hill also mentioned the value of the color of the Guernsey product as an asset and he showed what may be done in the way of promoting a greater demand for both the cattle and the product by good, reasonable, consistent publicity.

Professor McCandlish of Ames, who has been studying dairy conditions on the British Isles, compared the industry as he found it there with the same industry in the States. The English dairyman has not the same problems to meet that face the man on this side nor does the dairy industry over there compare favorably from a business standpoint with dairying over here.

Mr. J. E. Stallard, Guernsey association fieldman for the Middle West, spoke about the plans of the National Association in developing the demand for breeding stock. This is further recognition of the significance of publicity as the basic principle of all modern business success and it is only as dairying becomes a real business that it can succeed.

The last speaker was Mr. T. A. Hoverstad, development agent for the Chicago Great Western Railroad. He has had a long experience in this line. He spoke of the plans of the road to improve conditions all along its system by putting on demonstration trains that will show what the practical farmer can do in the way of soil culture and better home building through the agency of the pure-bred dairy cow.

The sale which followed on the 26th was held at the state fair grounds. Cattle were consigned by 14 Iowa breeders and all the purchasers were Iowa men. The consignments were outstanding in beauty of type and conformation and the breeding right through the whole catalog was very choice. It was also backed by A. R. records, yet the financial conditions which prevail just now prevented any sensational prices. The top of the sale, $400, was paid by W. T. Richmond for Itchen Lillie of Prospect 68496, a five-year-old cow consigned by the Marsh Farms. She is a beautiful individual, remarkably well bred, and is easily worth several times the price paid for her.

The demand for bulls was not as strong as it should be. The farmers of Iowa could not invest their money to better advantage than to buy these sires at the prices they brought and use them upon the common herds that dot the pastures of the state.

Albert L. Hyzer, secretary of the Iowa Association, was manager of the sale. Chas. L. Hill was in the box and Oliver Johnson was auctioneer.

SUBSCRIBER.

The Hoof and Horn Club of the Illinois College of Agriculture recently held a judging contest on various classes of live stock and it was considered a big success. In addition to 237 upper classmen and 127 freshmen who entered the contest, 98 non-collegiate men and women entered consisting of farmers, breeders, farm boys and girls, high school boys, Smith-Hughes instructors, and several county and assistant county advisors. This judging contest was inaugurated for the purpose of training people in the art of judging live stock and to obtain an understanding of what constitutes proper type of all classes of live stock.

Blue Earth County, Minnesota, has the largest calf club in that state, and the calves have been distributed among the boys and girls who are members of the calf club. They will be brought together this fall and judged at the county fair.

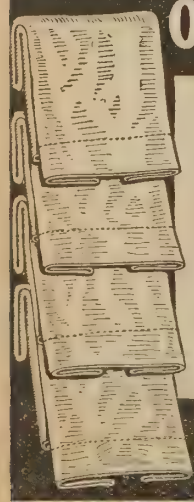


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Every dairyman needs a permanent silo. Portland vitrified block and concrete stave silos are permanent. Also grain bins, coal pockets, supply tanks, cisterns, glazed building blocks and ensilage cutters. Farmer Agents wanted. Write today.

PORTLAND SILO COMPANY,
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The most amazing bargain you ever saw! Manufacturer caught with big stock of extra fine quality white muslin which he must turn into cash immediately. We have taken entire stock way below cost and have made it up into these beautiful hemstitched pillow cases. This is how we can offer them to you at less than half what you would have to pay anywhere else. Just think of it! Four for 98c. Regular price $2.00 and up. Beautifully made of finest quality smooth texture white muslin. Extra full size. Neat hemstitching adds to attractiveness. Mill size 42 x 36 inches. Wonderful value!
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CLIMAX ENSILAGE CUTTER

The Climax cuts with Inward Shear—close to the main shaft. This means less power, cleaner-cut ensilage, no clogging, better silage.

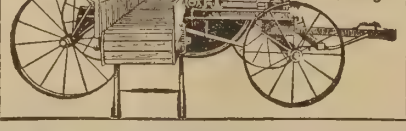
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The automatic feeding device makes easy feeding. It is low down and easy to reach.

FREE CATALOG and name of nearest dealer sent on request—fully illustrated—gives details and specifications of all sizes. Stocks carried in different centers for quick shipment.

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Shoo-Fly THE ANIMALS' FRIEND



For keeping flies and many other insects off animals. Used and endorsed since 1885 by leading dairymen. Cows give 25% to 35% more milk during fly season if sprayed with Shoo-Fly.

$1.25 worth saves $20

in milk and flesh on each cow in a single season. Excellent for galls. Allays itching. Aids in healing cuts and sores. Excellent for lice and mites in poultry houses.

Send $1.25 for enough Shoo-Fly to protect 10 cows 2 weeks, also our 3-tube gravity sprayer. Money back if not satisfactory. Name Express Office. Booklet FREE.

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$150 BUYS 26-LB. 15-MO. BULL

Sire a paternal brother to Pietertje Maid Ormsby, dam of Sir Pietertje Ormsby Mercedes. Color ¾ white.

W. C. Schroeder. West Bend, Wisconsin

Public Auction of 55 Reg. Guernsey Cattle

TO BE SOLD AT

Dover Fair Grounds, Dover, O., Wed., June 22

In this sale will be sold one of the highest producing Guernsey herds in the state. The whole herd has an average of 8,427.1 lbs. milk, 366.7 lbs. butterfat. The test herd's average will be close to 9,533.0 lbs. milk, 425 lbs. fat, including heifers with first calf records up to 11,600.0 lbs. milk, 570.0 lbs. fat, each promising for state record in her respective class. Their sons and daughters will be sold with them. They also carried high honors in the Tuscarawas County cow-testing association for year ending March 1921. These cows and heifers are all bred or will be bred to a worthy grandson of Itchen Daisy May King of Langwater 17349. His first sons and daughters will be evidence in the sale as to his ability to transmit Guernsey type.

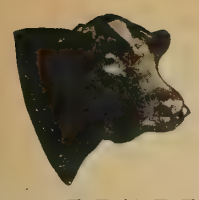
This sale will consist of close-up springers, fall cows, fresh cows, bred and open heifers, of popular breeding.

A few Big Type and Spotted Poland China Hogs will be sold at sale. Sale begins at 12:30 p. m.

PLAIN VIEW GUERNSEY FARM, Thurman Miller, Prop., Baltic, O.

Col. F. W. Andrews & Son, Auctioneers

Dover is located on Pennsylvania Lines, B. &. O., and Northern Ohio Traction Line.



Economy in Production ← GUERNSEYS → Quality of Products



The Guernsey is a medium sized cow that produces with greatest profits large quantities of milk and butterfat of the highest quality. She is exceptionally gentle and responds promptly to good feed and care. Send for our free literature.

THE AMERICAN GUERNSEY CATTLE CLUB, BOX H46, PETERBORO, N. H.

Feed Grain on Pasture

Professor G. C. Humphrey of the Wisconsin College of Agriculture suggests that cows producing less than one pound of butterfat per day and that are in good condition will undoubtedly prove most profitable with pasture alone. The following mixtures are suggested for summer feeding:

1. On good pasture: 100 lbs. ground oats, 100 lbs. wheat bran, and 50 lbs. corn meal.

2. On fair pasture: 200 lbs. wheat bran, 200 lbs. corn meal, and 50 lbs. oil meal.

3. On dry summer pasture: 500 lbs. corn and cob meal and 200 lbs. oil meal.

Cottonseed meal or gluten meal are substitutes for oil meal. Hominy feed or ground barley are substitutes for corn meal. If these feeds are not available good commercial mixed feeds may be bought to good advantage for the best cows of the herd.

International Grain and Hay Show

Announcement is made by the International Live Stock Exposition management that the third International Grain and Hay Show will be held at the Union Stock Yards at Chicago November 26 to December 3, in connection with the 1921 International Live Stock Exposition.

The Chicago Board of Trade has announced that it will again contribute $10,000 in premiums, as it has done for each of the two previous shows.

The United States and Canada have been divided into six districts from which entries may be made for this show in the classes scheduled for corn, oats, barley, wheat, soy beans, cowpeas, field peas, rye, kafir, milo, and small seeds.

Classes are arranged for boys' and girls' clubs and suitable prizes will be awarded. Educational exhibit from the agricultural colleges and experiment stations will be a big feature. The premium list can be secured by writing the International Grain and Hay Show.

GORDONDALE GUERNSEYS

3 bull calves offered for sale. They have excellent breeding and dams have or are making good A. R. records. Write for further information, they are priced to sell.

Herd under Federal Supervision

L. E. GORDON, JR.,
Nelsonville, Portage Co., Wisconsin

Homestead Farm

Offers for sale bulls from 11 to 13 months of age from A. R. dams. Also a few young bull calves of excellent breeding, and three A. R. cows. Write for sale list or come and see them.

JAMISON BROS., Appleton, Wis.

A May Rose Bull
He Will Suit You

He is Gumption of Koshkonong Place, ready for heavy service and as straight as a line. His sire is Anton's King Cecil, one of the best May Rose bulls in the state. His dam is Gladness of K. P. (414.68 lbs. fat Class G), a daughter of Gilt Edge of K. P. (15 A. R. daughters).

Write me today about him.

A. R. HOARD, Fort Atkinson, Wisconsin

Tilden Farms Guernseys

FOR SALE: Several typy, May Rose bulls out of A. R. cows and sired by Hope's May Rose of Maple Hill (35903), whose dam is a class leader with 776 pounds of butterfat at 3 years. Also several choice pure-bred females and a few excellent grade cows. Herd on Federal Accredited list.

TILDEN FARMS
James H. Murphy, Mgr. Delavan, Wisconsin

8 Registered Heifers For Sale

5 of them are from 18 to 20 months old and in calf to a good son of Langwater Cavalier. Of these, 3 are granddaughters of Langwater Hambro and of Bob Rilma's Monogram. They are well grown and good individuals.
The other 3 are from 5 to 8 months old.

Write or come and see them.
Ralph Tratt, Whitewater, Wis.

Pleasant Acres Guernsey Farm
Is Offering For Sale

Bull calves of May Rose breeding from 3 to 14 months old. The dams of these calves either have A. R. records or are now on A. R. test.

Clyde E. Fruit, R. 1, Waukesha, Wis

Guernsey Bulls
Special Low Prices

Guernsey bulls by Beauty Eagle's Bonny Boy 42893, he by Bonny Boy of Riverdale 29070 (noted show bull), and out of Beauty Eagle 18117, 846 lbs. fat, or a son of Glenwood's Champion 15639 (24 A. R. daughters) out of daughter of Langwater Demonstrator 16451. Splendid high producing dams. Send for sale list.

LA BELLE KNOLL FARM, Oconomowoc, Wis.

Manitowoc County Guernseys

Choice bull calves from one month to serviceable age, some from A. R. dams. Also some good grade females. For particulars write

George W. Kiel, Secy,
Manitowoc, R. 5, Wisconsin

Guernsey Bulls

GET A BULL, with Langwater, Pencoyd, May Rose or Haye's Cherub breeding. Prices reasonable, quality considered. Grades in limited numbers.

Fox River Valley Guernsey Breeders' Association,
Harry Leppla, Secy. Appleton, Wis.

Guernseys

Best May Rose breeding. Both sexes and all ages from an Accredited Herd. Write your wants and send for lists.

E. S. Person, Minot, N. D.

Guernsey Females

bred to an outstanding son of Ne Plus Ultra, one of the greatest sires of the breed. Fifty head from which to select.

MEADOWLAND FARM, Litchfield, Conn.

HONESTY PRIDE OF BIRCHFIELD 44580



Sire — Langwater Warrior 26509
Dam — Langwater Honesty 49479
10,536.9 lbs. milk, 517 lbs. fat, at 2 yrs. and 5 months

We are now offering a few splendid sons of Honesty Pride of Birchfield. From cows with A. R. records or now on test. Everyone is a straight backed, growthy, vigorous youngster. These young bulls will put type and production in your herd. Prices range from $150 to $300.

Quality Guernseys **HIGHLANDS** *Tuberculin Tested*

NYE H. FREEMAN, Herdsman, Linwood, New York

Thorn Hill Farm Guernseys



Have several well bred young Guernsey bulls for sale at reasonable prices. All my own breeding. May Rose and Glenwoods, out of A. R. cows with records from 500 to 750 lbs. of fat. Write for sales list to

AUGUST ZIESING, Deerfield, Ill.

Do You Want A Guernsey Bull

Closely related to Pergue's Crescent A. R. with a record of 13,316.9 lbs. milk and over 582 lbs. fat in Class EE and dropping two calves within the year, entitling her to second place in her class? Some excellent young bulls closely related to Pergue's Crescent ready to head your herd. Write for descriptive circular, or come and see them.

Ernest W. Sass, Box H, Streator, La Salle County, Illinois

Iowanola Guernseys

We are offering

A Very Fine Son

born July 25, 1920, out of Imp. Kitchener's Express 43925, his dam has 592 lbs. of fat, and out of Franseca of Homa Della who has 12,855.2 lbs. of milk and 640.09 lbs. of fat in Class D. This is a very typy calf and should appeal to any one in need of a bull. Correspondence solicited.

MOUNTAIN BROS.,
Carrier 403, Des Moines, Iowa.

World's Championship Blood
predominates

in Falcon's Guide, 65540, dropped April 2, 1920. Sired by a son of BELLFOUNDER who produced Countess Prue, World's Champion Guernsey. Guide is medium fawn and white, nice conformation, well grown, ready for service. He is hard to duplicate at $225.00.

FALCON'S FLIGHT FARMS,
Litchfield, Connecticut.

Hillswold Farm
Shrewbury, Mass.

Registered Guernsey bull calves for sale. Dams in Advanced Registry and tuberculin tested. Prices right, and animals guaranteed to suit. W. A. Cloues, Mgr.

Head Your Herd

With a Son of Imp. Sailor Boy

whose daughters are now making such good records. We have a number of good ones from A. R. dams at reasonable prices. Write

John P. Crozer, Upland, Pa.

Another Real One

Bull dropped Oct. 12, 1920. Light fawn, beautifully marked; straight, deep body, level rump. Sire's 3 nearest dams average 732 lbs. fat. A grandson of Itchen May King. Dam is a very good individual and has 478 lbs. fat.

NORWIND FARM, Sheboygan, Wis.

Harbor Hill Guernseys
Masher's Galore 8572 A. R.

Increased the Average Production Credit of 12 A. R. daughters out of A. R. dams by 181 lbs. We offer his double grandson out of another daughter also making a better record than her dam.

C. H. Hechler, Superintendent
Box 30, Roslyn New York

Guernsey Bulls

Our last 9 official records average over 510 lbs. fat, including all ages. Our herd sire has 8 A. R. daughters, including one with 572 lbs. fat in Class GG. His three nearest dams average 822 lbs. fat. Send for pedigrees and prices on young bulls with this backing.

Folly Farm, Box 587, Libertyville, Ill.

Guernsey Bulls For Sale

Polly's Anchor No. 42845, born August 24, 1916, and Imp. Bluebird of Lakeside No. 45329, born June 15, 1917. Good, straight bulls, very gentle and sure breeders.

For Sale by
RADISSON FARM, ANOKA, MINN.

GRASSLAND FARMS GUERNSEYS

Choicely bred males and females for sale. (The natural increase of the herd.)

Herd federal tested for tuberculosis. Send for sales list. Satisfaction guaranteed.

Taconic, Conn., Litchfield Co., (C. N. E. R. R.)

Sons of
Langwater Fisherman
Serviceable Age and Younger

They are from A. R. daughters of Yeoman's King of the May and of Langwater Demonstrator, with records from 500 to 700 lbs. fat. Strongly bred May Rose calves carrying 15% to 20% of the blood of May Rose 2nd.
Priced from $150 to $500. Guaranteed to be as represented.
We will answer your inquiry promptly.

MIXTER FARMS,
J. S. Clark, Supt., Hardwick, Mass.
300 Guernsey Females

Langwater Traveler

Carries 50 per cent blood of Imp. King of the May, greatest bull of the breed.

His dam is Langwater Lustre, A. R. 806.10 lbs. fat, fifth cow in Class C. She is the second highest testing daughter of King of the May. His sire is Langwater Holliston, sire of Langwater Levity, sold for $6,000.00 and leading cow in Class EE. Traveler's daughters are averaging over 500 lbs. of fat with their first calves. His first daughter to freshen will be a class leader in FF. We offer some excellent bull calves by Traveler out of May Rose cows with fine records. Federal Accredited Herd.

CHICONA FARM GUERNSEYS
A. L. Gile, Prop., Chinook, Washington.

Fond du Lac County Guernseys

100 choice bull calves, by best sires of the breed out of dams with records up to 850 fat.
20 choice heifers, 6 months to 1 year old.
Grade cows and heifers. Send for sale list.

B. F. SHERIDAN, Secy.,
Fond du Lac, Wisconsin.

Wern Farm Guernseys

I am offering for sale 20 head of choice Grade Guernsey springers coming with first and second calf. Also have two bulls highly bred along May Rose lines just ready for service, that I will sell. For full particulars, write, wire, or come and see the stock.

Wern Farm, Waukesha, Wis.

MR. GUERNSEY BREEDER

we are offering bulls of May Rose, Glenwood and Yeksa breeding out of A. R. cows. Our records range from 450 lbs. to 864 lbs. of fat; ages from 2 months up to serviceable age for $100 and up.

Can spare a few fine females.

CORIUM FARM, F. J. Rueping, Owner, Fond du Lac, Wisconsin

LONE TREE FARM
GREEN LAKE, WIS.

Has in its Herd 15 A. R. Guernseys and 11 R. of M. Jerseys
And Carries About 16 Cows on Test.

To inquiries for BULL CALVES we give full, honest particulars and stand behind every animal sold.
Jersey Sire—A Son of Pogis 99th. Guernsey Sire, Langwater Islander.

Dairy Cows in Wisconsin

The new census for 1919 distinguishes for the first time between dairy cattle and beef cattle. The figures just announced for Wisconsin give that state credit for 2,763,483 dairy cattle and only 287,346 beef cattle. The dairy cattle consist of 503,256 calves under one year, 384,695 heifers over one year and under two, 1,795,122 cows two years old and over, and 80,410 bulls one year old and over. Comparison with other dairy states are not yet available.

SWINE

Cedar Crest Farms

have never possessed a finer lot of
BERKSHIRES
than at present. Let us name you prices on fall and spring boars and young gilts.
J. K. Dering, Owner, Lake Villa, Ill.

BROWN SWISS



BETTY OF LAKE VIEW

Breed Brown Swiss Cattle

They prove their superiority over other breeds when subjected to trying conditions on the farm, by keeping in good flesh and filling the pail while other cows grow thin and reduce their yield. You can prove this to your satisfaction.

BROWN SWISS CATTLE BREEDERS' ASS'N
IRA INMAN, Secretary, Beloit, Wis.
William B Hale, Pres., Aqueduct Bldg., Rochester, N. Y.

JUBILEE FARM

Box 747, Peoria, Illinois.

All Females Withdrawn from Sale Until After the
ILLINOIS BROWN SWISS BREEDERS' ASSOCIATION SALE
MORTON, ILL., APRIL 21
and
FIRST NATIONAL CONSIGNMENT SALE
PEORIA, ILL., MAY 26
A number of line-bred bulls for sale.

Look For Our Consignment

At the National Brown Swiss Sale, Peoria, Illinois, May 26, 1921

The six head we are consigning are from cows with official records from 11,000 to 17,000 lbs. Gallatin Browney, Grand Champion bull at the National Dairy Show, 1919, included. For catalog address W. S. Dunn, Middleburgh, N. Y.
HULL BROS., Painesville, Ohio

JERSEYS

Ten Splendid Jersey Bulls

Good type, 6 to 18 months old. Heifers bred and open. Hood Farm Torono, King Sappho King, Loretta D. Bright Prince, etc. blood lines. Free from abortion. Dams are in the R. of M. or on test. Accredited herd.
Address: J. Q. Emery & Son, Edgerton, Wis.

HERE'S YOUR OPPORTUNITY

Bull calf born March 4, 1920, sired by a grandson of Majesty's Western King and out of a R. of M. daughter of Ibsen's Chief. For full pedigree and price write
E. E. HILL & SONS, Tomah, Wis.

Valley Farm is Offering

Several bulls, 6 to 12 months old, from R. M. cows. Sired by Golden Maid's Viscount and Kilda's Royal Majesty, two of the best Island bred bulls living. At prices to sell. Write
FRED STUBLEY, Black Earth, Wis.

Hillcrest Jerseys

Bull calf born March, 1920. Sired by Imp. grandson of Golden Fern's Noble. Priced right for quick sale. Write
ROLLIE VANDERVORT, TOMAH, WIS.

JERSEYS—DUROCS

Just one bull old enough for service and a few young calves. Hood Farm breeding.
F. R. Constance & Sons, Waupaca, Wis.

Albion Jersey Farm—R. of M. Jerseys

Herd sires, E S. Kilda's Viscount and T. N. T. Jap, Oxford breeding. A few choice bulls for sale, out of Register of Merit dams or dams on test.
R. C. GREEN & SON, Albion, Wis.

Improve Production Increase Size

By using a
HOOD FARM SOPHIE TORMENTOR JERSEY BULL
Four generation Pedigrees and prices on request.
HOOD FARMS, Inc.
Lowell - - Mass.

Tell us about your herd and we will make suggestions as to the kind of a bull you need.
JIMMY DODGE, MGR.

The Elms Jersey Farm

A few young cows, bred heifers and unbred heifers, for sale at from $150 to $250. Write for pedigrees and descriptions.
Thos. T. Bacheller, Jr., Mgr.
Forest Lake, Minn.

Montpelier Jerseys

Three young bulls ready for service. Trace three times to Oxford Lad. Fine typy individuals. Right in every way.
Montpelier Manor Farms, Laurel, Md.

Sheffield Jerseys

TWO (2) Young Bulls ready for service—fine, typy individuals from Register of Merit Dams. Right in every way.
SHEFFIELD FARM, Glendale, Ohio

POLLED JERSEYS

Breeders' names and Spillman's "Inheritance of the Poll Character in Cattle" mailed free.
CHAS. S. HATFIELD, Secy, R4, Box 5, Springfield, Ohio.

INCREASED PRODUCTION GUARANTEED

We guarantee any Jersey bull we sell to increase the average production of any herd
OR MONEY REFUNDED
YOU TAKE NO CHANCES. Our guarantee insures increased production and profit. Bulls for sale, ready for service.
AYREDALE STOCK FARM
F. W. Ayer, P. O. Box 713, Bangor, Maine.

N. B Write us the size and producing ability of your herd, and we will describe and price a bull guaranteed to increase their production.
By mentioning "Hoard's Dairyman" we will know you are asking for a guaranteed bull.



Majesty and Noble of Oakland Heifer FOR SALE

Dropped Sept. 19, 1920, solid fawn color, good size and in fine condition, nice type, fine udder conformation. Sired by Majesty's Ixia's Gamboge 171003, whose dam has a R. of M. record of 639 lbs. butter.
The dam of this heifer (Trial's Pretty Maid) is sired by a son of Noble of Oakland, and her dam has a R. of M. record of 393 lbs. butter as a 2-year-old.
For further information and pedigree write
W. M. KNIGHT, Oak Grove Jersey Farm, *(U. S. Accredited Herd.)* **Eagle, Waukesha Co., Wis.**

MIDDLESEX MEADOWS FARM

OFFERS

Two outstanding AYRSHIRE BULL CALVES for sale for immediate shipment

No. 1—MIDDLESEX WHITE CHANCELLOR 25273, born September 17th, 1920.
Sire—Cavalier's Nethercall Chancellor 21216, who sired the winning bull calf at this year's National Dairy Show.
Dam—White Heather of Highland 42752, who stood 2nd in the aged cow class at the same show (this year's National) and who has two good Roll of Honor records.

No. 2—MIDDLESEX MANCHESTER, born March 10th, 1921.
Sire—Auchenbrgin Toreador (Imp.) 24761, record priced bull of the breed and Grand Champion at Maryland, New York, Connecticut, and New Jersey State Fairs this year.
Dam—Bida Clinton 31489, who has three A. R. records that average 11,000 lbs. of milk, 453 lbs. of fat; 4.17%; and whose two-year-old daughters will have records of over 10,000 lbs. of better than 4.00%.

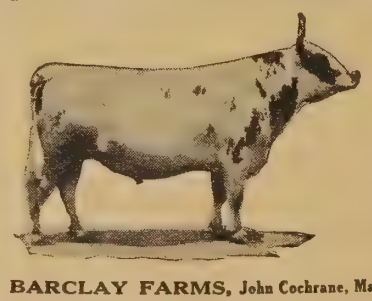
Both bulls have excellent individuality, and are fit to go into any show ring and hold their own. They should develop into extra good herd sires. Prices reasonable—we **KNOW** you can't get as good as these two for any less money elsewhere.

A. Henry Higginson (Owner). W. R. COUTTS, (Supt.)
South Lincoln, Massachusetts

Monstone Farm Ayrshires

"Production — Size — Individuality"

Bull calves out of dams with A. R. records of 10,000 lbs. (and better) of 4% milk—Winner in show ring—Sired by Lessnessock Gem's Good Gift Imp.—Winner in show ring and proven pr potent sire—Weight 2,250 lbs. in breeding condition—Whose dam made 8,930 lbs. milk, 4.05 fat, in *36 weeks* (Scotch record)—Sire's dam 10,342 lbs. milk 365 days (Scotch record)- Prices $100 to $1,000. If you want class and a square deal, correspond with us. We can su ply your wants at your prices. Nothing but the best. Herd Federally tested.
MONSTONE FARM, John Chalmers, Manager, IPSWICH, MASSACHUSETT



We Have For Sal

the well bred Ayrshire bull, Bargenoch "Drexel (18474) Imported. Bred by John Logan, Bargenoch Scotland. Born Feb. 2nd, 1919. Color white and re Sire, Bargenoch Magnificent (9579). Sire of Barg noch "Royal Champion" sold at Bargenoch sale, 191 for $7,267.00.

Dam, Bargenoch Victoria (37003). Scotch recor 9,221 lbs. milk, 4.23% fat in 43 weeks; 11,070 lb milk, 4.50% fat in 47 weeks.
BARCLAY FARMS, John Cochrane, Manager, ROSEMONT, PENNSYLVANI

Weymouth Farms

"Ayrshires of Quality"

All cows on Advanced Registry Test. Herd Tuberculin Tested.

We can supply you a herd sire of choicest breeding.

MARTIN A. TOWLE, Mgr.
NORTH WEYMOUTH, MASS.

Ravinia Ayrshires

Bring You More 4% Milk Than Any Other Strain

This herd has specialized on the breeding of cows that give a maximum quantity of 4% milk—just the kind it is most profitable to you to produce. Ever think what that means to you? You need some of this blood! Write today to Box 100-E, for Sales List of bulls and cows, heifers and bull calves of any age.
Write to Box 100 E, Martinsville, Ind.
Martinsville, Ind. Preston, Kans. Axial, Colo.
GOSSARD BREEDING ESTATES

World's Champion AYRSHIRES

200 head Fully Accredited, Tuberculosis Free for 3rd consecutive year. 100 records average 13,454 lbs. milk. Many cows weigh over 1400 lbs. For large, healthy, productive Ayrshires, address:
Penshurst Farm, Narberth, Pa.

South Farm

250 Registered Ayrshires

Stock of all ages for sale. Write for prices.
George A. Cross, Mgr., Willoughby, Ohio.

Pure-bred Ayrshire Cattle For Sale

Best of breeding. Calves sired by a Grandson of Brown Kate, record 1,080 lbs. butter in year.
Wm. Nisbet & Sons, Richland Center, Wis.

Ayrshire Stock

of all ages for sale. Satisfaction guaranteed
L. W. McCONNELL, Wellington, Ohio

Delchester Farms Ayrshires

Tell us your wants and we can supply them at prices you can afford to pay.
Aged cows, bred to Glenury, an A. R. son of Finlayston.
Aged cows, bred to Rena's Baron of Highland, an outstanding son of Baron's Best of Bargenoch.
Heifers, bred to these two great sires.
Young heifers.
Bull calves.
All the above stock carries some of the best producing blood of the breed with A. R. ancestry on both sides.

Herd free from tuberculosis
DELCHESTER FARMS
Edgemont, Del. Co., Penn. - Thomas W. Clark, Supt.

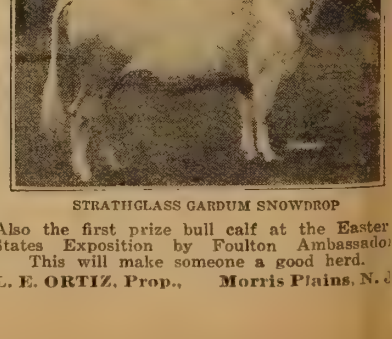
BLACKBURN FARM

Home of Addington's Champion

Grandfathers—Nor'emall and Finlayston.
Father—Rena's Champion—17 A. R. daughters
Mother—Addington Queen 3d—Two mature record each over 19,000 lbs.
Fully Accredited Tuberculosis Free Herd.
SEWICKLEY, PENNSYLVANI

Ashbrook Farm Offers

Ten Heifers of this Type and Age For Sale



STRATHGLASS GARDUM SNOWDROP

Also the first prize bull calf at the Easter States Exposition by Foulton Ambassador This will make someone a good herd.
L. E. ORTIZ, Prop., Morris Plains, N. J



HOLSTEIN CATTLE

R. M. Smith, Supt. Marinette County Asylum, Peshtigo, Wisconsin, writes:

"I am thoroughly convinced that the Holstein cow is the greatest Institution cow in the world. That is one place in particular where the Holstein cow is superior. She saved this Institution, saved my reputation as to judgment."

Send for Free Booklets

The Holstein-Friesian Association of America

101 American Building, Brattleboro, Vermont

Sir Pietertje Ormsby Mercedes 41st

is proving to be one of the very best sons of S. P. O. M. His sons and daughters have wonderfully good type. His daughters are making remarkably good 7-day and long time records.

We Have a Few Sons For Sale

from dams with mighty good records. A few are just about ready for service. One of them will suit you.

Write us for complete information.

Gustave Pabst's Hollyhock Farms

Fred J. Southcott, Manager — Dousman, Wisconsin

20,000 HEAD HOLSTEINS

From which to select Foundation Stock.

AT PRESENT: Excellent offerings in yearling heifers, bred heifers and cows, both grades and pure-breds. Choice pure-bred bulls of all ages.

WRITE YOUR WANTS—SEND FOR INFORMATION.

Waukesha County Holstein-Friesian Breeders' Ass'n
Waukesha, Wisconsin.

HOLSTEINS FOR SALE

SPECIAL—Prize winning yearling Holstein bull. 30-lb. sire: 19.58-lb. dam. Splendid individual.

PURE-BREDS: 161 Cows, 134 Heifers, 19 Heifer Calves, 290 Young Bulls

GRADES: 93 Heifer Calves, 127 Heifers, 418 Cows

Some good carloads at reasonable prices. Listed for sale through Wisconsin banks. Other Live Stock: Breeders are listing with us other dairy cattle, beef cattle, horses, sheep, and swine. Write us if you want stock. We will answer promptly.

BANKER FARMER EXCHANGE
D. H. Otis, Director. 1822 Chadbourne Ave., Madison, Wis.



Yearly Records

Choice Young Bulls

from one to fourteen months old for sale. Sired by Cloverlawn Johanna Piebe whose five nearest dams average 1,070 lbs. of butter, 23,809 lbs. of milk a year. Herd numbers 140 head, forty cows with yearly records. State exactly what you want.

JOHN PULS, - HARTFORD, WISCONSIN

HOLSTEIN COWS

We offer for sale a number of cows, heifers, bulls and calves of all ages. Some sired by King Korndyke Veeman whose two nearest dams average over

WISCONSIN STAR STOCK FARM,

HEIFERS and BULLS

37 lbs. butter in 7 days and bred to King Sadie Vale Walker who is a son of the youngest 29-lb. cow in the world. Come and see them or write to

ED. M. SCHULTZ, Hartford, Wis.

A Youngster Rich in King Segis Blood

Born March 18, 1921

His sire is a son of KING LYONS, out of a 35-lb. daughter of KING SEGIS.

His dam is a 25.81-lb. daughter of JOHANNA KING SEGIS, a 40-lb. grandson of KING SEGIS.

For pedigree and price write:

G. G. Burlingame, Cazenovia, N. Y.

No Smoke Screens in Our Business Methods

We supply Grade and Pure-bred Holstein cattle guaranteed to be as represented, high producing, healthy, and the best New York State can produce. Our reputation for thirty years has been for the most fair, above-board policy, and uprightness. Orders for grade or pure-bred Holstein cattle, cows, heifers or bulls, receive prompt attention. Prices will never be more favorable. Don't Delay, Write Today.

RIVER MEADOW FARMS, Portlandville, N. Y.

We wish a few high-grade dealers in the South. Very favorable proposition to men of the right caliber.

M. & P. HEALTHY HOLSTEINS

Federal Tested

Brentwood King Sylvia

a grandson of

May Echo Sylvia

now heads this herd of more than a hundred superior females, 50 cows have A. R. O. records up to 30 lbs.

Markham & Puffer
Avon, N. Y.

Edinboro Lake Farm

Show Type HOLSTEINS Production

Six state yearly record champions 1918-19.

We offer bull calves by Sir Paul Veeman Hengerveld and Sir Ormsby Skylark Fredericka, out of yearly record dams with type.

Edinboro, Pa.

A Few Good Granddaughters OF King Segis Pontiac

and from A. R. O. Dams.

Guaranteed right. You Get Your Papers When You Buy.

Rock Valley Stock Farm
Fort Atkinson, Wisconsin

SONS

of Sir Echo Sylvia Johanna —

7/8 Brother to the $106,000 Bull

From high bred fine individual A. R. O. cows up to 30 lbs. Several on test now. All good, straight individuals, backed by lots of milk and butter. Some are ready for service. Priced very low. Write for catalog.

(Herd Under Federal Supervision)

CHESTNUT HILL FARMS,
G. A. Burdick, Mgr, Gibsonia, Pa.

Wayside Lawn Farms

offer

Young Bulls Ready for Service

sired by 31-lb. bull, Hengerveld Banostine Gudultje, whose two nearest dams average 30.65 lbs. butter in 7 days and 848 lbs. butter in one year. The bulls are from tested and untested dams. They are well grown and right in every way. Price $100.00 to $200.00. Herd Federally Accredited.

WALTER SORGE, Reedsburg, Wis.

1000---HERD---1000 Quality Holsteins

GRADES AND PURE-BREDS

Just now we have a splendid lot of grade heifers. Write for our pure-bred bull list.

Jefferson County Holstein-Friesian Breeders' Association.
A. F. Gafke, Secretary, Jefferson, Wis.

ORIGIN FARM

HORNLESS HOLSTEINS, Registered and A. R. O. Animals, all ages, for sale. Federally Tested.

GEO. E. STEVENSON, Scranton, Penna.

Cows and Heifer

A Few Good Bulls

Because I am overstocked, I am offering some very good registered females for sale. They either have A. R. O. records or are from A. R. O. dams.

Can also offer some excellent young bulls by a 33-lb. sire and from A. R. O. dams with records up to 28 lbs.

Every animal sold is guaranteed to be as represented.

Write or come and see for yourself.

J. D. McDonald West Salem, Wis.

Bull Calves

by

SIR BESS ORMSBY FOBES

out of

Cows with 7-day records now on semi-official; two-year-olds milking as high as 70 lbs. and mature up to 92 lbs.

LINDEN LAWN STOCK FARM

B. W. RABENHORST, Jefferson, Wis.

Serviceable Bulls For Sale

Sired by Pabst Pontiac Hengerveld, a son of King Pontiac Champion from Pabst Hengerveld Colanthus (31.5 lbs. butter in 7 days, 1,057 lbs. in a year.

These are nicely marked, well grown youngsters out of good producing dams. Several are ready for service, others are younger.

Write today.

John Alexander, Baraboo, Wis.

Good Holstein Calves

Bargains for the next 60 days. Grade heifers. Pure-breds either sex. Order your Duroc-Jersey pigs to be shipped at three months old. Pairs or trios not akin.

J. C. BOLGER, Waterloo, Wis.

Send For Our Bull Sales List

Three bulls of serviceable age—four others will be old enough for service in a month or two—others three months old and older. Almost all of them sired by SIR ORMSBY BEAUTY PONTIAC SEGIS, the son of a 37-lb., 1112-lb. three-year-old daughter of KING SEGIS PONTIAC COUNT.

If it will be of an accommodation to the purchaser, we will accept a six months' note in payment, WITHOUT INTEREST, or will accept payment on installment plan basis.

Pinehurst Farms Co., Sheboygan Falls, Wis.

$100 to $200 Buys A Bull From A Good Record Dam

Am offering several for those prices sired by a 26-lb. bull and from A. R. O. dams with records up to 25.46 lbs.

Write at once. They'll go fast.

H. W. Crawford, R. 5, Campbellsport, Wis.

ORMSBY BULL - Born Feb. 28, 1919

Sire, King Ormsby Pontiac De Nijlander, whose two nearest dams average over 30 lbs.

Dam, Aaltje Hengerveld Tritomia Segis. A. R. O. 17 lbs. at 3 yrs., next dam 29.68 in 7 days. Color light, fine individual. Ready for service. Price $300.

Fairview Stock Farm Whitewater, Wis., W. G. Marshall, Prop.

I-N-V-E-S-T-I-G-A-T-E—Pure-bred Holstein bulls sired by Wisconsin 3-year-old at National Dairy Show 1920. Herd tuberculin tested. Pure-bred Duroc pigs sired by Great Wonder Sensation.

RIDGEHURST STOCK FARM,
Glen C. Ramsey Ft. Atkinson, Wis.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

Milk Organizations Forming Rapidly

We gather from the following reports of the Illinois Agricultural Association that milk producers' associations are being rapidly organized in that state.

"The Stephenson County, Ill., Farm Bureau, in co-operation with a milk marketing organization of from 400 to 500 members shipping to Freeport, has begun the building of a dairy marketing plant to cost $30,000. The new building will contain offices for the county farm advisor and his staff and an assembly room where farm bureau and milk marketing association members may hold conferences.

"At a large meeting of milk producers about Quincy held under the auspices of the county farm bureau, a committee was appointed to make a survey of the territory and, if deemed advisable, to recommend a permanent organization.

"Milk producers of the Galesburg district have met with the Knox County Farm Bureau and are surveying the district with the same end in view. The marketing situation has been fairly satisfactory there, so it was reported, and the organization, if formed, will attempt to use the existing machinery of marketing as far as is possible.

"The dairy marketing committee of the Jo Daviess County Farm Bureau is considering the advisability of an organization of farmers investing capital in an idle condensing plant at Galena."

1,000 Minnesota Cows on Test

As the number of cows in Minnesota on yearly test continues to increase, Mr. M. H. Fohrman, who has charge of official testing in that state, predicts that within the year fully 1,000 cows will be on official test.

In April 829 were tested. Of this number 163 produced 4 lbs. of butterfat or more in two days. Of the cows on test 7.9 per cent are Holsteins, 19.2 per cent Guernseys, and 7.7 per cent Jerseys.

In April 7 records of over 30 lbs. of butter were made in seven days and, of the total 157 7-day records completed, 41½ per cent were over 20 lbs. of butter.

Neeltje Mercedes De Kol Homeland, a Holstein cow owned by Spaulding Farm, has made 3,636 lbs. milk, 107.44 lbs. fat in 30 days; 7,008 lbs. milk, 213.68 lbs. fat in 60 days; and 11,033 lbs. milk, 353 lbs. fat in 100 days.

You can't afford to build a silo without a good foundation. Uneven settling has cracked or warped many a silo, and even overturned them.

THE TRAVERSE HERD

We have what you want in

BULL CALVES

the large, fine growthy type, guaranteed right in every way. They are from high producing A. R. O. ancestors. Dams' records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.

Traverse City State Hospital, - Traverse City, Michigan

The Pontiac Herd

"Where the Champions come from"

Offer Bull Calves sired by sons of *Pontiac Korndyke, Hengerveld De Kol, Pontiac Dutchland, or Admiral Walker Pietertje.*

Do you want a Pontiac in your herd?

PONTIAC STATE HOSPITAL, Pontiac, Mich.

Fairhurst Herd

On the Accredited List

We offer young bulls, fine individuals and well grown. Sired by 33-lb. bull and from dams with records up to 30 lbs. Write for pedigree and price.

KITTLE BROS., Holland, Ohio.

BULL CALF

Sire's dam, butter, 1 yr., 848 lbs.; her daughter, 1,055 lbs. Grandsire's dam, 987 lbs. at 11 yrs.; her full sister, 1,344 lbs.; another, same dam, 1,322 lbs. Dam, Miss Pietertje Alexina 3d, sister to Miss Pietertje Alexina 2d, 1,290.91 lbs. A dandy calf, priced right. Write quick to

McKAY BROS., - - CADDOA, COL

Holstein Bull Bargain

Royal Breeding—Splendid Individual

Carries 43¾% blood of Pontiac Korndyke, the greatest of all sires, 25% of blood of King Segis Pontiac and 12½% blood of King Segis. None better. 4 others ready for service. First $250.00 check gets him.

Wm. N. Osborn, Wanatah, Ind.

Holstein Bulls

At Reasonable Prices

Breeding considered from 3 months to 18 months of age. From both tested and untested dams and sired by some of the best bulls of the age, such as

King Pietertje Ormsby Piebe 4th
King Pietertje Ormsby Piebe 2nd
Colantha Wayne Ormsby
Wolfspring Sethje Mooie Pontiac

Write for prices and descriptive list
Herd under Federal Supervision

STATE HOSPITAL AND COLONY FOR EPILEPTICS

Woodward, Iowa.

Bull of Ormsby Breeding

We offer Chief Segis Lyons Ormsby No. 280751 Born March 8, 1919, a grandson of Sir Pietertje Ormsby Mercedes 41st. His sire a 33-lb. bull; his dam a granddaughter of Sir Pietertje Ormsby Mercedes, who had more 1,000-lb. daughters than any other sire in the world. Also some splendid bull calves ready for service, from A. R. O. dams. Herd tuberculin tested. Write for prices.

Schermerhorn Farms, Mason City, Iowa.

Son of Lieutenant Rag Apple

from a daughter of Admiral Urmagel Burke a real combination, light in color, priced right, serviceable. State and Federal accredited herd.

BLUEBELL FARM, Riceville, Iowa.

HOME FARM HOLSTEIN FRIESIANS

LIGHT COLORED 800-lb. BULL

Dam—a 4-year-old daughter of Sir Sadie Cornucopia, finishing a yearly record of over 800 lbs. She made 731 lbs. at 3 years. Sire—Woodcrest Sir Clyde, son of Alma Clyde (33 lbs. and 970 lbs.), and sire of 16 20-lb. 2-year-old daughters and two over 30 lbs. Bull was born May, 1920, is ¾ white and Federally tested. Reasonable terms.

W. B. BARNEY & SONS Chapin, Iowa

Ready For Service

Born March 1, 1920

SIRE: OAK DE KOL OLLIE HOMESTEAD, Grand Champion, National Dairy Show 1916-17. He is a maternal brother to IOWANA SIR OLLIE and OLLIE JOHANNA SIR FAYNE, and the sire of PIEBE LAURA OLLIE HOMESTEAD KING.

DAM has 725 lbs. butter in 365 days at 3 years, 6 months. She is a daughter of SIR JOHANNA FAYNE (25 daughters now average over 20,000 pounds) and her dam is from a 25-lb. sister to PIETERTJE MAID ORMSBY.

Send for pedigree and price.

IOWANA FARMS, (Herd Under Federal Supervision) Davenport, Iowa

Genesee County Breeders' Association

First Sale—June 14

Davison, Mich., Fair Grounds

30 Head Registered Holsteins

All ages. Both sexes. Good individuals. Tuberculin tested—subject to retest.

For Catalogues, Write

W. T. HILL, R.2, DAVISON, MICH.

Don't Miss It

THE DISPERSAL OF

A Great Ormsby Herd

Thursday, June 16th, 1921
Owatonna, • Minnesota

71 HIGH CLASS ORMSBYS

TAYLOR & CHRISTGAU are dissolving partnership and will sell their entire herd of 65 head.

McDONALD BROS. of Medford, consign 6 of their best females.

The Herd Sires to be Sold:

Sir Ormsby Hengerveld Segis — brother to Pietertje Maid Ormsby, from one of the best daughters of King Segis Pontiac.

Sir Bess Ormsby Alice — A son of Sir Korndyke Bess from a 34-lb. 1034-lb. granddaughter of S. P. O. M.

Most of the Females are in calf to this Sire.

The 66 Females are all Young and Straight and Many Have Excellent Records. Get your Catalog and Look Them Up. Then see them at Owatonna, June 16. You Will Not Be Disappointed. This is a Federal Accredited Herd.

Minnesota Holstein Breeders' Ass'n

406 Market Bank Building Minneapolis, Minnesota



The Count-Piebe Combination



KING SEGIS PONTIAC COUNT
"The Marvel of All Sires"
Whose daughters have broken more World's Records than the daughters of any other sire.

PIEBE LAURA OLLIE HOMESTEAD KING
"The Present Day Sensation"
The only bull in the world with five 20,000-lb. two-year-old daughters.

Will Triple Your Milk Check Because It Will Put Production Into Your Herd

And more than triple the price you are getting for your calves. Because it combines individuality with production, it has given us thirty cows at Arden Farms that have **each produced $1,000 worth of milk per year. Do you want that kind?**

We Offer
Sons of "Count" from Daughters of "Piebe"
Sons of "Piebe" from Daughters of "Count"

We have the finest line of young bulls we have ever raised at ARDEN FARMS, priced in accordance with present financial conditions. LIBERAL TERMS GIVEN IF DESIRED.

J. M. Hackney, 602 Merchants Bank Building, St. Paul, Minnesota

MINNESOTA HOLSTEINS



MISS KORNDYKE AKKRUMMER ORMSBY
30-lb. 4-year-old, 39.67 lbs. butter at full age.
(Owned and developed by J. B. Irwin.)

"The Home of the Ormsbys."

BARGAINS IN BULLS

A few richly bred choice young bulls ready for service,

on the bargain counter for a clearance sale.

Let us give you a good individual well bred at a very low price while they last. Tuberculin tested. Guaranteed in every respect and ready to ship. Come and see them.

Woodlake & Clover Farms,
JOHN B. IRWIN, Sta. F, Minneapolis, Minn.

Registered Cows and Heifers

We have on hand more females than we usually carry so are able to offer some good ones for sale. A number have A. R. O. records and most of them are from tested dams. Bred to a yearly record sire and themselves backed by yearly producers.

Address correspondence to Axel Hansen, formerly with John B. Irwin.

MINERAL SPRINGS STOCK FARM, - - SAVAGE, MINNESOTA
Stuart—McIntyre—Hansen, Owners.

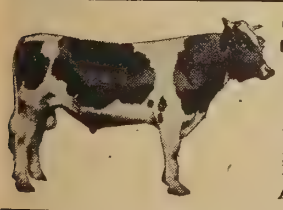
Address correspondence to Axel Hansen, formerly with John B. Irwin.



Lola Segis Pontiac Homestead

the highest record bull in southern Minnesota, heads our herd. His sire, Piebe Laura Ollie Homestead King, has more daughters that as 2-yr.-olds have produced 20,000 lbs. milk in a year than any other. His dam, a 34-lb. 4-year-old daughter of King Segis Pontiac Count, has 3 records averaging 33 lbs. and has made over 1,000 lbs. in 1 year. We have a few serviceable bulls and younger from A. R. O. dams for sale.

Clover Lea Farm, W. W. Walker, Owner. Austin, Minnesota



Sir Walker Segis Homestead

The best show bull and son of the great bull, PIEBE LAURA OLLIE HOMESTEAD, out of a "COUNT" daughter, BEAUTY BEETS WALKER SEGIS, world's greatest heifer, with two yearly records over 25,000 lbs. milk and 1,000 lbs. butter in heifer form, and a seven-day record of 35.03 lbs. butter from 730 lbs. milk.

We offer several choice bulls, one month to a year old, out of high yearly record and A. R. O. cows, at very reasonable present day prices. Pedigrees and photos will be sent.

A. J. LASHBROOK, - - Northfield, Minnesota

Serviceable Sons of Dutchland Aaggie Tidy Prince

I have three of these youngsters for sale, all ready for service and from A. R. O. granddaughters of S. P. O. M. Their sire is from a sister to Tidy Abbekerk Prince and already has a good list of tested daughters, including one above 36 lbs.

Write today for complete information.

E. J. BROSIOUS, - - Stillwater, Minn.

Grandsons of Sir Pietertje Ormsby Mercedes

The sire is Sir Pietertje Ormsby Mercedes 22d a son of Minnesota's first 1000-lb. cow. These bulls are all nicely marked, straight top lines. Very good individuals from good A. R. O. dams. For pedigrees and prices, write

O. J. GROVER, - GLYNDON, MINN.

Grandsons of

Duchess Skylark Ormsby and of S. P. O. M. 38th

Good Ones — From Yearly Record Dams. Priced to Sell.

POPLAR HOLLOW STOCK FARM,
Bertram D. Scott, Prop., Richfield Station
Minneapolis, Minn.

Registered Holsteins

For Sale—Four heifers from good sires and tested dams. Bred to our 34-lb. sire, Count and Piebe breeding. Are good individuals, priced $1,175. Herd under State supervision.

BLACK & WHITE STOCK FARM, Melrose, Minn.

Get A Calf

We have a grand bunch of youngsters on hand. Come and pick out a calf while you have a big choice. Grow him to suit you. Saves you money and we are selling them as cheaply as we can. Show calves that are backed by generations of official testing and careful breeding. Sons of DUTCHLAND CREAMELLE COLANTHA LAD No. 165049. His yearly daughters all average over 834 lbs. of butter at 26 months of age.

GRAHAMHOLM FARMS,
H. R. Searles, Mgr., Rochester, Minn.

A BULL BARGAIN

Bull calf born July 19, 1920.
Sire's nine dams average over 1,000 lbs. butter in year.
Dam has over 500 lbs. butter in 263 days.
This calf is an excellent individual.
Straight top line. Price $500.

MANKATO HOLSTEIN FARMS
Marlow & Randall, Mankato, Minnesota.

Bull Calf

advertised last week is sold. Here is another good one ready for light service. Sired by a 30-lb. bull. Dam a 14-lb. 2-year-old who will be tested again next spring. Priced so reasonable that you can't afford to be without him. $150.00 for immediate sale.

V. R. Holmes, Anoka, Minn.

COME TO BISCAY

for your next purchase of pure-bred or grade Holstein cattle, mature or young stock. Large selection, also a few select male calves to offer. Located near station.

BISCAY SALES CO., BISCAY, MINN.

A LINE-BRED "41st"

BULL CALF FOR SALE



SIR PIETERTJE ORMSBY BESS BURKE
Born Dec. 20, 1920

A real showy calf, straight as a line and of ORMSBY type

His dam and sire's dam are both daughters of SIR PIETERTJE ORMSBY MERCEDES 41ST, the only son of Spring Brook Bess Burke. His dam is on yearly test as a junior two-year-old and bids fair to go 800 lbs. The sire's dam made 28.93 as a 3-year-old and 26.82 as a 2-year-old.

THIS CALF WILL GROW INTO MONEY —SEND FOR PHOTOS, PEDIGREE AND FULL PARTICULARS.

E. C. Schroeder Farms

(Under Federal Supervision)

MOORHEAD, Minnesota

"DUKE"

The only place you can buy sons of serviceable age sired by DUKE PIETERTJE KORNDYKE ORMSBY

The bull selling at the last Minnesota state sale for $33,000.00 is from the herd where he stood for three years prior to the sale. "Duke's" dam now has three records above 1,000 pounds, the last one was 1,190 pounds.

Now is the opportune time to buy one of these bulls as their sisters will be given every opportunity. Get a son now and be in line. Clean bulls from a clean herd. Prices reasonable. Write

EDW. H. ULRICH, Biscay, Minn.

REGISTERED BULLS

FROM TESTED DAMS

Sired by a 30-lb. son of Colantha Johanna Lad and a 26½-lb. son of Laura Piebe Ollie Homestead King. Well marked, straight individuals from two months to 2 years old. Priced to suit present conditions.

GEO. H. ELWELL,
Minneapolis, Minnesota.

RICHLY BRED

HOLSTEIN BULL CALVES

out of A. R. dams and sired by our two richly bred herd sires — **King Piebe Ormsby Mercedes**, a 35-lb. son of Sir Korndyke Bess and every dam in pedigree over 22 lbs. and **King Pietertje Mercedes Ormsby**, a son of Sir Pietertje Ormsby Mercedes and out of a 19-lb. senior two-year-old dam.

Herd tuberculin tested. Write for information or visit herd.

P. FROST SPAULDING FARM CO.
C. L. Spaulding, Mgr., Warren, Minn.

Build For The Future

On long time records. We make no other kind. Six-month-old Holstein bull calf for sale. Sire's two nearest dams average 931 lbs. in year. Dam has 1,077-lb. sister, is making 1,000-lb. record herself this year. Price $250. Write for pedigree.

A Federal Accredited Herd.

B. A. Norris, Anoka, Minn.

A 28-lb. Serviceable Bull

His dam at 11 years, 5 months made 28 lbs. butter and in 305 days, 875 lbs. from 19,360 lbs. milk. She is a granddaughter of Hengerveld De Kol. His sire is a 30-lb. 1,000-lb. grandson of Sir Fayne Concordia by a grandson of S. P. O. M. He is nearly white and a bargain at $800. Write for our bull circular.

Flecks Farms **Faribault, Minn.**

YOUNG H.-F. BULLS

FOR SALE

From one year to a week old. Bred by 30-lb. sire and 44-lb. grandsire.

G. A. UITDENBOGERD, Rosemount, Minn.

For Immediate Acceptance—

Three young bulls ready for service—Holsteins.
No. 1—Sire a 30-lb. bull. Dam a 27.5-lb. cow. Price $300.00.
No. 2—Sire 30-lb. bull. Dam 23-lb. 3-year-old. Price $250.00.
No. 3—Sire 30-lb. bull. Dam 16-lb. cow. Price $100.00.
King of the Pontiacs breeding, well grown and good individuals. Send for extended pedigree.

R. F. JOHNSON, Assumption, Ill.

Whitehurst Farms

BULLS FOR SALE FROM SEMI-OFFICIAL DAMS. Priced Right.

A. F. Randolph, Prop., Canton, Ill.

THE MARK OF QUALITY

Success Insurance

"A Son of Count"

Suppose someone offered to insure your future success as a breeder and charge you only a small premium. Would you pass up such an opportunity? Not many of you would.

Oak Dale is offering some breeder the chance of a lifetime to buy herd insurance. The offer comes in the shape of a young Bull, a son of King Segis Pontiac Count, the greatest sire of all times.

"Count" has more daughters with over 700 lbs. milk than any other living sire. He is the only sire that ever lived with three daughters with over 700 lbs. milk under full age. He has more daughters with records above 1,000 lbs. butter than any other living sire. His daughters have won more first prizes in the past five years than the daughters of any other sire in a lifetime.

Buffalo Lois Beets, the dam, seven days 22 lbs. butter, is by a son of Paul Beets De Kol. One of this great bull's grandsons is the sire of the present world champion four-year-old. Buffalo Lois Beets bears the same relation to Paul Beets De Kol as does the sire of this world champion 46-lb. four-year-old.

This young bull traces twice to Pontiac Korndyke, Hengerveld De Kol, King Segis and King of the Pontiacs; once to Paul Beets De Kol and Sarcastic Lad. Thus, in the first five generations he has represented six of the greatest bulls the breed has ever known.

Is this herd insurance or not? Figure it out for yourself. The price of this bull is so reasonable that anyone can afford to pay it.

Write for complete information or come and see him, if you can. The farm is on the Oak Dale Trail at Blooming Prairie, Minnesota.

OAK DALE FARMS

INCORPORATED
BREEDERS of HOLSTEIN FRIESIANS
Austin Minnesota

Holstein Bulls

At Farmers' Prices

We are not in the game to get rich but to help promote the breed by offering pure-bred bulls at the lowest prices, enough to cover raising. Write for prices and descriptive list. The Ormsby kind.

RAMSEY COUNTY HOME,
J. E. McMahon, Supt., North St. Paul, Minn.



"A helper and myself milked, stripped and carried away milk from 97 cows in less than three hours with our Perfection Milkers." —A. W. WARD.

You Can Reduce Your Milking Time

HOW long would it take you and your helper to milk 97 cows by hand? How many could you milk in three hours? One Perfection owner writes that he and his helper milked, stripped and carried away milk from 97 cows in less than three hours.

Whether you have 9 cows or 97 cows you can milk them better and more quickly with a Perfection than by hand milking. You can get along with less help by replacing two of your hand milkers with a Perfection. Here's a chance to save that time you need for other work.

Perfection does more than shorten milking hours. It saves milking drudgery and usually gives you an increase in milk flow. It saves in wages enough to pay for itself in less than a year.

It's easy to see that if you can shorten the hours of your present milking you can increase the size of your herd. Or with the same herd you can get along with less help. You profit either way. Thousands of owners have increased their dairy profits by increasing their herds after installing Perfection Milkers.

Send For Complete Information

You can get complete information on shortening your milking time. Write and let us send a free copy of, "What the Dairyman Wants to Know." We'll also send the names and addresses of Perfection owners near you.

Why Milk By Hand? Perfection milks in one third the time.

Perfection Manufacturing Company

442 S. Clinton St.
Syracuse, New York

2100 E. Hennepin Ave.
Minneapolis, Minnesota

"You are invited to attend our exhibit at the National Dairy Show to be held at the Minnesota State Fair Grounds, October 8-15, 1921."

PERFECTION MILKER

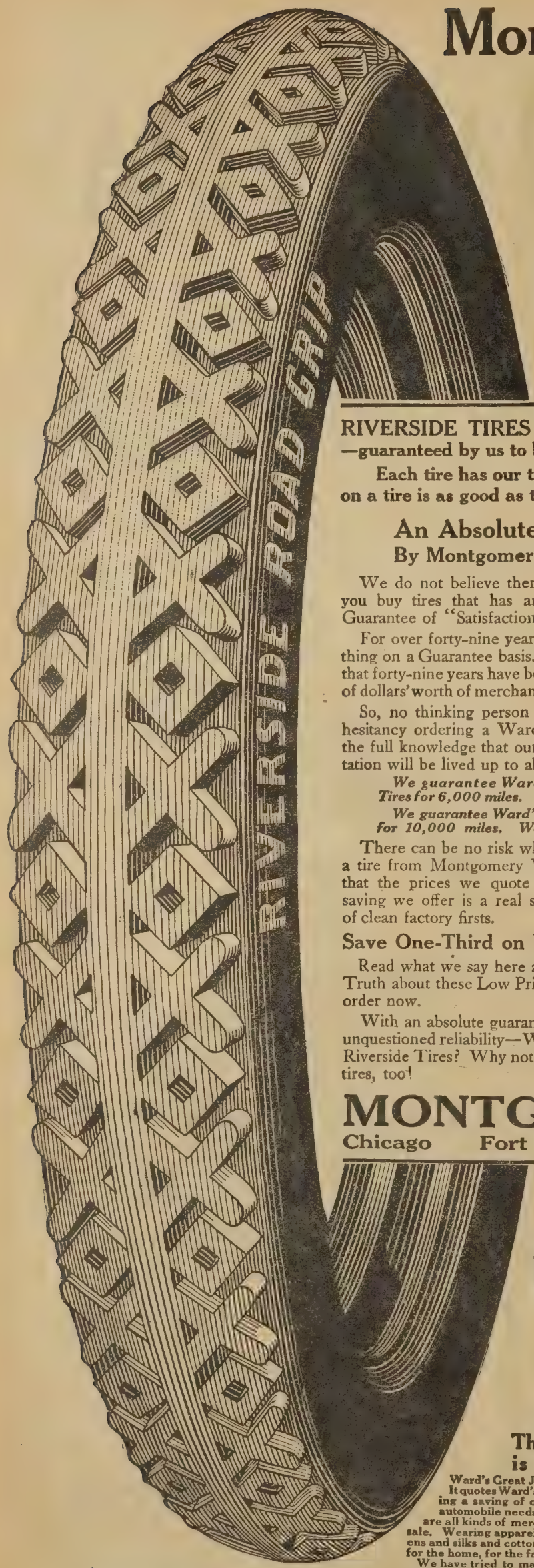
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HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING



Fort Atkinson, Wisconsin Volume LXI, No. 22 June 17, 1921



Montgomery Ward & Co.

RIVERSIDE TIRES

Special Sale Price

$9.95 30 x 3½

This price good only until July 31st

Guaranteed **6,000** Miles

Shipping Weight, 13 Pounds

Sent by parcel post within 150 miles of any of our five houses for 17c postage; within 300 miles for 30c postage; within 600 miles for 55c postage.

Riverside Cords

$17.25 30 x 3½

This price good only until July 31st

Guaranteed **10,000** Miles

Shipping Weight, 17 Pounds

Sent by parcel post within 150 miles of any of our five houses for 21c postage; within 300 miles for 38c postage; within 600 miles for 71c postage.

RIVERSIDE TIRES are NOT Seconds. They are clean, factory firsts of the highest quality—guaranteed by us to be made as good as tires can be made.

Each tire has our trade-marked name—"Riverside." And the name "Riverside" stamped on a tire is as good as the name "Montgomery Ward & Co." written on a check.

An Absolute Guarantee
By Montgomery Ward & Co.

We do not believe there is any firm from whom you buy tires that has an equally old, time-tried Guarantee of "Satisfaction or Your Money Back."

For over forty-nine years, Ward's has sold everything on a Guarantee basis. Millions of customers in that forty-nine years have bought hundreds of millions of dollars' worth of merchandise under that Guarantee.

So, no thinking person can have any doubt, any hesitancy ordering a Ward's Riverside Tire—with the full knowledge that our forty-nine-year-old reputation will be lived up to absolutely.

We guarantee Ward's Riverside Fabric Tires for 6,000 miles. We mean exactly that.

We guarantee Ward's Riverside Cord Tires for 10,000 miles. We mean exactly that.

There can be no risk whatsoever in your ordering a tire from Montgomery Ward & Co. We know that the prices we quote are very low. But the saving we offer is a real saving on the finest grade of clean factory firsts.

Save One-Third on YOUR Tires, TOO!

Read what we say here about prices: "The Plain Truth about these Low Prices"—and then send your order now.

With an absolute guarantee, backed by a house of unquestioned reliability—Why not at least try Ward's Riverside Tires? Why not save one-third on YOUR tires, too!

The Plain Truth
about these Low Prices

First let us say that we believe you will ***never again buy tires at such low prices***—unless there is some great discovery of a new way of making tires.

Just consider that before the war, rubber was 60 cents per pound and formerly it was $1.10 per pound. During the war, rubber actually went down to 50 cents per pound.

Last spring the tire business was demoralized. Rubber went to 18 cents per pound. Cotton broke from 40 cents per pound to 12 cents. It is said that 40,000 people moved away from Akron—the great tire making city.

And there, with everything at the low mark, was the opportunity we are always looking for, with cash in hand, to secure a saving for our customers.

With some great change in making tires—some discovery—you may some time in the years to come buy tires cheaper. But otherwise, Ward's prices in this Summer Sale will be the lowest prices at which you ever bought standard, high grade, guaranteed factory firsts.

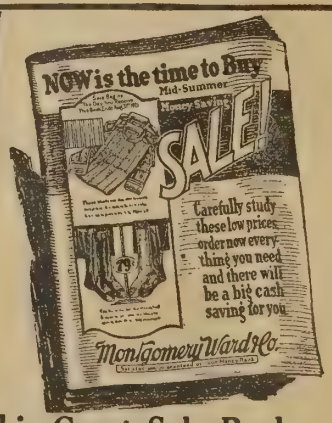
Do You Own a Buick, Packard, Cadillac, or Hudson?

We quote here our great Mid-Summer Sale Price on a 30 x 3½ tire for Overlands, Fords, Maxwells, Dorts, Chevrolets, etc.

But you who own Buicks, Packards and other cars, write for the book below, our July-August Sale Book. It offers you a saving of one-third on all sizes of Fabric Tires—and on Ward's Riverside Cord Tires—guaranteed for 10,000 Miles.

MONTGOMERY WARD & CO.

Chicago Fort Worth Kansas City St. Paul Portland, Ore.



This Great Sale Book is YOURS—FREE!

Ward's Great July-August Sale Book is ready. It quotes Ward's low prices on all sizes of tires—offering a saving of one-third. On tubes and many other automobile needs the saving is very large. But there are all kinds of merchandise in this great reduced price sale. Wearing apparel for women, men and children; woolens and silks and cotton goods at startling prices. Everything for the home, for the farm.

We have tried to make this book a complete offering of your Mid-Summer needs—at wonderfully low prices.

One book is Yours—FREE! Fill out now, this coupon, and send it to the one of our five houses that is nearest you.

MONTGOMERY WARD & CO. G54
Chicago, Fort Worth, Kansas City, St. Paul, Portland, Ore.

I enclose { check / money order } for $.....Please send me

NUMBER OF TIRES	SIZE	Riverside	PRICE	POSTAGE	TOTAL
	30 x 3½	Fabric Tires	$9.95		

NUMBER OF TIRES	SIZE	Riverside	PRICE	POSTAGE	TOTAL
	30 x 3½	Cord Tires	$17.25		

Name.....

Address.....

IMPORTANT:—If you order from Portland, Ore., add 50c to cover the extra freight cost to us of shipping tires by the carload to Portland, Ore.

MONTGOMERY WARD & CO.
Chicago, Fort Worth, Kansas City, St. Paul, Portland, Ore.

Please send me free my copy of Ward's Great Mid-Summer Sale Booklet G54.

Name.....

Address.....

IMPORTANT: Send this coupon to nearest one of our five houses given above

HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING

Volume LXI — FORT ATKINSON, WIS., JUNE 17, 1921 — Number 22

IT does beat all how car-crazy some folks are! Lem Jackson is a case in point, but for that matter his name is legion when it comes to going motor-mad. Lem is a young unmarried fellow that never amounted to a hill o' beans. His folks live up the valley on a rutty, infertile little farm with buildings that totter against each other for mutual support. Lem's mother never had a decent thing in her life to keep house with, and they are going to throw out Lem's father's milk from the shipping station because his cows are housed in such a damp, dark, unsanitary, old fashioned barn, and he evidently hasn't money or ambition to fix up sufficiently to pass the Board of Health's inspection. But Lem has got a car, you bet! How he got enough capital together in the first place to pay the first installment nobody pretends to guess, but then, that has always been a deep mystery in millions of cases! Lem and his seedy old dad and mother go off every now and then in the fliver and have a fine time. It is supposed they go motoring whenever Lem has the price of a gallon of gas in his jeans, which of course can't naturally happen every day. Lem is a loud-mouthed bag of wind and, to hear him talk, you'd think he was mayor of the town and the whole county was his oyster. But they say that the Jacksons barely have enough to eat sometimes and that the inside of their poor home is shocking in its needs. But Lem and his folks certainly enjoy their car and they ride around in great state when some others I might mention still walk. Lem says you might as well be dead these days if you don't own an auto.

⚜

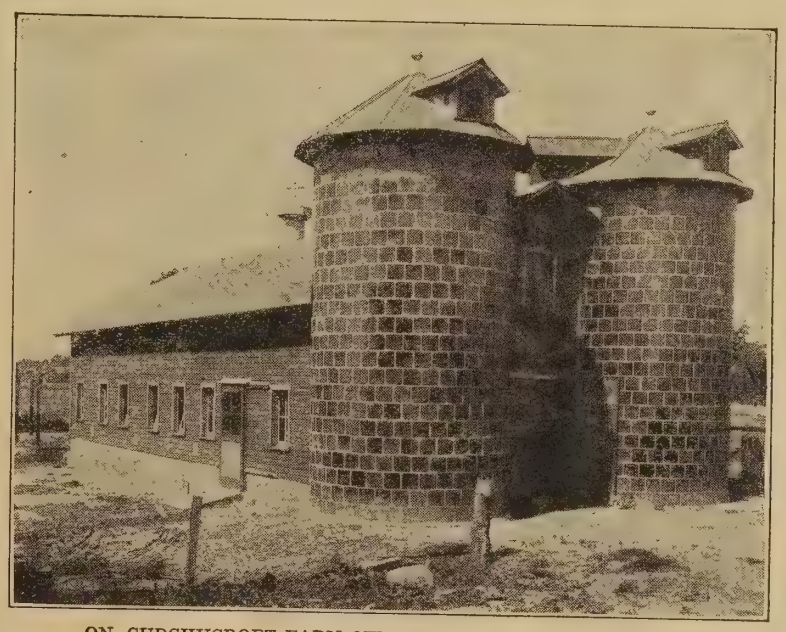
They made a farm bureau canvass in our town last fall for members, the plan being to sign up everybody for five years for $5. A lot of the old members seemed to think this was coming down on 'em altogether too heavy and although you'd think that farmers everywhere would be wise to the benefits conferred by this organization, yet the thought of shelling out $5 instead of the former $2 was too much in the opinions of a few of the less public-spirited ones. One farmer who is very well-to-do said he would pay the $2 as usual if the canvasser wanted his name bad enough to put up the other $3. This was done. The next day the $2 man bought his daughter a pretty $5 silk waist because he succeeded in joining the farm bureau so cheaply.

⚜

A certain little village near a small city is noted for the quiet, industrious farming community which it centers. When folks here want something doing, they go to the nearby city to the movies or band concerts or auto shows. When they're home they mind their own business and attend with single purpose to the work in hand. Whenever the editor of the city daily newspaper wants to be smart, he refers to Riverville as Sleepytown or Deadville. He printed a story the other day on Riverville which made some of the latter's proud citizens sort of hot under the collar. The story ran like this: A man went to consult his doctor because he was on the verge of a nervous break-down. The doctor told him to go to some place where he would have absolute quiet—where there was absolutely nothing doing. "But you know there is no such place literally, doctor," protested the sick patient. "Oh, yes there is!" said the doctor with conviction, "You'll find it at Riverville." Several Riverville folks stopped their subscriptions to the Daily Clarion after this mean hit, but the most of the townsmen just laughed. That editor better look out, nevertheless, how he tramples on the civic pride of Riverville.

FARM STUFF

HELEN S. K. WILLCOX, NEW YORK



ON CUDCHUCROFT FARM OWNED BY A. A. FULK, INDIANA

This modern barn, with its two tile silos 12x34 ft., was built seven years ago. It has modern equipment and makes a splendid cow home. Of his silos, Mr. Fulk writes: "They are as good today as when built and have proven entirely satisfactory."

⚜

Mart Brown was a prosperous farmer many years ago and he had a son who showed no particular promise of following in the footsteps of his old horny-handed dad. This son's name was Joe and he simply wouldn't take hold of the work or show any ambition for any other calling either. One day his father told him he'd got to earn some clothes money for himself. So the old man provided him with a few bushels of nice, early apples and told Joe to try his luck selling them in the town nearby. That night Joe returned to the farm behind Molly, the old mare, but the high platform wagon seemed to draw just as when Joe started off in the morning, also he could see the bulging sacks, which by all rights should have been empty and folded under the seat. "What! couldn't you sell none of them nice Yellow Transparents?" asked Mart in bewildered surprise. Joe hung his head under his father's scrutiny and finally blurted out, "But, pa, nobody asked me what I had to sell!"

⚜

Perk Calkins is a shiftless, good for nothing sort of fellow and his neighbors over at Hornersburg have small patience with him. He keeps scrub stock and grows scrub crops and is raising a scrub family. But Perk's pet passion is tools. He can't seem to get enough of them and, as all the agents believe in trying a poor-pay prospect just once, Perk always has an assortment of machinery gathered around his barns and yard sufficient to supply the county. He usually has half-a-dozen different kinds of mowing machine, rake, harvester, reaper, plow, harrow, cultivator, hay loader, engine and land knows what all sitting round his barn, rusting and drying up in the elements. In a year or two the agent which sells each sample comes and finally gets his particular property, having given Perk up as a hopeless proposition. But there is always another willing and anxious to let Perk buy his kind on trial or on "time". Perk collects his tools the way some folks collect Indian relics or old furniture. He is never so happy as when he's got fifty-seven varieties of machines on hand. Hornersburg people say they should think the agents would be wise to Perk by this time and would save themselves the trouble of "selling" Perk. But I figure that a machine agent is a born optimist anyhow, and when he meets another one like poor Perk Calkins, the sale is made before either of them realizes it. Hornersburg folks hadn't ought to kick as they get lots of chances to buy secondhand tools of the agents after Perk has had the pleasure of storing 'em out under the trees for a year.

⚜

Perk Calkins has a cousin who is like him in lots of ways. Carl doesn't collect machinery but every piece he's got has the sky for a roof, same as Perk's. Carl naturally can't afford to let his tools rust away in the corners of fences the year round, serving as convenient perches and roosts for the hens and birds, but that apparently is the least of his troubles. Last Halloween some boys full of mischief from Hornersburg came down to Carl's farm to see what deviltry they could get away with. There were any number of tools they might have moved onto the church steeple or hung from nearby roofs and platforms as boys have done that night since time immemorial, but for some reason they didn't see fit to do it. Instead, when Carl went out to do chores in the morning, he found his ancient five-passenger "touring" gone from the shed—the only machine he owned under cover—and of course he was awfully wrought up. He was going to notify the authorities of the theft and started down to the big elm for his road-wagon where he was in the habit of stopping it, when what should he see but the old auto keeping the dilapidated wagon company. The boys, with real logic, had run the car down to the elm as being more in consistency with Carl's habits than to store it under the shed. The wagon and old auto had been observed by all the milk teams as Carl wasn't an early riser. Perhaps the jollying he got did Carl good, for this year he's begun to build a big new tool shed and garage.

⚜

John Rogers says that a good farmer is known by his deeds rather than his words. He says you can always tell one. John is of the old school but there is much truth in his ideas. He says a good farmer always keeps one jump ahead of his work instead of allowing the work to be a little ahead of him. He says you've got to get up in the morning to get in your best licks and then stay up and awake for the remainder of a long day. He says anybody that is afraid of working like all-get-out will get out all right from the farm, and that it's all nonsense that a man can't stand it to work hard if he possesses ordinary health and strength. John has always maintained that contact with the good old dirt makes a man hard as nails and able to stand the gaff without any apologies. Brain and brawn, John says, conquer any farm he's ever heard of.

A DAIRYLAND VENICE

E. B. FITTS, Oregon Agricultural College

DAIRYING in certain sections of the coast counties of Oregon is unique in some respects in comparison with dairying in other parts of the United States.

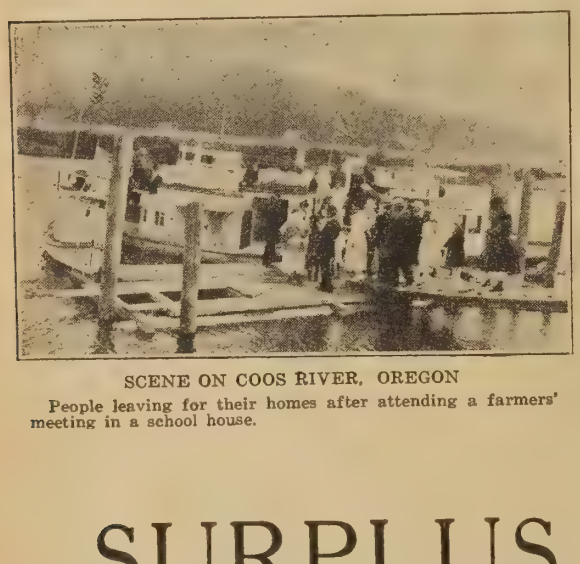
At numerous places along the coast are ocean inlets and rivers emptying into the sea. These inlets and branches of the rivers extend often for many miles back into the country through valleys of varying width and between high ranges of hills. These waterways that drain the valleys are often deep, slow moving, and but very little above the level of the sea. Indeed in some instances the rise and fall of the tide extends back for a distance of twenty miles or more from the ocean. These valleys are generally very narrow although some spread out for a mile or more on either side of the stream. In many places dykes are necessary to keep the land from being flooded at high tide, the buildings being on higher land at the base of the hills. The soil is very deep and exceedingly fertile. A natural grass and clover mixture grows luxuriantly all over these low lands except where swampy tracts occur or the tide overflows and an abundant rainfall during nine months keeps the pastures green almost the year round. Dairying under these conditions in times past consisted of little more than driving the cows to barn or corral for milking and releasing them again to gather more of the ever abundant green feed for the manufacture of more buckets full of milk. In fact, on some farms there has been little or no cultivated land and very little hay cut and cured for winter feeding. Cows have been bred to freshen in the early spring, were milked as long as the pastures were good, then turned dry to rough it through the winter with little or no hay supplied. The average production per cow even under these conditions was probably above that of the average dairy cow of the country.

Many of the more enterprising men in these sections, however, have listened to the gospel of better dairying and are preparing to make the most of the very favorable natural conditions that are theirs. Better cattle are being brought in, scrubs weeded out through cow test association records, and registered bulls from high producing ancestors placed at the head of many herds. Some herd averages are now running close to 400 lbs. of fat per cow. With the better cattle are coming better buildings, better methods of feeding and handling, and a growing pride on the part of the dairymen in their herds. In some sections there are already whole herds of registered cattle and the improvement has been so great that at state and international fairs during the past two years a considerable number of the prize winning animals have come from the coast counties.



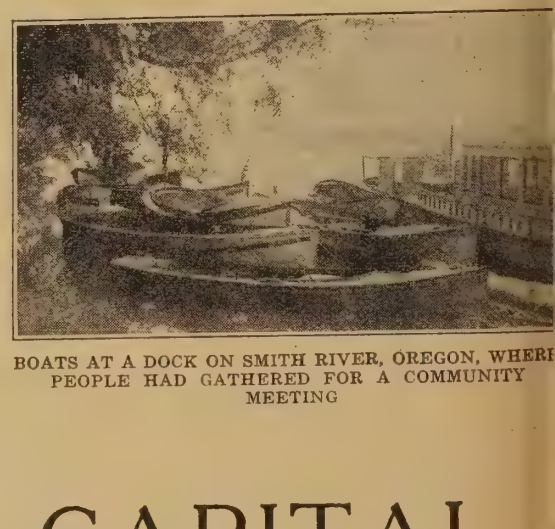
A MILK BOAT UNLOADING AT CREAMERY DOCK ON COOS BAY, OREGON

Many of these narrow valleys have no roads and the only way of travelling from farm to farm or to creamery or to the outside world is by water. Each farmer owns a power boat and a scow is used to move live stock or whatever freight needs to be transported. A daily milk boat collects milk or cream from landings in front of each farm and a rural delivery boat delivers the mail. Schools, churches, and grange or community halls stand at convenient points along the water ways and on school days a school boat takes the scholars to and from the school or the regular service boats adjust their schedule to school hours. Public entertainments often gather a score or more of boats at one point until the water way is nearly blocked. Late arrivals must "park" on the outside, fastening their boats to those nearer the dock, and find their way to shore over several intervening boats. The boats vary from an ordinary row boat with a little single cylinder engine to run its propeller to a six- or eight-cylinder speeder capable of twenty knots an hour. It is a novel and interesting event to attend a community gathering in one of these quiet valleys with wooded hills looming up on either side, to see the river filled with boats, to meet and talk with many people and to realize that there is not a foot of roadway within many miles. The lure of the automobile is penetrating the valleys and one hears much talk of opening up roads. In some cases surveys have been made and road construction is under way. Soon the chug of the motor boat will give way to the honk of the motor car and these Venice-like communities will progress to another stage in their development. It is, however, with extreme regret that some of the older residents watch the opening of roads into their picturesque valleys.



SCENE ON COOS RIVER, OREGON

People leaving for their homes after attending a farmers' meeting in a school house.



BOATS AT A DOCK ON SMITH RIVER, OREGON, WHERE PEOPLE HAD GATHERED FOR A COMMUNITY MEETING

SURPLUS PLANT AT CAPITAL

S. R. WINTERS, WASHINGTON, D. C.

THE operation of a central milk station in Washington, D. C., for utilizing the surplus products of the cow in the territory adjacent to the National Capital is a certainty. The milk plant manager has arrived and an order has been placed in Philadelphia for the factory machinery. Five hundred farmers and dairymen have subscribed approximately $70,000 toward the coveted figure of $100,000, originally specified as the requisite fund.

The co-operative milk utilization factory is a direct offspring of Maryland and Virginia Dairymen's Co-operative Association. A simplifying of the financial transactions of the factory project suggested the formation of a distinct corporate unit. The object of the corporation is to establish a manufacturing establishment where surplus milk from the producing territory can be profitably converted into butter, cheese, and other by-products when the market is glutted with vital fluid as such.

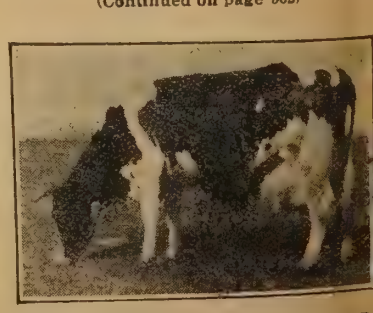
A building has been leased in an advantageous location where the perishable contribution of the milk pail is to be converted into attractive and salable products for consignment to various sections of the United States. It is anticipated that by divorcing the milk from the cream, a responsive market for the latter will be found in the South where cream is in constant demand. The cheese and butter manufactured from the surplus milk, however, will not likely command prices commensurate with fluid-milk figures. The powers of interference with the inexorable law of supply and demand are not claimed for the newly-established milk-consuming factory. No pretentions are made that the organization offers a panacea for all ills. Reasonable expectations are ventured, however, that in this unity of strength milk dealers in Washington will be forestalled in a frequently-recurring tendency to capitalize a few hundred gallons of excess milk as a lever in forcing downward the market price for the essential fluid. The central milk station offers an alternative from acceptance of the arbitrary figure of the distributor, a retention of the supply at home, or a forced peddling of the product from door to door in a city frequently unreceptive to such a practice.

The National Capital supports a milk-producing area embracing numerous counties in Maryland and Virginia, as well as scattering herds in the District of Columbia and West Virginia. Computations, conservatively arrived at, indicate that 1,300 farmers and dairymen contribute to the supply of milk consumed in Washington and that $20,000,000 is invested in farms, cows, barns, and equipment, making possible an undiminished yield. The residents of the District of Columbia consume approximately 35,000 gallons of milk daily.

The Maryland and Virginia Dairymen's Co-operative Association is strictly a mutual organization, its membership sharing the expenses and responsibilities of operating the central receiving milk station as well as participating equally in the rewards of the enterprise. Each dairyman was requested to invest in the project to the extent of $8 for each cow owned, although this figure was not arbitrarily applied in the pledging of subscriptions. At least one dairyman subscribed $1,500, several pledged $1,000 or more each, while still other payments were accepted in accordance with the ability of the farmer to pay rather than strict adherence to the tenatively-named basis of $8 for each animal in the herd. The $100,000 sight, it is calculated, is adequate for acquiring a lease on the building, installing machinery, and providing sufficient capital for operating expense. Obviously, the venture will not be self-supporting from the very beginning.

Operating capital is being raised through the sale of certificates of indebtedness to the milk producer. These certificates are promisso

(Continued on page 902)



HYDE PARK LADY DE KOL, OWNED BY ORIN R. BALES, KANSAS

This Holstein cow is now the state champion of Kansas in the seven-day division, having recently completed a record of 669 lbs. milk containing 26 lbs. fat. Prior to this mature record, she has two other seven-day records.

VERMONT CO-OPERATIVES FEDERATE

Creameries Join For Increased Returns Through Co-operative Management in Manufacturing and Selling

IT has remained for Vermont, the Denmark of America, to demonstrate the fundamentals in a complete system of economic co-operative marketing of dairy products. In the plan of the Vermont Co-operative Creameries Company is an example of co-operation that is no half-way affair. The Green Mountain dairy farmer-members of these creameries believe in the principle of co-operation and are ready to go the limit in supporting their belief. These creameries are the "solid foundation upon which is being built the great dairy industry of the state".

The plan of this organization of creameries is this: In a community where farmers believe in working together, a co-operative creamery is organized, 29 having been formed since 1915. Equipment is installed to permit marketing the product in any of several forms; fluid milk, cheese, butter, etc. Then a group of such creameries band together for the common good and buy equipment, employ uniform accounting systems, and sell their product co-operatively through one sales head—in the form which is in greatest demand and to the particular buyer who offers the best price. They own their plants; they can sell to anyone who will buy, and in the form of product in greatest demand. Through co-operation marked advantages are had in buying, in operating the several plants, and in selling.

The purpose of federating Vermont's creameries was clearly set forth by Commissioner of Agriculture E. S. Brigham before the Massachusetts State Board of Agriculture in 1917, when he said: "Co-operation should begin in the local community, among dairymen who have a similar problem, viz., to obtain the highest possible price for dairy products. The program should include not only the collective bargaining through a board of directors for the highest possible price, but also the production of fine quality products on the farms of its members and the hauling of these products to the railroad station or, wherever the number of cows is sufficient, to a central plant owned and operated by the organization where the milk may be processed so that it is marketable in any city and where in times of surplus it may be manufactured into butter or cheese."



THE RICHMOND CREAMERY, MOTHER OF THE FEDERATION. TWO HUNDRED THIRTY-FIVE MEMBERS ARE SENDING 65,000 LBS. OF MILK TO IT DAILY

A year previous to that the commissioner spoke in favor not only of this complete equipment for a single creamery but of a federation for increased co-operative benefits. Also in November, 1916, F. H. Edwards at a meeting at Richmond urged the necessity for a federation of co-operative creameries for the "purpose of encouragement, education, and better marketing".

Not until the winter of 1920 was such a federation formed. Then representatives of the co-operative creameries organized the Vermont Co-operative Creameries, Inc., incorporating for $200,000 for the purpose of obtaining for these creameries collectively certain advantages which they as individuals could not secure. The by-laws of the federation delegated to its directors the power of contracting with member creameries to supervise their accounting systems, to buy supplies co-operatively for the members, and to sell the products manufactured.

A Child of Adversity

This comprehensive scheme of economic marketing is the child of adversity. The idea had its beginning in the days of the leased car system which gave preferential rates to the large milk companies. Before the Interstate Commerce Commission's ruling in July, 1916, the rate on less than a carload shipment was prohibitive, leaving the producer no opportunity to ship his own milk; also, it cost more to ship a carload of milk to Boston from many points in Vermont than to ship from Canada.

Moreover, when a territory proved unprofitable as a source of milk the milk company abandoned it—leaving the producer to cast about for a market. Many of the present co-operatives are in such abandoned territories. At regular times the milk companies set a price for milk; the only thing necessary for the farmer to do was to "take it or leave it". Since he frequently had no other market, he had no choice.



SHELBURNE CREAMERY, MEMBER OF THE FEDERATION, WHERE A $800,000 BUSINESS WAS CONDUCTED IN 1920. ITS MEMBERSHIP GREW FROM 65 IN MAY, 1919, TO 205 in DECEMBER, 1920

Commissioner of Agriculture E. S. Brigham well summarized the condition which confronted these dairy farmers when he said: "It is not sound economics or sound business for a great industry like dairying to be absolutely dependent upon one set of middlemen to move dairy products from the farm to the market, with the ability to fix the price, as is now the case. The time has come for the dairymen of New England to formulate a declaration of independence, and to take such steps as will make that declaration mean something."

A "Declaration of Independence"

Out of this situation grew the Green Mountain farmer's determination to market his own product. His "declaration of independence" led to the organization of co-operative creameries. The diversity of the market, in the varying amount and type of product it would take, indicated the next step—that of equipping to ship any one of several products: whole milk, butter, cheese, etc.; creameries not on railroads equipped to manufacture butter, cheese, and casein. The final link completing the circle of co-operative effort—that of federating these individual creameries—was proposed by Commissioner Brigham and ably fostered among the creameries now federated by F. H. Edwards.

The purpose of the federation is to sell what the market will pay the most for—whether that be whole milk, butter, cheese, or condensed milk—and to sell wherever the best price is to be had. It is for wide open competition—with service and quality as selling points. It is a market free-lance, selling on the basis of supply and demand. It sells according to the demand for its products; if it can sell milk for more than butter or cheese will net, it sells milk without reference to the relation of the price received to that arbitrarily set by other organizations. As an example: the federation believes the present price of milk in Boston is out of relation to that of butter. It has therefore lately increased its fluid milk sales, sending a part of its output into a market formerly held by Connecticut and Massachusetts dairy farmers. The price secured nets its members more than could be gotten by selling butter or cheese. If market milk declines sufficiently, the federation's product will flow to more profitable channels.

A Market Stabilizer

No other plan of marketing has so great effect as a stabilizer. Under this scheme of selling, in times of surplus of any type of product, the output of the federation is turned to other forms. When the whole milk market is glutted and prices depressed, federation milk, instead of aggravating that undesirable situation, may go into butter, cheese, sweet cream, etc., thus tending to restore a balance. When there is a shortage of any particular form of product and the price is abnormally high, the federation output will supply that demand and stabilize the market. No more beneficial influence on the dairy market can be conceived than this. Neither the producer nor the consumer profits through uncertain supply and price. The best situation which can be created for the dairy farmer is that which insures him a uniform market free from uncertainties.

An Illustration of the System

The Richmond creamery, opened in November, 1916, offers a good example of the operations of one of the federation's member creameries. Within a year of its opening forty different buyers from several different cities had made offers for its entire output. Before the creamery was organized the producers sold to one company, frequently at an arbitrary price they had no part in making. Last month the daily intake of milk was about 65,000 lbs. sent in by 235 patrons, 200 of which are creamery members. One-half of the product went to Boston as whole milk, a 40-quart can bringing $3.30 for 3.7 per cent milk, minus $.38 freight. Some cheese was being made which sold for 25 to 26 cents. F. H. Edwards, manager, was giving considerable attention to making an ice cream mix, shipped ready for freezing. This was selling for $1.20 per gallon, less transportation, and the demand is constantly increasing. Considerable butter was being made and some sweet cream was being shipped, the latter selling for $23 for 40 quarts of 3. 8 per cent test. The ice cream mix is a product especially favorable to the plan of supplying the market which is most favorable. When butter does not sell high, it may be stored unsalted. Skimmilk, when it cannot be sold, is condensed and stored. Then, when the ice cream season is on, these two may be utilized in preparing the "mix". The casein market was so unfavorable in March that very little of that product was being made. Some skimmilk was being shipped to ice cream factories and bake shops. Buttermilk is shipped also.

The price paid to the members of the Richmond creamery for the first

(Continued on page 898)

National Holstein Meeting A Stormy Session

A FARCE of the worst kind. That phrase very well describes the 36th annual meeting of the Holstein-Friesian Association of America held at Syracuse, N. Y., June 1-2, if you judge it from the standpoint of what such a meeting should be—a meeting to truly represent the will and desire of the 20,000 or more association members.

When three or four men control such a meeting, even though five hundred or more members are present; when on most of the propositions they put through they are opposed by at least three-fourths of the members present; when they only put through a half of that for which they solicited their power; and when one is very positive that had those members actually been present, whose proxies were responsible for this power, they would have voted otherwise; what else is it but a farce, and a disgraceful one, to be held under the name of the Holstein-Friesian Association of America?

This is not the first such occurrence chat the Holstein Association has experienced. Previous meetings have found the balance of power in someone's hands and that person or persons have more than once been a minority of the members present. The system which permits such an abuse is wrong, and it, rather than any one man or group of men, should be most criticised.

No criticism should be directed toward the New York State Association for conditions existing at the meeting. Rather commendation is due them for the excellent arrangements they made for entertainment and for business. Those who came early had an opportunity to see some of the good Holstein herds and many points of interest within comfortable driving distance of Syracuse on Tuesday; the meeting was well housed, an excellent banquet was served on the evening of June 1st, and a most enjoyable trip through Northern New York to the Thousand Islands planned for those who would remain for June 5.

The meeting itself, with over 500 members present, was held in the Mizpah church which, we venture to say, never housed such a stormy session before, and doubtless never will again.

Chancellor Day of Syracuse University, who is well acquainted with Holsteins both at home and abroad, opened it with an excellent address of welcome.

President Aitken then briefly enlarged on his printed address, a part of which was published in Hoard's Dairyman of June third. He has, of course, been director of extension as well as president and in the former position has had to experience much of the strenuous work which goes with that office. The extension work of the association has meant that at least four times as many people today are acquainted with black and whites as four years ago, no mean accomplishment.

He spoke of the good work accomplished by the Advanced Registry office and urged its support by everyone and in closing cautioned every member present to consider well the welfare of the association, not individual preference, before casting his vote or votes on any question; much needed and but little heeded advice.

After a reading of the reports of officers and minutes of the last meeting were waived, J. M. Hackney of Minnesota touched a match to the fire works by introducing a resolution commending the action of the officers and directors in pushing the Cole-Cabana case as rapidly as the courts would permit and their direction of association affairs generally.

If this were intended to force the fighting into the open and make everyone declare his stand, it certainly succeeded. Judge F. M. Peasley of Connecticut, leader of the triumvirate who controlled the meeting, took the stand that the resolution was ill timed. He apparently considered the board of directors illegally elected and manifestly was not in sympathy with the then present administration's work.

J. S. Van Gorder of New York moved to table the resolution, in other words to turn it down. This was done by a vote of 7,963 to 5,788; F. M. Peasley, C. N. Newman, and A. L. Brockway voting well over 6,000 of the 7,963 votes. As a matter of fact, the proxy committee's report gave these three men a total of 6,250 votes about evenly divided, and ably assisted by J. S. Brill of New York with 616 votes, they had a very workable majority of the total 13,284 votes of the meeting.

Five amendments making minor changes in the by-laws were adopted without discussion but one slightly increasing the president's power and another giving the board of directors power to amend the by-laws were tabled.



QUEEN PIEBE ROSE, OWNED BY KIRKPATRICK BROS., WISCONSIN

This cow has just completed a seven-day test at 5 years, producing 532 lbs. milk containing 25.4 lbs. fat. She is now on yearly test and is giving her weight in 4.2 per cent milk every 18 days. She has a 2-year-old record of 400 lbs. milk and 14 lbs. fat in seven days, and a 3-year-old record of 523 lbs. milk and 20.64 lbs. fat.

Following these Mr. Peasley introduced his resolution to rescind the action of the St. Paul meeting giving the board of directors power to investigate the question of selecting a national home for the association and act as they saw fit on the same. This was one of the three main points on the strength of which Messrs. Peasley's Brockway's, and Newman's proxies were solicited, but in spite of this they permitted its defeat without a roll call vote where they could surely have won.

As a matter of fact, it is probably true that the board of directors did not need the St. Paul resolution to give them this power and since the 1920 meeting they have certainly taken no steps to make such a change.

H. C. Reynolds of Pennsylvania presented a resolution directing the officers and directors elected at this meeting to proceed with the Cole-Cabana case as rapidly as possible. Jas. Reynolds of Ohio, followed by others, objected to this because of the words "at this meeting" and finally, on the motion of J. B. Irwin, Minnesota, it was tabled and the meeting then adjourned until Thursday morning.

Those who read the call to the meeting and more especially those who received letters from Mr. Brockway, and possibly from others soliciting proxies, will remember that A. L. Brockway was to present an amendment providing for a reduction of transfer fee from $1.00 to 50 cents, a half of this to be returned to the club or association of the state from which it came.

Thursday morning this was scheduled for the first order of business but Mr. Brockway introduced only half of it, that part relating to the reduction of fees, and did not attempt to introduce anything pertaining to returning a part to state associations, although with the voting power at his command this could as easily have been passed.

There was a bitter attack on the proposed amendment by several speakers who contended that such a cut would automatically mean a discontinuance of all extension work and furthermore that the present $1.00 figure was low, both the Jersey and Guernsey fees for similar service being from two to three times as high. H. V. Noyes, New York, showed by actual figures taken from the auditor's report that the fifty cents' fee would just a little more than permit the association to break even without any extension expense.

The resolution passed easily 7,797 to 5,539, although over 80 per cent of the members actually present voted against it, Peasley, Newman, and F. L. Parmalee (Mr. Brockway leaving on personal business turned his proxies over to Mr. Parmalee) holding their control.

An amendment introduced by Gen. Wood for E. A. Powell, New York, to permit a seller to reserve the ownership of a calf carried in dam at the time of sale was defeated.

Throughout the meeting, members generally felt that the present proxy system of voting could not be continued in the future because it is subject to just such abuses as were in evidence there where two or three men with a large number of proxies solicited for certain purposes could prostitute them to other uses at their will. The amendment introduced by Howard C. Reynolds of Pennsylvania to district the country according to Holstein population and elect the national directors by districts, crystallized this sentiment and after considerable discussion this amendment was tabled in favor of a motion by J. M. Hackney to have a committee of Mr. Reynolds, Judge Kellogg of New York, and one other, work out a plan to correct this evil and submit it to the next national meeting.

Judge Peasley then introduced a resolution to keep the association officers in their present location until further action by some future annual meeting. It passed unanimously.

John M. Kelley of Wisconsin introduced a resolution to have a committee of two appointed to look into the advisability of forming a company of Holstein men to popularize and improve the market for Holstein milk and dairy products. This together with one condemning the retouching of Holstein photographs also introduced by Mr. Kelley, were both passed without discussion.

It was evident from the first that the Big Three or Four did not approve of the then present administration and were there to oust them but if anyone present doubted it, they were speedily set right when the election of officers commenced.

After Judge Kellogg nominated D. D. Aitken to succeed himself as president, Judge Peasley nominated Ex-Gov. Frank M. Lowden of Illinois, although many members present (friends of Mr. Lowden) declared that within the past 24 hours he had positively declined to consider the office. Upon questioning, Judge Peasley stated that he had good authority to believe Mr. Lowden would accept, but declined to name his authority.

It was apparent that a majority of those present feared the president's office might become vacant by resignation should Mr. Lowden be elected, and in consequence an undesirable vice-president be in power, so they urged a compromise ticket with Lowden for president and Mr. Aitken vice-president, but this Judge Peasley refused.

Frank O. Lowden was elected largely by the proxies held by Peasley, Newman, Parmalee, and J. S. Brill, New York, solicited for other purposes, the vote standing 7,567 to 5,805 with 271 of those present voting for Aitken and 65 for Lowden. An amusing incident occurred on announcement by the tellers that Mr. Aitken was elected by a 348 majority with 5,805 votes. The crowd was in an uproar at once, giving cheer after cheer to the discomfort of the all powerful minority, but when they finally came to order it was found that Mr. Parmalee, through an oversight, had not been credited with the Brockway proxies. Upon the advice of Mr. Aitken he requested the meeting to credit those proxies to Lowden with his vote, which was of course allowed, and Mr. Lowden declared elected.

Judge Peasley then nominated Geo. Stevenson of Pennsylvania for vice-president and W. S. Moscrip nominated J. M. Hackney to succeed himself. A roll call of the four men, Peasley, Newman, Brill, and Parmalee elected Mr. Stevenson without a call for the other votes.

Wing R. Smith for treasurer, F. L. Houghton for secretary, and Malcolm H. Gardner for superintendent of Advanced Registry were elected unanimously.

Judge Peasley then nominated the four new directors: Dr. D. B. Armstrong, New York, to succeed Horace Norton, Jr., Michigan; John M. Kelley of Wisconsin to succeed Geo. Van Hagen of Illinois; T. E. Elder of Massachusetts to succeed H. A. Moyer of New York; and Mr. Fred Pabst to succeed himself; and by the use of Messrs. Newman, Parmalee, and Brill, proceeded to elect them as he did the

vice-president with a short roll call. Mr. Pabst was elected unanimously.

He then introduced a resolution to change the officers' salaries but this was declared out of order and the ruling sustained by the house.

Upon motion of President Bigler of the New York State Association, Kansas City, Mo., was selected for the next convention.

It is interesting to note that at the directors' meeting late on Thursday, the three new directors, Jno. M.Kelley, Dr. Armstrong, and T. E. Elder, objecting to their manner of election, resigned. The remaining directors then filled their vacancies by appointing them to the respective positions. Horace Norton, Jr., of Michigan, defeated by Peasley & Co., was appointed by the board of directors to fill the vacancy caused by the resignation of Dr. Davis of Nebraska.

The Cattle Show

New York breeders offered a $500 prize for the best state herd to be selected from among the sale cattle and on Tuesday after going over the line-up before a crowd of 500 or 600 interested spectators, Judges Bob Haeger and Ward Stevens put the Michigan herd first with the Pennsylvania consignment a close second and those from Canada third.

In the individual cow class, Spillane's (Michigan) Rosie Mercedes Butter Boy stood first, W. F. Brown of Pennsylvania won second on a very good entry, and A. H. Tuttle's, 20-lb. 2-year-old shipped from Washington, third.

The Banquet

When 1,000 people sit down to a banquet table when they are well served, and later well entertained by good speakers, it must be a successful banquet. That is the kind the New York breeders provided for the National Association members and visitors the evening of June 1 and they should be given full credit for its success.

Following C. F. Bigler's introduction, Master of Ceremonies J. M. Hackney took advantage of the opportunity to invite Holstein breeders there to attend the National Dairy Show next fall and gave them an idea of the possibilities for the Holstein cow in the great Northwest.

Toastmaster Frank O. Lowden spoke of our present industrial situation and insisted that we cannot expect any general return to prosperity until agriculture which today is most depressed is again in gear with other industries.

Jno. M. Kelley, Wisconsin, gave an instructive talk on the necessity of better marketing organizations and more advertising for a more successful dairy business.

He was in turn followed by E. J. Cattell of Pennsylvania, a most entertaining speaker. D. D. Aitken was to have spoken also but because of the lateness of the hour simply wished everyone "Goodnight".

The following is the resolution offered by J. M. Hackney early in the meeting and tabled largely by vote of Peasley, Newman, and Brockway:

The Holstein-Friesian Association of America has, because of the black and white cow, become the strongest and largest organization of its kind in the world. We recognize the foresight and courage of the founders of this great organization, many of whom are living and with us today. The influence of this great organization is world wide. Through good management in the handling of the black and white cow it has become practically the dairy industry of the United States. We are passing through a period of readjustment due to the world war. Wisdom must be our watchword. Any mistake we make now will take a long time to overcome. Under the guidance, wisdom, and management of President Aitken and our present officials, board of directors, we have made a remarkable progress. We regret the unfortunate situation known as the Cole-Cabana controversy and the litigation in connection therewith. We commend the vigorous action of those officers and directors who have fought to preserve the integrity of our records and we urge that this most important matter be carried to a successful conclusion, realizing that the preservation and integrity of the records made by the black and white cow are the basis of the industry.

Cooling Milk

A trip into any market milk producing territory shows a variety of methods used in cooling the milk; some good, some poor, others indifferent. Below are given the results of five different cooling tests taken under normal conditions.

The first test consisted of cooling milk by means of a common wash tub and water. It required one hour and ten minutes to cool a can of milk from 96 degrees to 60 degrees, the temperature which is considered safe for market milk. The water, which had a temperature of 48 degrees, was changed five times and the milk was stirred occasionally. It is plainly evident that this method is costly and impractical.

The temperature of milk, cooled by means of the "half barrel" method, was reduced from 96 degrees to 60 degrees in 45 minutes, during which time the water was changed twice. This method would also be impractical for large milk producers.

A concrete tank, about two and one-half feet by six feet, was used next. Twenty-five minutes were required to cool the milk to 60 degrees with water testing 50 degrees. The milk was stirred two or three different times. This method is the one most commonly used and gives good satisfaction if enough time can be spent on it.

An aerator or cone shaped cooler was next tried. Running water was used, the flow being obtained by a gas engine and pump directly from the well. The water had a temperature of 50 degrees, the milk 96 degrees. In order to cool the milk to 60 degrees it was necessary to run it over the cooler twice. On the first time over the temperature was reduced to 62 degrees and on the second time to 54 degrees. The total time for cooling was fifteen minutes.

A coil or "corrugated" cooler was used in the next trial. Running water is necessary with this cooler. By running milk which had a temperature of 96 degrees over the cooler once the temperature was reduced to 53 degrees. This particular cooler, which was one of the smaller sizes, could take care of milk as fast as four men could milk it.

For producers sending any considerable amount of milk to the city, this one seems to be very economical and efficient.

It should be impressed on the mind of every milk producer that temperatures cannot be guessed with any degree of certainty. If an investment of $1.25 for a dairy thermometer is the means of saving even one can of milk during the entire summer, it is a paying one.—Flint, Michigan, Milk Letter.



Spray chicken roosts and drop boards with Creonoid to get rid of mites and lice.

Chicken Mites and Flies—

IF your hens are not laying well chicken mites are probably to blame.

These pests hide by day in the nest boxes and woodwork in the henhouse. At night they feed on the hen's blood. This loss of blood so weakens the hens that they often become easy victims of some simple disease, and do not lay as well as healthy birds.

The surest, easiest and cheapest way to get rid of mites is to spray thoroughly the inside of the chicken house with Creonoid. You will be surprised how soon your hens will begin to look better and lay better

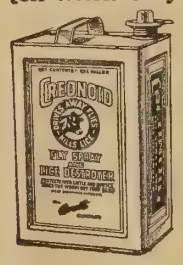
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Creonoid is safe, lasting and does not gum the hair.

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Creonoid comes all ready for use in 1 gal. and 5 gal. cans; also in 50 gal. barrels.

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Hoard's Dairyman

Fort Atkinson, Wisconsin

Founded 1885 by W. D. HOARD

W. D. HOARD & SONS CO., Publishers
H. L. HOARD, A. R. HOARD, F. W. HOARD
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All foreign countries in the Postal Union $2.50 a year; not in the Postal Union $3.00, including postage.

Correspondents must not expect us to acknowledge the receipt of letters containing remittance for subscription. The receipt of Hoard's Dairyman is sufficient notification that money has been received. The label on the paper will show date to which subscription is paid. In case of renewals, if date on label is not changed within two weeks after remittance is sent, inform us at once.

We solicit advertisements of meritorious articles needed by the farmer. We try to keep our advertising columns clean and wholesome, that they may merit the patronage and confidence of our readers. Unwholesome, immoral, and quack medical advertising are excluded. A sincere effort is made to exclude frauds, irresponsible and unscrupulous firms. We will always take it as a favor to be notified whenever any advertiser's dealings with a subscriber are in bad faith or evidence a lack of business honor. Advertisers generally recognize the readers of Hoard's Dairyman as an up-to-date class of farmers, who farm with business-like methods, and we hold our columns for the patronage of only those with whom our readers can deal with profit and satisfaction.

ADVERTISING COPY must be received eight days previous to the date of publication Advertising to be classified or changes in advertising must reach us twelve days previous to date of publication.

Entered at Fort Atkinson, Wis., as second class matter.

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Coming Events

June 22-25—Tuberculosis Eradication Conference, State House, Boston.

Sept. 26-Oct. 2nd—Dairy Cattle Congress at Waterloo, Iowa.

Oct. 8-15—National Dairy Show at Minnesota State Fair Grounds. Manager, W. E. Skinner, 910 So. Michigan Ave., Chicago.

Coal ashes have little value as fertilizer, their use being mainly to loosen the soil and make it more workable. They are most valuable on heavy clay soil, but should be screened to take out coarse material before they are applied, and should be spread evenly over the surface and thoroughly mixed with the soil. Wood ashes have fertilizing value, but should be applied before they become leached.

Washington, D. C., Weekly News

[SPECIAL TO HOARD'S DAIRYMAN]

Washington, June 6—The sudden decision of the House Committee on Agriculture to take up the two matters of legislation, filled milk and cold storage, of special interest to dairy interests, had three causes: that these matters were already pending before the committee, several members of the committee have personal interests in the dairy business, and third, and controlling, it was thought both of them could be taken care of in the brief time likely to elapse before the tariff bill is reported, and drive everything else out of consideration until it is passed.

It was the insistence of Congressman Voigt of Wisconsin that led the committee to vote a hearing to his bill, and he will have charge of the hearing held June 13. As has already been indicated in this correspondence his bill is the simplest and most direct way of dealing with this problem. He provides plainly that milk from which cream has been taken, and some other fat substituted, is "adulterated" within the meaning of the pure food laws, and its manufacture and sale are prohibited. Up to this time one other bill has been introduced on this subject, a bill by Congressman Beck of Wisconsin, which deals with the problem along the same lines that the filled cheese law was drawn and passed, that is by manufacturers' and vendors' license tax, and a flat pound tax, the joint result of which is prohibitive. The Beck bill, however, was referred to the Ways and Means Committee, as it is, in form, a revenue measure. Unless the reference can be changed this bill and this form of dealing with this problem will not be before the Committee.

It is likely that the exact form which regulatory or even prohibitive measures may take will not be the principal topic at the hearing, but that the time will be taken to show first the magnitude to which this manufacture and sale of imitation milk has grown; and, second, the lack of vital food value in the imitation product. Congressman Voigt plans to call Professor McCollum, the leading expert in biochemical food science, representatives of the McCormick Memorial Association, as well as representatives of milk producers and condensery interests.

Excepting the manufacture of filled milk and imitation cream, and perhaps ice cream, there is not expected to be any strong opposition to legislation on the subject of "filled milk" here. This is not true of the cold storage legislation which is before the Agricultural Committee, to be taken up the next day after the filled milk hearing. This legislation before the committee is in the form in which it was reported at the last session, when it was expected to pass. At the last moment protests from Pacific Coast poultry and creamery interests halted it, and now it appears that middle western creamery interests are also opposed.

The opposition comes from the fear that marking dairy products with the words "cold storage" as is provided for in the proposed law, even if they have been in storage a very brief time and are not injured in any way, will put these products at a marked disadvantage in competition with margarine. The poultry people claim that the original bill made them mark their products when their only period of storage was the period of transit in refrigerator cars.

It can be stated positively that it is not the intention of any member of the committee to injure any business with this cold storage law, but it is the intention of the committee, if possible, to have products sold for just what they are, marked as storage products if they are in fact storage products; that is, if they differ in flavor or quality in any way through storage. The producers of fresh products are entitled to this protection by the law in the opinion of the students of this question. Then, too, there is an economic necessity which has more or less weight, in a limitation of the time products may be held in storage, the basic principle being that the storage should be used only to permit distribution of a product over a single calendar year.

Chairman Haugen has heard many protests against the last year's action of the committee, especially from small creameries, and has asked your correspondent to make it plain that he wishes the views and necessities of this industry to be fully placed before the committee.

⚜

Much new information is now available as to the imports and domestic use of vegetable oils, in the late reports of the Census Bureau, the reports of the Bureau of Foreign and Domestic Commerce, Department of Commerce, and the studies of the Dairy Division and of the Division of Foreign Markets of the Department of Agriculture. This is coming out in ample time for use in the debate on tariff on vegetable oils, which will break loose as soon as the bill is reported. This bill will go down in history as the Fordney bill, or the Penrose-Fordney bill, depending on what happens to it in the Senate, and is due for the first light of public inspection now within a few days. There are some indications that if it is not out by June 15, when last promised, that it will come by the end of the week of the 15th anyway.

⚜

Congressman McLaughlin of Michigan is one of the members of the House who is familiar with dairy problems. Your correspondent called on him recently to discuss the various questions likely to come up in the filled milk discussion, and found him with a file of Hoard's Dairyman in front of him, going over the recent articles and editorials on this subject. "I take Hoard's regularly," he said, "and it is one of the few publications, outside the newspapers from my own district, that come to my office for my regular information." Alongside the copies of Hoard's Dairyman he had a set of Holstein-Friesian registry papers, and some photographs of a fine looking Holstein bull calf, from which photographs he was transferring the markings to the registry papers, preparatory to making application for registry for this addition to his own Holstein herd. The next document of interest was a letter from Congressman McArthur of Washington, containing the milk and butter records of Congressman McArthur's herd of registered Jerseys—a mighty fine herd record it might be said in passing—and evidently an effort to draw the Michigan Congressman into a contest as to the respective merits of the two congressmen's herds as to production and profit. Men, with these interests in dairying, are to be depended on to see that whatever is fair to this great interest is given it by Congress.

Filled Milk Fight Won

Wisconsin Senate Gives Unanimous Vote

Filled milk is dead in Wisconsin. At least its manufacture and sale in that state will cease ninety days after the governor signs the bill that has just passed the state legislature.

It was a hotly contested fight from start to finish, but the farm organizations presented their case so well that the bill passed the assembly by a vote of 67 to 10, and on June 7th the Senate gave its unanimous approval. The manufacturers of the imitation product sought by every means in their power to stem the tide running against them, but all to no avail.

Because few farmers attended the first hearing before the Assembly Committee the word was put out by the manufacturers that real farmers were not interested despite petitions and letters signed by thousands of the best dairy farmers of the state. To meet the possible effect of this propaganda, farmers were asked to attend the hearings before the Senate Committee, and later the entire Senate. They left their work, many with haying in progress and every hour lost from the field was a decided sacrifice. Some three hundred attended the last hearing and their presence was a large factor in securing the unusual and unexpected unanimous vote of the Senate.

Credit for the passage of the bill is due to the co-operative working spirit of the farm organizations, and the splendid support of many members of the legislature. This legislation was first proposed by the Wisconsin Dairymen's Association and Hoard's Dairyman but the State Farm Bureau Federation had direct charge of the fight and showed the power and influence of this organization in presenting the cause of the farmer. Many individuals gave freely of their time, but any statement of names would make several columns of reading matter and yet fail to do justice. It was team work that won the fight for honest dairy products and the protection of the dairy farmer's interests.

With the fight won in the biggest dairy state, it now goes to the Congress of the United States with high hopes for success. As to its present status there, see the Washington Weekly News in this issue.

Pure-bred Cattle

The census of 1920 credits the state of Maine with a total of 15,683 pure-bred dairy cattle, of which number 12,172 are females. The various breeds are credited with the following number: 1,134 Ayrshire, 62 Brown Swiss, 1,836 Guernsey, 7,206 Holstein, 4,999 Jersey and 446 other breeds.

The state of South Dakota is credited with a total of 5,248 pure-bred dairy cattle, of which number 3,704 are females. The various breeds are credited with the following number: 85 Ayrshire, 119 Brown Swiss, 135 Guernsey, 4,027 Holstein, 312 Jersey, and 570 other breeds.

The state of Nebraska has a total of 7,873 pure-bred cattle within its borders, of which number there are 5,922 females. The various breeds are credited with the following number: 74 Ayrshire, 38 Brown Swiss, 348 Guernsey, 5,368 Holstein, 1,275 Jersey and 770 other breeds.

Every good merchant has a "want list" on which he jots down articles he needs to order. A farmer might use this system for listing odd jobs that need doing.

National Holstein Sale Averages $807

The New York Holstein breeders planned the Second National Co-operative Sale for June 2-3-4 at the Syracuse fair grounds, but a two-day meeting instead of the one planned for the national association forced them to run the sale through in two days.

In spite of this and in spite of the turbulent meeting which many predicted would seriously affect the sale, it was very good. There were no such prices as at St. Paul a year ago, but in most cases the cattle brought a good fair figure, and we believe New York should be credited with a successful sale.

One hundred seventy-one animals sold for $138,000, just over an $807 average, with 16 bulls bringing an average of $1,304, and the females, $759.

Forty-six head sold for $1000 or more each, with $4,250 the top price. M. Montgomery of South Carolina paid this for a splendid 30-lb. seven-year-old daughter of O. K. L. consigned by Geo. Abbott of New York. Julius Schmid offered to take her to Beaver Dam Stock Farm to complete her year record and breed her to his Ormsby Sensation free of charge and if that was accepted offered $3000 for her resulting calf, bull or heifer. This, of course, made her a cheap cow at the $4,250 price.

A son of the same sire was the highest priced bull at $2,800. He was nine months old, from a 31-lb. 4-year-old daughter of King Segis De Kol Korndyke, and consigned by Henry Morgenthau, Jr., New York. He will head the herd of J. H. Rakestraw, Pennsylvania.

The consignments came from fifteen states and Canada, the buyers from sixteen different states.

The buying states, number of buyers from each, and the number and average price of their purchases are as follows:

State	Buyers	Animals bought	Ave. price
New York	42	88	$ 700
Pennsylvania	10	19	979
Ohio	6	10	815
Michigan	4	8	702
New Jersey	4	7	1415
Maine	1	7	403
Wisconsin	3	6	1040
Missouri	1	6	834
Connecticut	1	5	441
Massachusetts	2	2	1527
Minnesota	2	2	880
Vermont	2	2	792
South Carolina	1	1	4250
North Carolina	1	1	1825
Illinois	1	1	1025
Kansas	1	1	365

Mack, Haeger, Kelley, and Baxter did the selling with Wood in the box.

The following list includes all animals selling for $750 or more and buyers:

Herbert Gay, New York
- Belle Model Sylvia $900

Jas. Male, New York
- Uniform Shadeland $815
- Luella Pietertje Cornucopia 2d 780
- F. & C Janie Maida Pontiac De Kol 735
- Westside Aaggie Cornucopia 905
- Winifred Piebe De Kol 2d 850

Suydam Farms (Jacob Todd, Jr., Mgr.) New Jersey
- Eco-Sylv Cornelia Pietje $1100
- Eco-Sylv Pauline 1500
- Otego Valley Christmas Belle 2d 2500
- Pabst Cynthia 3000

Martin Bros., New York
- Eco-Sylv Sir Lyons Posch $900
- Alken Daisy De Kol 975
- Johanna Korndyke Artis Queen 2000
- Dell Lyons Model Korndyke Gladi 825

F. M. Brill, New York
- Eco-Sylv Clothilde $950

A. J. King, Missouri
- Eco-Sylv Inka Posch $1225
- Fanny Belle Pauline De Kol 2d 1250
- Highland Sylvia Rose 825
- Von Heim Margaret 800

Gustave Pabst, Wisconsin
- Pietertje Mechthilde Walker $1325
- Johan Pontiac DeSchot 1325
- Von Heim Ormsby Mechthilde 1000

A. S Deysher, Pennsylvania
- Eco-Sylv Mechthilde $2500
- Carnation Matador Orilla 1250

F. I. Judd & Son, New York
- Royeroft Inka Echo $965

Ralph King, Ohio
- Winterthur Ormsby Segis Clothilde $1240
- Tranquillity Ormsby Parthenea 950
- Lady Alice Pontiac Korndyke 1200
- Hilltop Gabriel Walker 1300

W. W. Walker, Minnesota
- Fayne Rue Pontiac $1200

Flock Bros., Pennsylvania
- Lady Mechthilde Segis Pontiac $975
- Traverse Echo Sylvia King 2100
- Fairmont Dorothy Pet 1300

F. J. Southcott & Sons, Wisconsin
- Cluny Maplecrest Colantha Belle $870

W. E. Fellows, Michigan
- Traverse Segis Sturtevant $1100
- Flint Maplecrest Pauline 1000

John Arfman, New York
- Pauline Hengerveld Lass $1005
- Highlawn Pelham De Kol 880
- Burke Pietertje 925

D. D. Aitken, Michigan
- Rosie Mercedes Butter Boy $1525

E. G. Montgomery, North Carolina
- Bridgeport Segis Ormsby $1825

Colegrove & Lieter, New York
- Bloomingdale King Model $1875

Harry Yates, New Jersey
- Bloomingdale Fayne Beets $800

Chas. P. Griesier, Ohio
- Allamuchy Ormsby Rose $1075

M. Montgomery, South Carolina
- Arcady Segis Atia 2d $4250

Miller Bros., New York
- Alken Dorothy De Kol $850
- Brookside Waldorf Annetje 760
- Manor Artis Josephine 900
- Mercedes America Hengerveld 1225
- Pietje Inka Josephine 1000

Langdon & Pulien, New York
- Brookside Waldorf Supreme $1400

Geo. Abbott, New York
- Queendale Segis Floa Walker $1110

T. J. Black, New York
- King Korndyke Sadie Vale Supreme $1100

Fred Daniels, New York
- Bonalevo Quality Clothilde Walker $945

Geo. H. Weaver, New York
- Lumdale Colantha Princess Inka $1025

J. H. Rakestraw, Pennsylvania
- Fishkill Korndyke Ormsby $2800

Wheatfield Farms, New York
- Bonalevo Quality Parthenea $3700

F. H. Metcalf, Massachusetts
- Ormsby Posch Meade $2650

Huron Farms, Michigan
- Albina Nancy Pledge 2d $870

Jas. E. Leachout, New York
- Daisy Korndyke Pontiac De Kol $1050

M. C. Hubbell, New York
- Butter Boy Abbekerk Witra $1125

G. W. Morley, Vermont
- Daisy Hill Iowana Paul $1010

Jno. M. Kelley, Wisconsin
- Maplecrest Pontiac Hengerveld $1150

Wilco Farms, Illinois
- Meadow Holm Ona Ormsby Fayne $1025

John Glosser, New York
- Glen Alex Millspring Lass $1050

Earl Stafford, New York
- Belle Colantha Wayne Segis $1600

Brentwood Farm, Pennsylvania
- Carnation Sylvia Cristeria $1325

Perry Holstein Breeders' Ass'n., Michigan
- Matador Segis Pride $2000

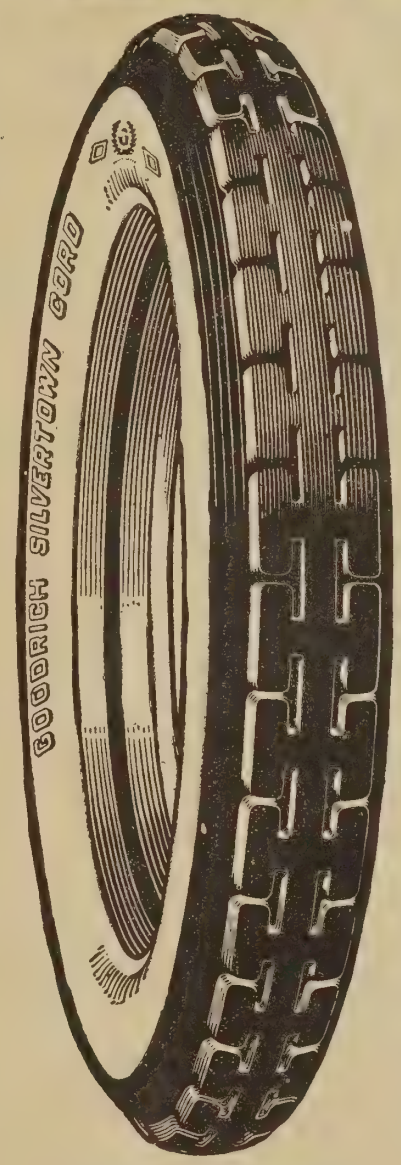
Fred W. Zwilling, New York
- Maud Walker Pietertje $1350

Wm. S. Brown, Connecticut
- Hollywood Glen Alex Segis $1210

La Motte Breeze, New York
- May Lilu Hijlaard Segis $825

T. H. Blosser, Pennsylvania
- Catalog No. 199 $825

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reduced 20 per cent
The last word in Quality
The best word in Price
Silvertown CORDS



SIZE	SILVERTOWN CORDS Anti-Skid Safety Tread	TUBES
30×3½	$24.50	$2.55
32×3½	$32.90	$2.90
32×4	$41.85	$3.55
33×4	$43.10	$3.70
32×4½	$47.30	$4.50
33×4½	$48.40	$4.65
34×4½	$49.65	$4.75
33×5	$58.90	$5.55
35×5	$61.90	$5.80

Fabric Tires

Smooth	30×3	$12.00	Safety	32×4	$26.90
Safety	30×3	$13.45	Safety	33×4	$28.30
Safety	30×3½	$16.00	Safety	33×4½	$37.15

Anti-Skid Safety Tread
SILVERTOWN

THE B.F. GOODRICH RUBBER COMPANY
Akron, OHIO

When writing advertisers please mention Hoard's Dairyman.

EDITORIAL COMMENT



JUSTICE DEMANDED

A subscriber who desires justice for patrons of a certain creamery writes: "Can you give me some pointers how to make dishonest people do the fair thing?"

This reminds us of a story a lawyer once related at a farmers' institute. He was discussing laws, their applications and their limitations, and to give as an illustration of what law could not do he cited this incident in his law experience: A farm boy, of some 18 summers, came to his office and hesitatingly entered his sanctum. He showed deep concern and was much embarrassed as he approached the lawyer.

"Well," said the lawyer, "what can I do for you?"

"I have come," said the boy, "to get you to pass a law that will make pa more decent to ma."

There are laws that protect society from brutal treatment, stealing, and the like, but no law can make "pa decent to ma" or an unfair man fair. Surgery may in time become so perfected that operations will be formed upon the brains of the indecent and the dishonest as this is the only cure for such individuals. In the meantime the best we can do is to pass new laws to cover new crimes and to enforce the laws we already have on our statute books that the unfair and indecent actions of such persons against society will be minimized.

ORGANIZATION FOR SELLING MILK

Twenty years ago the following editorial paragraph appeared in Hoard's Dairyman: "We have repeatedly urged the milkmen, who send their milk to large cities, to organize themselves into compact working bodies, and build a creamery at each shipping station. Then they would have, instead of one way, two ways for disposing of their milk. It ought to be just as practicable for milk farmers to run a co-operative creamery, as for farmers in other parts of the country. If this feature were carried out, the milk dealers in the cities could not combine as they do now to pay such low prices for milk."

It is encouraging to note that in the past five years the milk producers have combined in practically all sections supplying large cities with milk, and creameries and other agencies for handling milk in some instances have been built and plans are being laid to build more institutions owned by milk producers for the purpose of caring for their milk. It has taken much agitation and the organizers of milk producers have experienced much grief to accomplish what has been done to improve the method of marketing milk. The work should continue till the milk producers have their business as well organized and upon as efficient a basis as the milk dealers. The time will come when the milk distributors will prefer to deal with well organized and managed co-operative concerns rather than with the individual farmers.

EARNING OR GETTING MONEY

To earn money is honorable, for it means a useful service has been rendered, but to get money cannot be held to be right and leads to bad results. We sometimes think a great deal of our present condition can well be attributed to the desire to get money, that we have concentrated our efforts upon getting money rather than upon earning it. Our economic conditions have been such that many people have found it easy to get money and the more they have, the more they desired and the more they resorted to practices which cannot be commended as being good. This game has been played with such vengeance that it has had a depressing influence upon everyone and there has come a discontent altogether too general and a distorted vision of what constitutes real development. We believe this condition of affairs applies to every class, but it is not our purpose to discuss other enterprises so much as our own.

The breeder who takes pride in the development of the best cattle, who measures his success by the cattle he breeds, is taking the right attitude toward his business and in the end will gather the richest reward for his services and skill and will have the greatest enjoyment. The person who breeds cattle just because he desires to get money and builds all effort toward that end will, on the whole, get neither money nor contentment. It is the duty of the breeder to improve the blood of dairy cattle that they may render a better service to the dairy farmer and to those who may purchase them for both dairy and breeding purposes.

If we are to receive the largest reward, to obtain the greatest happiness, and to build the best breeds of cattle, we must concentrate upon rendering skillful and efficient service. Laws, rules, and regulations will not do it. They may be necessary to provide conditions under which useful service may be rendered, but that is their only purpose. To enrich ourselves, to improve our industry, we must be more concerned about improvement and excelling in our efforts and skill than we are about getting money.

COWS AND BOYS

The most unpardonable sin in connection with American agriculture is the poor cow. She is omnipresent and rampant. She is, "the pestilence that walketh in darkness; * * * the destruction that wasteth at noonday." Tireless and unceasing in activity, she holds the farmer down to ceaseless routine of toil from the first day of January to the last day of December in each year, whereas he should, of all men, have the fewer hours of labor and the most holidays, for he has as helpers all the forces of earth and sea and sky.

It is held that at least one-third of the cows in the United States do not pay for feed consumed. This means wasted feed, wasted time, and wasted opportunity. If poor cows meant the wasting of feeding only it would not be so bad, but for a person to spend his time, and his family's too, upon unprofitable cows amounts to an unpardonable sin. The poor cow affects the entire industry, for what she produces assists in depressing the prices of dairy products. No one seems to be at all concerned about this problem in our dairy industry when it has one of the largest influences upon its development. Cow testing associations are far more important to the advancement of the dairy than is generally comprehended. They are the agencies which are revealing to the farmer the waste of poor cows and the advantage of keeping good ones.

Boys raised on the dairy farm are entitled to the opportunity of caring for good cows. The caring for good stock gives the boys a chance for gathering usual information and creates a deeper interest in all the activities of the farm. It is nothing more or less than wicked to take away from a boy on the farm the opportunity of associating with good cows. If the father desires to waste his time with scrubs he perhaps should have the privilege, but he has not the right to waste his boy's time or his opportunity.

Let us all pull with a will to eliminate the poor cows.

WAITING FOR MONTHLY CHECK

Some members of co-operative marketing associations complain because they do not receive pay for their products as promptly as they desire or as soon as private enterprises pay. It is rather a common practice with privately owned creameries to pay for fat, delivered to them in May, by the first of July. Some centralizers pay for fat when the cream is delivered. Milk distributors and condenseries make it a practice to pay for milk received in the previous month on the 15th of the following month.

If the patrons of co-operative enterprises desire that they be paid on the 15th of the month for the milk or cream delivered the previous month, it will be necessary to establish a fund for that purpose or possibly issue certificates of indebtedness which can be discounted at the bank. At the present time this would cost from 6 to 8 per cent for the period which the certificates of indebtedness are drawn.

There is nothing unusual in requiring a patron to wait 60 to 90 days for his pay when he delivers milk to his own co-operative institution. It must be borne in mind that it is his product, his institution, and his business, and he is simply waiting for those who purchase his manufactured product to pay for it so that the money may be divided among the several patrons. Those whom he has placed in charge of such a co-operative enterprise do not have the power of borrowing money unless they are so directed by the patrons.

If the producer desires to manufacture and market his own product, he must bear in mind that he must either raise money for paying himself as private institutions pay or he must wait until his product has been sold and the money received for it. Large business enterprises go to banks and borrow money for this purpose unless they are in very strong financial condition. In most cases it is to the farmer's advantage to wait for his money because of the saving he makes by waiting.

THE COW HERSELF

Slowly it is breaking in upon the comprehension of the minds of average dairy farmers that there is a mighty wide difference in cows. Here let us say that it is just that very idea of difference that constitutes the foundation of the breeder's work. To produce a better cow, and make the difference as great as possible between her and the average cow, is his mission. Everything in this world is governed by that self-same principle. Christ established Christianity by obedience to this law of difference in men, and chose His apostles, not by accident or position in society, but because they were sufficiently different from other men to be permanently fit for the work He designed them to do. The law of difference is a mighty force in swaying the destinies of men and he is but a child among men who does not recognize it and take advantage of it.

It is a law governing the fortunes of dairy farmers the same as it does the fortunes of a general of an army. If he does not select his officers and men wisely, he will win no victories. If the dairy farmer does not secure good cows he is soon "played out". Hence it is all important that he be well versed in "cow sense". He must know how to breed a good cow. Breeding is a science he must study. There is no help for it if he is to prosper. To study signifies that he must be a reader of what other men have done and written. He should also be a writer. He should air his ideas. If they are wrong, and of a kind that will cost him dearly, he will find it out. No man ignorant of what other men are doing can go into the most successful partnership with the cow.

Colors That Disqualify Holstein

If a Holstein bull calf shows reddish black, do you consider such an animal pure-bred and entitled to be registered, even if both of his parents were registered pure-breds? My idea is that a red bull was first used on the mother and left his strain in her.

Newport News, Va. W. C. R.

The markings which bar from registry in the Holstein-Friesian Association, even though an animal is descended from registered parents, are as follows: Solid black; solid white; black switch;

solid black, with white on belly only; black on legs, beginning at feet and extending to knees and hocks; black on legs, beginning at feet and extending to knees, with white interspersed; grey, or mixed black and white, generally prevailing; patches of other colors than black or white: red, brown, dun, etc.; red and white.

The cropping out of red in Holsteins is not frequent, but it is not unusual. That is, there is occasionally an animal born with red color on its body. This is due to the fact that the original Holsteins were red and white as well as black and white. The first Holsteins imported into America were, however, black and white and they attained great favor. For this reason the color distinction was drawn and has always been insisted upon. The breaking out of the red color is only an indication of certain principles of breeding. It is quite possible that a Holstein may be born with red color whose parents for many generations back have been black and white, but somewhere in its pedigree there has been a red Holstein.

The theory has been exploded that where a cow is served by a bull of another breed or color, a succeeding calf from another sire may be influenced by the previous service. None the less the thought prevails in many minds that this is a fact but there is no evidence to support the claim.

Making Hay Caps

I would like to know how to make hay caps. I have quite a lot of clover hay and will have to cover it as we have a lot of rain.

Espyville, Pa. J. H.

"A" sheeting, 40 inches wide, and heavy canvas make suitable material for making hay caps. A cap 40 inches square is large enough. We have used the Dwight anchor sheeting which may be obtained from any dry goods store. If it is not in stock the merchant will undoubtedly be willing to order it for a customer.

It is not necessary to hem the caps. This is extra work and is of no advantage. Weights are attached to each corner of the cap by a string. A weight of 8 ounces or more is none too heavy and will hold the cap on better than a lighter weight. A very satisfactory weight can be made of concrete, inserting a staple in the weight before the concrete hardens. The staple gives opportunity for tying the weight with a string to the corners of the cap.

The best grades of sheeting used could be purchased, a few years ago, at 15 cents a yard, but now the price for this material is considerably higher.

Cabbages for Early Spring

HOARD'S DAIRYMAN:—Cabbages, with their palatable succulence, helpfully modify the diet of dairy cows. Early in spring, cows that have been fed heavy rations of concentrates and corn silage often become clogged and sometimes refuse to eat. Cabbage, beets, turnips, carrots, or even potatoes are then better relished than regulation winter feed. Alkalinity of cabbage, beets, and carrots, the other mineral elements and qualities which they contain, peculiarly differ from the acidity and natural characteristics of corn silage. They produce a desirable effect on the cow's system, resembling, yet preferable to, that of medicinal drugs, while in themselves a substantial feed.

A few hundred head of cabbages and a few bushels of roots make satisfactory returns for trouble of storage when jaded appetites need a tonic derived from variety of diet. Spring seedtime is the time to prepare for next season's feed supply.

New York. C. F. MYER.

[EDITOR'S NOTE—Experimental work has been done which indicates that there is a relation between a cow's storage of calcium (lime) and whether she is fed the leaves from green growing plants or such feeds as cabbages and rutabagas. The ensiling process seems to take out some of this peculiar virtue which is found in the green growing plant but is not found to any considerable extent in the silage. Professor Hart, who has charge of these experiments, inclines to the belief that this may be another form of vitamine, similar in character to the other three vitamines now generally admitted to be important diet accessories. His experiments have not been complete enough to warrant general conclusions and so far have all been made with milch goats. However, he has found that he can put a milch goat in a negative or positive calcium balance according as he feeds cabbages or green growing plants or does not feed them. It is felt by some scientists that because the cow cannot assimilate enough calcium from her ration to make up that used in the production of milk and in the growing of her calf, that she draws on her own system for this calcium and it renders her less able to produce milk in the succeeding lactation period if not in the one immediately concerned. Lack of ability to assimilate calcium, even when fed heavily on it, is one of the limiting factors in large milk production and, possibly, in the fecundity of dairy cattle.]

Ten Cent Milk in Louisiana

HOARD'S DAIRYMAN:—I am one of your ten-year subscribers and I always enjoy your valuable paper. In your last issue you have two cities in the United States listed where milk is sold at 10c per quart. You can add another—Morgan City. Here is how it is done and it might be a lesson to some of my poor dairy friends.

When spring started and the clover started to grow, the first thing was a surplus of milk, so I bought a small steel barrel churn and added butter and buttermilk, which created a demand for six fresh cows. Then I bought a small Sharples separator and a carload of beet pulp and alfalfa hay meal. I believe it was the first car of pulp in the state.

I had quite a market for butter until the bottom fell out of the market, so I made up my mind to put the price down to where the children could drink more milk. I engaged room in a grocery to handle my milk on a commission basis and withdrew my three delivery wagons and dropped the retail price from 18c per quart to 10c per quart cash, if you bring a bottle. I have simply turned another surplus into another shortage.

I have added six more fresh cows purchased this week and, besides, I have five new calves born this week. I am preparing to handle 10,000 quarts in June and I am looking for another six fresh cows.

I have a lumber mill near where I send milk every day to the laborers for their dinner at 5c per pint. I have only a small dairy and was being worked to death trying to retail my milk at 18c. Now I have plenty of leisure time for everything. Let other dairymen put the price down so the children can reach it with their dimes. There will be no surplus.

Morgan City, La. W. D.

Cost of Producing Milk

Market milk cost on the average 33.2 cents per gallon, $3.86 per 100 pounds, and $213.13 per cow per year on 94 northern Maryland farms surveyed recently by the United States Department of Agriculture in co-operation with the University of Maryland. A preliminary report of this survey, just issued by the Office of Farm Management and Farm Economics, shows that, with an average sale price of 34.2 cents per gallon, 48 of the 84 farmers, or 51 per cent, failed to make a profit over the book cost, with all feed and labor charged at full current rates.

The average number of cows on the farms surveyed was 18.2, and the annual production varied from less than 4,000 pounds to over 8,000 pounds, with an average for all cows of 6,074. Practically all of the milk in question was shipped either to Washington or Baltimore.

Of the total cost of production, about one-half ($121.38 per cow) was for feed, 56.6 per cent of this being farm grown. Grain fed totalled 2,259 pounds per cow per year, 512 pounds of this being grown on the farm. Hay fed totalled 1,793 pounds, practically all home grown. Man labor per cow totalled 291 hours, horse labor 29 hours.

These figures for feed and labor expenditures, in pounds and hours, are considered of greater importance than the costs as expressed in dollars and cents, since the former do not fluctuate greatly from year to year, and may be taken as basic in estimating the cost of milk production in the region surveyed.

A farm business analysis, made in connection with the cost studies, brings out in a striking way the relation between cost of milk production and farm income. It was found that the labor incomes of 15 farms with comparatively low milk costs averaged $1,448 higher than those of 15 farms with comparatively high costs.—U. S. Department of Agriculture.

Uses Soybean Meal for Test Cows—Milk Tests

HOARD'S DAIRYMAN:—About the query of H. E. S., Staatsburg, New York, in your May 6 issue regarding soy bean meal for test cows, wish to say that my personal experience in the last few years has been such that I use soy bean meal to a large extent and successfully. Replaced cottonseed meal with soy bean meal entirely and, to my belief, the cows are better off. Doing this, records of 20 lbs. up on junior two-year-olds, 30 lbs. and up on junior three-year-olds, etc., with over 500 lbs. milk for the first and by a good margin over the 700 lbs. for the latter are the results. But the main factor in this, the animals—although heavily fed—showed strength during any length of test, keeping in the finest of condition, as silky hide, clear eyes, and splendid appetites. I use it also in fitting ration. It should be of value for this purpose.

A. P., De Lancy, New York, comes with a question about milk tests in your same issue to which, I think, you answered partly wrong, or incomplete. Your answer: "A drop in test from 5 per cent to 4 per cent and then up to 4.7 per cent for a herd is very unusual, and must be explained by some marked change in feeding or management of the herd," goes, as you stated, by throwing the bunch from the barn feed on a young pasture; also, as you pointed out, through chilly weather. I will not say that you are wrong in that. But the one and only factor in this case you omitted, and that is the north wind. Keep your cows in the barn, give them the best of care and it doesn't matter, for if a north wind comes, the butterfat test goes tumbling down and nothing can prevent this. The finest weather with the temperature from the north and the trouble begins. This, I have observed from years of observation and experience.

California. R. G.

Work in Dairying

HOARD'S DAIRYMAN:—The dairy farmer may be getting along a little better just now than the grain farmer and the grower of live stock for market purposes, but a survey just summarized at the University of Minnesota shows that he has had to work hard for all he has received and is receiving; in other words, that there are no downy beds of ease on the average western dairy farm.

Accurate detailed labor records were kept by staffmen of Professor Andrew Boss' division for each regular workman on each of 23 farms on Steele County during 1920. The returns, now made available for the first time, show that 38 workmen on the 23 farms averaged 10.9 hours of manual labor every-week day and 5.7 hours every Sunday. Practically every month some farmer worked 13½ or 14 hours a day and in one case 15 hours. One man averaged 15 hours per work day and more than 8 hours on Sunday. The farms are all dairy farms and are also well stocked with hogs.

Minnesota Bulletin No. 117 gives the figures from a survey made 15 years ago in Rice County which adjoins Steele County and has the same system of farming. Fifteen years ago the Rice County farmers worked only 8.9 hours on week days and 3.6 hours on Sundays, against the 10.9 hours on week days and 5.7 hours on Sundays worked by the Steele County dairy farmer in 1920.

There was, of course, more stock on the Steele County farms the past year than on the Rice County farms during the period mentioned, but otherwise conditions were much the same. The length of the week day working day has increased 22 per cent and the Sunday hours have increased 66 per cent in the 15-year interim, and this, too, despite the fact that on the 23 Steele County farms there were in use last year 17 tractors, 14 milking machines, 23 autos, and one auto truck, whereas there was no modern equipment on the Rice County farms. The survey demonstrates, in other words, that present day farmers have fewer hours of leisure than they had before the advent of labor saving machines.

"The fact that more live stock is being kept today than ever before is one reason for the longer working day," says Professor G. A. Pond who was in direct charge of the survey. Another reason is the fact that farm help was expensive and hard to get last year.

Minnesota. E. C. TORREY.

Paint Your Barn with Lead and Oil



For this barn 56x34 with 12 ft. corners and 14 ft. gable, 8 gals. of paint will give it two coats.

To make 8 gals. of pure lead and oil paint tinted a light slate or a warm gray, requires:

100 lbs. CARTER WHITE LEAD
2 to 4 lbs. Tinting colors (ground in oil)
5 gal. Linseed Oil
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CARTER WHITE LEAD and these other ingredients of pure paint may be purchased nearly everywhere paint is sold at retail and the dealer will cheerfully help you to figure out how much paint will be required for any painting you wish to do, what tinting colors will be required to produce the shade you select, and what it will cost at present market prices.

You will find everywhere that the cost of this pure paint is so reasonable that you can afford to paint all your farm buildings with it. You will also find **CARTER WHITE LEAD** so easy to mix and spread, to cover so well and to wear so long that your paint problem will be solved for all time.



Carter White Lead Co.
12042 So. Peoria St. Chicago, Ill.

278 Jerseys Bring $324,690

Four Sales of "Jersey Week" Make High Average of $1,168. New Record Price for Cow of the Breed

If money talks, "Jersey Week"—May 30 to June 4—ended with such a clamor as must have resounded 'round the Jersey world. When L. V. Walkley stopped the procession over the auction block at Belleview Farms on Saturday, the four sales of the week had furnished the buyers of Jerseys with 278 head at an average price of $1168 and a new world record value for a Jersey cow had been set.

In their order the four sales were: T. S. Cooper and Sons' of Pennsylvania where 84 head netted $72,025, an average of $857, with $3,500 the top price, that being paid by R. J. Fleming, Canada, for Simone's You'll Do's Fontaine, a grandson of Imp. Oxford You'll Do and Plymouth Lad; Meridale Farms', in which 72 head beat a $1,200 average by $3.33, Golden Cymbeline and her two-day-old bull calf going to S. A. Guy, Louisiana, for $10,000; W. R. Spann & Sons', the 76 head exceeding a $1,000 average by less than a dollar, the total being $76,075; and L. V. Walkley's annual dispersion in which 46 head totalled $89,900, climaxing a week of liberal appraisals with an average of $1,954.

A review of the Cooper auction appeared in the June 10 issue of Hoard's Dairyman and that for Meridale's second annual public offering may be found elsewhere in this issue.

Spanns' Twentieth Semi-Annual

W. R. Spann & Sons' twentieth semi-annual sale June 3 followed Meridale's second. It contained what was adjudged the best lot of individuals ever offered by that importing firm. Not only was the type that which is drawing the highest bids but many cows of unusual size and capacity were included. The exceptionally high average price reached measures the quality of the sale. The high price of the day, $6,700, was paid by Ledge Rock Farm of Kentucky for Cowslip's Manor Girl, a six-year-old daughter of General Cowslip. This farm was the heaviest buyer, taking seven head for $15,375, including $4,500 for a double granddaughter of Imported Golden Fern's Noble.

J. S. Ellsworth paid $7,225 for three head, the top being Oxford's Cunning Mouse for $3,500.

Walkley's Dispersion

When 46 of the 73 head listed for Belleview Farms' sale, June 4, had been sold the total was $89,900, an average of $1,954, which was well above that set in any of the three other auctions. At that point so many blemishes were suddenly discovered in the remaining animals that no more were led in, the management "called it a day", and the year's high point in sale average was maintained. This strategic move, made somewhat earlier, would have done even more in the way of preserving averages.

A new world record price for a Jersey cow was set when J. C. Baldwin of New York made the bid of $18,000 on Gamboge Oxford Gem, an eight-year-old double granddaughter of Imp. Oxford Majesty, a sweepstakes winner in 1918 at the Island St. Savior—Grouville Show, and having a two-year-old butter record of 430.5 lbs. Miss E. Fitzgibbons of Maryland was runner-up with a last bid of $17,500. Though the contender for the world record price cow did not secure the animal, she succeeded in contributing the largest sum toward the sale's total paying $19,300

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If he hasn't them, send direct, giving dealer's name. Insist on Nu-Ways or Excello. None genuine without guarantee label attached to buckle. Accept no substitute.

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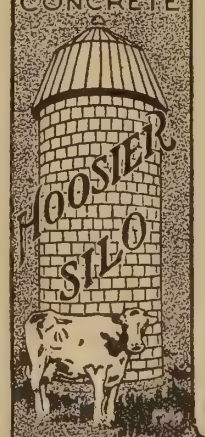
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Before the costly bumps give their belated warning, use—

Wadhams Tempered Tractor Oil

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Complete Silo Service
Suit your own requirements with a HOOSIER SILO. Best value on the market, at prices allowing you big savings.

Glazed or unglazed vitrified tile; reinforced every course of blocks; proof against wind, fire and frost; continuous doors with double sealing clamps, doors set flush with inside wall to insure even settling of ensilage. Built to last for generations.

Hoosier Wood Silos in fir and pine, hinged doors. Cement stave silos, puddled process, sealed and poured joints. Choose the type you need-but be sure it's a HOOSIER SILO.

Build all farm buildings of hollow glazed tile—cheaper, more practical last forever. The modern way to build.

Write for literature, prices and special agents' proposition.

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Pedigreed—Certified Seed
This Michigan-developed rye has proved most successful, dependable and high-yielding; but much of the seed offered now has been cross-fertilized and is greatly inferior. Do not risk getting poor seed—order pure, Michigan-grown, Farm Bureau Brand, Certified Rosen Rye.
We have also pedigreed Michigan Winter Barley, Red Rock and American Banner Wheat and Winter (Hairy) Vetch.
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World's Greatest White Collies



They will herd your stock, guard your flock and rid your place of vermin. A playmate for the children and a household companion. Largest breeders of white collies in the world.

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Wounds Cuts Ringworm Scab

Live stock men fear wounds or cuts on an animal. They know that infection usually follows and death often results. B-K is a concentrated, pure sodium hypochlorite such as is used and endorsed by leading veterinarians, physicians and breeders. It kills the infection germs; cleanses, soothes and heals the tissues.

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is not a poison, acid or coal tar product. Clear and clean as water, it kills the infection germs without pain or discomfort to the animal or burning of tissues.

Proof That Proves
A B-K user in Oso, Washington, says regarding Ringworm:

"We bought a gallon of B-K and took a chunk of gunny sack and went after it with B-K. In three weeks there was not a sign of it left and there has not been a case since. Forget that iodine stuff. It's as far behind the times as wintering cattle on oat straw."

Keep B-K constantly at hand in the stable, milk-house and kitchen. Wherever germs lurk it does its work. Money back if you are not satisfied.

At your dealers in all size bottles.

Interesting Bulletins Free On Request. No. 317 Live Stock Diseases—320 Better Milk—52 Abortion.

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Dried Beet Pulp

Dried Beet Pulp not only produces more milk, but it maintains healthy cows.

THE LARROWE MILLING COMPANY
DETROIT, MICH. (19)



When Writing to Advertisers, Mention Hoard's Dairyman

for seven head including the second and third highest priced animals, Green Farm Sybil for $7,700 and Sybil's Gamboge Katharine for $6,700. F. E. Duffy of Connecticut ranked next to Miss Fitzgibbons in this respect, taking 11 animals for $18,650, his price list being headed with Oxford Majesty's Gipsy 2nd at $5,000.

Saved From the Butcher and Becomes Champion

The previous owner of the Jersey cow, Harmless of Cloverdale, was selling out and practically had disposed of this cow to the butcher. Mr. Chas. B. Whitney of South Carolina, after carefully looking her over, bought her at the butcher's price.

After freshening she was placed on official year's test at twelve years of age, and given a chance to prove that she was worth more as a dairy cow than if divided into choice steaks. That she has lived up to the expectations of her owner is verified by her record of 7,879 pounds milk and 469 pounds fat. She will be placed on test again after freshening and it is expected that she will equal her last record.

This case is just another example of how good cows can be saved from slaughter if prospective purchasers have knowledge of how to judge a dairy cow. This is the oldest Jersey cow ever put on official test in South Carolina.

Meridale Farms' Second Auction Averages $1203

Meridale Farms' second annual public offering of Jerseys at Meredith, New York, June 2, firmly established that institution's claim to eminence in the auctions of the breed. For many years it has ranked among the leaders in its consistent, constructive breeding and its Register of Merit standards. Now its yearly sales give it a new prominence. The first, September 17 last, in which 62 head averaged $803.63, was wholly successful, but the second eclipsed that record fifty per cent in the average value reached and the number of animals sold was ten greater.

Among the 72 animals sold June 2 for $86,640, an average of $1,203.33, was a $10,000 cow and two others for $4,500 and $4,000. Thirty-one animals sold for $1000 or more and only six for less than $500. The two bulls included brought $2000 and $750.

The entire sale list was imported, selected on the Island chiefly by Edmond Butler whose cattle and whose importing and sale business has been purchased by Ayer & McKinney. Sybil's Gamboge blood featured the sale, fourteen of his get selling for an $864.33 average. Ten animals sired by his sons, Sybil's Gamboge 2d and 3d, were also included. Prices followed individuality, the very creditable Island productions apparently having but slight influence on the sale ring purse strings. Golden Cymbeline, taken with her two-day-old bull calf by S. A. Guy of Louisiana at the top appraisal of $10,000, is an eight-year-old without a test record herself and with hardly enough production behind her to draw heavy bidding. But she came into the sale ring in perfect exhibition shape, with all the excellencies of one seeking faultless conformation in a show cow. Mr. Guy paid $15,350 for four, including the $4,000 cow, Ben's Duchess, by Castor's Ben. Miss E. Fitzgibbons of Maryland secured the largest number, taking ten head averaging $785. Seven head fell to the bidding of J. F. Dorrance of the same state, the average price being $932. Twin Oaks Farm, New Jersey, secured the second highest priced animal, Melodant, at $4,500, and two others at $1400 and $1000.

A noteworthy factor in the success of Meridale's sale was the skill with which all the details which affect an auction were handled. The farms are beautifully situated in the foothills of the Catskills but are not readily accessible from railroads. This handicap in drawing a sale crowd was turned to a distinct advantage. Arrangement was made which brought four full Pullmans from the American Jersey Cattle Club annual meeting in New York City on the day preceding the sale. Fully one hundred persons were taken by automobile to the farms in time that ample opportunity was given for careful examination of the cattle to be sold. When Tom Dempsey and George Bain, manager and auctioneer, took the first bid the comfortable sale pavilion, initiated at the first sale, was filled to capacity and the buyers were ready to make the auction one of the best dairy cattle sales of the year.

Below are listed the animals selling for $1000 or more together with the names of their buyers:

Miss E. Fitzgibbons, Maryland	
Favorite Dot	$1000
Sybil's Flora	1500
Sybil's Sultane 2d	1500
B. H. Bull & Son, Canada	
Garland Princess	$2525
Tiny Maiden	1700
American Lady Star	2150
Twin Oaks Farm, New Jersey	
Spring Carnation	$1400
Ridotte	1000
Melodant	4500
Oakwood Farm, Pennsylvania	
Vale Lily's Oxfordine	$1000
S. A. Guy, Louisiana	
Golden Cymbeline	$10,000
Ben's Duchess	4000
Renolda Inc., Massachusetts	
Oxford Pandora	$1025
Eminentas Fern Sybil	1050
Imp. You'll Do Honest Lady	1575
J. F. Dorrance, Maryland	
Gipsy's Golden Gamboge	$2000
Gipsy Maid Surprise	1000
A. K. Heath, Pennsylvania	
Sultan's Belinda	$1000
W. A. Brewerton, Illinois	
Lady Feather Lass	$1500
F. E. Duffy, Connecticut	
Girl Motorist	$1750
Origa's Oxford Queen 2d	1325
White Horse Farms, Pennsylvania	
Gamboge Crocus Lassie	$1000
Inderskill Farm, New York	
Peggy Victorine	$2900
Sybil's Oxford Model 2d	1000
J. C. Baldwin, New York	
Sybil's Trinity Charm	$1100
W. R. Kenan, New York	
Sybil's Christmas Bess	$1000
M. J. George, Texas	
Sybil's Fine Belle	$1100
H. Farrell, Ohio	
Catalog No. 60½	$1000
W. R. Spann & Son, New Jersey	
Warrior's Silver Star	$1150
Maryvale Farm, Ohio	
Combination's Nell	$1125
T. S. Cooper & Sons, Pennsylvania	
Imp. Oxford's Simone	$2500

WILLYS-KNIGHT

Sleeve-Valve Motor Improves with Use

Now $1895

Reduction $300

Smart, alert, handy, its price has always been *Low* among fine cars—its economy of service has always ranked *High* among all cars. Its gasoline average is above 20 miles per gallon. Its motor is remarkably free from care and cost.

Prices f. o. b. Toledo, Ohio

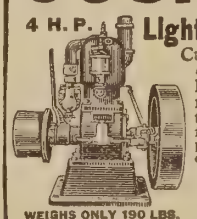
Touring, $1895; was, $2195 Coupe, $2550; was, $2845
Roadster, $1895; was, $2195 Sedan, $2750; was, $2945

Long, Liberal, Easy Payments Available

WILLYS-OVERLAND, INC.
TOLEDO, OHIO

CUSHMAN

4 H. P. Light Weight Engines



Cushman Engines weigh only 40 to 60 lbs. per horsepower. Easy to move around from job to job. They deliver four times as much power per pound as ordinary farm engines.

WEIGHS ONLY 190 LBS.

Saves a Team Saves the Crop

The Cushman 4 H. P., on the binder, saves a team, two horses easily pulling an 8-foot binder in heavy grain. A Cushman saves the crop in a wet season, as the engine enables you to cut grain in a wet field, when the slipping of the bull-wheel would make it impossible without the Cushman

Equipped with Throttling Governor, Carburetor, Friction Clutch Pulley and other extra equipment not supplied with ordinary engines.

Cushman 2-cylinder Engines—8 to 20 H. P.—make wonderful power for silo-filling, grinding, sawing, threshing and all other farm jobs. **Ask for free book on Light Weight Engines.**

Cushman Motor Works, 817 N. 21st St., Lincoln, Neb.

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40 Rods Forty Dollars

CARBO TENTION SYSTEM FENCES



Self-aligning—Keeps Straight
Fences any Weather or Strain—One Man can Build—Portable yet Permanent—No Concrete is Necessary—WRITE—

CARBO STEEL PRODUCTS CO
2607 W. 111th St. CHICAGO, ILL.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

Westclox

—that's Big Ben's family name



Steady-going America

HERE is another case of sticking on the job. America set out some thirty-five years ago to be the best moderate-priced alarm on the market.

It has been kept busy ever since tending to the business that came its way.

America is just as lively today as it was the first day it stepped out to get a job. It has kept pace with every improvement from a time-keeping standpoint, but has refused to consider changes in body design that would increase its price without improving its quality.

It started out as a good value clock, one that runs on time, rings on time, and stays on time, in the regular Westclox way. And today it is one of the most popular clocks on the market. Be sure to look for Westclox on the dial.

WESTERN CLOCK CO., LA SALLE, ILLINOIS, U.S.A.

Makers of *Westclox:* Big Ben, Baby Ben, Pocket Ben, Glo-Ben, America, Sleep-Meter, Jack o'Lantern

Factory: Peru, Illinois. *In Canada:* Western Clock Co., Limited, Peterborough, Ont.

The New Certified Depressed Handle Cap



Made of Best 40 Point Board and Perfectly Sanitary

Packed in Tubes for Use in Capping Machines

Ask your Jobber or write for Prices and Samples

100% Efficiency

American Dairy Supply Company, 318-32 Maine Ave., S. W., Washington, D. C.

The Ideal Milk Cooler



This apparatus has been, and now is, the best low priced MILK COOLER AND AERATOR on the market—extra large cooling surface, simple, strong and durable, ice chamber easy of access—easy to clean and easy to operate—adapted to use with either ice or running water. It has been in use *more than twenty years and all improvements added to date.*

Ask for descriptive circulars and prices.

OAKES & BURGER CO.

(Established in 1873). Cattaraugus, New York

When Writing to Advertisers, Mention Hoard's Dairyman

Cow Testing Associations

RECORDS, PRICES OF FEEDS, FAT, AND MILK

Following is the summary of reports received during the week and up to the time of going to press of this issue:

State	Association	Tester	Month	No. of cows tested	No. of cows producing over 40 lbs. fat	Fat production of high cow	Owner
Mich.	Kalamazoo Co. Co-op.	S. P. Sexton	April	300	51	81.3	H. Medema & Son
Minn.	Pioneer	H. C. McMurray	May	1139	215	68.2	F. S. Ruble & Sons
Wis.	Eureka	R. D. Butman	"	352	40	63.6	J. J. Clark
"	Avoca	F. R. Austin	"	403	35	71.9	J. Malter & Sons
"	Byron	Alfred Miller	"	573	152	104.5	Ed. Marquart
"	Rock Prairie	W. J. McKee	"	619	90	78.4	W. J. Dougan
Ill.	Effingham Co.	F. D. Kasserman	"	271	47	63.3	B. Karlman
"	1st Kane Co.	Ralph J. Young	"	845	88	97.2	J. R. Wing
"	Kane Co. No. 3	Claude H. Heim	"	530	75	88.6	St. Chas. School for Boys
Ia.	Davenport	W. A. Durning	"	298	59	70.4	Iowa Soldiers' Orphans' Home
Ohio	Sullivan	Paul Guisinger	April	124	42	96.6	G. B. Wagner
Mo.	St. Louis & St. Charles Co.	Jas. E. Comfort	May	226	40	94.0	Bellefontaine F'ms
Ind.	Southern Lake Co.	Jacob J. Huetema	"	276	50	61.4	J. Edw. Fedler
Ky.	Shelby Co.	C. E. Cook	"	327	85	81.4	Wm. Dale
Va.	Orange Co.	Jno. D. Jones	"	383	47	74.6	Dr. J. S. Andrews
Mich.	Kent Co. Co-op.	Mavorie Farmer	"	343	53	76.5	Spaangenberg Bros.
Wis.	Whitehall	C. L. Ouwenell	"	473	27	55.8	A. Omoth
Ia.	Dallas Co.	Don L. Chase	"	220	55	85.8	Laverton & Son
Ohio	Barnesville	Clyde F. Lewis	April	228	46	66.2	L. J. Taber
"	Barnesville	Clyde F. Lewis	May	223	74	73.7	L. J. Taber
Penn.	Rome	Nathan E. Arey	"	375	53	64.7	C. S. Gorham

Association Notes

Eureka, Wisconsin:—The condensery paid 45c per pound for fat during May, and the creamery paid 46c. Milk retailed for 8c per quart and butter for 34c per pound. Bran sold for $22 per ton; oats, $20—$25; hay, $10—$11; pasture, $1.50 per month.

Rock Prairie, Wisconsin:—Nine head went to the stock yards and 11 grade Guernseys were sold for dairy purposes and shipped to Illinois. One pure-bred Holstein bull was purchased. Market milk testing 3.5 per cent sold for $2.05 per cwt. during May. Four cents were paid for each point above. Milk retailed for 12c per quart; butter for 35c per pound, and cheese for 25c. Oil meal was priced at $42.50 per ton; bran, $30; corn, $20; oats, $30.

Effingham County, Illinois:—Four unprofitable cows were sold. In several herds production was increased approximately one hundred pounds milk and 6 to 10 pounds fat by feeding a grain mixture to cows on pasture. Market milk testing 3.5 per cent sold for $1.75 and $1.90 per cwt. during May. Three and four cents were paid for each point above. The creamery paid 27c per pound for fat. Milk retailed for 14c per quart; butter for 50c per pound and cottage cheese for 15c. Feed prices are as follows: Corn $20 per ton; bran, $25; oats, $28; oil meal, $49; cottonseed meal, $40; pasture, $2.00.

First Kane County, Illinois:—During the month, 41 unprofitable cows and 2 grade sires were sold. The annual meeting of this associaton will be held in June and a program is being arranged. Market milk testing 3.5 per cent sold for $2.05 per cwt. Four cents were paid for each point above.

Kane County No. 3, Illinois:—This is a new association just organized. The May price for 3.5 per cent milk was $1.85 per cwt. Feed prices: Corn, $22 per ton; bran, $22; ground oats, $22; barley, $25; cottonseed meal, $37; oil meal, $40.

Davenport, Iowa:—This association starts out on a new year in June. Last year the high cow, a grade Jersey 9 years old, was owned by C. J. Sheppard. She has a record of 479.3 lbs. of fat. During May, market milk testing 3.5 per cent sold for $3.25 per cwt. and 24c per gallon. The creamery paid 33c per pound for fat. Milk retailed for 12½c per quart and butter for 32c per pound Corn sold for $45 per ton; oats, $27; bran, $27; cottonseed meal, $36.

St. Louis & St. Charles County Missouri:—Two herds were milked three times daily. Four unprofitable cows were sold. Two more members started weighing milk and keeping daily milk record sheets. Some of the members in St. Charles County bought a carload of high grade yearling Holstein heifers and a pure-bred Holstein bull from Wisconsin. Milk testing 3.5 per cent sold for $3.02 per cwt. Five cents were paid for each point above. The creamery paid 27c per pound for fat. Milk retailed for 15c per quart and butter for 40c per pound. Alfalfa hay sold for $25 per ton; hominy feed, $25; crushed oats, $35; crushed barley, $36; gluten feed, $44; linseed oil meal, $45; cottonseed meal, $40; bran, $25; beet pulp, $38.

Southern Lake County, Indiana:—Nine cows passed out of existence by their inability to pay their board. One twelve-week-old bull was purchased from Wisconsin. Milk testing 3.5 per cent sold for $2.10 per cwt. during May. Four cents were paid for each point above. The creamery paid 35c per pound for fat. Milk retailed for 10c per quart; butter, 32c per pound; and cheese for 25c per pound. Corn sold for $15 per ton; oats, $20; alfalfa hay, $20; clover hay, $18; silage, $5; bran, $25; oil meal, $45; cottonseed meal, $40; gluten feed, $42.

Shelby County, Kentucky:—Most of the cows were on grass only, though a few of the men fed grain. Feed prices: Bran, $30 per ton; corn cob meal, $25; cottonseed meal, $40; white shorts $40. Milk retailed for 40c per gallon, and butterfat for about 21c per pound. All sires used in this association except one were registered.

Orange County, Virginia:—All members own pure-bred bulls. Several mix their own feeds now. A Farmers' Exchange handles all the feeds. Market milk testing 3.5 per cent sold for 28c per gallon during May. The creamery paid 42c—44c per pound for fat. Butter retailed for 50c per pound. Unicorn sold for $45 per ton; Eureka, $45; Purina, $58.

Whitehall, Wisconsin:—Ten calves were purchased for club work. The tester has been chosen club leader. Eighteen bushels of soy beans were shipped in. Sixteen registered Holstein females and 4 registered Holstein bulls were purchased.

Dallas County, Iowa:—During May, market milk testing 3.5 per cent sold for $2.45 per cwt. Five cents were paid for each point above. Alfalfa sold for $20 per ton; silage, $8; clover, $16; corn, $45; oats, $26;

bran, $30; oil meal, $48; cottonseed meal, $47.

Rome, Pennsylvania:—During May, market milk testing 3 per cent sold for $2.26 per cwt. Four cents were paid for each point above. The condensery paid 42c per pound for fat and the creamery, 40c per pound. Milk retailed for 13c per quart; butter for 30c per pound, and cheese for 28c. Prices of feed: Cottonseed meal, $2.35 per cwt.; gluten feed, $1.85; corn meal, $1.80; ground oats, $1.90; wheat bran, $1.60; oil meal, $2.60; middlings, $1.60.

Six Associations in Bradford County

Bradford County, Pennsylvania, now has six active cow testing associations operating on about one hundred and eighty different farms and testing monthly about 2,600 dairy cows. During the month just reported there were 328 cows that produced 40 lbs. or more of butterfat. The four high cows of that number are all pure-bred Holsteins.

The first in production is owned by H. C. Gates of the Canton Association. She produced 79.8 lbs. of butterfat. The second high cow is owned by Dent Hawthorne of the same association. Her record is 78.3 lbs. of butterfat. The third highest individual is also owned by H. C. Gates with a record of 76 lbs. of butterfat. The fourth high cow is owned by Walter Stanton of the Troy Association. She produced 75.1 lbs. of butterfat.

The Canton Association, which has been in active operation for almost eight years, leads the county with 120 cows to make 40 lbs. or more of butterfat. Of that number over one-half are registered cows. This association in its past years' work made an average yield per cow of 311 lbs. of fat, which is an increase of a little over 50 lbs. per cow above the average yield for its first year's work.

The outstanding feature of Bradford County Cow Testing Association work is that all of the high producing cows are pure-breds. In the eight years of continuous testing work over 15,000 cows have received yearly records of production. The highest producing individual of that number is a pure-bred Holstein owned by C. W. Newman. She produced 689.6 lbs. of butterfat.

The excellent results for this work have brought about a remarkable improvement and interest for better dairy cattle.

Pennsylvania. D. K. SLOAN.

Poorest Cow Proves the Best

Although I have been keeping cows for the past eighteen years I never had any records or testing done until I joined the North Crandon, Wisconsin, Cow Testing Association. Since joining the association I have found that what I called the poorest cow turned out to be my best cow. Before joining the association I did not know that feeding would pay as well as it does. Now I am feeding one pound of ground feed to every three pounds of milk produced and find it has increased my net profit a great deal. It certainly would be a great loss to me now to have to drop the association work.

Wisconsin. P. A. STARKS.

Official Testing in Oregon

During April 106 herds were on test in Oregon. Of these 65 were Jerseys, 17 Guernseys, 16 Holsteins, 6 Ayrshires, and 2 Shorthorns. A total of 516 cows were tested.

A total of 520 tests were made, 505 being for two days, 11 for seven days, and 4 were ordered for retests.

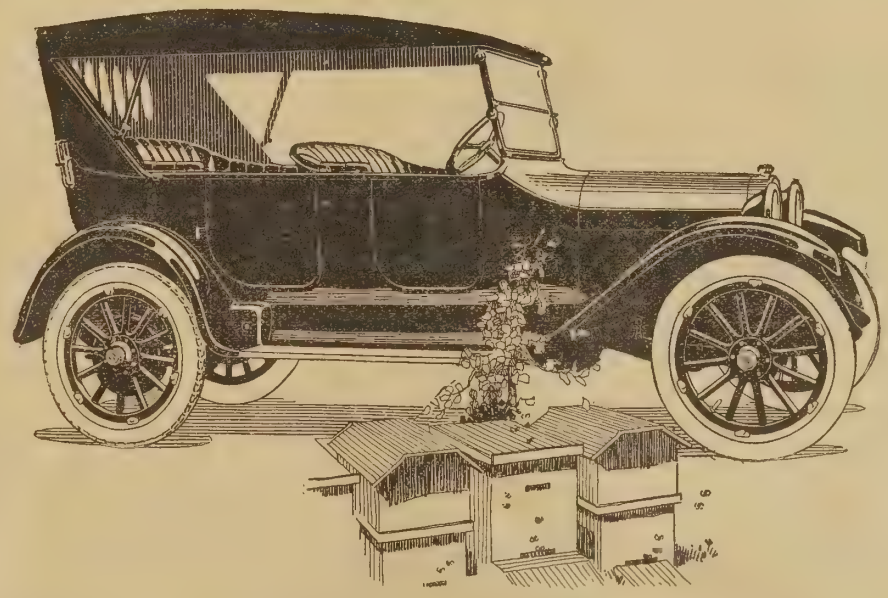
DODGE BROTHERS
MOTOR CAR

The distinguishing goodness of Dodge Brothers Motor Car is made evident in many ways

It asks the minimum of care and ordinary supplies, in order to return high value in economy and efficiency

Its reputation as a car that is more than ordinarily good is built wholly on the satisfaction its owners derive from its use

DODGE BROTHERS, DETROIT



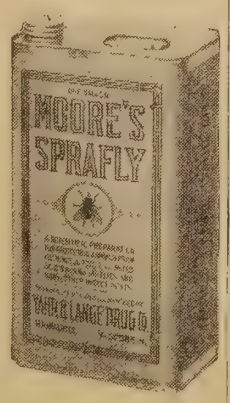
MOORE'S SPRAFLY

Protects cattle and horses from flies. Allows them to feed in peace. Is easily applied with a sprayer. Saves double its cost in extra milk. An oily liquid, it spreads quickly, sticks fast, and goes far. Absolutely harmless, and satisfaction guaranteed.

Ask your dealer for MOORE'S SPRAFLY

Put up in 1-gal. cans only.

Manufactured by
Yahr & Lange Drug Co
Milwaukee, Wisconsin





GENUINE CHAMPION Improves Milk Quality
Cools milk—removes odors—halts germ growth—stops waste and loss—saves its low cost in one week. If your dealer cannot supply you, write for free folder.
Champion Milk Cooler Co., Dept. D, Cortland, N.Y.

Cow Waters Herself



with this wonderful new Libbey Automatic Water Bowl. Animal moves lever, opening water valve, when it starts to drink. Lever swings back, closing valve, when animal stops drinking.

15% More Milk

Milk is 87% water, and cows cannot give their greatest yield unless they have plenty of water constantly within reach. Farmers who use Libbey Bowls report an increase of 15% to 20%, which soon pays for the bowls.

Libbey Automatic Water Bowls

are the most sanitary and successful ever invented. Each bowl controls its own water supply, operated entirely by cow, and may be put at different heights, or in any stall or pen. No float tank required. Cannot overflow; cannot get out of order. Almost no water left in bowl to become stagnant. They save labor and feed and increase milk. Prevent spread of contagious diseases, as each cow has her own bowl and no water can pass from one to another, as with old-style bowls. Very simple and easy to install. Write for circular and prices, also FREE DAILY MILK AND FEED RECORD.

If interested in Stanchions, Stalls, Carriers, etc., ask for free General Catalog.

C. A. LIBBEY COMPANY
195 Marion Street Oshkosh, Wisconsin

A NEW BOOK for Dairymen

It will help you boost dairy profits. It's full of valuable information on how and why to use concrete for barns, icehouses, watering troughs, silos, water storage tanks, barnyard pavements—every necessary dairy farm building. Write our nearest District Office for your free copy. Remember!

USE CONCRETE
FOR PERMANENCE

PORTLAND CEMENT ASSOCIATION
Organized for Service

Atlanta	Helena	Minneapolis	Salt Lake City
Chicago	Indianapolis	New York	San Francisco
Dallas	Kansas City	Parkersburg	Seattle
Denver	Los Angeles	Pittsburgh	St. Louis
Des Moines	Milwaukee	Portland, Ore.	Vancouver, B. C.
Detroit			Washington



The Clean-Up

of stables, pig-pens, poultry houses, cellars, outbuildings, etc., can be done with less labor, in less time and with better results if you will use Carbola—the combined paint and disinfectant. It helps prevent the start and spread of contagious diseases that might wipe out your entire flock or herd. It makes your work easier. It increases the light in your buildings—makes them sweet-smelling—improves their appearance—puts them in shape to pass the inspection of milk companies or health authorities.

Poultry and livestock never produce their best in dark, dirty and gloomy living-quarters. The liberal use of Carbola means more dollars and cents in your pocket.

CARBOLA
The Disinfecting White Paint

s a white paint in powder form, combined with a disinfectant twenty times stronger than carbolic acid. Mix it with water and in a few minutes you have a smooth-flowing paint and a disinfectant that goes on the wall in one operation. It can be applied with a brush or spray pump to wood, brick, stone, cement, plasterboard, etc., or over whitewash. It will not clog the sprayer nor blister, flake or peel off. It is non-caustic and harmless to the smallest chick or stock that licks a painted surface.

Use It Instead of Whitewash and Disinfectants

where you have been using whitewash and disinfectants or just whitewash. One gallon covers 200 square feet, and it dries with a smooth finish. Use the dry powder as a louse powder on poultry, cattle, horses, hogs. You will find it excellent for this purpose and it costs only one-third as much as other brands.

Your hardware, seed, drug or paint dealer has Carbola or can get it. If not, order direct—prompt shipment by parcel post or express. Satisfaction or money back.

10 lbs. (10 gals.) $1.25 and postage 20 lbs. (20 gals.) $2.50 delivered 50 lbs. (50 gals.) $5.00 delivered
200 lb. bags $18.00 delivered Trial package and interesting booklet 30c postpaid.
Add 25% for Texas and Rocky Mountain States

CARBOLA CHEMICAL CO., Inc., 299 Ely Ave., Dept. H, Long Island City, New York



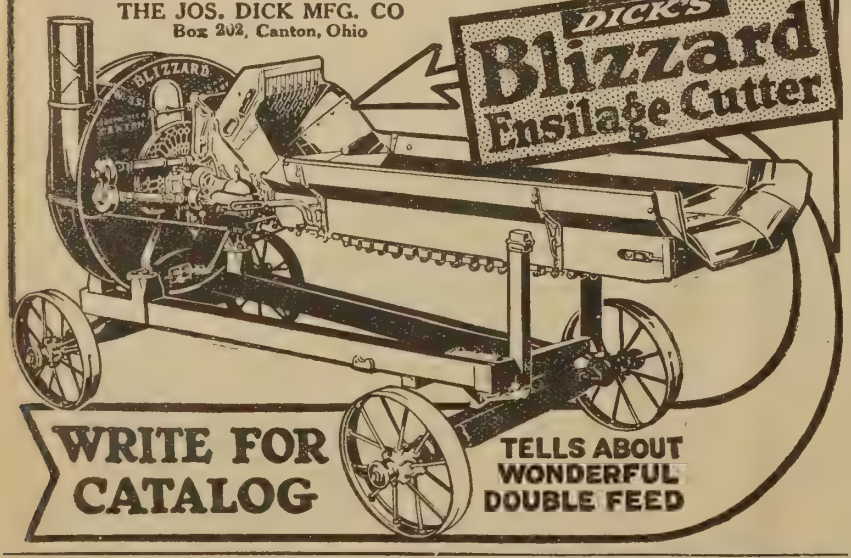
Don't Put Off Buying That Ensilage Cutter **Buy a Blizzard**

O. W. Johnson, of LeGrand, Iowa, says: **"We saved $200** this season over the cost of handling ensilage with our old machine."

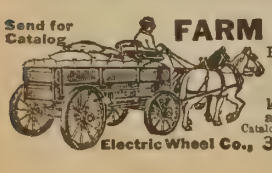
The double-feed Blizzard saves men by its **Self Feed**—saves time by its great capacity—saves power because light running. Elevates to any height, cuts evenly, runs like clock-work with small upkeep cost, and gives perfect service for many years.

Where silos are large and a huge tonnage of corn is ensiled, where five teams are kept busy handling the corn—as in the scene above, on the farm of Jos. Eversall, Stuart, Iowa—the cutter that cuts the corn as fast as it can be brought on and elevates it into the silo without a hitch is Dick's Blizzard Ensilage Cutter. Does most work per H. P. of any machine. Make us prove it. Write for latest catalog and name of nearest dealer.

THE JOS. DICK MFG. CO
Box 202, Canton, Ohio



Send for Catalog



FARM WAGONS
High or low wheels—steel or wood—wide or narrow tires. Wagon parts of all kinds. Wheels to fit any running gear. Catalog illustrated in colors free.
Electric Wheel Co., 31 Elm St., Quincy, Ill.

I NEED BRANCH MANAGERS
Rideezee INNER TIRE
Will pay big money to men with autos. Install Rideezee, the BETTER THAN AIR INNER TIRE. Cheaper than tubes, a light resilient substance guaranteed ten years. Equip your car at agent's price. Sell to friends. The business of the future.
RIDEEZEE CO., ST PAUL, MINN.

DAIRY MARKET NEWS

May Condensery Prices

Condensed milk market continues in draggy condition. Manufacturers of evaporated milk report that market conditions during the month of May have been less active than for the preceding month. The percentage of unsold stocks instead of being further reduced, as was the case the previous month, were increased approximately 44%. A decrease of 26% in unfilled orders was also reported. The brisk trade demands of the previous month seem to have subsided and trading was on a quieter basis. Prices of evaporated milk during May showed a slight decline but evidently were insufficient to attract buyers of large quantities, as they prefer to buy for immediate needs only, thereby being able to take advantage of frequent price declines. The range of prices was from $4.74 to $6 with an average of $5.57 or about 4c less per case than in April.

The market for sweetened condensed milk continues very quiet. Unsold stocks instead of being further decreased were increased nearly 50%, while unfilled orders remained at about the previous month's low mark. Prices of sweetened condensed case goods were slightly lower during April, the range being from $5.00 to $10.00 per case, with an average of $7.80 which was 17c per case less than the price for March.

Demand for bulk goods of both condensed and evaporated has been very limited. Warmer weather, although stimulating ice cream sales somewhat, has not as yet influenced the demand for bulk products.

The average price for the month of April for sweetened condensed whole milk, in bulk, was $11.98 per 100 lbs. with sweetened condensed skimmed selling at $7.11 per 100 lbs. These prices are slightly higher than for the previous month.

Exports of condensed milk during April were 6,500,000 lbs., or about one-fifth the exports for the same month during 1920.

The exports of evaporated milk during the same period were approximately 13,600,000 lbs., or about six million pounds less than for the same month during 1920.

Prices paid to producers for whole milk by firms manufacturing both bulk and case goods during May ranged from $1.50 to $2.80 per 100 pounds, the average price being $1.96, or over 2c per gallon less than the price paid in April. The average price paid by firms manufacturing bulk goods, only, was $2.13 per 100 lbs. during May compared with $2.29 in April.

The prices quoted in Table I are those paid producers for 3.5% milk delivered at factories during May. They are based on reports made by approximately 61% of the total factories in the U. S.

Table 1—Prices Paid Producers at Condenseries During May

Geographic sections	Case and bulk goods No. of factories	Case and bulk goods Price per cwt.	Bulk goods No. of factories	Bulk goods Price per cwt.
New England	1	$2.14	3	$2.87
Middle Atlantic	46	2.09	18	2.09
South Atlantic	1	2.15	3	2.45
East No. Central	72	1.94	28	2.04
West No. Central	2	2.00	2	1.89
South Central				
North Western	17	1.72	4	2.20
South Western	12	1.75		
United States	151	1.96	58	2.13

The manufacturers' wholesale selling price given in Table II are based on reports made by manufacturers covering actual sales, during April, of condensed and evaporated milk delivered to jobbers, wholesale grocers, and similar buyers on basis of cash or short time credit.

Table II—Manufacturers' Wholesale Selling Prices—(April)

Geographic sections	Sweetened condensed* Domestic	Sweetened condensed* Foreign	Unsweetened evaporated‡ Domestic	Unsweetened evaporated‡ Foreign	Sweetened condensed† Unskimmed	Sweetened condensed† Skimmed	Unsweetened evaporated† Unskimmed	Unsweetened evaporated† Skimmed
New England	$7.56	$7.88	$5.64	$5.67	$12.20	$6.64	$ 8.80	$4.78
Middle Atlantic	7.04	7.21	5.56	5.47	11.72	6.40	9.10	3.76
South Atlantic	8.14	8.00	5.68	5.63	12.20	7.74	8.37	3.46
East No. Central	7.88	8.00	5.35	5.57	11.41	7.04	7.86	4.89
West No. Central	8.23	8.00	5.74	5.63	12.28	7.49	10.00	5.68
South Central	8.12	8.00	5.78	5.63	12.20	7.74	9.00	4.00
North Western	8.88	8.00	5.49	5.50	12.37	8.15	9.00	6.24
South Western	8.88	8.00	5.60	5.63	12.20	7.74	11.00	6.00
United States	7.80	7.64	5.57	5.57	11.98	7.11	8.85	4.68

*Case contains 48 14-ounce cans. ‡Case contains 48 16-ounce cans. †Bulk, price per cwt.

Foreign prices are given as f. o. b. or f. a. s. points of export in section in which sales were made.

Cheese Prices Steady to Firm

(Report by U. S. Bureau of Markets)

Cheese markets continued steady during the week ending June 4 but the active trading anticipated by dealers did not develop. The holiday on Monday cut into the market somewhat and the advance at country points which caused asking prices all around to tighten up was another factor. Buyers who were looking for low priced goods found that the tendency to make concessions had disappeared to a more or less degree. Of course the fact that current receipts in general must show more improvement in quality before active buying for storage purposes takes place, accounts to some extent for the light business during the week. This condition, however, should change materially in the near future, as weather and grass conditions in Wisconsin especially have been favorable for best quality.

The tone of the market at wholesale distributing centers indicated a fairly confident feeling, and higher country markets strengthened this feeling, although advances were not necessarily followed. Cheese sold at a retail price

Carload Prices of Hay and Feed at Important Markets June 4

(In dollars per ton)

(Report by U. S. Bureau of Markets)

Commodity	Boston	New York*	Philadelphia	Buffalo	Richmond	Atlanta	New Orleans*	Memphis*	Cincinnati*	St. Louis*	Minneapolis*	Chicago*	Kansas City*	San Francisco*	Los Angeles*
HAY															
Timothy and clover:															
No. 1 Timothy	.....	29.50	23 00	22.00	26.00	29.00	30.00	27.50	19.25	25.00	20.00	23.00	†19.00	.....	.....
No. 1 Clover, mixed	.....	23.50	.....	.....	24.00	27.00	.....	.....	16.50	21.00	†16 00	18.00	†14.50	.....	.....
No. 1 Clover	....	.....	.....	.....	23.00	.....	.....	.....	15.00	21.00	†16 00	17.00	†14.00	.....	.....
Alfalfa:															
No. 1 Alfalfa	.....	.....	.....	.....	.....	29 00	.....	24.00	12.00	26.00	†21.00	†25.00	†21.00	19.00	19.00
Standard Alfalfa	.....	.....	.....	.....	.....	27.00	.....	22.00	17 00	23.00	†19.00	†22.00	17.50	17.00	.....
No. 2 Alfalfa	.....	.....	.....	.....	.....	25.00	.....	19.00	13.00	20.00	†16.00	†18.00	15.00	15.00	.....
FEED—Bagged															
Wheat Bran:															
Spring	25 00	25 00	24 50	21.00	26.00	28.00	.....	21.00	21.75	.....	15.00	18.25	.....	.....	.....
Soft Winter	....	26.00	28 00	.....	29.00	28.00	.....	.....	22.50	18.50	.....	.....	.....	39.00	.....
Hard Winter	...	.....	26.00	.....	.....	28.00	25.00	.....	21.75	18.00	.....	.....	15.00	.....	.....
Wheat Middlings:															
Spring (Standard)	25 25	25 00	24.00	20.50	26.00	30.00	.....	.....	22.00	.....	15.00	18.50	.....	.....	.....
Soft Winter	....	....	29.00	....	32 00	32 00	.....	.....	27.00	24.00	.....	.....	.....	49 00	.....
Hard Winter	.....	.....	.....	.....	.....	31.00	29.00	.....	22.00	23 00	.....	.....	.....	.....	.....
Rye Middlings	22.50	.....	21.00	.....	22.00	.....	.....	.....	31.00	.....	13.00	.....	.....	.....	.....
High protein meals:															
Linseed	37.50	38.00	35.50	32.50	.....	.....	.....	.....	37.00	34.00	29.50	32.50	31.00	.....	.....
Cottonseed (41 per ct)	41.50	.....	40.00	.....	.....	.....	35.00	34.00	.....	36.50	.....	38.50	35 50	36.00	.....
Cottonseed (36 per ct)	39.00	38.50	36.50	40.00	37.50	31.00	34.00	30.50	34.25	34.00	.....	36.00	.....	.....	31.00
No.1 Alfalfa me'l (med)	.....	.....	.....	.....	.....	.....	29.00	24.50	27.00	24 00	.....	25.00	17.50	22.00	28.00
Gluten feed	35.28	34.60	33 51	32.68	.....	.....	.....	.....	30.30	30 00	.....	26.50	.....	.....	.....
Hominy feed (white)	32.00	31 00	30.50	30.50	30.50	.....	30.00	.....	25.00	23.00	.....	24.50	.....	.....	.....
Ground barley	.....	.....	.....	.....	.....	.....	.....	.....	38 00	.....	22.00	30.00	29.00	...	29 00
Beet pulp	29 00	25 00	27.00	.....	28.00	.....	37.00	.....	26.00	.....	45.00	.....	.....	30.00	30.00

*Hay quotations represent average of cash sales at these markets. †Rolled.

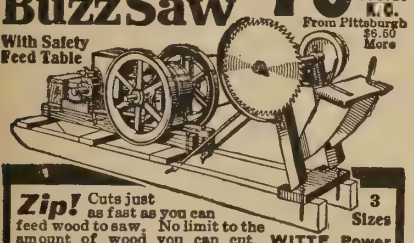
Straw—Receipts of straw were very light in most of the markets which with a fair demand caused considerable strength in the market situation. Quotations were also higher in a few markets. No. 1 wheat straw is quoted as follows: Philadelphia $16, Richmond $14, Pittsburgh $15.50, Cincinnati $12, Chicago $13, Minneapolis $8, Kansas City $9; No. 1 oat straw: Baltimore $16, Pittsburgh $15.50, Cincinnati $12, Chicago $14.50, Minneapolis $9; No. 1 rye straw: New York $25, Philadelphia $20.50, Pittsburgh $16, Cincinnati $18, Chicago $16, Minneapolis $9.



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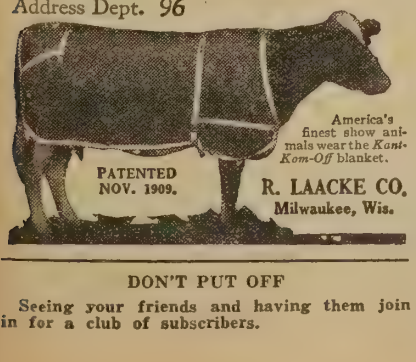
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DON'T PUT OFF

Seeing your friends and having them join in for a club of subscribers.

close to 20c as has occurred in some places has stimulated a good demand. Some export business took place during the week at New York at around 14½c.

The average wholesale prices on American cheese (style Twins) for the week ending June 4, 1921, and for the corresponding week a year ago were as follows:

	Week ending June 4 1921	1920
	cents	cents
New York	16.0	29.3
Chicago	14.7	26.1
Boston	16.0	31.0
San Francisco	14.3	25.4
Wisconsin	14.2	24.7

The receipts of cheese at these markets were 4,707,288 lbs. as compared with 4,581,518 lbs. a year ago, and 4,732,636 lbs. last week.

Butter Markets Held Firm

(Report by U. S. Bureau of Markets)

Chicago has been the firmest and most active market from a storage viewpoint all along but towards the close of the week a much more confident tone seemed to develop in the East and the supply of fine butter was less than the demand. Boston and New York both were storing freely by Thursday and taking the total into storage movement of the four eastern markets into account, the week showed gains of as much as 1,000,000 lbs.

Philadelphia and New York have both developed a considerable demand for sweet cream butter. Prices paid for this product average 2c to 3c above the regular 92-score quotation. There was also an active storage demand for fine, unsalted butter to be used for ice cream manufacturing later in the year.

The average wholesale prices on 92-score butter at five of the principal markets for the week ending June 4, 1921, and the corresponding week a year ago were as follows:

	Week ending June 4 1921	1920
	cents	cents
New York	29.3	56.2
Chicago	28.8	52.9
Philadelphia	30.2	56.6
Boston	30.2	55.6
San Francisco	31.8	51.5

The receipts of butter at these markets were 15,962,655 lbs. as compared with 12,300,062 lbs. a year ago and 14,853,590 lbs. a week ago.

Butter Prices for May

The butter market for May showed a decline of nearly 15c from the April average. The closing price on butter ranged from 28½ to 30c a pound. The most serious decline since the first of the month is found in the eastern markets, where it amounts to approximately 7c, Chicago having felt the reaction prior to the close of April showing a reduction from the first to the last of May of only 2c. The total receipts for May are considerably in excess of what they were last year for the same month, as well as the total receipts since January 1st as compared with a like period during the past year.

The following table is compiled from the daily quotations of the U. S. Bureau of Markets and covers the average wholesale prices for May, 1920 and 1921, on 92-score butter (extras) as also the total receipts at these several markets:

	Av. price May 1921	May 1920	Receipts May 1021	May 1920
	Cts.	Cts.	Tubs	Tubs
Chicago	29.48	59.97	290,463	207,858
New York	31.88	61.48	284,521	163,610
Boston	32.37	61.28	107,260	77,384
Philadelphia	32.76	61.98	81,855	49,092
Total receipts			764,099	497,944
Receipts since Jan. 1			2,451,376	2,059,777

Ninety-score butter averaged 27.31c for May on the Chicago market with centralized butter at this market selling at 28.81c. Jobbers' prices on extras sold to retailers during May averaged 30.98c in Chicago and 34.64c in New York.

New York Butter Market

New York City, June 7:—Increased receipts, a strong active market, and advancing prices are now the order of the day in this market. No longer is there a feeling of uncertainty among receivers and there is no scarcity of buyers such as has obtained for the past several months. Practically all grades of butter are in active demand and all conditions favor the seller. Speculators feel that it is safe to store butter at present prices and are buying very freely. Practically a half million pounds of butter are passing into storage each day. Buying is not confined to the speculative element, but retailers are purchasing large quantities of butter, the chain stores are picking up all the butter they can find, and out-of-town buyers are either here in person or are ordering supplies by telephone. The conditions at present are ideal from the standpoint of the receiver and he is taking every advantage of them.

While receipts show a material increase over those of last year, the weekly increase at the present time is rather disappointing. It is very probable that consumptive demand in the interior of the country is very high and is absorbing a high percentage of the butter made in the producing areas. The lower prices for butter which prevail at present make it possible for consumers in moderate circumstances to buy butter for table use. There is less demand for substitutes throughout the country than has prevailed for several years. This market, however, is receiving butter from far away points from which very little butter was ever received before. Several car lots have been received of late from the state of Texas and from other southern states. Much of that butter shows undesirable characteristics, some of which are peculiar to southern made butter, but it is being absorbed readily although it is moving at prices considerably below the quotations for fancy northern made butter.

Another noticeable feature in the market at present is the arrival of great quantities of butter from the New England and North Atlantic states. A great percentage of the milk, which in former years was converted into condensed milk and similar products, is now being made into butter. Much of that butter is being shipped to this market. New York, however, is receiving less than its proportionate share of western butter, a condition which is

(Continued on page 897)

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Kil-Zem has been proven superior to any other fly spray by many of the largest dairy farmers in Wisconsin and Minnesota. Approved by hundreds of herdsmen, and by Dairy Departments of State Experiment Stations.

Cows protected by Kil-Zem give more milk—young stock fattens more rapidly. Horses work better. Ask your neighbor—perhaps he uses it.

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In Barrels, (50 gallon steel drum included) ..... $1.30 per gal.
In Half Barrels, (30 gallon steel drum included) ..... 1.35 per gal.
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Special—2 gallon can, (sample order) ..... 1.50 per gal.

SEND NO MONEY—All shipments C. O D.

Our Kil-Zem booklet tells how to keep flies off your stock. Write for it—it's FREE.

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After using one-fourth of the contents of any container in accordance with directions, any purchaser of Kil-Zem who does not find it superior to any fly spray he has ever used, as a fly killer and repellent, is authorized to return the balance to us for refund of total purchase price of the full container. That's fair—isn't it?

WILLHELM OIL COMPANY
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Lubricating Oils Sold Direct to Users at Wholesale Prices.

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HOARD'S DAIRYMAN JUNIORS

A DEPARTMENT FOR THE DAIRY FARM BOY

Poultry Lice and Mites

The time of the year is at hand when we must fight poultry lice and mites, because during the warm summer weather they increase very rapidly. Everything should be done that will keep them in check if we want the poultry we are interested in to do well. No poultry club member will succeed who does not attend to this. Lice cause small chicks to remain small and they will always be stunted. Hens that are laying will cease to lay productively if they are infested with lice and mites. They will lose flesh and vigor and as soon as that happens, egg production will begin to drop off. While there are a great many kinds of lice and mites, it is quite common to classify those that are most troublesome to hens in three classes: head lice, body lice, and feather lice. They all are very similar in their habits, but the important thing about them is that they are all troublesome and birds that are infested with them are annoyed to a very great extent.



A JUNIOR POULTRY MAN WATCHES HIS FLOCK CLOSELY

Quite contrary to what many people think, lice do not suck the blood of the hen they are living upon. Their strong biting mouths enable them to bite into the skin and in so doing they live upon the skin and scales and the feathers. They can move about very rapidly over the body and it is very important to know that unlike mites, they never leave it so that when a hen is once infested with them they are always present unless some thing is done to get rid of them.

Body lice are very active and annoying when they are growing. They hatch from eggs in about a week and during the next twenty days they reach their full growth. They are a pale yellow color and are much larger than the common mites. They usually keep close to those parts of the body that are not well covered with feathers and hence they are found in greatest numbers under the wings and around the vent. The eggs are laid on the feathers down near the quill. On small chicks, they are sometimes found around the head and neck.

Feather lice are not considered as bad as the body kind for the reason that they spend their time on the feathers where they do all of their feeding. They are a little smaller than the body lice and they can usually be detected if the feathers of the breast are examined. They are not very common to young chicks, perhaps for the reason that the feeding grounds on them are not as well developed.

Direct treatment is the only remedy for these two kinds of lice. Whatever is used must be applied directly to the body of the fowl. The most effective remedies are classed as powders. Most any of the lice powders that are advertised are quite effective. One that is known as being very good is called sodium flourid. It is handled by many drug stores and it, too, is a powder. It is very effective because it is so poisonous to lice of all kinds. The birds that are to be treated should be dusted one at a time, because the effectiveness of the treatment depends upon getting the powder right next to the skin. The bird should be held so that it cannot flutter while it is being treated and then a small pinch of the powder should be dusted into the feathers and as close to the skin as possible. The best places to treat are under the wings, around the vent, on the breast, on the back, and about the head. Great care should be taken not to use too much on a single fowl, because too much might prove to be quite injurious. It is claimed by those who use this treatment that one pound of this powder should be sufficient to treat 100 birds. Care should also be taken not to allow the fowls to breathe sodium flourid as it is very irritating to the membranes of the respiratory system. Some poultry men recommend the use of blue ointment. If this is used it should be done very sparingly and about the only safe place to apply it is about the vent. A piece of ointment about the size of a good pea will be enough to use at any one time.

Head lice are very injurious to chicks. They stick close to the skin, on top of the head, underneath the bill, and on the sides of the head. They breed very rapidly and one infested chick or hen will pass them on to all others of the flock. Although they confine their attacks principally to the heads of chicks and mature fowls, they are also found on other parts of the body. Since they are very injurious, chicks at least should be examined quite frequently for their presence. The treatment which is considered very effective is rather simple and inexpensive. A small amount of melted lard or vaseline will do the work if applied to the top of the head, under the wings, and about the vent. Since any treatment for lice is simple and easily applied there should be little excuse for having much trouble with these pests.

The poultry mite presents quite another problem and any treatment to be effective must be followed up all during the summer. Mites live their lives in a different way. Instead of remaining on the bodies of the fowls, they only live there a portion of the time. During the day time, they are to be found inside the chicken house quarters where they try to hide in the crevices and cracks of the walls and roosts. At night when the birds are on the perches, they come out of their hiding places, crawl onto the bodies and begin to suck the blood. Before they are filled with blood they are gray in color and are then spoken of as gray mites. After they are filled with blood they appear to be red, and then are known as red mites. Their presence in large numbers causes the hens to lose flesh rapidly. Their wattles become pale and they soon begin to act sick. Since they do not live upon the bodies as do lice, body treatment would not be very effective in getting rid of them. The only way we can control them is to keep the housing quarters clean and we might just as well make our minds up to that, and the oftener the house is looked after, the more certain we may be that fewer mites are present. A systematic program should be followed. The thing to do is to give the house a thorough cleaning, including every thing in it. Then when it is as clean as it can be made, it should be most thoroughly sprayed with either coal tar preparations, crude oil, or kerosene. A hand spray will be found to do the work very effectively. And we should always keep this in mind. During warm weather, mites breed very rapidly and because one spraying will not kill all of them, it should be followed up with others every two or three weeks. There is no other way out of it if we want the flock to do well during the summer months.

Another good suggestion to all Junior poultry men is to use whitewash freely. This fills up the cracks and aids in killing them. A good wash may be made as follows: To a half peck of slaked lime add 20 gallons of water. Then add a pound of salt dissolved in water. After thoroughly mixing and before using, add two quarts of crude carbolic acid. This is a most efficient wash as it destroys the mites and their eggs as well, and besides the inside of the coop looks bright, fresh, and clean. The best way to apply the wash is with a hand spray as this is a clean and easy way to spread it.

Getting a Foothold

When the campaign was started for better live stock in Henry County, Ohio, two years ago, Mr. Arthur Palmer of Napoleon township became interested in spotted Poland-China hogs. Soon after he purchased a choice gilt, Mr. Palmer came to the office of the county agent and asked him to come out to the farm and see his new purchase. On this visit to the farm, the county agent became acquainted with a bright boy, John Palmer, who had just finished the 8th grade of the country school. The pig club work was discussed and John was invited to attend the pig club which the boys were getting ready to put on at the county fair.

About 26 pigs were being fed at that time in the boys' pig feeding contest. John and his father both became very much interested in the showing that the boys were making and John enrolled in the pig production club which the county agent was organizing at that time.

On the 15th day of December, John purchased a gilt from his father, paying him $35. The club committee of the township went to the farm and weighed the gilt and filled out the enrollment papers. The gilt was a spotted Poland.

During the winter months, John was a frequent visitor at the county agent's office, hunting for everything available that had anything to do with pig production. He gave the young sow the finest kind of attention. In the later part of March she farrowed six pigs. John was on the job. He had a good place for her. He had a good trough provided for feeding this sow and as soon as the pigs were old enough to run in the yard, he provided a clean separate runway for the sow and litter.

John knew what kind of feed to use and when and how to feed it. He had been getting this out of the club material.

When called on to discuss his club project at the township club meetings, John was all smiles, ready with a story about his sow and litter. At these township meetings the boys would talk with each other, exchanging ideas of how they were handling their project. John k t acquainted with his litter.

He gave the individual attention which makes the live stock business successful. By feeding shelled corn, ground oats, shorts, ground barley, tankage, and water, with alfalfa pasture, he had these pigs weighing 200 pounds at around 5 months of age.

John began to get them ready for the fair. He got them so that he could show them. He could move them about wherever he wanted to. When he unloaded them at the county fair it was easy to see that John must be somewhere up in the money. When his records were totaled, he was placed third in the placing of sow and litter and second in the winnings where record and everything were considered.

He sold the choice male pig for $10 more than he paid for the sow, realizing about $160 out of the rest of the litter and he kept the mother over.

This piece of education has been one of the finest things that could have happened to this boy. The interest in better hogs that his club awakened in his life is still a big feature in his work.

Farm families are overlooking a wonderful opportunity for the development of their boys and girls when they pass up the club work. Young men, when once started in live stock work of this character, become



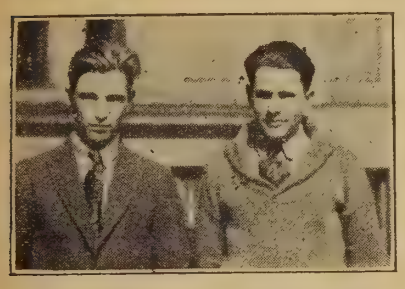
JOHN PALMER AND THE LITTER HE RAISED

reliable, dependable farmers. Boys and girls soon became interested in what they learn to do well. If the farm families take pride in the industry of agriculture they should develop this interest in their children and through this interest perpetuate the family name on the old homestead.

High School Testers

HOARD'S DAIRYMAN:—Lack of a sufficient number of cows to justify the engagement of an experienced tester proved no setback to the organization of a cow testing association among the dairymen of Walla Walla County, Wn., who have had previous experience with such organizations and know something of the benefits to be derived from their operation. At the suggestion of A. W. Kasten, Smith-Hughes teacher of agriculture at the Walla Walla high school, two of his students in dairying were selected for the work of cow testing and signatures were secured to a contract which contemplates a maximum of 300 cows to be tested at a cost of $2 per cow.

The two boys, Virgil Russell and Howard Mann, sophomores at the high school, will work together on



Virgil Russell and Howard Mann, school students who keep the records of the cow testing association in Walla Walla County.

neighboring herds, a schedule being planned which will enable them to go out after school, make night and morning tests in two herds near Walla Walla, and return in time for their school duties next day. Week-ends and short vacations will be utilized for testing herds which are at a greater distance from the county seat, and during the summer vacation they will manage their schedule to suit themselves. They will receive some remuneration for their work, as well as school credit in their courses, and they expect the experience which they will secure to be of even greater value to them than their pay. County Agent W. H. Talley and leaders in the dairy project of the farm bureau cooperated to secure the signatures necessary to put the plan into effect.

This is the only association in the state using high school testers, though high school students in other places are doing some individual testing for dairymen. It is merely another indication of the growing demand for cow testing association work, 92 dairymen representing 1,800 cows having signed up for testing during the month of March. Thurston County, with 26 members and 360 cows, and Grays Harbor County, with 12 members and 268 cows, have united in one association, the tester to spend half of his time in each county. There is a second new association at work in the White River Valley, King County, and associations are being organized under the direction of F. W. Kehrli, extension dairy specialist of the state college, in Lewis, Clarke, and Cowlitz counties. Clallam County has formed an association since February 1, and most of the old ones have been reorganized for 1921.

G. N. ANGELL.



This map shows how the United States is divided into 12 Federal Land Bank Districts.

FARMERS!

This Is *Your* Banking System —Stand Behind It

THE FEDERAL FARM LOAN ACT created a farmers' national co-operative mortgage loan system, and the United States Supreme Court has fully sustained this Act of Congress. Now millions of dollars are needed to loan to farmers. Help the entire farming business by putting your money into this safe, tax-free investment.



5%
Tax-Exempt

Buy Federal Farm Loan Bonds

Denominations: $100, $500, $1000 and $5000

Federal Farm Loan Bonds are *safe*. They are secured by first mortgages on productive farms, the kind of assets with which you are already familiar. And in addition, they are guaranteed by all of the 12 Federal Land Banks with a combined capital of over $24,000,000.

Federal Farm Loan Bonds are *tax-free*. The principal is exempt; likewise the income from it.

Federal Farm Loan Bonds *yield 5%*—a better *net* income than from most farms rented to tenants.

Federal Farm Loan Bonds are *staple*. They bring a steady, dependable income twice a year; they are quickly convertible into cash; and they are A-1 security for bank loans to farmers, merchants, millers, livestock buyers and others.

Farmers who buy Federal Farm Loan Bonds help to build a farmers' national co-operative banking system—profits earned are paid to the farmer-borrowers who will eventually own all the stock of the Federal Land Banks.

The farm tenant who invests his surplus every year in Federal Farm Loan Bonds is accumulating capital with which to own his own farm. Farm boys and girls who buy small Federal Farm Loan Bonds are on their way to farm ownership. The farm hand who purchases Federal Farm Loan Bonds is forming habits of thrift and sound investment which lead toward the ownership of land.

Locate Your Federal Land Bank on the Map

Locate *your* Federal Land Bank on the map above. Write to it for free bulletin giving detailed information as to these bonds. Consult your county agent or secretary of your local national farm loan association. Stand back of the Federal Farm Loan System.

Springfield, Mass. Wichita, Kan. Berkeley, Cal. Louisville, Ky. Baltimore, Md. Houston, Texas
New Orleans, La. St. Louis, Mo. Omaha, Neb. St. Paul, Minn. Columbia, S. C. Spokane, Wash.

FEDERAL FARM LOAN BOARD

TREASURY DEPARTMENT WASHINGTON, D. C.

Junior Letters

Hoard's Dairyman Juniors:—Papa just got 15 registered Holsteins, 10 heifers and 5 bulls. We got some from Vermont, Illinois, and Michigan. We generally have registered Jerseys. In winter we feed our cows cactus. We take a pear burner to burn the thorns off and the cows go in back of us and eat cactus off the stalk. They grow seven or eight feet tall and they bloom and we make jelly and eat them raw with salt. When you go hunting you can hardly get through them. The cactus grows all over.

We have Saanen and Toggenburg goats which give milk. They had kids the first of April. We have about sixty chickens and get about thirty-six eggs a day. We have a big garden and have onions, potatoes, beets, carrots, beans, celery, parsley, and tomatoes. I will close now. If any juniors wish to write my address is 903 Westfall Ave., San Antonio, Texas. Victor Kahn.

Hoard's Dairyman Juniors:—I am fourteen years old and in the eighth grade. Our school house is a new building and consists of about 45 pupils.

We are milking about 43 cows and have 70 acres all seeded to alfalfa and barley. I like Holstein cows the best of all. We have two Jerseys and the rest are Holsteins. I have one grade calf and some Belgian hares and they grow fine.

I guess I have written enough for this is my first letter to the juniors. If any of the juniors wish to write to me my address is Nicolaus, Sutter Co., Calif. Rosa Fassler.

Duroc-Jerseys Are Prolific and Profitable



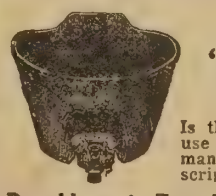
They raise *big* families. Hardy, easy-feeding, quick maturing. That is why Duroc-Jerseys today outnumber any other breed in the United States. Out of *all* the hogs marketed in 1918, 51 per cent were Durco-Jerseys.

WRITE FOR BOOKLET—"DUROC-JERSEY HOGS ARE PROFITABLE" published and mailed free by the largest swine record association in the world (over 10,000 members) for the benefit of hog raisers everywhere.

THE NATIONAL DUROC-JERSEY RECORD ASSOCIATION
Dept. 300—PEORIA, ILLINOIS



Water in the Stable a Necessity



THE "BUCKLEY" DEVICE

Is the leader. Why not use the best? Write to the manufacturers for a descriptive circular.

Poughkeepsie Foundry & Machine Co.,
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The rate for advertising in this department is 10 cents per word. Count address. Remit in advance. Copy must reach us 8 days ahead of date of issue. Farm labor advertising 7c per word.

STOCK FOR SALE

Holstein heifer and bull calves. Pure-bred, registered and high grade. Splendid individuals and breedings. Delivered to you, $25 and up. Your inquiry will be given our best attention. BROWNCROFT FARMS, McGraw, N. Y. 5*

I have usually 100 head of registered and high grade Holsteins on hand for sale. Also registered and imported Percheron and Belgian horses. RALPH HUDSON, Milton Junction, Wis. 12*

For Sale—At Elmwood Stock Farm, high grade Holstein cows, fresh and springers, by the carload. JOHN MURPHY, Mukwonago, Wis. 3*

"The Willows" offers fifty high grade Holstein cows for sale. S. D. SHAMBEAU, Waupaca, Wis. 12*

Serviceable grandsons of Lola Segis Pontiac Homestead for sale, he a 34-lb., 1,000 lb. son of Piebe Laura Ollie Homestead King. Their dams are daughters of Joe Oak De Kol Fobes. Well grown, good individuals. Your choice, $150. R. W. MEAD, Stillwater, Minnesota. 10*

Baby Bulls—Registered Holstein-Friesian by high class sires and heavy producing dams. Price is right. C. S. MULKS & SON, Whitewater, Wisconsin. 3-*

Holstein heifer calves, high grade and well marked, three to six weeks old for $16.00 crated. Registered bull calves $35.00 each. RUDOLPH KUNDERT, New Glarus, Wis. 14-*

Holstein Bull—Ready for service, 2 dams average 106 lbs. milk in one day, 40.67 lbs. butter in 7 days. $125 terms. Also two heifer calves. ROY HARRIMAN, Appleton, Wisconsin. 17-6

We ship our 7 weeks old Holstein calves subject to inspection c. o. d. for $28.00. Express charges paid. Special price on lots. SPREADING OAK FARM, Whitewater, Wis. 17-tf.

For Sale—Carload of Holstein Springers, tuberculin tested, also ten pure-bred Ayrshire cows. ARCADY FARM, Lake Forest, Illinois. 19-4

Holstein grade heifer calves, two to four weeks old from tuberculin tested herds. Crated $22. Pure-bred bulls from tested sires $75 and up. Shipped C. O. D. WAUKESHA COUNTY HOLSTEIN BREEDERS' ASS'N., Waukesha, Wisconsin. 20*

Registered Holstein-Friesian heifer calves. $40.00, satisfaction guaranteed. HILLCROFT FARMS, Walton, New York. 21-3

Registered Holstein bull 14 months old. Mostly white, 33-pound sire. Cheap for quick sale. J. M. MCFARLAND, Watertown, Wis. 21-2

For Sale—Entire herd of pure-bred Holsteins: 35 head cows, heifers, and calves. Tuberculin tested. U. F. SCHLAEFER, So. Germantown, Wis. 21-2

For Sale—8 registered Holsteins including a granddaughter of King of Pontiacs and her daughter by 30-lb. bull. R. J. TRAPTOW, Iowa City, Iowa.

Write to us if you want to buy Holsteins. WISCONSIN LIVE STOCK ADVERTISING CO., Madison, Wisconsin. 22-2

A yearly record son of 37th. Very good individual. Four years old. Price $600. Write BOX 783, care Hoard's Dairyman. 22-2

Federally Accredited Holstein herd for sale. Twenty females. Ten have A. R. O. records. Homestead breeding. Price $5,800. Address BOX 782, care Hoard's Dairyman. 22-2

For Sale—Twenty-four registered Holstein females. Have raised two cows above 1,000 lbs. of butter, one world's champion. Price $150 to $250 per head. O. WESTERHEIDE New Douglas, Ill.

My entire herd of grade Guernseys for sale. Also a few choice heifer calves at $30.00 delivered. SHADY HILL FARM, Whitewater, Wis. 23*

Guernsey heifer calves. Can ship you 10 at once about 4 weeks old. Calves out of my own herd, so know what I am shipping. $30 each crated. F. O. B. Waukesha. WERN FARMS, Waukesha, Wis. 18*

For bargains on May Rose bulls with type and production, write KUHTZ BROS., Waukesha, Wis. 21*

Guernsey calves six weeks old, $20. F. O. B. Knapp. THOMAS HAGERTY, Knapp, Wisconsin. 2*

A high class registered Guernsey bull calf 5 months old—$75. B. MCADAM, Mosinee, Wis. 20-3

Guernseys—Bull of serviceable age from A. R. cow. Best of breeding. One pure-bred cow, one 2-year-old bred heifer and one heifer calf. GREENWOOD FARM, Whitney Mich.

Guernsey bulls, also a few females. Send for reduced price list. MATH MICHELS & SONS, Fond du Lac Wisconsin. 21-*

For Sale—One pure-bred Guernsey cow and heifer calf two weeks old. OTIS D. GOOCH, Orfordville, Wisconsin. 20-spl

Choice Guernsey heifer calves 3 to 4 months old sired by registered bull out heavy milking cows, $30. QUINEJLO FARMS, 297 East Water, Milwaukee.

Guernseys—9 head extra good grade cows. 6 heifers from 3 months to 2 years of age. Priced to sell. GREENWOOD FARM, Whitney, Mich.

Carload Guernsey yearling and two-year-old heifers all from high producing cows, price right. WETMORE & O'NEILL, Bridgeport, Wis. 22-3

For Sale—Ayrshires, Whitehall breeding. Also a good herd sire. J. A. DALTON, Oconomowoc, Wisconsin. 21-2

Registered Jersey calves, both sexes. Expressage prepaid. 1435 Q STREET, Washington, D. C. 21-2

Registered Jersey calves, both sexes. Expressage prepaid. "SCHUTZ," Baileys, Colo. 22-2

Jerseys, bred heifers. Will be fresh in July. Price $160 each. Registered and transferred. Also few choice calves. Noble of Oakland's blood lines. M. A. O'BRIEN R-1. Reedsville, Wisconsin. 22-3

Registered Jersey bull, 16 months old, traces to Lady Letty Lambert through her two great sons, Lady Letty's Victor 65020, sire of 34 R. of M. cows and Lady Letty's Eminent, sire of 36 R. of M. daughters. RICHLAND HEIGHTS FARM, R-1, Quakertown, Pa.

20 to 25 high grade yearling Jersey heifers. Average test of dams, March 6%; April 5.6; May 5.2. ATKINS, Oakview Dairy, Hannibal, Mo.

STOCK BUYER

Registered dairy cattle bought and sold. EDWARD A. WALTER, 111 Monroe St., Chicago. 18*

Will buy for you, dairy cattle of any breed, grades or pure-bred. DAVID W. WILLIAMS, Lake Forest, Illinois. 6*

Save 30 per cent by buying your cattle through J. D. POWERS, Fort Atkinson, Wis. 12*

We buy and sell dairy cattle of all kinds. Car lots of registered and high grade Holsteins a specialty. F. B. GREEN & SONS, Evansville, Wis. 18-*

Registered or Grade dairy cattle selected. W. R. GATES, Fort Atkinson, Wis. 19-*

STOCK WANTED

Wanted—A 30-lb. bull, five or six months old. Will consider only good individual. Send picture and pedigree in first letter if possible. Address BOX 784, care Hoards Dairyman. 22-2

Want to buy on time with easy payments, a herd of pure-bred and grade Guernsey cows. Must be good milkers, tuberculin tested. A. B. PRICE, Platteville, Colorado.

Wanted—Holstein cattle in exchange for my equity in 160-acre improved farm, 18 miles from Minneapolis. Good buildings. Mortgage $6,000. Price $85.00 per acre. BENNO MENZEL, Anoka, Minn.

SWINE

Berkshire boars, ready for service at reasonable price. BRUNO HOPPE, Cedarburg, Wis. 19-4

Registered Duroc Pigs. $10 each. Write your wants. F. A. LAMB, Cassopolis, Mich. 21-3

Registered Berkshire March pigs. Prize breeding both sexes, $15.00 each. Yearling boars ready for service, $35.00. QUINEILO FARMS, 297 East Water, Milwaukee.

DOGS

German Shepherd, airedales, collies, and old English Shepherd dogs. Brood matrons, puppies, farm helpers. 10 cents for instructive list. W. R. WATSON, Box 520, Oakland, Iowa. 20*

POULTRY

Baby chicks $9.00 per 100 up. Postpaid. Catalogue free. FARROW-HIRSH CO., Peoria, Illinois. 9-16

Live Broilers now wanted. Highest prices paid for poultry, veal, pigeons, lambs, etc. Quick returns, fair treatment. C. E. MC NEILL & CO., 325 West So. Water St., Chicago, Ill. 17-*

Baby chicks $9.00—100 up postpaid. Catalog free. UNIVERSAL BABY CHICK CO., Peoria, Ill. 19-4

MACHINERY

For Sale Cheap—A small lot of standard make Swedish Cream Separators, 400 pounds capacity, $29.00, 500 pounds capacity, $34.00, 700 pounds capacity, $39.00. These are all new machines, wonderful bargains. THOMAS TAFFEE, Box 355, Lansing, Mich. 18*

One Waterloo Boy 12-20 tractor good as new. One Grand Detour Jr. 3-bottom plow, new. Two 16-inch pulverizers new. H. C. KARSTEN, Huntley, Illinois. 10*

Hinman Milker outfit complete, perfect condition. Will sell cheap. W. MORCK, 2531 Grand Ave., Minneapolis, Minn. 20-3

For Sale—1 slightly used Perfection Milker. C. B. SIKKING, Springfield, Ill. 20-3

For Sale—Silo molds, concrete mixer, hoist. For further particulars write ARTHUR ADELMEYER, 218 Henninger St., Mayville, Wis.

Gem Sterilizer, 96-bottle, also 18-quart conical cooler for sale at a bargain. ELMER WEISER, Grimes, Iowa.

Account selling out Empire three double units milking machine with pump, tank, piping, used two months good as new, cost $615. First check $250 gets it. QUINEILO FARMS CO., 297 East Water, Milwaukee, Wisconsin.

AGENTS WANTED

Representatives wanted to write hail and cyclone insurance every township in the Northwestern states. Little experience necessary, good commissions. Write quick. ST. PAUL MUTUAL HAIL AND CYCLONE INSURANCE COMPANY, 805 Pioneer Bldg., St. Paul, Minnesota. 12-12

Yes Sir, we have a special opportunity for you during spare time, an opportunity to do some good work in your neighborhood, for the betterment of dairy farming, that will pay you in cash for the effort you put forth. Write for our "Special Opportunity Getting Together" folder. Address HOARD'S DAIRYMAN, Fort Atkinson, Wis. 2-tf

Agents—Mason sold 18 Sprayers and Autowashers one Saturday. Profits $3.00 each. Square deal. Particulars free. RUSLER COMPANY, Johnstown, Ohio 20-spl.

TOBACCO

Homespun Smoking and chewing tobacco: 10 lbs. $2.50; 20 lbs. $4.00. FARMERS' UNION, Mayfield, Kentucky. 22-4

HAY

Alfalfa and prairie hay for sale. Prompt shipments. Personally inspected loading. Wire or write GUNN HAY CO., Lexington, Nebr. Reference Lexington State Bank. 11*

FEEDS

Dried Beet Pulp—the wonderful dairy feed. New reduced prices. Ask your dealer or write THE LARROWE MILLING COMPANY, Detroit, Michigan or Los Angeles, California. 12*

FEED BAGS

We buy second-hand bags, pay one-half freight on 200 or more. LINCOLN BAG CO., Springfield, Illinois. 10-spl

LIGHTNING RODS

Lightning Rods—Exclusive agency and quick sales to live dealers selling "Diddie-Blitzen Rods." Our copper tests 99.96 per cent pure. Write for agency. Prices are right. L. A. DIDDIE CO., Marshfield, Wis. 9*

STANCHIONS

Crumb's Stanchions are guaranteed to please the purchaser. They are shipped subject to trial in the buyer's stable. They are right. Send for booklet. WALLACE B. CRUMB, Box H, Forestville, Conn. 15-10

BUSINESS FOR SALE

For Sale—Confectionary store and Ice Cream Plant. Fine location in a town of 60,000 population. Address BOX 785, care Hoard's Dairyman.

FARMS FOR SALE

I have a few choice improved and partly improved farms in the famous potato and dairy region of upper Michigan, 40 to 160 acres. Low prices and easy terms. JOHN MAJOR, P. O. Box 198, Marinette, Wisconsin. 16-13

Hardwood cut-over land, silt loam, clay sub-soil. Neither sandy nor gravelly; close to town; good roads; good schools; in the heart of the dairy country. You deal directly with the owners. No agents and no commissions. Easy terms. Also improved farms. Write for map and Booklet No. 4. NORTH WESTERN LUMBER CO., Land Department, Stanley, Wisconsin. 1*

Write for my farm catalogue describing thirty real bargains, best corn and clover land in state. SAM IVERSON, Colfax, Wisconsin. 19-4

Farms for sale. We own and control several choice Livestock farms in famous Prairie belt of Mississippi. Write us what you want. HANSON & COCKRELL, Macon, Mississippi. 19-*

Attention Dairy Farmers—Write for our booklet, "Dairying in the South" and get our proposition on co-operative Dairying. High class proposition and only high class dairy farmers wanted. Contract backed by one million capital. Address GA-FLA DAIRY FARMS, Ashville, Fla. 20-4

Rusk County, Wisconsin. The buckle of the clover belt. 16,000 acres of good clay loam land from which to select. Very small payment down, with no more payments for five years. For detailed information, come to Ladysmith, or write T. C. JONES, Ladysmith, Wisconsin. 20-4

Clover, alfalfa, sugar beet, prairie. Owner's price, easy terms. Submit trades. GASEL, Thief River Falls, Minn. 19-7

Cut this out and learn today how settlers can get new made-to-order dairy farms with buildings, stock, tools, etc. First payment $300 to $700, balance 30 years. Location famous Chippewa Valley, heart of Wisconsin. Close neighbors, markets, railroads, schools, creameries, best soil, pure water. Great opportunity, must have some farming experience; several farms ready to move on now. Send today for free information. CHIPPEWA VALLEY COLONIZATION CO., DV, 203 Plymouth Bldg., Minneapolis, Minnesota. 21-2

For Sale—183-acre grain and stock farm, well improved, near town. For particulars write S. E. ROSS, Iola, Kansas. 21-2

"Cream of the Land Farms." Gentlemen! We have them. Write NEW YORK FARM AGENCY, Westfield, New York. 17-spl

Alfalfa, corn, grain and live stock farms. Best in famous prarie belt for the money. Write me what you want. H. H. HANSEN, Macon, Miss. 21-spl

$1,400 secures 210 acres with horse, 25 dairy cattle, crops, modern machinery, poultry, full equipment; buildings estimated worth $8,000; income last year $5,000; wood and timber to nearly pay for all; convenient all advantages; 100 acres machine-worked, 3 tons hay, 350 bu. potatoes, 125 bu. corn to acre; apple orchard; equipped sugar grove; fine 9-room house, 100-ft. barn, etc.; prosperous owner wishing to retire, sacrifices. $6,500 gets everything, only $1,400 down, easy terms. See page 32 Illustrated Catalog 1100 Bargains. Free. STROUT FARM AGENCY, 150 DL Nassau St., New York City.

Farm For Sale—160 acres on Red Cedar lake, Barron County, Wisconsin. Buildings new and modern. Big bargain for the right party. W. A. HANCE, Freeport, Illinois. 22-*

For Sale—Farm Dairy. Modern equipped dairy situated 2½ miles from Dubuque, Iowa (40,000 population). Farm rents for cash and consists of 450 acres of pasture and tillable land. This is an ideal dairy farm, has artesian well which flows through a modern milk house and barns. Stock consists of all first-class horses, hogs and 60 cows and heifers, most of which are Guernsey. The herd bull is a registered Guernsey. Milk wholesales in city, seven stores taking the entire output. Daily average 350 quarts, with unfilled orders at some stores for 200 additional quarts. The milk is the highest test in the city and wholesales for ten cents per quart. For full information come and see or write. Reason for selling does not pertain to the business in any way. FRANK M. KELLY, East Dubuque, Illinois. 22-*

Register and secure a farm. Our colonization plan offers the man who wants a farm a greater opportunity than a U. S. Homestead. Good man can register and get good land, and we furnish him a 4-room house, barn, cows, and tools. To show good faith, settler deposits $500 on buildings and stock—that is all. After 3 years, settler pays for farm at $100 a year. Over 100 registered, got farms, and started last year. Many from Wisconsin. Good places on new road ready right now, so write for free books, maps, and registration blank, or come at once to look. NATIONAL LAND COLONIZING CO., Box B. 15, Ladysmith, Wis.

240-acre farm with 12 head cattle, horses and poultry, brood sow, vehicles, machinery, implements, cream separator, blacksmith tools, everything even to fine watch dog included; got income of $2,900 here last year; thriving community, close town; 100 acres rich loamy tillage, 25-cow wire-fenced pasture, 2,000 cords wood, 50,000 ft. timber; good 9-room house with delightful oak shade and splendid outlook; substantial barn, granary, blacksmith shop, poultry house, etc. To settle affairs quickly only $4,900, part cash, easy terms. Come at once and take advantage of this rare opportunity. C. J. BAUMEL, Adams, Wis.

For Sale—2,000 acres fine hardwood timberland, birch, white ash, maple, white pine, spruce. Sawyer County, Wisconsin. Logging would pay handsome profit. Land delightfully situated for stock ranch. Two trout streams, six springs. W. A. HANCE, Freeport, Illinois. 22-*

WANTED TO RENT

Share Renter—Wanted to rent on shares, farm with good sized herd of milk cows; where milking machine is used preferred. Have our own help. JAMES JOHNSTONE, Karlton Farm, Wadsworth, Ill. 22-2

FARMS WANTED

Wanted to hear from owner of a farm or good land for sale for fall delivery. L. JONES, Box 770, Olney, Illinois.

CREAMERY MANAGER WANTED

Wanted—Creamery manager to buy interest and manage creamery, cold storage and ice cream plant. Will sell outright or controlling interest very reasonably and on liberal terms. COTTONWOOD CO-OPERATIVE CREAMERY CO., Cottonwood, Ida.

BUTTERMAKERS

Buttermaker Wanted to take full charge of a farmers' co-operative creamery. Inland town. Married man preferred. State experience and wages wanted. NORA CREAMERY CO., Alcester, S. Dak.

TANNING

Let us tan your hide. Cow and horse hides for fur coats and robes. Cow and steer hides into harness or sole leather. Catalog on request. THE CROSBY FRISIAN FUR CO., Rochester, New York. 10-17

LUMBER

Lumber and shingles at reduced prices. Farmers' trade our specialty. Best quality. ROBERT EMERSON CO., Box 1156W. Tacoma, Wash. 19-5

PRINTING

Hoard's Dairyman Art Department designs your letter head free. Just tell us your breeds of stock. Book of 5,000 Farm, Ranch and Cottage names 25 cents. Ask for samples of letter heads, envelopes, shipping tags, cards, milk tickets, etc. Poor stationery is more of a damage than a help. Be sure and give correct post office address, including state. Address HOARD'S DAIRYMAN, Art Dept., Fort Atkinson, Wisconsin. 8-tf



Advertising in this department is 7c per word. Remit in advance.

HELP WANTED

U. S. Government Wants men-women over 17. Hundreds permanent positions. $116 to $195 month. Short hours. Vacation. Common education sufficient. Write immediately for list positions. FRANKLIN INSTITUTE, Dept. M115, Rochester, N. Y. 20-4

Milkers—Married or single. String of 30 cows. Ninety dollars and found. SANTA MONICA DAIRY COMPANY, Venice, Calif. 19-*

Wanted—Two married men with boys old enough to work in dairy, also two single men for dairy. Good living conditions. J. S. DUNLOP, Pinehurst, North Carolina. 21-2

Wanted—A first-class dry hand milker. Must be efficient and reliable. Good pay and permanent position. A. C. RAMSEYER, Smithville, Ohio. 21-3

Wanted on a large Holstein dairy farm in the state of Maryland, a capable man, married with small family as herdsman. Address BOX 779, care Hoard's Dairyman. 21-2

Wanted—Single assistant herdsman for herd of high class Guernseys. Modern barn and best of living conditions. Must be experienced in feeding cows on test, calf raising and be capable of taking charge in absence of herdsman. Give references and salary expected. FAIRYDALE FARM, Pawling, N. Y. 21-2

Wanted—Experienced man on farm. State age, weight and wages. JOHN WENDT, R-3, Columbus, Wisconsin.

Wanted—Experienced test milker to make yearly records. Splendid opportunity with great cows for right man. Good pay. Bonus for high records. Write experience and references. Address BOX 780, care Hoard's Dairyman.

Wanted—Single first-class reliable A. R. test man. One who understands feeding and care of high test cows. A very good opportunity for the right man. GOSSARD BREEDING ESTATES, Martinsville, Ind.

Wanted—Man and wife, experienced, to work on modern dairy farm. Good house, with electric light and running water. Living conditions excellent. Protestant preferred. Wife must board two men. State ages, experience and wages expected and give references in first letter. LONGFIELD STOCK FARM, Cedar Grove, Wisconsin.

Wanted at once—Maids at WISCONSIN SCHOOL FOR BLIND, Janesville, Wisconsin. 22-3

Immediate employment for man and wife without children, stock farm Ashtabula County, Ohio. Small dairy, Holstein cattle. Wife to keep house for owner during summer. Address, stating experience, wages expected and references. JAMES D. SMYTH, Hermitage Farm, Rock Creek, Ashtabula County, Ohio.

POSITIONS WANTED

Assistant Herdsman on large stock farm, Wisconsin preferred. Life experience in general farming, six years as owner. Can come at once. State wages. J. D. MILLER, care Fairhome Farm, R-3, Hayward, Wisconsin. 21-2

Position wanted by experienced married herdsman. JOHN DOBRATZ, Delano, Minn. 21-2

Position wanted by young man in up-to-date creamery or cheese factory. 6 years experience in Denmark and very best of recommendations. Please give particulars first letter. BOX 550, Galesburg, Ill.

Wanted—Position as farm manager or herdsman. College graduate. Specialized in Dairying and Farm Management. Experienced. Married. Guernsey herd preferred. Excellent references. Correspondence invited. P. M. LOWE, Glyndon, Minn. 22-3

Man with small family wants job on dairy and poultry farm on percentage. BOX 523, Yates Center, Kans.

Wanted—Position in dairy barn to take care cows. Good with stock, good feeder. GEORGE CRAMER, R-6, Waukesha, Wisconsin.

Elderly man, German, handy, wishes light work on farm. Can do odd jobs. Good home preferred. State particulars. LOUIS SCHICK, 849 N. Clark St., Chicago, Illinois.

Position Wanted as herdsman in up-to-date Holstein herd. Married, age 30, life experience with dairy cattle, 5 years making A. R. O. records, finished short course at River Falls Normal. First class reference. State wages. Address BOX 781, care Hoard's Dairyman.

Wanted—Position on modern dairy farm by experienced married man. References. E. C. PETERSON, 1019 Grove Ave., Racine, Wisconsin.

I want full charge completely equipped farm and dairy business on permanent arrangement salary until next March, shares thereafter. Describe your proposition fully. Address BOX 788, care Hoard's Dairyman.

Position wanted as manager by live dairyman who will show results. Single, 28 years of age, university graduate with life experience in dairying. Address BOX 787, care Hoard's Dairyman. 22-2

Married man wants work in dairy barn. Experienced with test cows. Prefer small herd and some field work. Address BOX 786, care Hoard's Dairyman.

Dairy Cattle Congress

The management of the Dairy Cattle Congress which will be held at Waterloo, Ia., September 26th to October 2nd, is receiving very encouraging replies from breeders of dairy cattle as a result of a preliminary announcement sent out recently. Indications are that more large herds from a distance will compete for honors in the ring this year than heretofore. If the present interest continues, 1920 showings of both Guernseys and Holsteins which were the largest ever made at the Congress, will be eclipsed. Prospects of a much larger showing of Jerseys, Ayrshires, and Brown Swiss are also bright.

The premium list which is now being assembled is larger and more attractive than that offered in 1920. The classifications are arranged to encourage the showing of young animals, thus helping the small breeder who is just starting his career as an exhibitor.—Publicity Manager, Dairy Cattle Congress.

New York Butter Market

(Continued from page 893)

the result undoubtedly of the increased freight rates which now obtain. Receivers hope that the reduction in wages paid railroad employees will result in a cutting of freight rates thereby allowing more of the butter to come this way. It is reported that greater quantities of butter than usual are being stored in Chicago this season, the buyers placing the butter there with the expectation that freight rates will be materially reduced before the time arrives for the butter to be consumed.

No foreign butter has been received of late in this market and it is highly improbable that any will be received during the coming year. The so-called Emergency Tariff Bill became a law last week when signed by the president and a duty of 6c per pound is now operative for butter. Some Argentine butter is still being held by receivers but there is little likelihood that it will move in the near future. As receivers took that butter to account at a price of about 50c, they stand to lose large sums of money on their present holdings of it.

On Tuesday of last week, extras were quoted at 29c. Values remained unchanged until Friday when the price advanced ½c. That was followed by excessive advances of ½c, 1c, and 1c on Saturday, Monday, and Tuesday respectively. At the close today quotations are as follows: Extras (92 score), 31½@32c; higher scoring than extras (93 score or higher), 32½@33c; firsts (90—91 score), 30@31c; firsts (88@89 score), 28@29½c; and seconds (83—87 score), 24@27c. W. B. Liverance.

Dairy Markets

CHICAGO, June 10—Butter—Creamery, extras, 31c; standards 30¾@31c; Dairy, firsts, 25@30c; seconds, 23@24c.

Eggs—Ordinary, 20@21c; firsts, 23@32½c.

Cheese—Twins, 14½c; Young Americas, 14½@15c.

MILWAUKEE, Wis., June 10—Butter—Creamery, tubs, 30c; prints, 31c; extra firsts, 27@28c; firsts, 27@28c.

Eggs—Miscellaneous receipts, country candled, cases included, 21@21½c; cases returned, 20@20½c; seconds, 16@17c; checks, 14@15c.

Cheese—Twins, 14½@15c; Daisies, 15@16c, Young Americas, 15@15½; Longhorns, 15@15½c; Brick, 15@16c; Limburger, 20@22c, Swiss, loaf 48@50c; Block, 30@31c.

NEW YORK, June 10—Cheese—Easy; state milk, common to specials, 10@16½c; skims, common to specials, 8@11c.

Butter—Firmer; receipts, 14,720 pkgs.; creamery, extras, 32½c; state dairy, tubs, 20@32c.

Eggs—Firm; receipts, 37,393 cases; nearby white, fancy, 37@38c; nearby mixed, fancy, 24@34c; fresh firsts, 25½@32c.

Missouri Holstein Show and Sale

The Missouri Holstein Breeders' Association held a very successful show in connection with their annual state sale on May 23rd and 24th at Sedalia. Holstein breeders entered 125 animals in the open classes with 95 of the entries females.

The exhibitors included Pickering Farm, C. M. Long, Pettis County Holstein-Friesian Company, Sherman & Hill, T. S. Weathers, E. P. Finck, C. E. Driver, John F. Bluhm, Oliver Calvert, J. L. Ferguson, Wm. Monsees & Son, S. W. Cooke & Son, Fredmar Farms, C. G. Gist, Glenn G. Davis, Geo. Georges, and E. K. Magee.

W. W. Swett from the University of Missouri did the judging.

In the aged cow class, with 24 entries, Georges took 1st and 3rd on Empress Beets Spofford and Hazel Beets Spofford; 2, Finck, on Last Chance Zwinger; 4, Cooke & Sons on Beachwood Gerben Segis; 5, Long on Carlotta Butter Gerben.

Three-year-olds (9 shown)—1 and 2, Pickering on Katy Posch Florence DeKol and Pauline Tidy Posch; 3, Cooke & Sons on Freda Pontiac Segis; 4, Davis on Snowflake Hurmora; 5, Gist on Anglum Mercedes Korndyke.

Two-year-olds (17 shown)—1, Cooke & Sons on Segis Hillcrest Josephine; 2 and 5, Pickering on Queen Finderne and Prilley Walker Genesta; 3 and 4, Davis on Gwendolyn Josephine and Korndyke Springvale Hazel.

Senior yearlings (15 shown)—1, Pickering on Miss Perfection Jennie; 2, Cooke & Sons on Kitty Segis Walker Korndyke; 3, Georges on Irene Pontiac Beets De Kol; 4, Davis on Mary Josephine Korndyke; 5, Finck on Purity Hengerveld Korndyke.

Junior yearlings (14 shown)—1, Finck on Purity Maggie King Segis De Kol; 2, 4, and 5, Pickering on Aaggie Princess Segis, Pickering Maud Lady Korndyke, and Gertrude Reliance Butter Girl; 3, Davis on Hazel Hallwood Korndyke.

Senior calves (14 shown)—1, 2, and 3, Davis on Helen Beechwood Korndyke, Thodosia Hallwood Korndyke, and Alice Hallwood Korndyke; 4, Pettis County Holstein-Friesian Company, on Sedalia Pontiac Johanna; 5, Driver on Lewismonte Alban Korndyke De Kol.

Junior calves (2 shown)—1 and 2, Pickering on unnamed and unnamed.

Senior champion—Georges on Empress Beets Spofford.

Junior and Grand Champion—Davis on Helen Hallwood Korndyke.

Aged bulls (1 shown)—Davis on Sir Korndyke Hengerveld De Kol Jr.

Two-year-olds (2 shown)—1, Davis on Hallwood Korndyke; 2, Fredmar on Carnation Denver Segis.

Bulls one year and under two years (10 shown)—1, Weathers on Inter County Chief Josephine; 2, Pettis County Holstein-Friesian Co. on Pontiac Johanna Beechwood; 3, Finck on Campus Sir Korndyke Gabul; 4, Davis on Only Hilary Korndyke; 5, Pickering on Pickering Cornelius Korndyke.

Senior calves (15 shown)—1, Davis on Swastika; 2 and 5, Pickering on Pickering McKinley Hengerveld and Pickering Finderne Videmus Spring; 3, Weathers on Inter County Sir Josephine; 4, Fredmar on Sir Fredmar Ormsby Ragapple.

Junior calves (2 shown)—1, Pickering on Pickering Finderne Pohlcrest Joe; 2, Schermes & Hill on Prince Segis Korndyke Sadie Vale.

Senior and Grand Champion—Davis on Hallwood Korndyke.

Junior champion:—Weathers on Inter County Chief Josephine.

Exhibitor's herd (1 shown)—Davis. Breeders' young herd (3 shown)—1, Davis; 2, Pickering. Calf herd (1 shown)—Davis. Get of sire (6 shown)—2, Weathers. Produce of dam (6 shown)—1, Davis, 2, Weathers.

Following the show, on May 24th, 90 head including part of those animals in the show, were sold at the annual Missouri state sale. Pickering Farm topped the sale with a three-year-old daughter of Finderne Pride Johanna Korndyke at $835. A telegram received by Major Harlo J. Fiske, manager of Pickering Farm, at the sale, from Palo Alta Farms, California, stated that a daughter of this same sire had just completed a 7-day record of 34.8 lbs. butter and 747 lbs. milk which of course added to the value of the heifer herself.

The entire Pickering Farm consignment averaged $325 for everything over a year old. The average for the entire sale for everything a year old or over was $288.



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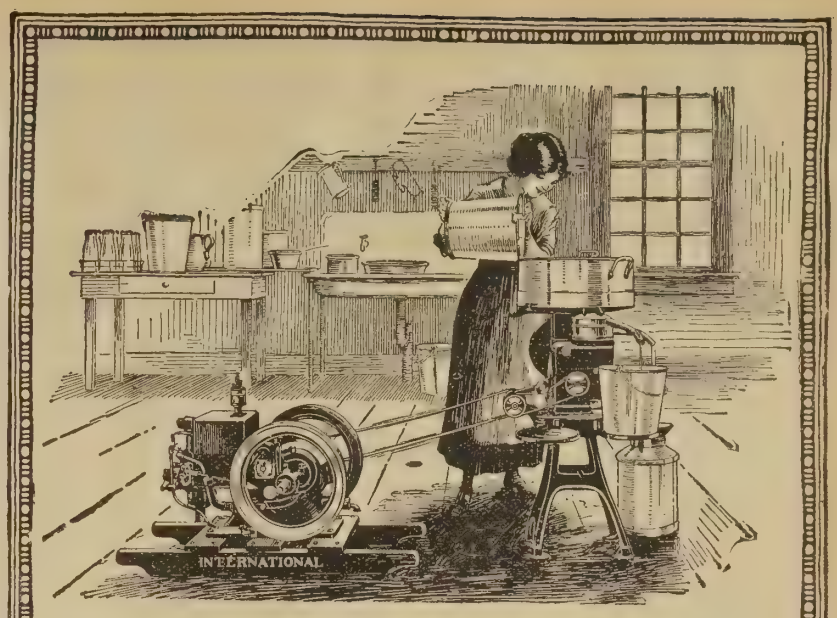
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These are all fine individuals with splendid milk and butter producing records and priced so that anyone who may have use can own a Herd Header at a reasonable cost. Prices and pedigrees furnished to anyone who is interested. Springs Stock Farm, five miles west of Royal Center, Indiana. S. O. Spring, First Nat'l Bank Bldg., Chicago, Ill.



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To Be Held At
Chetek, Wis., Wednesday, June 22

45 HEAD — Personally Inspected and of the Quality to make a Worth While Sale

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Barron County is in a Class By Itself, in that it is a Federally Tested County. In addition all animals in the sale will be sold under the usual 60-day guarantee.

THERE WILL BE SOME REAL DAIRY COWS—

A 24.67-lb. daughter of Canary Paul Pearl of the Dairy, also a 16.97-lb. daughter of the same bull.
A number of good daughters of Sir Johanna Piebe.
Cows bred to Heuwtje Vale Pontiac who is from a 21-lb. 2-year-old dam; King Segis Pontiac Major, a son of King Segis Pontiac and from a 21-lb. 2-year-old; Sterling Jewel Paul, a 25-lb. bull whose dam has 879 lbs. for the year with over 20,000 lbs. milk.
A nice bunch of young cows in calf to King Pontiac Calypse Valdessa, and all due right around sale time.

A FEW RIGHT GOOD SIRES—

Yearling sired by Sir Johanna Piebe and from a 776.85-lb. 3-year-old.
A 1½-year-old sired by the well known bull, Sir Ormsby Haidee Pietertje, and from a 17-lb. 3-year-old dam (also in the sale).
A 3-year-old son of King Superba, also a 25.91-lb calf sired by King Ormsby Col. Banostine.
A son of Willow Ridge Pietertje Ormsby and from a 27-lb. dam.

Remember the date—June 22. And the place—Chetek.
AUCTIONEERS—Haeger, assisted by local talent.

Sale Manager, F. H. Everson, Lake Mills, Wisconsin

Held Under Auspices of the Barron County Holstein Breeders' Association. President, E. McKinney, Barron, Wis. Secretary, Wm. Meisegeier, Barron, Wis. Treasurer, Andrew Morken, Cumberland, Wis.

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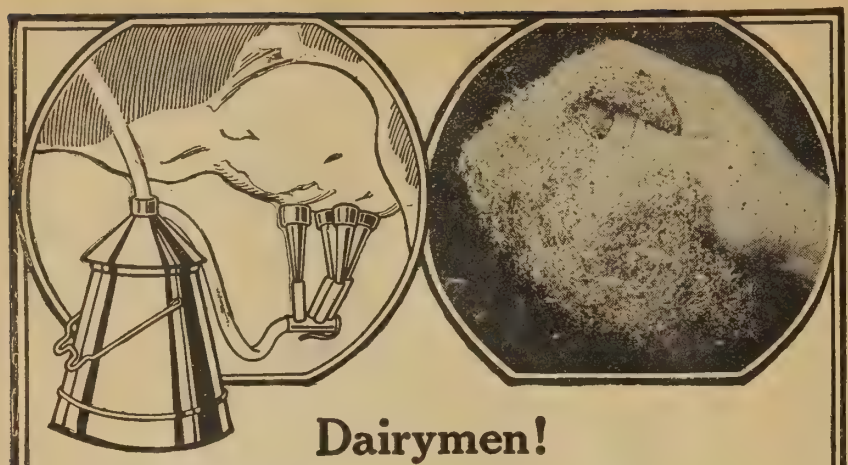
Grandsons of such bulls as King Valdessa, The King, Joe Segis, etc. Dams A. R. O. cows of fine pedigree. Herd Federally tested. No reactor since founded in 1919.
Prices, dams, records and pedigrees a matter of correspondence.
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Vermont Co-operatives Federate

(Continued from page 881)

half of March was $.58 for fat and 50 cents for skimmilk, with deductions for hauling. The average price paid for fat in 1920 was 71.4 cents, for skimmilk 91 cents. The milk is graded on the basis of acidity, upon receipt, into No. 1 and No. 2. In the month only two members sold milk which was given the lower grade. In 1919 the price to the producer was 91.03 per cent of the creamery selling price; in 1920, the expense was slightly less, 91.19 cents out of each dollar going back to the producer.

Two other creamery members of the federation made even a better accounting to the patrons. On a $300,000 business at Shelburne, 93.7 per cent went back to the producer and at Grand Isle, where a $150,000 business was conducted last year, 92 per cent was net to the farmer.

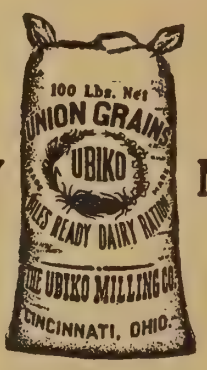
In 1920 the Richmond creamery took in 12,211,198 lbs. of 3.94 per cent milk, 12,034,527 lbs. of which was sweet. It received 128,639 lbs. of cream, 105,725 lbs. being received sweet. There were sold in milk and cream, 396,469 lbs. fat; in butter, 83,065 lbs.; in cheese, 37,562 lbs.; and in condensed milk, 945 lbs. Of the 10,379,518 lbs. of skimmilk received, 8,162,434 lbs. were sold as milk; 2,032,683 lbs. were manufactured; and 182,292 lbs. were returned to farmers.

The Richmond creamery clearly indicates the benefits to be derived from being equipped to supply a variety of markets. The co-operative idea is successfully demonstrated there in a single unit. What the federation does is to unite a number of such units for mutual protection and benefit. Its purpose is to have a central purchasing force which will save a great deal in increased efficiency in buying; to employ an expert accountant who will show just where profits are made and where money is lost in each creamery; and to sell through a common sales agency which will be informed on markets.

As yet, the federation plan has been slow in getting under way. Co-operation grows slowly. Even now the officers and the individual members have not fully grasped the possibilities of such an organization when it is perfected. It has been hindered in its progress by men who believe it will invade their markets—men who appreciate the justice of the desire of producers to market their own product but who fear the strength of such a federation. That there is ample proof that their fears have little foundation is indicated by the statement of F. H. Edwards that the co-operative creameries of Vermont have been the means of advancing the price of milk in conjunction with the Dairymen's League and the New England Milk Producers' Association from 10 to 15c per hundred lbs. The Federation's present officers are: John McGrath, Milton Creamery, president; Geo. Dunsmore, St. Albans Creamery, secretary; Carl Fletcher, Shelburne, treasurer; and F. H. Edwards, Richmond, manager. Mr. Edwards is giving excellent service as a sales agent and has kept markets open for the creameries' output. Several creameries have adopted a common accounting system, and some equipment has been purchased for the member creameries by Mr. Edwards, but the plan as originally conceived is not yet in full swing. Upon these men rests the responsibility of working out in detail the most complete co-operative effort yet employed in the marketing of dairy products. Through this plan may be realized the independence the producer has so long sought.

The federation plan is proved a success, even when in operation on a small scale. There is need for this co-operative movement; the spirit of co-operation is in the hearts of Vermont dairymen; the economics of the system are sound. When the idea is fully worked out these creameries will trade-mark their product and will sell an output of uniform high quality. That requires educational work on the farms and in the factories. Then a time may come when the entire product of the federation will be pooled, each member creamery manufacturing the article which the federation directs and each taking its proportion of the returns as the entire output of the federation is marketed. In this creamery federation Vermont is demonstrating the fundamentals of economic co-operative effort. The lesson it teaches is of great value to every community where dairying is an important industry.

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VETERINARY

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Bloat in Cattle

The term "bloat" is applied to abnormal distension of the paunch with gas resulting from fermentation of feed. The condition is characterized by a drumlike swelling high up in the left flank which may even be raised above the level of the backbone. The affected animal stops eating and ruminating, stands with elbows turned outward, breathes with difficulty, and gasps for air when suffocation threatens.

It is the general experience that large quantities of wet, green, immature clover, alfalfa, rye, peas and oats, rape, or other soiling or grazing crops suddenly eaten by an animal not accustomed to such feed are the commonest cause of bloat. It may, however, be induced by a sudden change of feed or by giving feed that has become moldy or heated. We have observed that attacks are particularly liable to occur in hot, muggy weather when thunderstorms occur so that cows had better be kept out of lush pastures during such weather. It is also well to feed hay before turning cattle into clover or alfalfa pasture the first time; to leave them on it for only a short time at first and then gradually increase the time. Hungry cattle just off the cars or those that have been driven far should never be immediately turned into rank, green growth, especially when the crop is wet with rain or dew. Allowing grazing cattle free access to a mixture of 1 part of slaked lime and 2 or 3 parts of salt tends to prevent bloating. Alfalfa in full bloom rarely if ever causes bloat, but the sugar of clover blossoms is said to be a fertile cause.

Tapping the paunch with a trocar and canula to draw off the gas need not be done in all cases. In our opinion it should only be resorted to when the animal is in immediate danger of suffocation as indicated by thrusting out of the tongue and gasping for air. In less dangerous stages of bloat simpler treatment will prevent suffocation as, for instance, typing a rope or round stick bitwise in the mouth, standing the hind quarters of the animal downhill, dashing cold water on the body, running the cow into cold water or passing an oiled rubber tube or probang down the gullet.

Medicinal treatment consists in administering 2 ounces each of pure turpentine and aromatic spirits of ammonia in a quart of new milk, or 2 to 4 teaspoonfuls of formaldehyde, or 1 teaspoonful of permanganate of potash in a quart of water. Some veterinarians give even larger doses of these drugs and there are many favorite home remedies, all more or less helpful, which need not be mentioned here. "Drenching" with liquid medicine from a bottle should be very slowly and carefully done.

When "tapping" is necessary, it should be done as follows: Clip off a patch of hair and cleanse and disinfect the skin (if time allow) at a point in the triangle near the last rib, transverse processes of the spine and point of the hip, high up in the most distended part of the left flank. Then cut a small slit in the skin and standing on the right or milking side of the cow, reach over, insert the point of the sterilized trocar (dagger) and canula (tube) in the slit and drive them in the full length, aiming in the direction of the right forefoot. Now withdraw the trocar, and when the gas has escaped, return it to the canula, pull both out together, cleanse and pinch the wound shut, and paint it with tincture of iodin or dust it with iodoform. Pine tar will do fairly well if disinfectants are not available.

Obstructed Teat

I have a heifer that freshened about a week ago. She has one quarter extra hard to milk. I have been running a quill up into it but that doesn't give any permanent relief. She is going to be a kicker unless I can stop this practice. There is a sort of a lump at at the end of the teat. Please tell me how I can open the hole and get the milk easily.

Ronneby, Minn. C. C. B.

Continued use of the quill will be about certain to cause ruinous garget. A veterinarian should be employed to cut down through the obstruction in four different directions by means of a teat bistoury. If you cannot have that done, a sterilized teat plug should be inserted in the cut between milkings.

Lice

I would like to know what is good for lice on calves and cows.

Rossville, Md. H. S. M.

If you do not object to causing a messy condition of the coat, simply groom the infested parts with a brush dipped in raw linseed oil and repeat the application when seen to be necessary. The entire body should not, however, be treated at one time. A solution of coal-tar dip made and used according to directions given by the manufacturer would also prove effective, or use a tea made by boiling four ounces of stavesacre or larkspur seeds for thirty minutes in water.

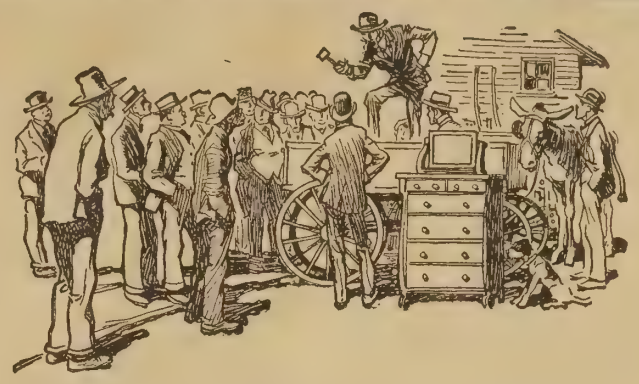
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5 by EXPRESS, prepaid, $1.25.
HAROLD SOMERS, 150 De Kalb Ave., Brooklyn, N. Y.


America's Pioneer Dog Medicines
BOOK ON
DOG DISEASES
And How to Feed
Mailed free to any address by the Author
H. CLAY GLOVER CO., Inc.,
118 West 31st Street, New York

Lowe Brothers

Which Brings Most at Auction?

Which would you all buy right now. A wagon with the paint all off, or one that has been kept painted? Would you pay all those dollars more for it, just because it *looks* better? Or because it *is* better?

Because it *is*, of course! It *is* better, because old-tear-to-pieces-weather can't get his finger at it. If you'd pay more for a painted wagon, seeder, cultivator or plow, then why don't you paint all yours up?

You may not want to sell them, but it will keep you a lot longer from having to buy new ones. We make a special paint just for the purpose. It's so good, it's used on the best of trucks and tractors. So that's why we started calling it, Truck and Tractor Paint. Next time you are in town trading, just ask about it.

The Lowe Brothers Company
491 EAST THIRD STREET, DAYTON, OHIO
Boston New York Jersey City Chicago Atlanta Memphis Kansas City Minneapolis Toronto
Factories: Dayton Toronto
Paints

"There's More Real Satisfaction"
says the Good Judge

In a little of the Real Tobacco Chew, than you ever got out of the ordinary kind.

The good rich taste lasts so long you don't need a fresh chew nearly as often—that's why it costs you less to chew this class of tobacco.

Any man who uses the Real Tobacco Chew will tell you that.

Put up in two styles

W-B CUT is a long fine-cut tobacco
RIGHT CUT is a short-cut tobacco
Weyman-Bruton Company, 1107 Broadway, New York City.

Shoo-Fly THE ANIMALS' FRIEND

For keeping flies and many other insects off animals. Used and endorsed since 1885 by leading dairymen. Cows give 25% to 35% more milk during fly season if sprayed with Shoo-Fly.
$1.50 worth saves $20
in milk and flesh on each cow in a single season. Excellent for galls. Allays itching. Aids in healing cuts and sores. Excellent for lice and mites in poultry houses.
Send $1.50 for enough Shoo-Fly to protect 10 cows 2 weeks, also our 3-tube gravity sprayer. Money back if not satisfactory. Name Express Office. Booklet FREE.
SHOO-FLY MFG. CO., 1316 N. 10th St., Phila.

NOTICE THE POINT
IT'S A NEW FEATURE
Found only in The PIERCEASY Bull Ring
No more tearing of the nostrils, because it is now so simple and easy. Just pass the ring thru the nostril, put in one small screw and the work is done quickly, making a clean hole thru the nostril.
CUTS A CLEAN HOLE
Made of a SPECIALLY PREPARED METAL and in SEVERAL SIZES
The Pierceasy Bull Ring is the latest and most durable ring on the market. More simple and efficient than the old style bull ring and many times more practical.

Buy them from your dealer or send $2.00 for No. B.R.3, which is our large size, postpaid.
Wagner Specialty Company
Dept. W. Burlington, Wisconsin

SALE ANNOUNCEMENTS

June 22—Ayrshires. Shannon Bros. Dispersal Sale, Cloverdale, B. C., Canada.
July 1—Guernseys. Dispersal Locust View Farm Guernseys, Garfield, Ohio.
Oct. 19—Holsteins. Chester Co., Pennsylvania, Holstein-Friesian Breeders' Guaranty Consignment Sale. C. J. Garrett and F. C. Brinton, Jr., Mgrs.
Oct. 19—Guernseys. Michigan State Sale of Registered Guernseys at Lansing, Mich. F. E. Fox, Waukesha, Wis., Sale Mgr.
Oct. 25-26—Holsteins. Lake Mills Semi-annual Consignment Sale at Lake Mills, Wis.
Feb. 21-22, 1922—Holsteins. Iowa Holstein-Friesian Association's Annual Sale.
April 1, 1922—Oak Hill Stock Farm Dispersal Sale at Crown Point, Ind.

The Two Biggest Dairy States

Reports of the 14th census are slowly becoming available, the two most recent being summaries for the states of New York and Wisconsin. For the first time the census discriminates between beef cows and dairy cows. As these two are considered close rivals, the following statistical data may be of interest:

	New York	Wisconsin
Horses and mules	543,494	687,648
Beef Cattle	63,170	287,346
Total dairy cattle	2,081,074	2,763,483
Dairy calves	291,721	503,256
Dairy heifers	248,164	384,695
Dairy cows	1,481,918	1,795,122
Dairy bulls	59,271	80,410
Sheep	578,726	479,991
Swine	600,560	1,596,419
Milk (lbs.)	6,502,034,101	7,381,023,281
Land in farms (A.)	20,632,803	22,148,223
Improved acres	13,158,781	12,452,216
Number of farms	193,195	189,295

Pure-breds in Colorado

For the first time the U. S. census gives figures on the number of pure-breds for the various breeds of farm animals. The first report to reach our desk covers the State of Colorado, which is credited with 114 Ayrshires, 241 Guernseys, 4,057 Holsteins, 1,605 Jerseys, and 431 other dairy breeds. Of these pure-bred animals, 1,799 are males and 4,649 are females.

BROWN SWISS



BETTY OF LAKE VIEW

Breed Brown Swiss Cattle

They prove their superiority over other breeds when subjected to trying conditions on the farm, by keeping in good flesh and filling the pail while other cows grow thin and reduce their yield. You can prove this to your satisfaction.

BROWN SWISS CATTLE BREEDERS' ASS'N
IRA INMAN, Secretary, Beloit, Wis.
William B. Hale, Pres., Aqueduct Bldg., Rochester, N. Y

JUBILEE FARM
Brown Swiss Bulls

to increase the production of your herd, out of cows on Official Test.

A limited number of heifers now offered for sale.

Box 747, Peoria, Ill.

JERSEYS

Ten Splendid Jersey Bulls

Good type, 6 to 18 months old. Heifers bred and open. Hood Farm Torono, King Sappho King, Loretta D. Bright Prince, etc. blood lines. Free from abortion. Dams are in the R. of M. or on test. Accredited herd.
Address: J. Q. Emery & Son, Edgerton, Wis.

HERE'S YOUR OPPORTUNITY

Bull calf born March 4, 1920, sired by a grandson of Majesty's Western King and out of a R. of M. daughter of Ibsen's Chief. For full pedigree and price write
E. E. HILL & SONS, Tomah, Wis.

Valley Farm is Offering

Several bulls, 6 to 12 months old, from R. M. cows. Sired by Golden Maid's Viscount and Kilda's Royal Majesty, two of the best Island bred bulls living. At prices to sell. Write
FRED STUBLEY, Black Earth, Wis.

Hillcrest Jerseys

Bull calf born March, 1920. Sired by Imp. grandson of Golden Fern's Noble. Priced right for quick sale. Write
ROLLIE VANDERVORT, TOMAH, WIS.

JERSEYS—DUROCS

Just one bull old enough for service and a few young calves. Hood Farm breeding.
F. R. Constance & Sons, Waupaca, Wis.

Albion Jersey Farm—R. of M. Jerseys

Herd sires, E S. Kilda's Viscount and T. N. T. Jap, Oxford breeding. A few choice bulls for sale, out of Register of Merit dams or dams on test.
R. C. GREEN & SON, Albion, Wis.

Improve Production Increase Size

By using a

HOOD FARM
SOPHIE TORMENTOR
JERSEY BULL

Four generation Pedigrees and prices on request.

HOOD FARMS, Inc.
Lowell - - Mass.

Tell us about your herd and we will make suggestions as to the kind of a bull you need.
JIMMY DODGE, MGR.

For Sale

Splendid Jersey bull, one year old; pedigreed stock. Address
SEEHEIM CORPORATION,
Marine Trust Bldg., Buffalo, N. Y.

Cedar Crest Farms

OFFER

Three young Jersey bulls, out of fifty-pound dams; few choice heifers and mature cows. Write for prices and full particulars.
J. K. Dering, Owner, Lake Villa, Ill.

Jersey Bull Calves
$100 to $150 Each

For immediate sale, we offer several splendid bull calves, some nearly six months old, sired by our high class Majesty bulls and out of Register of Merit dams. They are right individually.
M. D. MUNN,
Elms Jersey Farm, Forest Lake, Minn.

Montpelier Jerseys

Three young bulls ready for service. Trace three times to Oxford Lad. Fine typy individuals. Right in every way.
Montpelier Manor Farms, Laurel, Md.

Sheffield Jerseys

TWO (2) Young Bulls ready for service—fine, typy individuals from Register of Merit Dams. Right in every way.
SHEFFIELD FARM, Glendale, Ohio

POLLED JERSEYS

Breeders' names and Spillman's "Inheritance of the Poll Character in Cattle" mailed free.
CHAS. S. HATFIELD, Secy, R4, Box 5, Springfield, Ohio.

INCREASED PRODUCTION GUARANTEED

We guarantee any Jersey bull we sell to increase the average production of any herd

OR MONEY REFUNDED

YOU TAKE NO CHANCES. Our guarantee insures increased production and profit. Bulls for sale, ready for service.

AYREDALE STOCK FARM
F. W. Ayer, P. O. Box 713, Bangor, Maine.

N. B. Write us the size and producing ability of your herd, and we will describe and price a bull guaranteed to increase their production.
By mentioning "Hoard's Dairyman" we will know you are asking for a guaranteed bull.

AYRSHIRES

Weymouth Farms

"Ayrshires of Quality"

All cows on Advanced Registry Test. Herd Tuberculin Tested.

We can supply you a herd sire of choicest breeding.

MARTIN A. TOWLE, Mgr.
NORTH WEYMOUTH, MASS.

World's Champion AYRSHIRES

200 head Fully Accredited, Tuberculosis Free for 3rd consecutive year. 100 records average 13,454 lbs. milk. Many cows weigh over 1400 lbs. For large, healthy, productive Ayrshires, address:
Penshurst Farm, Narberth, Pa.

Notice

A fine grandson of Finlayston, ready for fall service, for sale. Sire is Substantial of Highland, whose dam has 816 lbs. fat. Animal Husbandry Department, University of Wisconsin, Madison, Wis.

Two Registered Ayrshire Bulls

ready for service. Also a few heifers and bull calves. Herd tuberculin tested. A. R. O. breeding.
Herman Ihde, Neenah, Wis.

Pure-bred Ayrshire Cattle For Sale

Best of breeding. Calves sired by a Grandson of Brown Kate, record 1,080 lbs. butter in year.
Wm. Nisbet & Sons, Richland Center, Wis.

Ayrshire Stock

of all ages for sale. Satisfaction guaranteed
L. W. McCONNELL, Wellington, Ohio

Delchester Farms Ayrshires

Tell us your wants and we can supply them at prices you can afford to pay.

Aged cows, bred to Glenury, an A. R. son of Finlayston.

Aged cows, bred to Rena's Baron of Highland, an outstanding son of Baron's Best of Bargenoch.

Heifers, bred to these two great sires.

Young heifers.

Bull calves.

All the above stock carries some of the best producing blood of the breed with A. R. ancestry on both sides.

Herd free from tuberculosis

DELCHESTER FARMS
Edgemont, Del. Co., Penn. - Thomas W. Clark, Supt.

BLACKBURN FARM
Home of Addington's Champion

Grandfathers—Nox'emall and Finlayston.
Father—Rena's Champion—17 A. R. daughters
Mother—Addington Queen 3d—Two mature records each over 19,000 lbs.

Fully Accredited Tuberculosis Free Herd.
SEWICKLEY, PENNSYLVANIA

Ashbrook Farm Offers
Ten Heifers of this Type and Age For Sale



STRATHGLASS GARDUM SNOWDROP

Also the first prize bull calf at the Eastern States Exposition by Foulton Ambassador. This will make someone a good herd.
L. E. ORTIZ, Prop., Morris Plains, N. J.

MIDDLESEX MEADOWS FARM

OFFERS

Two outstanding AYRSHIRE BULL CALVES for sale for immediate shipment

No. 1—MIDDLESEX WHITE CHANCELLOR 25273, born September 17th, 1920.
Sire—Cavalier's Netherall Chancellor 21216, who sired the winning bull calf at this year's National Dairy Show.
Dam—White Heather of Highland 42752, who stood 2nd in the aged cow class at the same show (this year's National) and who has two good Roll of Honor records.

No. 2—MIDDLESEX MANCHESTER, born March 10th, 1921.
Sire—Auchenbrain Toreador (Imp.) 24761, record priced bull of the breed and Grand Champion at Maryland, New York, Connecticut, and New Jersey State Fairs this year.
Dam—Bida Clinton 31489, who has three A. R. records that average 11,000 lbs. of milk, 453 lbs. of fat, 4.17%; and whose two-year-old daughters will have records of over 10,000 lbs. of better than 4.00%.

Both bulls have excellent individuality, and are fit to go into any show ring and hold their own. They should develop into extra good herd sires. Prices reasonable—we KNOW you can't get as good as these two for any less money elsewhere.

A. Henry Higginson (Owner). W. R. COUTTS, (Supt.)
South Lincoln, Massachusetts

Monstone Farm Ayrshires

"Production — Size — Individuality"

Bull calves out of dams with A. R. records of 10,000 lbs. (and better) of 4% milk—Winners in show ring—Sired by Lessnessock Gem's Good Gift Imp.—Winner in show ring and proven prepotent sire—Weight 2,250 lbs. in breeding condition—Whose dam made 8,930 lbs. milk, 4.05% fat, in *36 weeks* (Scotch record)—Sire's dam 10,342 lbs. milk 365 days (Scotch record)—Prices $100 to $1,000. If you want class and a square deal, correspond with us. We can supply your wants at your prices. Nothing but the best. Herd Federally tested.
MONSTONE FARM, John Chalmers, Manager, IPSWICH, MASSACHUSETTS

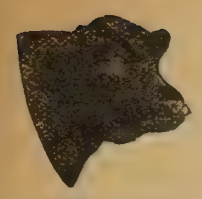


We Have For Sale

the well bred Ayrshire bull, Bargenoch "Drexel" (18474) Imported. Bred by John Logan, Bargenoch, Scotland. Born Feb. 2nd, 1919. Color white and red. Sire, Bargenoch Magnificent (9579). Sire of Bargenoch "Royal Champion" sold at Bargenoch sale, 1919, for $7,267.00.

Dam, Bargenoch Victoria (37003). Scotch record: 9,221 lbs. milk, 4.23% fat in 43 weeks; 11,070 lbs. milk, 4.50% fat in 47 weeks.

BARCLAY FARMS, John Cochrane, Manager, ROSEMONT, PENNSYLVANIA



Economy in Production ← GUERNSEYS → Quality of Products



The Guernsey is a medium sized cow that produces with greatest profits large quantities of milk and butterfat of the highest quality. She is exceptionally gentle and responds promptly to good feed and care. Send for our free literature.

THE AMERICAN GUERNSEY CATTLE CLUB, BOX H46, PETERBORO, N. H.

MR. FARMER

Kill the Scrub Bull

Now is the time to buy young bull calves from A. R. dams. Reasonable prices. Write for complete information.

BAY CLIFFS STOCK FARM
Jay B. Deutsch, Owner
Big Bay, Michigan.
Accredited Herd

Mound City Farm Guernseys For Sale

May King's Reputation of Mound City (63800) born Dec. 3, 1919.

Sire—May King's Vrangue of Ingleside (15430). Dam—Alma Ethel, three records namely 495 class G, 621 lbs. class AA and 704 lbs. class A. Alma's King of Mound City (63801) born Dec. 23, 1919. Sire—Cinderella's King of Mound City (40476). Dam—Alma Lehigh (43704). 340 lbs. fat class G, 648 lbs. fat class A. Rose's May King of Mound City (63802). Born March 19, 1920. Sire—May King's Vrangue of Ingleside (15430). Dam—Rose of Little Platt (55717) record of 667 lbs. fat in class AA now fourth in her class. Some younger bulls of equal breeding.

Chas. A. Wilkins, Platteville, Wisconsin

2 Guernsey Bulls

No. 1—A son of Bob Rilma's Monogram, whose dam and sire's dam have records averaging 887.5 lbs. fat. His dam, a daughter of Langwater Hambro, made over 400 lbs. fat in Class G., 10 months old and well grown.
No. 2 is from a 519-lb. cow and sired by a son of Lord Waukesha from a 717-lb. 13-year-old dam. They're priced right and they must be as represented. Write me for further information.

RALPH TRATT. Whitewater, Wis.

Manitowoc County Guernseys

Choice bull calves from one month to serviceable age, some from A. R. dams. Also some good grade females. For particulars write

George W. Kiel, Secy,
Manitowoc, R. 5, Wisconsin

GORDONDALE GUERNSEYS

3 bull calves offered for sale. They have excellent breeding and dams have or are making good A. R. records. Write for further information, they are priced to sell.
Herd under Federal Supervision
L. E. GORDON, JR.,
Nelsonville, Portage Co., Wisconsin

Homestead Farm

Offers for sale bulls from 11 to 13 months of age from A. R. dams. Also a few young bull calves of excellent breeding, and three A. R. cows. Write for sale list or come and see them.

JAMISON BROS., Appleton, Wis.

A May Rose Bull

He Will Suit You

He is Gumption of Koshkonong Place, ready for heavy service and as straight as a line. His sire is Anton's King Cecil, one of the best May Rose bulls in the state. His dam is Gladness of K. P. (414.68 lbs. fat Class G), a daughter of Gilt Edge of K. P. (15 A. R. daughters).

Write me today about him.

A. R. HOARD, Fort Atkinson, Wisconsin

Tilden Farms Guernseys

FOR SALE: Several typy, May Rose bulls out of A. R. cows and sired by Hope's May Rose of Maple Hill (35903), whose dam is a class leader with 776 pounds of butterfat at 3 years. Also several choice pure-bred females and a few excellent grade cows. Herd on Federal Accredited list.

TILDEN FARMS
James H. Murphy, Mgr. Delavan, Wisconsin

Pleasant Acres Guernsey Farm

Is Offering For Sale

Bull calves of May Rose breeding from 3 to 14 months old. The dams of these calves either have A. R. records or are now on A. R. test.

Clyde E. Fruit, R. 1, Waukesha, Wis

Guernsey Bulls

Special Low Prices

Guernsey bulls by Beauty Eagle's Bonny Boy 42893, he by Bonny Boy of Riverdale 29070 (noted show bull), and out of Beauty Eagle 18117, 846 lbs. fat, or a son of Glenwood's Champion 15639 (24 A. R. daughters) out of daughter of Langwater Demonstrator 16451. Splendid high producing dams. Send for sale list.

LA BELLE KNOLL FARM, Oconomowoc, Wis.

714 Lbs. Fat Average

For the first 13 tested daughters of May King's Vrangue. This includes cows in (Class AA) and Class A and heifers with credits figured as per A. G. C. C. standard. Bulls for sale from him out of May Rose cows with good A. R. records. Prices very reasonable.

Mineral Home Farm, Platteville, Wis.

Guernsey Bulls

GET A BULL, with Langwater, Pencoyd, May Rose or Haye's Cherub breeding. Prices reasonable, quality considered. Grades in limited numbers.

Fox River Valley Guernsey Breeders' Association,
Harry Leppla, Secy. Appleton, Wis.

Guernsey Females

bred to an outstanding son of Ne Plus Ultra, one of the greatest sires of the breed. Fifty head from which to select.

MEADOWLAND FARM, Litchfield, Conn.

HONESTY PRIDE OF BIRCHFIELD 44580



Sire — Langwater Warrior 26509
Dam — Langwater Honesty 49479
10,536.9 lbs. milk, 517 lbs. fat, at 2 yrs. and 5 months

We are now offering a few splendid sons of Honesty Pride of Birchfield. From cows with A. R. records or now on test. Everyone is a straight backed, growthy, vigorous youngster. These young bulls will put type and production in your herd. Prices range from $150 to $300.

Quality Guernseys **HIGHLANDS** *Tuberculin Tested*

NYE H. FREEMAN, Herdsman, Linwood, New York

Thorn Hill Farm Guernseys



Have several well bred young Guernsey bulls for sale at reasonable prices. All my own breeding. May Rose and Glenwoods, out of A. R. cows with records from 500 to 750 lbs. of fat. Write for sales list to

AUGUST ZIESING, Deerfield, Ill.

Do You Want A Guernsey Bull

Closely related to Pergue's Crescent A. R. with a record of 13,316.9 lbs. milk and over 582 lbs. fat in Class EE and dropping two calves within the year, entitling her to second place in her class? Some excellent young bulls closely related to Pergue's Crescent ready to head your herd. Write for descriptive circular, or come and see them.

Ernest W. Sass, Box H, Streator, La Salle County, Illinois

Iowanola Guernseys

We are offering

A Very Fine Son

born July 25, 1920, out of Imp. Kitchener's Express 43925, his dam has 592 lbs. of fat, and out of Franseca of Homa Della who has 12,855.2 lbs. of milk and 640.09 lbs. of fat in Class D. This is a very typy calf and should appeal to any one in need of a bull. Correspondence solicited.

MOUNTAIN BROS.,
Carrier 403, Des Moines, Iowa.

World's Championship Blood

predominates

in Falcon's Guide, 65540, dropped April 2, 1920. Sired by a son of BELLFOUNDER who produced Countess Prue, World's Champion Guernsey. Guide is medium fawn and white, nice conformation, well grown, ready for service. He is hard to duplicate at $225.00.

FALCON'S FLIGHT FARMS,
Litchfield, Connecticut.

Hillswold Farm

Shrewbury, Mass.

Registered Guernsey bull calves for sale. Dams in Advanced Registry and tuberculin tested. Prices right, and animals guaranteed to suit. **W. A. Cloues, Mgr.**

Head Your Herd

With a Son of Imp. Sailor Boy

whose daughters are now making such good records. We have a number of good ones from A. R. dams at reasonable prices. Write

John P. Crozer, Upland, Pa.

Another Real One

Bull dropped Oct. 12, 1920. Light fawn, beautifully marked; straight, deep body, level rump. Sire's 3 nearest dams average 732 lbs. fat. A grandson of Itchen May King. Dam is a very good individual and has 478 lbs. fat.

NORWIND FARM, Sheboygan, Wis.

Harbor Hill Guernseys

Masher's Galore 8572 A. R.

Increased the Average Production Credit of 12 A. R. daughters out of A. R. dams by 181 lbs. We offer his double grandson out of another daughter also making a better record than her dam.

C. H. Hechler, Superintendent
Box 30, Roslyn New York

Guernsey Bulls

Our last 9 official records average over 510 lbs. fat, including all ages. Our herd sire has 8 A. R. daughters, including one with 572 lbs. fat in Class GG. His three nearest dams average 822 lbs. fat. Send for pedigrees and prices on young bulls with this barking.

Folly Farm, Box 587, Libertyville, Ill.

Guernsey Bulls For Sale

Polly's Anchor No. 42845, born August 24, 1916, and Imp. Bluebird of Lakeside No. 45329, born June 15, 1917. Good, straight bulls, very gentle and sure breeders.

For Sale by
RADISSON FARM, ANOKA, MINN.

Guernsey Bulls

All ages, sired by a son of Beda's May King, out of dams who are daughters of Governor of the Chene (1297) P. S., Langwater Raritan, Prince Charming and others. Write for prices.

Peter Simon, Elba, Minn.

GRASSLAND FARMS GUERNSEYS

Choicely bred males and females for sale. (The natural increase of the herd.)

Herd federal tested for tuberculosis. Send for sales list. Satisfaction guaranteed.

Taconic, Conn., Litchfield Co., (C. N. E. R. R.)

The Mixter Farms

For Sale at farmers' prices,—bull calves sired by May Rose bulls and out of May Rose dams with records of 500 to 700 lbs. fat. Also a number of producing females—animals that will be a credit to any herd and prove profitable in dollars and cents.

Write us before purchasing elsewhere. Mixter Farms have bred over 3,000 pure-bred Guernseys. **J. S. Clark, Supt., Hardwick, Mass.**

300 Guernsey Females.

Langwater Traveler

Carries 50 per cent blood of Imp. King of the May. greatest bull of the breed.

His dam is Langwater Lustre, A. R. 806.10 lbs. fat, fifth cow in Class C. She is the second highest testing daughter of King of the May. His sire is Langwater Holliston, sire of Langwater Levity, sold for $6,000.00 and leading cow in Class EE. Traveler's daughters are averaging over 500 lbs. of fat with their first calves. His first daughter to freshen will be a class leader in FF. We offer some excellent bull calves by Traveler out of May Rose cows with fine records. Federal Accredited Herd.

CHICONA FARM GUERNSEYS
A. L. Gile, Prop., Chinook, Washington.

Wern Farm Guernseys

I am offering for sale 20 head of choice Grade Guernsey springers coming with first and second calf. Also have two bulls highly bred along May Rose lines just ready for service, that I will sell. For full particulars, write, wire, or come and see the stock.

Wern Farm, Waukesha, Wis.

MR. GUERNSEY BREEDER

we are offering bulls of May Rose, Glenwood and Yeksa breeding out of A. R. cows. Our records range from 450 lbs. to 864 lbs. of fat; ages from 2 months up to serviceable age for $100 and up.

Can spare a few fine females.

CORIUM FARM, F. J. Rueping, Owner, Fond du Lac, Wisconsin

GUERNSEYS FOR SALE

Pure-breds { 70 Cows; 61 Heifers and Heifer Calves; 162 Young Bulls and Bull Calves
Grades { 116 Cows; 115 Heifers and Heifer Calves

Other Live Stock: Breeders are listing with us other dairy cattle, beef cattle, horses, sheep, and swine. Write us if you want stock. We will answer promptly.

BANKER FARMER EXCHANGE.
D. H. Otis, Director. 1822 Chadbourne Ave., Madison, Wis.

DISPERSAL SALE — Locust View Farm Guernseys

35 Head Registered Guernseys, July 1, 1921

The twenty head offered by Locust View Farm successfully passed the second annual tuberculin test May 4, 1921, making the Locust View herd one of the very few accredited herds of Guernseys in the state. We have not gone in for Advanced Registry work but our stock is the kind that will make good if given a chance. I am a breeder and not a dealer and have bred every animal in my offering.

CONSIGNMENTS—R. S. Eyster and J. L. Engle of Beloit, O., will consign fifteen head to this sale. They are of Sequel breeding, which is a good producing strain. Locust View Farm is located 2½ miles north of Garfield, O., which is on the main line of the P. F. W. and C. R. R., also on the Stark Electric line running from Canton to Salem, O., trains and electric cars will be met to convey visitors to farm on morning of sale.

Send for Sale Catalog to E. G. Engle, North Benton, Ohio.

F. W. Andrews & Son, Auctioneers. H. C. McCamon, Sales Manager.
A. L. Atkinson, Clerk, Alliance, Ohio

Surplus Plant at Capital

(Continued from page 880)

notes of the newly-chartered Maryland corporation, the issue bearing 6 per cent interest and the note is payable in full in five yearly installments. Therefore, the dairyman is in reality only loaning his money to the Maryland and Virginia Dairymen's Co-operative Association with assurance of reimbursement of the principal plus interest. Funds with which to pay the 6 per cent interest on these certificates will be raised from month to month by assessing a levy on all milk marketed in the District of Columbia. A levy of one cent on the gallon will be adequate to this requirement, once the plant is in operation.

A central laboratory for testing milk of the membership of the organization is to be an additional virtue of the milk-utilization factory. The weight or measure of the milk sold will be accurately checked, the patron will be issued an official certificate of the butterfat contained in the fluid marketed, and an inspection service of milk or cream alleged to be sour will be rendered. It is in the continuity of the market that primary benefit of the plant is realized by dairymen. To illustrate, if the name of a producer is dropped from the purchasing list of the distributor through no fault of the dairyman, and the quality of his milk is intact, the association pays the market price for the fluid consigned to the utilization factory. The loss incurred, if any, is equally shared by the organization membership without deprivation, individually or collectively.

In endorsing the establishment of the first central station to be authorized in Washington, Dr. Harvey W. Wiley said: "Let us now ask what does the dairyman give for all the benefits received? First, he lends eight dollars for each cow which he milks. Second, he offers, temporarily, at least, the income of that eight dollars and forty-eight cents for each cow. Third, he gives a small fraction of the milk which he sends in for the general use of the association, himself included. The subscriber knows that the money he gives is handled by his own association, by the men he has chosen and in whom he has entire confidence. He also realizes that this is the beginning of real independence. It is a move which eventually will bring the milk producer into closer contact with the consumer."

Pine City Creamery Reports 1920 Results

In 1920 the Pine City Co-operative Creamery of Minnesota handled 386,252.7 lbs. of butterfat. Of this 207,158.4 lbs. were purchased in milk, 134,734.3 lbs. in second grade cream, and 44,360 lbs. in second grade cream. The average price paid for butterfat in milk was 69.2 cents per pound, for that in sweet cream 67.33 cents, and for second grade cream fat, 62.33 cents.

The butter manufactured sold for $119,544.35. Sales of buttermilk totaled, $80.73; of cream, $14,604.58; and of milk, $171,991.10, the total income of the creamery for the year being $319,715.96.

S. A. Striegl is secretary, Paul Dorrow, vice-president, and L. Lohnbakken, operator.

Bulletins of the Week

Cost of Canning Wisconsin Peas, by Theodore Macklin. Bulletin 327, Wisconsin Experiment Station, Madison, Wis.

Lawn Pennywort, a new weed, by A. A. Hansen. Circular 165, U. S. Dept. of Agr., Washington, D. C.

Feeding Work Horses, by W. E. Carroll. Circular 43, Utah Experiment Station, Logan, Utah.

Profitable Root Crops, by E. J. Delwiche. Bulletin 330, Wisconsin Experiment Station, Madison, Wis.

HOLSTEINS

SONS

of Sir Echo Sylvia Johanna —

⅞ Brother to the $106,000 Bull

From high bred fine individual A. R. O. cows up to 30 lbs. Several on test now. All good, straight individuals, backed by lots of milk and butter. Some are ready for service. Priced very low. Write for catalog.

(Herd Under Federal Supervision)

CHESTNUT HILL FARMS,
G. A. Burdick, Mgr., Gibsonia, Pa.

ORIGIN FARM

HORNLESS HOLSTEINS, Registered and A. R. O. Animals, all ages, for sale. Federally Tested.

GEO. E. STEVENSON, Scranton, Penna.

BULL CALF

Sire's dam, butter, 1 yr., 848 lbs.; her daughter, 1,055 lbs. Grandsire's dam, 987 lbs. at 11 yrs.; her full sister, 1,344 lbs.; another, same dam, 1,322 lbs. Dam, Miss Pietertje Alexina 3d, sister to Miss Pietertje Alexina 2d, 1,290.91 lbs. A dandy calf, priced right. Write quick to

McKAY BROS., - - CADDOA, COL

Holstein Bull Bargain

Royal Breeding—Splendid Individual

Carries 43¾% blood of Pontiac Korndyke, the greatest of all sires, 25% of blood of King Segis Pontiac and 12½% blood of King Segis. None better. 4 others ready for service. First $250.00 check gets him.

Wm. N. Osborn, Wanatah, Ind.

GET BUSY TODAY

Holstein Cattle will never be more favorably priced. River Meadow Farms are always Ready to Fill Orders for high quality cows, heifer calves and bulls of all ages. The fore-sighted will not delay. Your order, large or small, will receive the same careful attention which for thirty years has made our stock popular. A letter stating your wants will bring prices and booklet with full particulars. Write to

RIVER MEADOW FARMS, Portlandville, N. Y.

Our proposition to dealers is very attractive, and a few sections in the South East are still without representation.

A Youngster Rich in King Segis Blood

Born March 18, 1921

His sire is a son of KING LYONS, out of a 35-lb. daughter of KING SEGIS.

His dam is a 25.81-lb. daughter of JOHANNA KING SEGIS, a 40-lb. grandson of KING SEGIS.

For pedigree and price write:

G. G. Burlingame, Cazenovia, N. Y.

Choice At $100

of four yearling bulls. Sire, Joh Segis. 15 nearest dams average 30 lbs. His dam gave 710 lbs. milk in 7 days. Dams and Grandams—A. R. O. cows up to 24.74 lbs. Federally tested by all three tests.

HENRY J. KARPINSKI, R-7, Oswego, N. Y.

Good Holstein Calves

Bargains for the next 60 days. Grade heifers. Purebreds either sex. Order your Duroc-Jersey pigs to be shipped at three months old. Pairs or trios not akin.

J. C. BOLGER, Waterloo, Wis.

For Immediate Acceptance—

Three young bulls ready for service—Holsteins. No. 1—Sire a 30-lb. bull. Dam a 27.5-lb. cow. Price $300.00.
No. 2—Sire 30-lb. bull. Dam 23-lb. 3-year-old. Price $250.00.
No. 3—Sire 30-lb. bull. Dam 16-lb. cow. Price $100.00.
King of the Pontiacs breeding, well grown and good individuals. Send for extended pedigree.

R. F. JOHNSON, Assumption, Ill.

"SPOT"



Elf Aaggie Fayne Johanna
Milk 27349 lbs.
Butter 1001 lbs.

Breeders of Holstein Cattle

2 WORLD } RECORD COWS IN OUR HERD
4 STATE }

Holstein Bull Calves For Sale

A Few Exceptional Individuals Ready for Service

Write for Bull Sale List LISLE FARMS CO., LISLE, ILL.

Sir Pietertje Ormsby Mercedes 41st

is proving to be one of the very best sons of S. P. O. M. His sons and daughters have wonderfully good type. His daughters are making remarkably good 7-day and long time records.

We Have a Few Sons For Sale

from dams with mighty good records. A few are just about ready for service. One of them will suit you.

Write us for complete information.

Gustave Pabst's Hollyhock Farms

Fred J. Southcott, Manager Dousman, Wisconsin

You Certainly Understand —

what old Sir Piet and his many world's record breaking daughters have meant and still mean to the dairy industry, therefore it is not hard for any dairyman to realize what a son of

King Colantha Pietertje Ormsby (182736)

will do to his herd because, King is the

Only Bull in the World

combining in closest possible degree Sir Piet's two greatest real long distance daughters.
His dam, Colantha Pietertje Lass has three yearly record averages close to 1,100 lbs. butter her best yearly record is 1,265.75.
His two nearest dams have nine yearly record averages better than 1,000 lbs. Their best yearly average better than 1,200 lbs. butter.
His dam and sire were both 1st prize winners at several state fairs.
Come and see our bred-for-production Holsteins, the kind you can buy and sell at a profit.

PEE-CEE-BEE STOCK FARM, Beck & Peterson, Racine, Wis.



Yearly Records

Choice Young Bulls

from one to fourteen months old for sale. Sired by Cloverlawn Johanna Piebe whose five nearest dams average 1,070 lbs. of butter, 23,809 lbs. of milk a year. Herd numbers 140 head, forty cows with yearly records. State exactly what you want.

JOHN PULS. - HARTFORD, WISCONSIN

HOLSTEIN COWS

We offer for sale a number of cows, heifers, bulls and calves of all ages. Some sired by King Korndyke Veeman whose two nearest dams average over

WISCONSIN STAR STOCK FARM,

HEIFERS and BULLS

37 lbs. butter in 7 days and bred to King Sadie Vale Walker who is a son of the youngest 29-lb. cow in the world. Come and see them or write to

ED. M. SCHULTZ, Hartford, Wis.

Cows and Heifer

A Few Good Bulls

Because I am overstocked, I am offering some very good registered females for sale. They either have A. R. O. records or are from A. R. O. dams.

Can also offer some excellent young bulls by a 33-lb. sire and from A. R. O. dams with records up to 28 lbs.

Every animal sold is guaranteed to be as represented.

Write or come and see for yourself.

J. D. McDonald West Salem, Wis.

1000---HERD---1000

Quality Holsteins

GRADES AND PURE-BREDS

Just now we have a splendid lot of grade heifers. Write for our pure-bred bull list.

Jefferson County Holstein-Friesian Breeders' Association,
A. F. Gafke, Secretary, Jefferson, Wis.

I-N-V-E-S-T-I-G-A-T-E—Pure-bred Holstein bulls sired by Wisconsin 3-year-old at National Dairy Show 1920. Herd tuberculin tested. Pure-bred Duroc pigs sired by Great Wonder Sensation.

RIDGEHURST STOCK FARM,
Glen C. Ramsey Ft. Atkinson, Wis.

Serviceable Bulls For Sale

Sired by Pabst Pontiac Hengerveld, a son of King Pontiac Champion from Pabst Hengerveld Colanthus (31.5 lbs. butter in 7 days, 1,057 lbs. in a year.

These are nicely marked, well grown youngsters out of good producing dams. Several are ready for service, others are younger.

Write today.

John Alexander, Baraboo, Wis.

Whitehurst Farms

BULLS FOR SALE FROM SEMI-OFFICIAL DAMS. Priced Right.

A. F. Randolph, Prop., Canton, Ill.

Send For Our Bull Sales List

Three bulls of serviceable age—four others will be old enough for service in a month or two—others three months old and older. Almost all of them sired by SIR ORMSBY BEAUTY PONTIAC SEGIS, the son of a 37-lb., 1112-lb. three-year-old daughter of KING SEGIS PONTIAC COUNT.

If it will be of an accommodation to the purchaser, we will accept a six months' note in payment, WITHOUT INTEREST, or will accept payment on installment plan basis.

Pinehurst Farms Co., Sheboygan Falls, Wis.

$100 to $200 Buys A Bull From A Good Record Dam

Am offering several for those prices sired by a 26-lb. bull and from A. R. O. dams with records up to 25.46 lbs.

Write at once. They'll go fast.

H. W. Crawford, R. 5, Campbellsport, Wis.

ORMSBY BULL - - Born Feb. 28, 1919
Sire, King Ormsby Pontiac De Nijlander, whose two nearest dams average over 30 lbs.
Dam, Aaltje Hengerveld Tritomia Segis. A. R. O. 17 lbs. at 3 yrs., next dam 29.68 in 7 days. Color light, fine individual. Ready for service. Price $300.
Fairview Stock Farm Whitewater, Wis., W. G. Marshall, Prop.

Fairhurst Herd

On the Accredited List

We offer young bulls, fine individuals and well grown. Sired by 33-lb. bull and from dams with records up to 30 lbs. Write for pedigree and price.

KITTLE BROS., Holland, Ohio.



The Count-Piebe Combination



KING SEGIS PONTIAC COUNT
"The Marvel of All Sires"
Whose daughters have broken more World's Records than the daughters of any other sire.

PIEBE LAURA OLLIE HOMESTEAD KING
"The Present Day Sensation"
The only bull in the world with five 20,000-lb. two-year-old daughters.

Will Triple Your Milk Check Because It Will Put Production Into Your Herd

And more than triple the price you are getting for your calves. Because it combines individuality with production, it has given us thirty cows at Arden Farms that have **each produced $1,000 worth of milk per year. Do you want that kind?**

We Offer
Sons of "Count" from Daughters of "Piebe"
Sons of "Piebe" from Daughters of "Count"

We have the finest line of young bulls we have ever raised at ARDEN FARMS, priced in accordance with present financial conditions. LIBERAL TERMS GIVEN IF DESIRED.

J. M. Hackney, 602 Merchants Bank Building, St. Paul, Minnesota

MINNESOTA HOLSTEINS



MISS KORNDYKE AKKRUMMER ORMSBY
30-lb. 4-year-old, 39.67 lbs. butter at full age.
(Owned and developed by J. B. Irwin.)

"The Home of the Ormsbys."

BARGAINS IN BULLS

A few richly bred choice young bulls ready for service,

on the bargain counter for a clearance sale.

Let us give you a good individual well bred at a very low price while they last. Tuberculin tested. Guaranteed in every respect and ready to ship. Come and see them.

Woodlake & Clover Farms,
JOHN B. IRWIN, Sta. F, Minneapolis, Minn.

Registered Cows and Heifers

We have on hand more females than we usually carry so are able to offer some good ones for sale. A number have A. R. O. records and most of them are from tested dams. Bred to a yearly record sire and themselves backed by yearly producers.

Address correspondence to Axel Hansen, formerly with John B. Irwin.

MINERAL SPRINGS STOCK FARM, - - SAVAGE, MINNESOTA
Stuart—McIntyre—Hansen, Owners.
Address correspondence to Axel Hansen, formerly with John B. Irwin.



Lola Segis Pontiac Homestead

the highest record bull in southern Minnesota, heads our herd. His sire, Piebe Laura Ollie Homestead King, has more daughters that as 2-yr.-olds have produced 20,000 lbs. milk in a year than any other. His dam, a 34-lb. 4-year-old daughter of King Segis Pontiac Count, has 3 records averaging 33 lbs. and has made over 1,000 lbs. in 1 year. We have a few serviceable bulls and younger from A. R. O. dams for sale.

Clover Lea Farm, W. W. Walker, Owner. Austin, Minnesota



Sir Walker Segis Homestead

The best show bull and son of the great bull, PIEBE LAURA OLLIE HOMESTEAD, out of a "COUNT" daughter, BEAUTY BEETS WALKER SEGIS, world's greatest heifer, with two yearly records over 25,000 lbs. milk and 1,000 lbs. butter in heifer form, and a seven-day record of 35.03 lbs. butter from 730 lbs. milk.

We offer several choice bulls, one month to a year old, out of high yearly record and A. R. O. cows, at very reasonable present day prices. Pedigrees and photos will be sent.

A. J. LASHBROOK, - - Northfield, Minnesota

Serviceable Sons of Dutchland Aaggie Tidy Prince

I have three of these youngsters for sale, all ready for service and from A. R. O. granddaughters of S. P. O. M. Their sire is from a sister to Tidy Abbekerk Prince and already has a good list of tested daughters, including one above 36 lbs.

Write today for complete information.

E. J. BROSIOUS, - - Stillwater, Minn.

Grandsons of Sir Pietertje Ormsby Mercedes

The sire is Sir Pietertje Ormsby Mercedes 22d, a son of Minnesota's first 1000-lb. cow. These bulls are all nicely marked, straight top lines. Very good individuals from good A. R. O. dams.

For pedigrees and prices, write

O. J. GROVER, - GLYNDON, MINN.

Grandsons of

Duchess Skylark Ormsby and of S. P. O. M. 38th

Good Ones — From Yearly Record Dams. Priced to Sell.

POPLAR HOLLOW STOCK FARM,
Bertram D. Scott, Prop., Richfield Station
Minneapolis, Minn.

Registered Holsteins

For Sale—Four heifers from good sires and tested dams. Bred to our 34-lb. sire, Count and Piebe breeding. Are good individuals, priced $1,175. Herd under State supervision.

BLACK & WHITE STOCK FARM, Melrose, Minn.

Get A Calf

We have a grand bunch of youngsters on hand. Come and pick out a calf while you have a big choice. Grow him to suit you. Saves you money and we are selling them as cheaply as we can. Show calves that are backed by generations of official testing and careful breeding. Sons of DUTCHLAND CREAMELLE COLANTHA LAD No. 165049. His yearly daughters all average over 834 lbs. of butter at 26 months of age.

GRAHAMHOLM FARMS,
H. R. Searles, Mgr., Rochester, Minn.

Choice Ormsby Bulls

From good record dams. Priced from $150 to $700. A few higher. Tell us your wants, or better still, come and see us.

MANKATO HOLSTEIN FARMS
Marlow & Randall, Mankato, Minn.

Bull Calf

advertised last week is sold. Here is another good one ready for light service. Sired by a 30-lb. bull. Dam a 14-lb. 2-year-old who will be tested again next spring. Priced so reasonable that you can't afford to be without him. $150.00 for immediate sale.

V. R. Holmes, Anoka, Minn.

COME TO BISCAY

for your next purchase of pure-bred or grade Holstein cattle, mature or young stock. Large selection, also a few select male calves to offer. Located near station.

BISCAY SALES CO., BISCAY, MINN.

A LINE-BRED "41st" BULL CALF FOR SALE



SIR PIETERTJE ORMSBY BESS BURKE
Born Dec. 20, 1920

A real showy calf, straight as a line and of ORMSBY type

His dam and sire's dam are both daughters of SIR PIETERTJE ORMSBY MERCEDES 41ST, the only son of Spring Brook Bess Burke. His dam is on yearly test as a junior two-year-old and bids fair to go 800 lbs. The sire's dam made 28.93 as a 3-year-old and 26.82 as a 2-year-old.

THIS CALF WILL GROW INTO MONEY —SEND FOR PHOTOS, PEDIGREE AND FULL PARTICULARS.

E. C. Schroeder Farms

(Under Federal Supervision)

MOORHEAD, Minnesota

"DUKE"

The only place you can buy sons of serviceable age sired by DUKE PIETERTJE KORNDYKE ORMSBY

The bull selling at the last Minnesota state sale for $33,000.00 is from the herd where he stood for three years prior to the sale. "Duke's" dam now has three records above 1,000 pounds, the last one was 1,190 pounds.

Now is the opportune time to buy one of these bulls as their sisters will be given every opportunity. Get a son now and be in line. Clean bulls from a clean herd. Prices reasonable. Write

EDW. H. ULRICH, Biscay, Minn.

REGISTERED BULLS

FROM TESTED DAMS

Sired by a 30-lb. son of Colantha Johanna Lad and a 26½-lb. son of Laura Piebe Ollie Homestead King. Well marked, straight individuals from two months to 2 years old. Priced to suit present conditions.

GEO. H. ELWELL,
Minneapolis, Minnesota.

RICHLY BRED

HOLSTEIN BULL CALVES

out of A. R. dams and sired by our two richly bred herd sires — **King Piebe Ormsby Mercedes**, a 35-lb. son of Sir Korndyke Bess and every dam in pedigree over 22 lbs. and **King Pietertje Mercedes Ormsby**, a son of Sir Pietertje Ormsby Mercedes and out of a 19-lb. senior two-year-old dam.

Herd tuberculin tested. Write for information or visit herd.

P. FROST SPAULDING FARM CO.
C. L. Spaulding, Mgr., Warren, Minn.

A 28-lb. Serviceable Bull

His dam at 11 years, 5 months made 28 lbs. butter and in 305 days, 875 lbs. from 19,360 lbs. milk. She is a granddaughter of Hengerveld De Kol. His sire is a 30-lb. 1,000-lb. grandson of Sir Fayne Concordia by a grandson of S. P. O. M. He is nearly white and a bargain at $800. Write for our bull circular.

Flecks' Farms, Faribault, Minn.

Holstein Bulls

At Farmers' Prices

We are not in the game to get rich but to help promote the breed by offering pure-bred bulls at the lowest prices, enough to cover raising. Write for prices and descriptive list. The Ormsby kind.

RAMSEY COUNTY HOME,
J. E. McMahon, Supt., North St. Paul, Minn.

YOUNG H.-F. BULLS

FOR SALE

From one year to a week old. Bred by 30-lb. sire and 44-lb. grandsire.

G. A. UITDENBOGERD, Rosemount, Minn.

THE TRAVERSE HERD

We have what you want in

BULL CALVES

the large, fine growthy type, guaranteed right in every way. They are from high producing A. R. O. ancestors. Dams' records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.

Traverse City State Hospital, - Traverse City, Michigan

The Pontiac Herd

"Where the Champions come from"

Offer Bull Calves sired by sons of *Pontiac Korndyke, Hengerveld De Kol, Pontiac Dutchland, or Admiral Walker Pietertje.*

Do you want a Pontiac in your herd?

PONTIAC STATE HOSPITAL, Pontiac, Mich.

Holstein Bulls

At Reasonable Prices

Breeding considered from 3 months to 18 months of age. From both tested and untested dams and sired by some of the best bulls of the age, such as

King Pietertje Ormsby Piebe 4th
King Pietertje Ormsby Piebe 2nd
Colantha Wayne Ormsby
Wolfspring Sethje Mooie Pontiac

Write for prices and descriptive list
Herd under Federal Supervision

STATE HOSPITAL AND COLONY FOR EPILEPTICS
Woodward, Iowa.

Bull of Ormsby Breeding

We offer Chief Segis Lyons Ormsby No. 280751 Born March 3, 1919, a grandson of Sir Pietertje Ormsby Mercedes 41st. His sire a 33-lb. bull; his dam a granddaughter of Sir Pietertje Ormsby Mercedes, who had more 1,000-lb. daughters than any other sire in the world. Also some splendid bull calves ready for service, from A. R. O. dams. Herd tuberculin tested. Write for prices.

Schermerhorn Farms, Mason City, Iowa.

Son of Lieutenant Rag Apple

from a daughter of Admiral Urnagel Burke a real combination, light in color, priced right, serviceable. State and Federal accredited herd.

BLUEBELL FARM, Riceville, Iowa.

HOME FARM HOLSTEIN FRIESIANS

LIGHT COLORED 800-lb. BULL

Dam—a 4-year-old daughter of Sir Sadie Cornucopia, finishing a yearly record of over 800 lbs. She made 731 lbs. at 3 years. Sire—Woodcrest Sir Clyde, son of Alma Clyde (33 lbs. and 970 lbs.), and sire of 16 20-lb. 2-year-old daughters and two over 30 lbs. Bull was born May, 1920, is ¾ white and Federally tested. Reasonable terms.

W. B. BARNEY & SONS Chapin, Iowa

Ready For Service

GOOD INDIVIDUAL

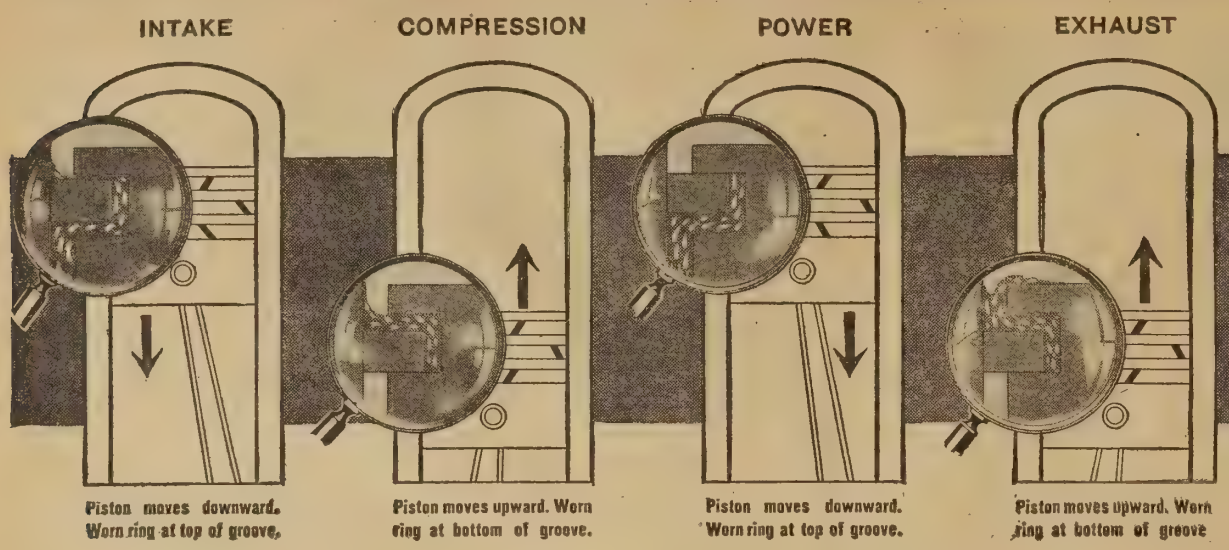
His dam is just finishing a record of over 700 lbs. butter from over 17,500 lbs. milk at 2 years, 6 months. His dam's dam made 1,117 lbs. butter from 24,648 lbs. milk as a junior 4-year-old. At 7 years she made 34 lbs. butter from 742 lbs. milk in 7 days and 1,030 lbs. butter from 24,000 lbs. milk in 305 days.

Sire's dam made 27.86 lbs. butter from 658 lbs. milk in 7 days; 705.9 lbs. butter from 16,820 lbs. milk in 272 days, carrying calf 215 days.

He is a double grandson of SIR JOHANNA FAYNE, who now has 25 daughters averaging over 20,000 lbs. milk in a year, 15 of them in heifer form.

Write for pedigree, photo and price

IOWANA FARMS, (Herd Under Federal Supervision) Davenport, Iowa



NO

Heavier Oil can never replace metal worn away

YOU are sometimes advised: "As your automobile engine becomes worn use a heavier oil." Heavier oil, some people will tell you, provides a better seal for clearances enlarged through wear.

But first consider these facts:

As your car grows older, metal is worn away by the wear between moving surfaces. Will heavier oil replace this lost metal? NO.

The oiling system of your engine was designed specifically to circulate lubricating oil of a certain body. Will this oiling system—pump, screen, oil pipes, etc.—distribute as effectively a heavier oil? NO.

Any oil, whether heavy or light, when used in worn engines will work past the pistons and piston rings and enter the combustion chambers, forming carbon. The heavier the oil, the more aggravated will usually be the carbon deposit.

What are the wise and only proper measures to take when your engine is badly worn? Obviously, have the bearings adjusted, have new pistons and piston rings fitted, and *continue to use the correct grade of oil for which your engine and oiling system were designed.*

WORN RINGS
cause Carbon Deposits

Worn piston rings move perceptibly upward on the down stroke of the piston; the oil accumulates under and behind the rings. Then as the piston moves upward the rings move to the bottom of the recess, forcing the oil by the rings. This is sometimes termed "oil pumping." The oil ultimately reaches the combustion chamber causing carbon deposit.

This whole subject of engine wear and heavier oils is dealt with in our folder, "Lubrication—Its Relation to Engine Wear." Rather than invite additional repairs and trouble through the use of too heavy oil, it will pay you to write to our nearest Branch for a copy of this paper.

* * *

THE CORRECT OIL for your car—during its entire life—is specified by the Gargoyle Mobiloils Chart of Recommendations.

If your car is not listed in the partial Chart shown here, consult the complete Chart at your dealer's, or send for booklet, "Correct Lubrication," which lists the correct grades of Gargoyle Mobiloils for all automobiles, tractors and motorcycles.



Mobiloils

A grade for each type of motor

Chart of Recommendations

(Abbreviated Edition)

How to Read the Chart:

THE correct grades of Gargoyle Mobiloils for engine lubrication of both passenger and commercial cars are specified in the Chart below.

A means Gargoyle Mobiloil "A"
B means Gargoyle Mobiloil "B"
E means Gargoyle Mobiloil "E"
Arc means Gargoyle Mobiloil Arctic

Where different grades are recommended for summer and winter use, the winter recommendations should be followed during the entire period when freezing temperatures may be experienced.

The recommendations for prominent makes of engines used in many cars are listed separately for convenience.

The Chart of Recommendations is compiled by the Vacuum Oil Company's Board of Automotive Engineers, and represents our professional advice on correct automobile lubrication.

NAMES OF AUTOMOBILES AND MOTOR TRUCKS	1921		1920		1919		1918		1917	
	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
Allen	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
American Beauty	A	Arc.	A	Arc.	...	...	...	...	...	...
Apperson (8 cyl.)	A	A	A	A	A	A	A	A	A	A
" All Other Models	...	...	...	...	...	...	A	A	Arc.	Arc.
Bell (York, Pa.)	A	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc.
Biddle	...	...	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Brewster	B	A	B	A	B	A	B	A	B	A
Briscoe	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Buick	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Cadillac	A	A	A	A	A	A	A	A	A	A
Chalmers	A	A	A	A	A	A	A	A	A	A
Chandler Six	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Chevrolet (8 cyl.)	...	...	...	...	A	A	A	A	A	A
" (Model 490)	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" All Other Models	A	Arc.	A	Arc.	A	Arc.	A	Arc.	...	...
Cleveland	A	Arc.	A	Arc.	...	...	...	...	...	...
Collier	Arc.	Arc.	Arc.	Arc.	A	Arc.	A	Arc.	A	Arc.
Crawford	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Cunningham	A	A	A	A	A	A	A	A	A	A
Dart (1 ton)	...	...	A	Arc.	Arc.	Arc.	A	Arc.	...	...
" (1½ ton)	A	Arc.	...	...	...	...	...	...	...	...
" All Other Models	A	A	A	A	A	A	A	A	A	Arc.
Davis	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Dodge Brothers	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Erie (Erie, Pa.)	A	A	A	A	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Essex	A	A	Arc.	Arc.	...	...	...	...	...	...
Ford	E	E	E	E	E	E	E	E	E	E
Franklin	A	A	A	A	A	A	A	A	A	A
Grant (6 cyl.)	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
" (Com'l) (Model 12)	...	...	...	...	A	Arc.	...	...	...	...
" " All Other Mods.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	...	...	...	...
Hanson Six	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	...	...	...	...
Harroun	...	...	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Haynes (6 cyl.)	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
" (12 cyl.)	A	A	A	A	A	A	A	A	A	A
Hollier (6 cyl.)	...	...	Arc.	Arc.	Arc.	Arc.	A	Arc.	A	Arc.
" (8 cyl.)	...	...	...	...	A	A	A	A	...	...
Holmes	A	A	B	A	...	...	...	...	...	...
Hudson Super Six	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Hupmobile	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Hurlburt (3½ ton)	A	A	A	A	A	A	A	A	A	Arc.
" (5 ton)	A	A	A	A	A	Arc.	A	Arc.	A	Arc.
" All Other Models	A	A	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Indiana (1 ton)	...	...	...	...	A	Arc.	A	Arc.	A	Arc.
" (1½ ton)	A	Arc.	A	Arc.	...	...	...	...	...	...
" (2 ton)	A	A	A	A	A	A	A	A	A	A
" (5 ton)	A	A	A	A	A	Arc.	A	Arc.	A	A
" All Other Models	A	A	A	A	A	A	A	A	A	Arc.
Jones	...	...	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc.
Keystone	A	Arc.	A	Arc.	A	Arc.	...	...	...	...
Kissel Kar (12 cyl.)	...	...	...	...	...	...	A	A	A	A
" All Other Models	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
LaFayette (Indianapolis)	A	A	A	A	...	...	...	...	...	...
Lexington (Continental Eng.)	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Liberty	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Lincoln	A	A	...	...	...	...	...	...	...	...
Locomobile	A	E	A	E	A	E	A	E	E	E
McFarlan	A	A	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Madison (6 cyl.)	...	...	...	...	A	Arc.	A	Arc.	A	Arc.
" (8 cyl.)	...	...	...	...	...	...	...	...	A	A
Maibohm	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Marmon	A	A	A	A	A	A	A	A	A	A
Maxwell	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Mercer	A	A	A	A	A	A	A	A	A	A
Mitchell	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
M. H. M.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Nash	Arc.	Arc.	A	Arc.	A	Arc.	A	Arc.	...	...
" (Model 671)	...	...	...	...	...	...	A	...	...	...
" (Commercial) (Quad)	A	A	A	A	A	A	A	...	...	...
" (1 ton and 2 ton)	A	Arc.	A	Arc.	A	A	Arc.	...	...	...
National (6 cyl.)	A	A	A	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (12 cyl.)	...	...	...	...	A	A	A	A	A	A
Nelson	A	A	A	A	A	A	A	A	A	A
Noble	A	A	A	A	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Noma	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	...	...	...	...
Old Hickory	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc.	A	Arc.
Oneida (5 ton)	A	A	A	A	Arc.	Arc.	Arc.	...	...	...
" All Other Models	A	A	A	A	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Oshkosh	A	Arc.	A	Arc.	A	Arc.	...	...	...	...
Overland	A	Arc.	A	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Packard	A	A	A	A	A	A	A	A	A	A
Parker	A	A	A	A	Arc.	Arc.	...	...	...	...
Paterson	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Peerless (8 cyl.)	A	A	A	A	A	A	A	A	A	A
" All Other Models	...	...	...	...	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Phianna	A	A	A	A	A	A	A	A	A	A
Pierce-Arrow	A	A	A	A	A	A	A	A	A	A
" (Com'l) (5 ton)	A	A	A	A	A	Arc.	Arc.	Arc.	Arc.	Arc.
" " All Other Mods.	A	A	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Porter	...	A	Arc.	A	Arc.	...	...	...	...	...
Premier	A	A	A	A	A	A	A	A	A	A
Rainier (1½ ton)	Arc.	Arc.	Arc.	Arc.	Arc.	...	...	...	...	...
" (3½ ton)	A	A	...	...	...	...	...	...	...	...
" All Other Models	Arc.	Arc.	Arc.	Arc.	A	Arc.	A	Arc.	A	Arc.
Reo	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
ReVere	A	A	A	A	A	A	A	Arc.	...	...
R & V Knight	B	A	B	A	...	...	...	...	...	...
Sanford (5 ton)	A	A	Arc.	Arc.	Arc.	Arc.	A	A	...	...
" All Other Models	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	A	A	Arc.
Saxon	A	Arc.	A	Arc.	E	E	E	E	E	E
Seneca	A	Arc.	A	Arc.	A	Arc.	Arc.	Arc.	...	...
Signal (Model R)	A	A	A	A	A	Arc.	Arc.	Arc.	...	...
" All Other Models	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Singer	...	...	A	A	A	A	...	...	A	A
Standard Commercial (Detroit)	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Stearns-Knight	B	A	B	A	B	A	A	A	A	A
Stephens	A	A	A	A	A	A	A	Arc.	Arc.	Arc.
Sterling	A	A	A	A	A	Arc.	A	Arc.	A	Arc.
Studebaker	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Stutz	A	A	A	A	A	A	A	A	A	A
Templar	A	A	A	A	A	A	A	A	...	...
Ward LaFrance	A	A	A	A	Arc.	Arc.	...	...	...	...
White (16 valve)	...	...	...	...	A	A	A	A	A	A
" (3 and 5 ton)	A	A	A	A	A	A	...	...	...	...
" All Other Models	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Willys-Knight	B	A	B	A	B	A	B	A	A	A
Willys Six	...	...	...	...	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Wilson	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Winton	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Prominent Makes of Engines										
Beaver (Models J-JA-JB and JC)	A	A	A	A	A	A	A	A	...	...
" All Other Models	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Buda (Models ATU-BTU-CTU-DTU-ETU-FTU-HU-HTU-IU-ITU-XU-XTU-YU-YTU	A	A	A	A	A	A	A	A	A	A
Buda All Other Models	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Continental (Model B2)	A	A	A	A	A	A	...	...	...	...
" (Model T)	...	...	...	...	A	A	A	Arc.	A	Arc.
" All Other Models	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Falls	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
G. B. & S. (Model AA)	A	A	A	A	A	A	...	...	...	...
" All Other Models	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Herschell-Spillman (Models JU-S-V and VA)	...	...	...	...	A	A	A	A	A	A
" All Other Models	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Hinkley	A	A	A	A	A	A	...	...	...	...
Lycoming	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Northway (Model 108)	...	...	...	...	...	...	...	...	Arc.	Arc.
" All Other Models	A	A	A	A	A	A	A	A	A	A
Rochester (Duesenberg)	A	A	A	A	...	...	...	...	...	...
Waukesha (Models CU-DU-EU & FU)	A	A	A	A	A	A	...	...	...	...
" All Other Models	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Weidely	A	A	A	A	A	A	A	A	A	A
Wisconsin (Models Q & QU)	...	...	...	...	A	Arc.	A	Arc.	A	Arc.
" All Other Models	A	A	A	A	A	A	A	A	A	A

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HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING



Fort Atkinson, Wisconsin Volume LXI, No. 23 June 24, 1921

Cream Calves and Pigs





A Missouri Farmer writes:

"I bought a De Laval Separator and in 12 months I sold $400 worth of cream, and received $150 for calves and $270 for pigs which I raised on the skim-milk. I can truthfully say the De Laval Separator is the most profitable investment I have made for some time."

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The De Laval Separator saves the most cream and gives you the greatest cash income. It provides skim-milk in the best condition for feeding calves, pigs and poultry. And it gives this excellent service over the longest period of time. That's why there are more than 2,500,000 in use the world over. It is the best and in the long run the cheapest.

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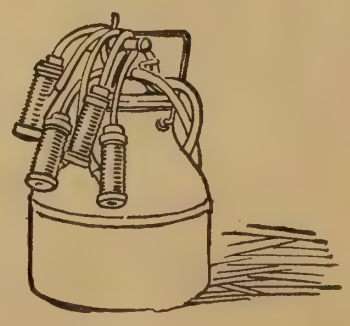
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HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING

Volume LXI — FORT ATKINSON, WIS., JUNE 24, 1921 — Number 23

WORKING COWS IN WESTERN WASHINGTON

J. B. BAIN, District of Columbia

YES, they "sure do" work cows in Western Washington. They work them in summer, they ork them in winter, and all through year. But then, a well bred cow es to work and give milk when she obtain the feeds she likes and ich at the same time have the milk-ducing nutrients in them.

A bulletin published recently by Bureau of Animal Industry of the ited States Department of Agri-lture gives the results of a two-ar study of the requirements for oducing milk in a dairy section out 70 miles north of Seattle. Ac-rding to this bulletin Western ashington is a real cow country nen it comes to producing large antities of milk.

In past ages the lowland parts of is section were covered by the sea, t the water has gradually receded d dikes have been constructed to ep back the water. The fertile soil well adapted for farming, and the imate is ideal for producing an undant pasturage during many onths of the year.

Most of the cattle in this section e Holsteins, and as they graze rough the rich pastures the sight of em together with the dikes and nu-erous windmills dotting the land-ape recalls to the observer the de-riptions of this breed in its native untry.

What is in 100 Pounds of Milk?

The object of the study was to find t what was required to produce 100 s. of milk. In August, 1917, the epartment sent a representative to Western Washington to determine hrough a study of the dairy farms he amount of feed and labor required nd other expenses incurred in the roduction of milk. The representa-ve began visiting as many dairymen s he could in a month, spending a hole day at each place. While he as on a farm he observed the quan-ity of feed fed, as well as the num-er of hours of labor required to feed nd milk the herd, and to care for the ilk. During the first year, the field an visited 17 farms regularly and uring the second year 18 farms re-eived monthly visits from him.

The average cow in the local ow testing association produced ,833 lbs. of milk in a year, or just 67 lbs. less than 4 tons. It required 9.4 lbs. of grain to produce 100 lbs. f milk in winter. The cows also eceived 92.9 lbs. of hay or other dry oughage, and 143.3 lbs. of succulent eed for 100 lbs. of milk produced in vinter.

For several months of the second ummer some of the herds were al-owed to graze in meadows where the lover or velvet grass stood a foot high —a stand large enough to be cut for ay. Timothy and clover grow very ank due to the fertile soil, cool veather, and abundance of moisture.

It is the custom to allow the cows to graze over the meadows from one to three weeks in the spring since this method supplies good feed for the cows until the permanent pastures have obtained a start. This practice also benefits the hay crop, for cropping it back produces a hay which is not so coarse. During the summer, therefore, the cows received in addition to the 5.2 lbs. of grain, only 7.5 lbs. of dry roughage and 40.4 lbs. of succulent feed for 100 lbs. of milk.



HOME OF A SKAGIT COUNTY HERD

One man milking a string of twenty-five cows of necessity spends a great deal of his time in this barn. Plenty of sunlight and fresh air help the milker as well as the cows.

The Herdsman Knows Cows

These Western Washington dairymen know that a herdsman who is a good feeder and milker is the first essential for producing large quantities of milk at low cost, and from $75 to $125 a month with board included is often paid to such men. Many of the larger dairies are handled by men who follow milking as a trade. Most of these men are Scandinavian or Swiss descent. They surely do like cows and know how to handle, feed, and milk them.

The Chimes of the Swiss Milkers

Many of the Swiss milkers have their set of Swiss chiming bells which they carry with them wherever they go, just as a teamster carries with him his strings of ivory rings and other trappings to put on the horses he drives. The chiming bells vary considerably both in size and weight. It takes some time for a cow to become accustomed to carrying a large bell. In the spring, when the cows go out to pasture, the Swiss milker puts the smallest bell on the cow which he selects to carry the largest bell during the season. In a few days when she has become accustomed to carrying that bell, he removes it and puts a slightly heavier bell in its place. He then puts the smallest bell on another cow. In a few days he puts a slightly heavier bell on the first cow and places the bell she wore on the second cow and gives the smallest bell to a third cow. In this manner the cows become accustomed to carrying the heavier bells. When the Swiss herdsman can hear the soft, sweet music of his native home as it comes floating back on the cool, summer night air from the cows as they graze through the green pastures—then he is happy.



THE SIGN OF THE SILO IN WESTERN WASHINGTON

Succulent roughage is indicative of profitable dairying. Oats, wheat, vetch, and clover grow in profusion on the fertile flats of this "cow country" and make excellent silage.

What is a String of Cows?

The cows are handled on the "string" plan whereby each man has a certain number of cows in his string which he feeds, milks, and cares for entirely. During the first year each man handling a string had 32.8 cows in his string, while there were 28.8 cows in the average string during the second year. These professional milkers do no other work around the farm but give their entire time to the dairy, for it takes time to milk the string of 28 to 32 cows. The men are very proficient milkers and excellent dairymen. They have learned that the dairy cow is a creature of habit and recognize the value of following regular schedules for doing their work. At one farm the fieldman stated that a person could have set his watch quite accurately by noting which cow the herdsman was milking, so closely did the herdsman keep to the regular schedule. At two of the farms the men were at the barn and ready to milk at 2 o'clock in the morning. On other farms from 2:30 to 4 o'clock were the hours in vogue for starting the day's work. Yes, these men can milk cows. No one denies that fact after seeing them milk. Milkers have been known to milk a double string regularly and the owner paid them two men's wages for doing it. Another instance is known where one man milked 42 cows twice daily for a month, while another man, for more than a week, milked 22 10-gallon cans full a day.

It is a "Wet" Country

I have intimated that this section is a "wet" country during certain months of the year. It is so "wet" that even the cows get "full", but it is a milk jag. In summer a herdsman milks from 10 to 14 10-gallon cans of milk from a string. In winter a string produces from 6 to 10 cans of milk.

In winter it required 1.9 hours of human labor and .01 hour of horse labor to produce 100 lbs. of milk, while in summer 1.3 hours of human labor and .015 hour of horse labor were required. The cost of hauling and grinding concentrates amounted to $0.022 in winter and $0.003 in summer for each 100 lbs. of milk. In summer it required 0.025 of an acre for pasture and 0.1 of a pound of straw for bedding to produce 100 lbs. of milk, while in winter 9 lbs. of bed-

(Continued on page 925)

AMERICAN FARM BUREAU NOTES

THE American Farm Bureau Federation has more than a million members and is growing at the rate of 50,000 members a month. In the last six months 307,713 new soldiers of the soil have been recruited in the Farm Bureau army. At the permanent organization meeting of the American Farm Bureau Federation in Chicago on March 4, 1920, 28 states affiliated themselves with the national organization; 15 states have joined up since then. The steady growth of the organization is shown as follows: March 4, 1920, 456,000; Dec. 1, 1920, 744,401; June 1, 1921, 1,052,114.

Explaining the work of the Department of Organization, of which he is director, Secretary Coverdale says:

"Nearly all the organization work is being done by the states themselves. The American Farm Bureau Federation has recommended a few organization men to states asking for assistance.

"We find that the farmer is hopeful in spite of the deflation to which he has been subjected. He has full faith in the Farm Bureau because it is his own organization. He is joining as readily now as in the days of better prices. He tells us that he is convinced that the American Farm Bureau Federation will look after his best interests. He cites first the commodity marketing committee plan developed by the American Farm Bureau Federation, with the U. S. Grain Growers, as the first new member of the farmers' economic family. Next, he points with pride to the increasing influence of organized agriculture in the halls of Congress. He applauds the Farm Bureau method of presenting an unbiased case based on unquestionable economics. The public in general is beginning to respect the farmer's viewpoint, and for this service also the producer is grateful. In full recognition of the fine, constructive work which the Farm Bureau has already done, the future is all ahead of it."

A state-wide membership drive, re-organization on a three-year basis with a $10 membership fee, and concentration of all organization work in the state federation offices were the essential features of the plan adopted by the executive committee of the Wisconsin Farm Bureau Federation on May 27. In addition to conducting campaigns in the 14 counties already having farm bureaus, organization will be completed in 20 other counties during the summer. Farm bureau members from Illinois, Iowa, and Minnesota will assist in the Wisconsin membership drives. The plan of re-organization adopted by the Wisconsin Farm Bureau Federation was presented by E. B. Heaton of the Department of Organization of the American Farm Bureau Federation.

The Department of Transportation is now housed in the general offices of the American Farm Bureau Federation at 58 E. Washington St., Chicago. Assistant Traffic Manager C. B. Hutchings and Rate Clerk O. W. Sandberg are devoting all their time to farmers' transportation problems. The department's program of work includes the handling of rate adjustments, whereby farmers are aided in reaching all markets to which they are naturally tributary on a parity, and also in maintaining a service division to handle such problems as train schedules for live stock shipments, distribution of cars, etc.

The recommendation of the special committee of the American Farm Bureau Federation that the Wilson Dam at Muscle Shoals, Ala., be completed by the government and that the air-fixation nitrate plants be placed under the direction of a government-owned corporation which may operate the plants or maintain them ready for operation, but with strict regulations of prices for commodities produced, has been approved unanimously by the executive committee. The Wilson Dam, which was started during the war, is about one-third completed. Work cannot be resumed until Congress makes an appropriation of approximately $10,000,000. According to the report of the committee, "the Muscle Shoals project is predominantly neither an engineering nor a chemical problem; it is a business problem which is a concern to the people in all states of the nation; the world is running behind in the production of nitrogen; the price of Chilean nitrate is increasing; the United States paid in 1919, $85,000,000 for Chilean nitrates; nitrogen should be placed on the market at a valuation which is not so nearly prohibitive of its use; to secure a lessened valuation nitrogen must be taken from the air."



THE MILKING MACHINE IN QUEBEC

"We have never had a bad udder or a sore teat," says the manager of Raymondale Farm, Quebec, "caused by the use of our milking machine. Before milking by machine we had considerable trouble with sore teats on account of poor hand milkers."

Eighteen members of the Agricultural Bloc of the House of Representatives met on May 31 to consider agricultural financing. They agreed to get back of the bill providing $50,000,000 in the treasury department for use of the federal farm loan board in floating new issues of bonds. It is claimed that it is impracticable to sell bonds in small lots, as the federal farm loan board will be forced to do if the bill fails to pass. The committee also agreed to push the bill which will raise the interest rate on farm loan bonds to 5½%, but retaining the 6 per cent interest maximum to borrowers. The congressmen indicated their interest also in the bills which would raise the limit on farm loans from land banks from $10,000 to $25,000. The French-Capper Truth-in-Fabric Bill was endorsed and strenuous efforts will be made to have the bill passed.

The Wisconsin membership drive is beginning in Dane County and is being conducted by the state headquarters of the Wisconsin Farm Bureau Federation at Madison. The drive is for three-year memberships and a $10 annual fee. Montana started a membership drive in Yellowstone County on June 7. Charles E. Gunnels spent part of the past week in West Virginia, helping to organize the West Virginia Farm Bureau office. Maine sends in a report showing a total membership of 9,618 in the State Farm Bureau, an increase of 93 per cent above the 1920 membership. North Carolina reports 15 counties organized. New Hampshire reports a Farm Bureau membership of 1,222 in Grafton County, with a prospect of 1,599 by June 1. Every county in New Hampshire and Vermont has voted to increase the Farm Bureau fees from $1 to $5 and $10 and to conduct new membership drives before the end of the year. The farthermost-south report comes from Geneva Co., Ala., reporting a membership of 300.

Treasurer Charles E. Gunnels, of the American Farm Bureau Federation, reports that New Jersey and Vermont are calling state meetings of county farm bureaus to consider the installation of the uniform accounting system worked out by the department of finance of the American Farm Bureau Federation. Inquiries have also been received from the farm bureaus in the states of California, Washington, South Dakota, Georgia, Delaware, Wisconsin, Colorado, and Massachusetts regarding the uniform accounting system.

A 112-page report of the National Dairy Marketing Conference has been published by the American Farm Bureau Federation. The report contains the descriptions and plans of the various successful co-operative milk marketing associations; a chart showing the organization plan of the New England producers; addresses on marketing of cheese, butter, etc., and the resolutions adopted by the conference. The report has been mailed to those who attended the conference and to state federation secretaries. Copies for distribution among milk producers and for use in organization work may be obtained at printing cost —$30 per hundred, single copies 35 cents. Communications should be addressed to the Department of Information, American Farm Bureau Federation, 58 E. Washington St., Chicago.

The resolution authorizing a general survey of agricultural conditions by a joint committee of 5 senators and 5 congressmen has been passed by both the Senate and the House. It provides that an investigation be made in 90 days and that it inquire into the causes of the present condition of agriculture, the difference between the prices of agricultural products paid to the producer and the ultimate cost to the consumer, the comparative conditions of industry other than agriculture, the relation of prices of commodities other than agricultural products to such products, the banking and financial resources and credits of the country, especially as affecting agricultural credits, and the marketing and transportation facilities of the country. The committee is instructed to include in its report recommendations for legislation which will tend to remedy existing conditions and report upon the limitations of the powers of Congress enacting relief legislation.

Senator Norris of Nebraska has introduced a bill (S-1915) which provides for the creation of $100,000,000 Federal Farmers' Export Financing Corporation to buy farm products in the United States and sell them abroad. He declares that farmers are entitled to this credit from the treasury department, for there was a net profit of $60,000,000 to $70,000,000 in the operation of the United States Grain Corporation and this money has never been paid back to the producers. The bill provides for the issuance of bonds up to ten times the paid-in capital. The secretary of agriculture and four other directors to be appointed by the president would control the corporation.

Governor W. P. G. Harding of the Federal Reserve Board advocates a bill authorizing the War Finance Corporation to advance $50,000,000 to the federal reserve banks to be loaned on live stock paper. He believes that the financial emergency which menaced the country during 1920 has definitely passed, but that agriculture, particularly the live stock industry, should be afforded better credit facilities. Live stock paper running not longer than six months is now eligible for rediscount in the Federal Reserve Banks; loans on feeding and fattening cattle are therefore more easily obtained than the longer time loans for breeding cattle and young calves.

Ten national farm organizations joined in a letter to President Harding this week pointing out that "the counterfeiting of virgin wool takes advantage of people's misunderstanding the terms 'all wool', and 'pure wool', which they believe to mean only virgin wool but which may include all grades of substitutes, even the most inferior." The proponents of the bill have been heard, and a few of the opponents. The senate judiciary committee has discontinued hearings for two weeks. It is expected that the manufacturers will be fully represented on rehearing. Wool growers will have to impress on the committee and their congressmen the serious need of this legislation in order to have it passed.

GLIMPSES FROM JERSEY WEEK



OUTSIDE THE SALE PAVILION WHERE MERIDALE SALE WAS HELD



BUYERS WERE BROUGHT TO THE SALE AT MERIDALE FARMS FROM THE ANNUAL MEETING IN A SPECIAL TRAIN OF PULLMANS



INTERESTED SPECTATORS AT MERIDALE SALE

Left to right: Mr. Probert, Mrs. Tweedy, Mrs. Frelinghuysen, M. D. Munn, W. R. Proctor, R. C. Vance, P. H. B. Frelinghuysen.



MELODANT, PURCHASED BY TWIN OAKS FARM, NEW JERSEY, FOR $4,500 AT MERIDALE SALE



GOLDEN CYMBELINE, PURCHASED BY S. A. GUY OF LOUISIANA FOR $10,000 AT MERIDALE SALE. MR. DUTTON, MR. GUY, AND MR. AYER ARE IN THE BACKGROUND



COWSLIP'S MANOR GIRL PURCHASED BY LEDGE ROCK FARM, KENTUCKY, FOR $6,700 AT THE W. R. SPANN & SONS SALE

Feeding Phosphorus for Milk

A. M. LOOMIS, DISTRICT OF COLUMBIA

READERS of Hoard's Dairyman will remember a brief article printed about a year ago telling about the experimental work in animal nutrition to increase milk flow, in progress at the Beltsville, (Md.) Dairy Experimental Farm of the U. S. Dairy Division. A professional paper, written by Professor Edward B. Meigs, physiologist, who has had charge of the technical end of this work, and T. E. Woodward, dairy husbandman of the Beltsville Station, is just off the press, under date of May 27, 1921, giving a summary of accomplishments up to date.

The gist of the results of Professor Meigs' investigations is to try to put it into plain English generalities, always dangerous as to scentific discoveries, that under normal rations and normal treatment milch cows lose their power of maintaining milk flow, and that he has localized one controlling factor in this loss of milk producing power in depleted calcium and phosphorus content in the animal body, evidently due to long continued milk production.

His work has indicated that this may be remedied, in part at least, by feeding a ration high in phosphorus. He has found a difficulty in controlling the calcium factor, but has found that by giving the animal a rest of two months, by drying her up that period before calving, and then by giving heavily increased rations, and supplementing the ration by careful feeding of the inorganic salt, sodium phosphate, very marked increase in milk production for the entire ensuing lactation period was secured.

Professor Meigs summarizes the results very conservatively as follows:

"Feeding cows for several years according to the commonly accepted standards with little or no additional pasture, has resulted in their milk yield being reduced below the optimum. The condition of reduced milk yield so brought about may be corrected by giving the animal a dry period of two months, and feeding during that period a ration containing legume hay and grain with a high phosphorus content with three or four times the amount of protein required for maintenance, and two or three times the total nutriment. The milk yield in the subsequent lactation period may sometimes be doubled by this treatment.

"In the case of milk cows of which the milk yield has been reduced by several years of standard feeding, a greatly increased yield can be brought about by feeding "alternated rations with phosphate" during the dry period. This is taken to mean that

(Continued on page 915)

Forty-sixth Annual Meeting of Ayrshire Breeders' Association

AT the request of its western members the Ayrshire Breeders' Association held its forty-sixth annual meeting June 8 in the East returning again to Springfield, Mass. The early plan was to bring the record organization for the red and white cow for its initial meeting in the Middle West, Milwaukee being favored. Breeders in that section, believing the year not propitious for an Ayrshire sale in connection with the meeting in the Middle West, persuaded the association to delay its first western annual session a year at least.

Officers Elected

Paul O. Reymann of West Virginia was elected president for the coming year; H. J. Chisholm, New York, first vice-president; Percival Roberts, Jr., Pennsylvania, second vice-president; Adam Seitz, Wisconsin, third vice-president; and H. M. Kimball, New Hampshire, fourth vice-president. Directors elected for three years are W. P. Schanck, New York; A. H. Higginson, Massachusetts; Stephen Bull, Wisconsin; E. C. Deubler, Pennsylvania; Leonard Tufts, North Carolina; Gilbert McMillan, Quebec; Dudley Wells, Connecticut; and W. P. Bliss, New Jersey. Directors elected to fill vacancies are Dr. T. G. Ashton, Pennsylvania, and C. W. Wilson, Vermont. The executive committee selected from the board of directors has the following members: Paul O. Reymann; H. J. Chisholm; A. H. Sagendorph; A. H. Higginson; Wm. T. Tonner, W. P. Bliss; and W. P. Schanck. J. G. Watson was re-appointed secretary-treasurer.

It was voted that the executive committee be empowered to appear before the Vermont legislature asking that the charter of the Ayrshire Breeders' Association be amended so it may acquire and hold property for the purposes of the association not to exceed $100,000. The amount specified in the original charter was $25,000.

A reciprocal agreement was agreed to whereby the Ayrshire Breeders' Association of America and the Canadian Ayrshire Breeders' Association will each accept animals from the other's country without the recording of their ancestors.

Resolutions were passed expressing the association's sense of loss in the death of its last two remaining charter members, J. Henry Meyer of California and H. R. C. Watson of Vermont.

Reports of Officers

In his presidential address A. H. Higginson gave forceful expression to the belief that the breed needs to give increasing emphasis to production—that the show ring supremacy of the Ayrshire must be maintained but that milking qualities must be given greater prominence. He drew attention to the judging system in vogue in Scotland where recognition is given in the show ring to the production records and pedigrees of animals exhibited.

A. H. Sagendorph reviewed his activities as advertising manager for the association and business manager for its publication, The Ayrshire Digest. He closed his report with the statement: "The Ayrshire Breeders' Association is out to do business for the coming year with the belief that it is going to come to those who fight for it. The Ayrshire breed is now on the map. We can keep it at the front if we have the co-operation of all the breeders".

Secretary-treasurer Watson reported an increase of 661 in registrations over the number in the previous year, 5,261 females being recorded and 1,548 males. Transfers showed a decrease of 116, the number being 4,370. During the past year 172 new members came into the association making the present total 1,597. Mr. Watson's records show the year's income to be $41,047.47. The total expense was $41,672.46.

The National Ayrshire Sale

The usual custom of holding the National Ayrshire Sale on the day following the association's annual meeting was prevented this year by a conflicting sale. It was therefore called for June 7th, on which day 72 head were sold on the Eastern States Exposition grounds for a total of $28,220. The top of the sale was the bull, Howie's Topnotcher, consigned by Alta Crest Farms, Massachusetts, and secured by J. W. Alsop of Connecticut for $1,025. The highest priced female was Jean Armour's Red Kate, consigned by W. P. Schanck of New York, and taken by L. W. Newton, Massachusetts, for $1000. Mr. Alsop was the heaviest buyer taking 12 head for $4,960. Lippitt Farm, Rhode Island, was a close second, securing 11 head for $4,270.

A list of animals selling for $400 or more is given below with the names of their buyers:

Lippitt Farm, Rhode Island	
Evamere's Bertha	$650
Ouimet	400
Cavalier's Violet of Spring City	500
Howies Flash Girl 4th (Imp.)	525
Edw. Chapman & Sons, New York	
Nona's Middlesex Chancellor	$500
H. J. Chisholm, New York	
Douglas Hall Fern	$775
Bellefonte White Beauty	400
J. W. Alsop, Connecticut	
Howie's Topnotcher	$1025
Patient of Brierwood	450
Barclay's Blackbird 2d	525
Baron's Dainty	410
The Abbess of Highland 2d	450
Bonnie Burn	450
Buttercup of Wilburton	450
Montdale Farm, Indiana	
Picken's Sunray (Imp.)	$625
Petchora's Pride	725
Cavalier's Blanche Cleopatra	500
Old Forge Farm, Pennsylvania	
Miss Castle 2d of Hill Top	$400
Weymouth Farm, Massachusetts	
Monstone Stately Queen	$625
H. O. Dennes, New York	
Petchora's Pride of Hillcroft	$525
Wendover Farm, New Jersey	
Meg Gretchen of Bonnie Doone	$550
A. H. Cole, Massachusetts	
Burnside Mary of Bonnie Doone	$400
Delchester Farms, Pennsylvania	
Sarah Lee of Bonnie Doone	$675
Fairlea Farms Co., Connecticut	
Yellow Kate's Dandilette	$400
Loudoun Flash Girl	435
L. W. Newton, Massachusetts	
Jean Armour's Red Kate	$1000
Barclay Farms, Pennsylvania	
Nancy's Mint Master	$775
Barclay's Blanche 2d	650

Washington, D. C., Weekly News

[SPECIAL TO HOARD'S DAIRYMAN]

WASHINGTON, JUNE 14—In spite of a protest against what they termed a snap hearing, introduced by the attorney for the cocoanut oil refiners, the proponents of the Voigt filled milk bill got in a full hearing on this bill on Monday forenoon. The opponents asked for a two-week delay, but this was not granted, and Congressman Voigt, A. J. Glover of Hoard's Dairyman, Professor E. V. McCollum of Johns Hopkins University, Seward A. Miller of the Dairymen's League, and others told the Committee on Agriculture just what there is to the filled milk menace to health and the dairy industry.

This is the first time this question ever came officially before Congress in any way. The story of this counterfeit milk was new to several members of the committee and as a result the hearing, although it was not productive of any definite results, is considered a good beginning toward federal curbing of this menace to health, as Professor McCollum characterized it.

The pressure of business before the Committee on Agriculture makes a hearing here a much different affair than a hearing before a legislative committee. When the hearing was not completed at noon, it was necessary for the committee to arise, so that the members could go to the House which was then in session. It was also impossible to go on the following day as another hearing was scheduled on the cold storage bills.

Witnesses present but not heard included R. W. Balderston and A. A. Miller, representing the Inter-state Milk Producers' Association of Philadelphia, who were present with the results of a survey of the cities and villages of Eastern Pennsylvania and New Jersey, showing how these imitation products are crowded on the public by retailers. W. D. Engals of the Borden Condensed Milk Co. and the representatives of the farm organizations in Washington were the only one primed to endorse the principle of regulating or prohibiting this industry.

The case was opened by Congressman Voigt who made the argument for the bill, after stating its purpose. He said that the dairy industry could not survive this kind of unfair competition, that the human race could not live on milk with the cream removed and vegetable oil substituted. Two new features were added by Congressman Voigt near the close of his statement, one that the condensed milk manufacturers now making only the pure product were being forced into the manufacture of the imitation product and were here asking to be given an honest law that would permit them to make an honest product that would not be driven out of business by a dishonest one, and that the export trade in milk which was a saving factor of the present milk surplus was in danger of being lost by reason of the imitation product just as the filled cheese business of the early eighties ruined the American cheese export trade. He presented for the record a statement on this latter subject showing the actual results in the exports of cheese declining from a yearly total of one hundred forty million pounds in 1881 to less than 50,000,000 pounds six years later and then down to 1913 when this nation imported twenty times as much cheese as it exported.

Dr. McCollum of Johns Hopkins University was the star witness for the proponents of the bill. His statement to the committee was pronounced by those who have heard him before various state legislatures, to have been the finest presentation he has ever given of his discoveries and investigations showing the essential character of milk in the diet and the dangers of the substitution of filled milk for real milk. Rather than attempt to summarize this statement, your correspondent prefers to wait until the transcript is available, and present next week some verbatim extracts from what he said. He had every member of the committee leaning forward in their chairs as he showed the pictures of the rats fed experimentally with rations deficient in milk fats and those fed on properly balanced rations.

The rats without milk had developed both eye ulcers and blindness and others had suffered from rickets. Both were cured, he said, by feeding milk, but in no case were normal conditions ever brought back to a rat fed for a time on a deficient ration. Neither, he said, could it be done with a human being.

"No vegetable oil," he said, "contains vitamines in sufficient amount to take the place of dairy products in a ration which will preserve the full measure of health in an adult or growth in a child. No diet will postpone senility, prolong vigor, and keep up health except one with abundant dairy products in the bill of fare. If you want to be like the Chinese or Japanese, stop work, sit down, and grow whiskers at fifty and let your children support you, then go without milk. There is no example of this like the example of the Blackfeet Indians on their reservation. They were in past generations carniverous men, eating only meat. Now they eat store groceries, breakfast foods so poor in nutriment that weevils can not live on them, and that is the reason there are no weevils in these breakfast foods. These Blackfeet are old at forty, their teeth are gone, they have rheumatism, and are senile when milk fed men are in their vigor."

Mr. Glover spoke forcefully of the relative success of the wheat growing industry and the dairy industry as demonstrated on the farms of Wisconsin. He asked for this legislation to preserve the dairy industry. "I want a law which will relieve the American dairymen from competition with a cocoanut tree in the South Sea Islands, and a native whose only cost of production is a strap around his waist to help him climb the trees," he said.

Seward A. Miller, former attorney for the New York State Department of Farms and Markets, told of the conditions existing in the cities of New York where children, foreigners, housewives, and others were imposed on by dealers who could make a few cents more a can by selling this counterfeit milk, as he called it. "The dairy farmers of New York want a law on this subject just as stringent as the law against counterfeit money," he said. "This product is a counterfeit, nothing less. The Supreme Court says the label does not protect. We want a law which will protect."

The committee could not set a date to go on with the hearing. Three other subjects are scheduled, and this will come on when those hearings are completed, probably not until early in July.

Several members of the staff of the Dairy Division and the Bureau of Chemistry, Department of Agriculture and several members of the Internal Revenue Bureau, have been called this week to St. Paul, where a seizure of butter has been made for alleged violation of the moisture standard. The full details of the case are not announced here, but it is said that an effort is to be made to clear up some difficulties in the enforcement of the Bureau of Internal Revenue rulings in this proceeding.

Hoard's Dairyman

Fort Atkinson, Wisconsin
Founded 1885 by W. D. HOARD

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ADVERTISING COPY must be received eight days previous to the date of publication. Advertising to be classified or changes in advertising must reach us twelve days previous to date of publication.

Entered at Fort Atkinson, Wis., as second class matter.

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Coming Events

Sept. 26-Oct. 2nd—Dairy Cattle Congress at Waterloo, Iowa.

Oct. 8-15—National Dairy Show at Minnesota State Fair Grounds. Manager, W. E. Skinner, 910 So. Michigan Ave., Chicago.

Advanced Registry Testing in Pennsylvania

According to a report issued by Paul S. Williams, in charge of Advanced Registry testing for Pennsylvania, there were 739 cows in 113 herds that were on yearly test in Pennsylvania during the month of April. Of these cows, 237 were Ayrshire, 198 Guernsey, 146 Jersey, 151 Holstein, and 7 Shorthorns.

There were 31 farms reporting seven-day official tests, 3 cows being reported with records of over 30 lbs. butter in 7 days.

Seeds rhyme with weeds; which is a good reminder that the latter ought to be cut before the former develop.

Massachusetts Guernseys Sell for $710 Average

Seventy-four Guernseys sold in the Massachusetts Guernsey Breeders' Association's first combination auction at Langwater Farms June 9 for $52,545, an average of $710. Nine bulls included fell short of the sale's average by $100. The offering was made up of drafts from 17 herds and had been selected for sale by the association's committee: F. L. Ames, L. F. Herrick, George W. St. Amant, Walter Kerr, and Richard Harwood.

The high price of the day, $5,000, was paid by R. L. Benson of New Jersey for Langwater Sheen, consigned by Langwater Farms, a five-year-old daughter of Langwater Model and out of Langwater Lustre. On test in Class B this cow is making two pounds of fat per day. Mr. Benson took two others, one being Langwater Vampire at $2,700, also from Langwater Farms, by Langwater Steadfast, and out of a daughter of Langwater Warrior. Fifteen head consigned by Langwater Farms averaged $1,158. The heaviest buyer was Howard Brewer, Massachusetts, who took 11 head at the very low average of $366, securing a number of splendid individuals of that valuation. W. K. Hepburn of Massachusetts bought six head at an average of $437.

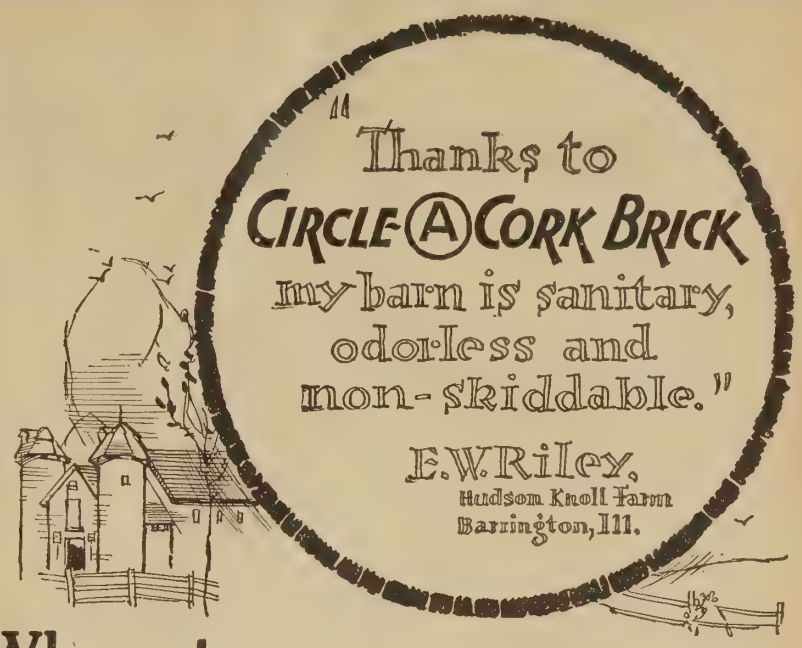
E. F. Price of New York paid $3,000 for Itchen's Golden Daisy of Chilmark, consigned by F. L. Howes. This cow is present world champion in Class DD with a production of 14,367 lbs. milk, 669.64 lbs. fat and was favored by some as the head liner of the auction. Three good ones went to Wm. Flynn of Pennsylvania; Langwater Elegance for $2,200, and the full sisters, Princess Isabella of Riverdale and Princess Helen of Riverdale for $1,000 each.

As pleasant preliminaries to the sale Geo. W. St. Amant staged a field day at his farm on Cape Cod on June 8 and the Guernsey Association supplied a banquet to about seventy-five breeders in the evening. The visit to Mr. St. Amant's herd gave breeders an opportunity to go over the high class animals which have been gathered so largely from the auction rings of the past year and a half. The quality of the cattle and the full measure of hospitality extended made the day well worth while to the eighty who made the trip.

The Sale Prices

Below is given the prices of all animals selling for $700 or more, with the names of their buyers:

E. T. Price, New York	
Itchen's Golden Daisy of Chilmark	$3,000
W. M. Flynn, Massachusetts	
Princess Isabelle of Riverdale	$1,000
Princess Helen of Riverdale	1,000
Langwater Elegance	2,200
W. S. Dunn, New York	
Deanie's Marose of Appletree Point	$925
W. B. Mahoney, New York	
Yeoman's Mixter Glen	$925
R. M. Macintosh, Massachusetts	
Yeoman's Mixter Symphony	$850
J. S. Ames, Massachusetts	
Don's Victime of Oaks Farm	$1,300
Imp. Green Meadow Ada	2,600
H. L. Tinkham, Massachusetts	
Janet Fisher	$1,525
Glen H. Briggs, New York	
Upland's May Rose	$850
Howard Atwood, Massachusetts	
France's Bellinda of Big Spring Farm	$1,500
L. S. Cox, Massachusetts	
Lady Methuen	$750
R. L. Benson, New Jersey	
Langwater Sheen	$5,000
Langwater Vampire	2,700
Howard Lehman, Massachusetts	
Langwater Vigilant	$1,550
C. C. Bolton, Ohio	
Langwater Penitent	$1,250
M. M. Van Beuren, Rhode Island	
Langwater Sea Lord	$1,100
Harbor Hill Farm, New York	
Imp. Green Meadow Cleopatra	$825



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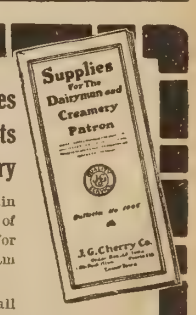
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EDITORIAL COMMENT



SKIMMILK AND TUBERCULOSIS

We wonder if every breeder and dairy farmer fully appreciates how essential it is that whey from the cheesery or skimmilk from the creamery be heated to a temperature of 145 to 155° F. before feeding. There is no better way of infecting a herd with tuberculosis than to feed unpasteurized skimmilk or whey from the creamery or cheesery. If the milk from one herd suffering from tuberculosis is taken to a creamery, all the skimmilk may be capable of spreading tuberculosis. No dairy farmer or breeder can take the chance of feeding raw skimmilk or whey to his calves or pigs.

Recently a dairy herd was tuberculin tested. None of the cows reacted to the test, but there were a number of reactors among the yearlings. This was an unusual incident, for in most herds if there are reactors among the young stock there are reactors among the cows. Upon investigation it was found that the farmer was feeding raw skimmilk from a creamery. This accounted for the reacting heifers.

How unfortunate is this case! This man without doubt had a clean herd of cows, but now it is infected with tuberculosis by the feeding of raw skimmilk. It will take years for him to get rid of it, for when once a herd becomes thoroughly infected with tuberculosis it requires eternal vigilance upon the part of the owner and a long time to eliminate it.

Every state should have a law requiring the creamery and cheesery to pasteurize their by-products, unless it is positively known that all herds that supply milk to any institution are free from disease. It would not be practical to obtain such knowledge, and the only way to be safe is to heat the whey or skimmilk before feeding it.

The safest way to keep a herd from getting infected skimmilk is to separate the milk on the farm and sell the cream. Any farmer who feeds raw skimmilk from the creamery can make up his mind that his herd will sooner or later be infected with tuberculosis and expending money for tuberculin testing to determine whether tuberculosis is in his herd, is wasted. We would not consider it advisable to apply the tuberculin test to any herd where the calves are raised on raw skimmilk from the creamery. The loss from tuberculosis, taking it by and large, will be great enough to satisfy any man without adding the expense of tuberculin testing.

DAIRY FARMERS VICTORIOUS

Through the co-operative effort of the dairy interests of Wisconsin, a bill to prohibit the manufacture and sale of filled milk has passed the legislature. It is a splendid victory for the dairy farmers of Wisconsin. Strong concerns were opposed to this legislation but their representatives failed to convince the assemblymen and senators that they were manufacturing a meritorious product. It was argued by the opponents of this bill that they were providing a market for skimmilk and that condensed skimmilk and cocoanut oil were wholesome foods. The proponents of the bill argued that instead of filled milk providing a market for skimmilk it took away a market for butterfat. No one denied that filled milk is a wholesome food. So is corn meal, oat meal, etc., but no food takes the place of milk.

The chief points at issue were: Filled milk is a fraud, because it is advertised and sold as milk and is injurious to the dairy industry. Since milk is our only protective food it must be protected from compounds which so imitate it that they can be sold and used as milk. The intelligent mother has always looked to milk as a perfect food and one that will properly nourish her babies and children. In late years new knowledge regarding milk has been found. Its importance to health and growth is far greater than was formerly supposed. In view of this knowledge the only way to protect milk is to prohibit the manufacture and sale of a compound which looks and tastes so much like milk that it can be sold as such and in this way become an instrument of fraud and deception.

The Supreme Court of the United States, in rendering an opinion regarding filled milk, says: "The constitution of the United States does not secure any one the privilege of manufacturing and selling an article offered in such a manner as to induce purchasers to believe they are buying something which is in fact different from that which is offered for sale."

This is a strong decision in favor of honest food products, and should the manufacturers of filled milk carry their case to the courts, the decision of the United States Supreme Court will be of no mean assistance to consumers' interests.

Filled milk is injurious to the dairy industry because it provided a market last year for seven million pounds of foreign fats and placed eight million pounds of butter upon the market. The dairy farmer cannot compete with the cocoanut cow of the South Sea Islands. He has large investments in buildings, land, and equipment and the native of the South Sea Island needs only a strap for climbing trees to gather cocoanuts. The dairy farmer is not only producing an essential food product, but he is also building a permanent system of agriculture which is the very foundation of the nation. His interests must not be jeopardized. They must be protected for the good of all.

The victory of the Wisconsin dairy farmers should stimulate all states to follow their lead. Filled milk must go.

"THE LAST COW"

Under the caption "The Last Cow", the Holstein-Friesian Register of May 15th discussed tuberculosis eradication and in the same issue published a cartoon which presents not only an exaggeration, but a false interpretation of the subject it desires to present. We regret that a publication like the Holstein-Friesian Register has failed to understand the meaning of tuberculosis and why effort is being put forth to eliminate it from our herds. False and inaccurate statements, as well as misleading implications, are expressed in the cartoon and in the editorial.

The Register holds that "tuberculosis eradication is stimulated by a certain frenzy in the public mind, based wholly upon an implicit reliance on the opinion set forth by professional men that bovine tuberculosis is communicable to the human race through the consumption of milk." This statement shows the ignorance of the Register as to the real purpose of eradicating bovine tuberculosis.

The public health can be protected through the pasteurization of milk, but the only way to protect the breeder from heavy losses is through the elimination of tuberculous animals. No breeder can afford to keep a tuberculous herd of cattle, for he is the one who sustains the loss. He sustains it in the extra feed he must give to animals suffering from this disease to keep them in first class condition; he sustains it in the loss of animals upon his own farm; he sustains it in the cattle sent to the tanker unfit for human food; he sustains it in the loss of hogs sent to the tanker. The packing interests do not sustain this loss, but the farmer who sells his cattle and hogs to them is the loser. Tuberculosis, to a large extent, is an economic question and the sooner breeders and dairy farmers appreciate this, the sooner will they desire to eliminate this loss.

We are surprised that the Register has not found facts concerning the transmission of bovine tuberculosis to human beings. It is now generally believed that adults seldom become affected with bovine tuberculosis, but children seem to be susceptible to it. In a special investigation made in New York, where 603 cases of human tuberculosis were studied bacteriologically, it was found that only 8 out of 389 who were sixteen years of age or over were affected with bovine tuberculosis. Of 78 tubercular children between the ages of five and sixteen, 24 were affected with bovine tuberculosis while out of 136 tubercular children under five years of age, 37 were affected with the bovine type.

Dr. Park states that from 200 to 300 children die in New York annually with tuberculosis of the bovine variety. Yet the Register asks, in substance, "How do we know that bovine tuberculosis is transmitted to human beings?" and then asks, "Has the government absolutely proven it to be so?"

The Register also says that many injections of the "serum", meaning, we presume, tuberculin, may cause the animals to become inoculated with the disease. Here, again, the editor of the Register shows his ignorance of tuberculin. There is no opportunity for tuberculin to convey tubercular germs to animals. Tuberculin, or rather the tubercular bacteria from which it is prepared, is heated to a temperature which destroys all tubercular germs. It is then filtered and preserved in carbolic acid in which no germ could possibly live. There is no possible chance of tuberculin properly made, to infect an animal. If the animal is not infected with tuberculosis the tuberculin can cause no harm.

The tuberculin test is not 100 per cent accurate. It is not infallible. However, we know from our own experience that through the careful application of the tuberculin test a herd may be kept free from tuberculosis. For twenty years the Hoard's Dairyman Herd was tested without a reactor. A year ago we found one, which was promptly eliminated. The herd was tested again six months later and found to be clean. We know that tuberculin does not in any way injure cattle that are free from the disease. We know also that we have saved our herd because we located, through tuberculin, a cow with tuberculosis.

The Register again displays ignorance when it discusses the consumption of beef from animals suffering from tuberculosis. In the first place, those animals whose flesh is affected are sent to the tanker. Even though they were not, proper cooking destroys the tubercular germs. Inspection does safeguard the public.

The question of tuberculosis becomes very largely an economic one. The dairy farmer and the breeder who keep tuberculous herds of cattle are the ones to suffer the most, and it is to their advantage, both financially and from the standpoint of health, that their herds be clean from this disease. The application of the tuberculin test and the handling of the herd requires a knowledge of tuberculosis or else serious and costly mistakes will be made.

It is a great disappointment to us that the Register has shown so small a comprehension of tuberculosis and the methods for its eradication. Many breeders and farmers desire to believe just what the Register has published, and they will accept these statements, misleading as they are, as being true and in the end will suffer heavy financial loss.

It is to the breeders' and dairy farmers' interest that they test their cattle with tuberculin and eliminate the reactors.

Bull Calf Queries

I recently purchased a pure-bred Holstein bull that will be six months old in June. Could he run in a pasture with unbred cows and young heifers a few months yet and if so, how long?

What about putting a ring in his nose? Should I put in a small one now and replace with a larger one later, or can I put in a full sized ring now or as soon as I need any?

What method do you recommend for dehorning my bull and the two five-months' heifers? I use caustic potash on my own calves but these were too old when received.

How soon and how much could I begin breeding with my bull? I have to use a neighbor's scrub bull until I can use him.

Onida, S. D. R. H. B.

The bull calf should be separated from the heifers by the time he is six months old, if not before. He will be sufficiently mature for light service at

10 to 11 months of age. It is advisable, however, to breed him to not over five or six cows before he is one year of age. When he is from 12 to 15 months old, he may be bred to not over one or two cows per week. As he becomes better developed, the amount of service may be increased. Much will depend upon his growth and general vigor. Ordinarily, we would prefer to give no service until after 12 months of age but to escape use of a scrub it would be preferable to use him for light service when he reaches the age of 10 months.

When the bull is about one year of age, a ring should be placed in his nose as a convenience in handling. It is scarcely necessary to ring him when he is six months old but much will depend upon the animal himself. When he is a year old, the ordinary bull ring may be used but care should be exercised to examine the condition of this ring from time to time in order that a new one may be inserted before the older ring becomes badly worn and insecure.

It is somewhat difficult to give instructions as to dehorning as this may best be learned by observing some one else. We would suggest that the services of a veterinarian be secured or of some neighbor who has done the work heretofore. The actual dehorning will be done with the saw or a pair of clippers and the animal should be at least one year old and preferably two, as otherwise there is danger that scours or false horn growth will develop. The horns should be cut from a quarter to a half inch below where the skin joins the horns, leaving a rim of skin on the horn removed. The dehorning is best done in the cool weather of spring or autumn. If done in hot weather special care should be exercised to keep flies out of the wound.

Directions as to the tying of animals for dehorning with saws or clippers and details concerning the work will be found in Farmers' Bulletin 350, which may be secured from the United States Department of Agriculture, Washington, D. C.

A Clarifier Gets It

HOARD'S DAIRYMAN:—In reply to P. J. C. regarding straining swamp muck out of milk, would say that I have had over fifty years' experience with swamp muck on cows' udders; have tried all kinds of strainers, filter cloth, absorbent cotton strainer that strained up instead of down, but to no avail. A few years ago I bought a clarifier that gets everything you can see, but while the clarifier removes much of the bacteria, it still multiplies the bacteria count because it breaks the cells.

The editor's suggestion that it is better to keep dirt out of milk is good, very good; but, he might get down on his knees and wash a cow's udder that was covered with muck, wipe dry with a towel, then go over it with a magnifying glass and he would find dirt would still show in the bottom of the milk bottle.

Bristol, Conn. S. D. N.

Yes. We have gotten down under a cow's udder with a basin of water and a towel, and we know just how difficult the job is. We have not always been successful, for we confess that in summer dairying there are days so long that the will to do grows weary after getting the last load of hay in the barn and the cows have been driven up. The clarifier would have helped us at those times, but we would still try to clean the udder as well as we could.

Herd Varies in Test

HOARD'S DAIRYMAN:—I noticed the inquiry of A. P. of De Lancey, N. Y., relative to variation in fat test and it prompted me to write of my experience along that line.

In March we began retailing the milk from our small herd and the first month there were three days that the cream on the bottles was fully 25% less than normal. The decrease began one day, reached the low point the second day, and was almost back to normal the third day.

Four of the cows are registered Jerseys testing close to 6% and the others are good average grades testing around 4% or a little better. We aim to keep our fat test up to an average of 5% as we get two cents above the price for 4.2% milk. Experience has taught us to expect this drop in cream approximately every twenty-eight days and at those times we have to keep out the milk from the lowest testing cows and skim it for what cream we can get.

We attribute this variation to the commotion caused by the cows and heifers not bred. We do not believe feeding has any bearing on the subject for the cows are always given the same rations and the same feed at the same hours each day. Their rations consist of corn silage, a commercial dairy feed, and one hour of grazing on good grass each day. As soon as suitable arrangements can be made we plan to separate the heifers and cows not bred from the others during this period to ascertain what the effect will be. This drop in the quantity of cream causes no end of annoyance, whatever the cause may be.

Kalamazoo, Mich. A. V. L.

Sunflowers in Massachusetts

HOARD'S DAIRYMAN:—I have made a practice of mixing 3 or 4 quarts of sunflower seed with each bushel of seed corn planted for the silo, almost continuously for 15 years. I have always figured I got an increase in the amount of fodder per acre with no sacrifice of quality.

The increase in material for the silo is particularly gratifying in an off corn year, when, by reason of unfavorable weather conditions or poor or late fitting of the soil, corn bids fair to make about a half a crop. Sunflowers thrive under conditions which practically spell failure for corn alone. I find that cows eat the silage resulting from the corn and sunflower mixture equally as well as that made from corn alone and have never been able to detect any inferiority in the mixture from the standpoint of milk production.

There are, however, two disagreeable features connected with the crop which may be more or less serious. The sunflowers are very hard to handle from the field on account of the great weight of the heads, making the bundles top heavy and inclined to spread apart. In feeding the mixed silage the action of the kidneys is very much increased, the result being a practical doubling of the urine voided by the cows and consequently requiring much more care to keep cows and stable in presentable condition.

In spite of these seeming drawbacks, however, I shall continue to grow the mixture and intend to plant a field of 10 to 12 acres to sunflowers and soybeans leaving out the corn entirely. This will be to try out this combination on a low, wet field which I do not expect to be able to get ready to plant until somewhat too late for corn to do its best.

Wayland, Mass. L. C. L.

Producing Milk for Sale

HOARD'S DAIRYMAN:—Profit is the object of producing milk as it is the object of any business. If you think your margin of profit or your total profit from milk is not what it ought to be, take out your pencil and paper, and see how you stack up on this little schedule, which shows how some of the factors are related to each other.

How much profit? This depends on two things: How much did you make on each hundred pounds you sold, and how many hundred pounds did you sell?

I. The margin of profit per hundred pounds depends on

1. The price you got for a contract period.
2. The cost of a hundred pounds of milk under your conditions.

Costs vary as follows:

a. The outlay incurred in producing the milk.

b. The number of hundred pounds you produce and sell.

II. The number of hundred pounds produced is affected by the following:

1. The production per cow.

a. The natural capacity of the cow.

b. The amount of feed given and consumed.

c. Other care, including milking season, service, etc.

2. The number of cows in the herd.

a. The amount of milk wanted for sale and home use.

b. The capacity of the individual animals.

c. The capacity of the barns and to some extent of farm.

d. Labor conditions.

3. The facilities for handling the product.

Any of these factors may have a limiting effect on the amount of milk produced and so on profit. But if the cost per hundred pounds exceeds the price received, the more produced the worse off you will be.

The cost of milk as usually figured is an "opportunity cost"; that is, using the item feed as an example, feed is figured at the prevailing market price when it really costs less than market price. The meaning of a loss in the dairy enterprise is then that the rate used as the value of feed has not been realized. The net results of the whole farm operations then determine the course to be pursued; if it is too small for family comfort there will be discontent and a change to some other line of effort. If in spite of an apparent loss the family income is ample for family needs, nothing will be done toward improving conditions. Further, a farmer who depends on milk for his whole income will stir himself to action sooner than one who sends in a few hundred pounds a day, but so much milk is produced by these small producers that the bargaining power of the real producers is handicapped.

"Opportunity" costs have helped a lot in improving conditions of production, in weeding out boarder cows, in directing the lines of profitable productions. Still the price offered for milk does not bear any close relation to "opportunity cost", being based on the supply available and what consumers are willing to pay. There is a necessary minimum amount of milk for infant and hospital use for which a dollar a quart would be paid if necessary, but above this minimum the amount consumed varies with the price asked, the relative value of milk as compared with other foods, and the habits of the people. Milk is even now a very economical food, and increased use should be promoted by advertising and example. The tendency is to restrict milk production under the present high prices of things the farmers have to buy, but if the whole situation with regard to these items is comprehended, the question naturally arises whether the best policy may not be to produce more milk even at a slightly lower margin per hundred pounds and thereby increase the total net income of the farm by turning more farm products and farm labor into milk and through milk into money.

Looked at from two points of view the farmers have a peculiar duty to find out the facts of production; if their margin is really good they should see to it that it is maintained; if it is as poor as complaints would lead us to believe at times, they need all the evidence they can marshall in support of their contentions. Changes will be made rather conservatively, extending the time available for finding out facts, but no time should be lost in getting to work on the problem. The problem is partly one of general organization of milk producers, but during the time before this is effective, any individual may do much for himself by carefully adjusting the various factors to the end of greatest net profit for the farm.

Wis. College of Agriculture. S. W. MENDUM.

Better System Means More Profit

HOARD'S DAIRYMAN:—At present it is difficult to make large profits from the dairy farm, even if the dairy farmer is better situated than the man who is dependent on the grain market. It is therefore necessary to study the situation in order to see what can be done in the way of improving it.

Until the farmer gets strongly organized he is left to take what the public offers for his products and to give a big commission to the middleman. At present there is only one way to make more profit; that is, reducing the cost of production.

There are several ways for most men who milk cows to go at this, and here they are in a nutshell: Keep healthy and higher producing cows and care for them in the right manner. It is a hundred times easier to prevent a herd from getting disease than to get rid of diseases once in the herd. To prevent two of the most common diseases, tuberculosis and abortion, there are a few things that count very much and are comparatively inexpensive: Fresh air, sunshine, plenty of fresh water, salt, and healthy feeds, also cleanliness of the barn and cows, a little air slack lime spread on the barn floor daily, and whitewashing of the barn twice a year may save their cost many times.

One of the surest ways of securing good producers is to keep records of the herd. Sell the poor producers and raise calves from the best cows and always use a bull with good dairy type and breeding, whose ancestors have proved to have ability to transmit production.

It is good business to know your cows and know which are good producers and which are loafers, and last, but not least important, is feeding of the cows, a big factor in securing the best profit. Cows should be fed a liberal and well balanced ration according to production, with as much home grown feeds as possible. In most cases it is necessary to secure some protein concentrate but also the prices on the various protein feeds should be taken in consideration.

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Fond du Lac County Sells Guernseys

Fond du Lac County, Wisconsin, held its fourth semi-annual sale at Fond du Lac June 3, selling 52 animals for $12,285, the females bringing an average of $260.70.

F. J. Reuping consigned the top priced animal of the sale, a splendid 2-year-old daughter of Ultra King of Edgemoor, from a 500-lb. dam. She was purchased by L. P. Martiny, Wisconsin, for $530.

Pohlman, Jones, and Bergen did the selling with Sale Manager C. L. Hill in the box.

Following is a list of those animals selling for $300 or more and buyers:

A. L. Sheldon, Minnesota	
Jessie of Herodale 4th	$320
Jessie of Herodale III	320
Guida of Sarnia	410
Lone Tree Ruby Lass	315
Crackerjack's Dot	360
Lady of Birchwood	450
B. F. Sheridan, Wisconsin	
Model May 2d	$405
R. E. Fisher, Canada	
Lone Tree Lilith	$300
Chas. Ruelke, Wisconsin	
Arlene of Ore Hill	$325
Fern of Eaton's Bell	325
L. P. Martiny, Wisconsin	
Ultra May Rose of Sunny Valley	$530
Goldseeker's Lady Charlotte	300
H. A. Retzleff, Wisconsin	
Walter Sequel's Christine	$310
M. L. Welles, Wisconsin	
Fair Oaks Beda	$305

Waukesha County Guernsey Sale

Waukesha County Guernsey breeders at their semi-annual sale, June 9, at Waukesha, Wis., sold 52 head for $10,570 with $600 the top figure. Fruit Bros. received this for an excellent 2-year-old granddaughter of May King's Vrangue of Ingleside. She was purchased by Geo. Konrad, Wisconsin.

Bidding was slow throughout the sale but, although prices were low, the quality was pretty well up to the standard of previous sales and certainly every buyer should feel satisfied.

Love, Benjamin, and McGuire did the selling with F. E. Fox in the box.

The following list includes those animals selling for $300 or more:

Wm. K. Patey, Wisconsin	
Christabel's Rose of Waukesha	$315
Dairymaid's Sunbeam of Fox Valley	305
C. J. Mitchell, Wisconsin	
King of the May's Fern	$400
Geo. Konrad, Wisconsin	
Royal's Pride of Maple Hill	$600
Dolly Bloom's Moyra Rose of Midlothian	300
May Rose of Tillybarden	420
W. D. James, Wisconsin	
Pearl's Ultra Topsy	$325
Clyde Fruit, Wisconsin	
Governor's Rosette of Walnut Ridge	$440
Lord's Dottie of Tillybarden	415

Southern Wisconsin Guernsey Sale

The Southern Wisconsin Guernsey breeders held their second semi-annual sale at Ft. Atkinson, Wis., June 7. The 67 animals sold brought $15,045, just over a $224 average, with $460 the top price. L. G. Johnson paid this for Hambro's Busy Rose, a seven-year-old daughter of Langwater Hambro, with a 460-lb. two-year-old record. She was consigned by Ralph Tratt.

Mack, Love, and Benjamin did the selling with Sale Manager J. H. Murphy in the box.

The following list includes those animals selling for $300 or more:

Mrs. H. A. Main, Wisconsin	
Comfort of Prospect	$390
W. D. James, Wisconsin	
Snowdown's Beauty of Prospect	$325
Bonnie of Koshkonong Place	400
Dearie of Koshkonong Place	355
Dearie of Koshkonong Place 2d	355
Gladys' Linda	300
W. L. Elphick, Wisconsin	
Deasie's May Laurel	$400
Anne E. Tieken, Wisconsin	
Cooper's Paula	$400
L. G. Johnson, Wisconsin	
Imp. Brunette of the Haut Pave	$305
Hambro's Busy Rose	460

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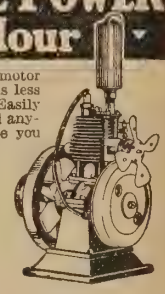
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High Speed. Strong. Compact. Durable. Designed to stand hard service. Will last years with proper care. Runs day after day at average cost of only 2c an hour. Air cooled. Cannot freeze. Nothing like it! Cannot be excelled for utility, economy or service. Positive lubricating system. Dual ignition—dry battery for starting, high tension magneto for spark. Shipped completely assembled ready to place and run. Price only $60. Buy direct from factory and avoid paying numerous profits.

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Live stock men fear wounds or cuts on an animal. They know that infection usually follows and death often results. B-K is a concentrated, pure sodium hypochlorite such as is used and endorsed by leading veterinarians, physicians and breeders. It kills the infection germs; cleanses, soothes and heals the tissues.

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is not a poison, acid or coal tar product. Clear and clean as water, it kills the infection germs without pain or discomfort to the animal or burning of tissues.

Proof That Proves

A B-K user in Oso, Washington, says regarding Ringworm:

"We bought a gallon of B-K and took a chunk of gunny sack and went after it with B-K. In three weeks there was not a sign of it left and there has not been a case since. Forget that iodine stuff. It's as far behind the times as wintering cattle on oat straw."

Keep B-K constantly at hand in the stable, milk-house and kitchen. Wherever germs lurk it does its work. Money back if you are not satisfied.

At your dealers in all size bottles.

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O. B. Roe, Wisconsin
Dora's Boy's H. M. Luetta $405
Nordahl Anderson, Wisconsin
Irna's Pride $300
C. W. Groeler, Wisconsin
Ultra Bargy $370
M. E. Smithback, Wisconsin
Bountiful of Koshkonong Place $410
Wayne A. Munn, Wisconsin
Standard Times Princess Molly $335

Feeding Phosphorus for Milk

(Continued from page 909)

the ordinary rations are more likely to be deficient in one or both the principal bone building elements than in any other constituent."

In a typical experiment, described by Professor Meigs, an animal would receive daily for 60 days before calving 3 lbs. of a grain mixture made up of 45 lbs. corn and cob meal, 36 lbs. wheat bran, 18 lbs. cottonseed meal, and one pound salt. She also received four pounds of alfalfa hay and 30 lbs. of corn silage daily. The next year she would receive during a corresponding period the same average daily quantities of the same feed, but instead of receiving equal amounts of all the feeds every day she would receive on one day 8 lbs. of alfalfa hay and 30 lbs. of corn silage, and the next day 6 lbs. of grain with sodium phosphate added to it, and 30 lbs. of corn silage. The first procedure is spoken of as "control feeding", the second as "alternated feeding with phosphate".

A study of the tables showing increased milk yields under this phosphate feeding is very interesting. There was a notable milk increase in every case, the increase being most marked with animals that had been on standard feeding as compared with those which had been on test, and therefore special feeding for the past lactation periods. With some of the animals there was also a large increase in fat yield.

Eight tables show the results of the experiments in detail, accompanied by a brief history of each animal used, and an interpretation of the results. Table No. 8, which is the summary, is here shown in full:

Table 8—Expected and Actual 30-day Milk Yields of Cows from the General Herd After Alternated Phosphate Feeding; Actual Yields After Control Feeding.

No. of animal	Actual milk yield after control rations	Expected milk yield after alternated rations with phosphate	Actual milk yield after alternated rations with phosphate
	lbs.	lbs.	lbs.
17	847	847	858
49	831	565	953
50	995	995	972
54	669	599	1,027
63	422	495	1,018
71	632	739	1,121
81	685	753	936
Total	5,081	4,993	6,885

The actual yields after the alternated feeding with phosphate average 37.9 per cent more than the expected.

Mention was made in the preliminary article in Hoard's Dairyman of a year ago of the experiments in character and kind of proteins fed, as influencing milk yield during lactation period. No mention is made of this in the bulletin here briefly reviewed. It is understood that there will be a subsequent publication dealing with this topic.

The bulletin herein referred to is No. 945, a contribution from the Bureau of Animal Industry. It should be read and studied by every close student of feeding for milk production.

"Tillage is manure," according to an old English proverb. Certain it is that both make crops grow.



The tire that walks away with the load

The one quality a truck tire *must* have is ability to get traction.

Mileage is important and resiliency desirable, but unless the tires are able to dig in their toes and push when the engine's power is delivered to the wheels, they might as well not be on the truck.

Few trucks are operated under ideal conditions; in sand, in snow, in mud or on wet, slippery asphalt, you've got to have something on the wheels more efficient than smooth bands of solid rubber.

Solid tires are becoming obsolete. Big pneumatics are expensive and undependable. There is only one tire that in all kinds of weather and over all kinds of roads can carry the truck wherever the driver wants it to go, and do it at a lower cost per mile than either the plain solid or the big pneumatic.

That tire is the Caterpillar. It is made in sizes suitable for trucks of every type and weight.

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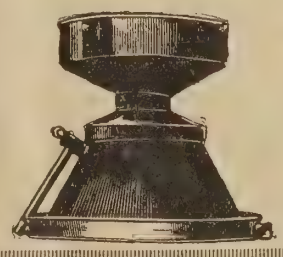


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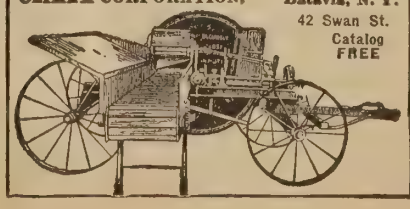


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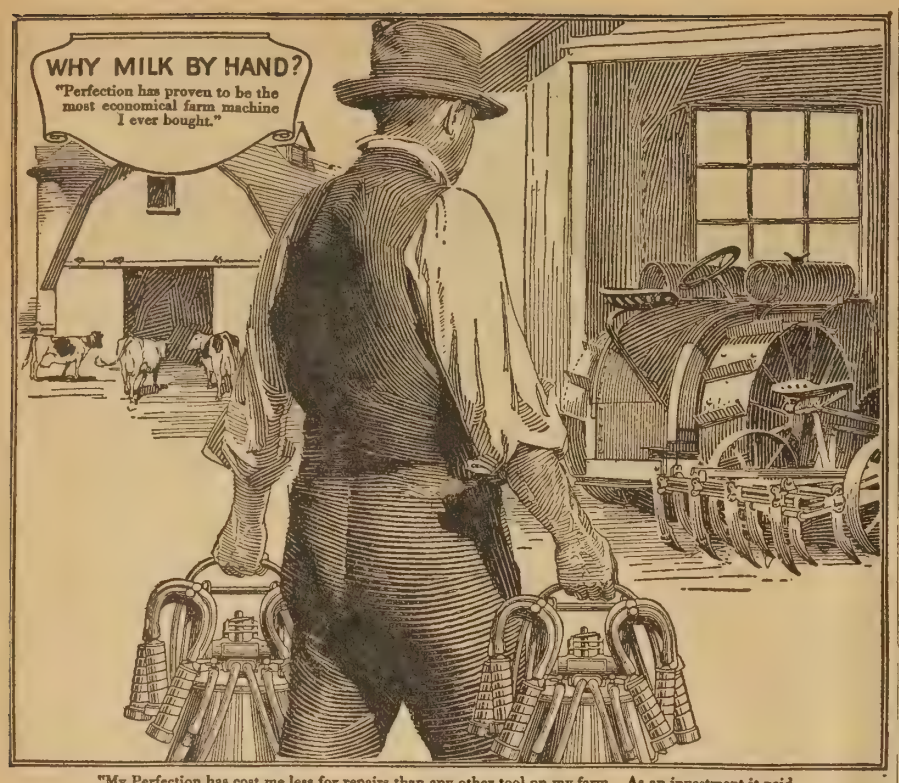




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IT is poor economy to do work by hand that can be better done with machinery.

Feed and labor costs constitute the bulk of dairy production expense. While you cannot materially reduce feed costs and maintain maximum dairy production, you can reduce the expense of milking to a fraction of your present cost when you milk with a Perfection Milker.

Hired help is expensive and hard to get when there is hand milking to be done. And the high cost of help for hand milking adds nothing to the value of the product.

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PERFECTION MILKER

Cow Testing Associations

RECORDS, PRICES OF FEEDS, FAT, AND MILK

Following is the summary of reports received during the week and up to the time of going to press of this issue:

State	Association	Tester	Month	No. of cows tested	No. of cows producing over 40 lbs. fat	Fat production of high cow	Owner
Mass.	Southern Berkshire	F. A. Barbour	May	454	77	76.2	Chas. Scribner
Penn.	Uwchlands		"	441	27	74.6	Gilbert Smedley
"	Southern Blair	J. Ralph Bechtel	"	216	25	62.1	H. B. Replogle
"	Buffalo Valley	S. L. Ayres	April	335	50	36.1	C. C. Dyer
Idaho	Bonner County	C. O. Miller	May	188	32	59.7	W. V. Alverson
N. J.	Salem County	F. A. Tuoti	"	464	104	71.4	Chas. R. Hires
Ore.	Columbia County	O. T. Johnson	"	282	41	75.3	Tilden Grahm
"	Smith & Umpqua	Millie Adams	"	266	118	81.6	Roberts & Sons
"	Tillamook	N. A. Peters	"	1073	768	100.5	Carl Possetti
"	Nehalem Valley	C. E. Lacy	"	577	251	83.2	Gus Peterson
Wash.	Clallam County	C. A. Robinson	"	532	218	78.2	B. H. Ridgeway
Iowa	Delaware County	W. K. Bullock	April	356	11	57.1	H. C. Nieman
"	Delaware County	W. K. Bullock	May	379	29	66.9	D. J. Schnittjer
Ohio	Athens County	W. R. Portz	"	353	53	67.6	Hope Bros.
N. D.	Jamestown	J. A. Barner	"	334		67.8	Emil Kohlscheen
Minn.	Plainview—Elgin	Chas. C. Geddes	"	283	42	72.5	Johnson & Son
"	Winneshiek	Carl Wennes	"	218	22	58.9	C. C. Piliginin
"	Blue Earth Co.	O. Erickson	"	298	92	83.8	Lohre & Son
Wis.	Roberts	C. A. Lund	"		81	83.0	W. A. Lamb
"	Wausau—Marathon	N. M. Nelson	"	430	52	66.0	F. J. Bandy
"	Stratford Co-op.	J. R. Heim	"	512	37	100.5	Chrouser & Sons
"	Mill Creek	V. K. Sherburne	"	444	25	67.9	Chas. Kuhn
"	Allenton—Kohlsville	L. M. Henderson	"	325	129	69.5	Jacob Martin
"	Monroe Co. Co-op.	Henry M. Auby	"	703	162	75.6	H. Stauffacher
Ill.	Knox County	J. B. Countess	"	354	77	91.4	E. Kirkpatrick
"	Jo Daviess No. 2	W. O. Tupper	"	308	25	56.1	F. M. Kelly
"	Tri-County	Edgar Booker	"	394	81	65.0	Lillian Ralston
"	Macaupin Co.	H. R. Fletcher	"	295	52	69.0	Meehan Bros.
"	First Rock Is. Co.	J. C. McCormick	"	356	39	66.9	Midvale Farm
Wis.	Richfield	A. R. House	"	475	116	98.8	H. Schowalter
Va.	Southwest Va.	R. B. Strickler	"	288	26	78.5	Dr. P. E. Wolfe
N. J.	Ringoes	S. L. Douglass	"	263	33	67.2	J. F. Lambert
Vt.	Central Orange Co.	W. A. Renfrew	"	382	26	55.6	B. Tucker
Calif.	Riverside Co.	E. Bahler	"	443	106	104.3	C. D. Kennedy

Association Notes

Southern Berkshire, Massachusetts:—There are at present 191 pure-bred cows and 263 grades in the association. Of the pure-breds, 19.9% made the 40-lb. list and of the grades, 19.8 per cent made the list. The high cow's record was probably due to an increase in grain ration. Nine cows were sold as boarders. One member has installed a milking machine. The May price for market milk has not yet been determined on account of the members getting their milk checks under the Dairymen's League plan. Milk retailed for 12c per quart.

Bonner County, Idaho:—One hundred acres of sunflowers have been planted the first year. During May, market milk sold for $2.75 per cwt. The creamery paid 30c per pound for fat. Milk retailed for 10c per quart and butter for 31c per pound. Bran sold for $28 per ton; corn, $40; oats, $40; oil meal, $80; pasture, $3.

Salem County, New Jersey:—Among the several bulls recently purchased by association members, Mr. J. Powell purchased King Pontiac Beets Alcartra 2nd, a son of King Pontiac Beets Alcartra and out of Duchess Zanca Beets with a record of 31.55 lbs. butter and 537.3 lbs. milk in 7 days. Of the 41 cows in the milking herd of Chas. Hires, 19 produced from 40 to 71.4 lbs. of fat in May. All milk was cut 1¾c per quart.

Tillamook, Oregon:—Eight unprofitable cows were disposed of and one pure-bred bull bought. A member's barn is being remodeled and enlarged, making it one of the best dairy barns in the county. Thirty-eight members of the association cool their milk by running water and of the ten not having running water, three have tanks.

Jamestown, North Dakota:—One man with a herd of pure-bred Holsteins raised his milk production nearly one-third by adding oil meal and bran to his ration. A movement has been started to bring in several carloads of good grade heifers. During May, market milk testing 3.5 per cent sold for $2.50 per cwt. The creamery paid 30c per pound for fat. Milk retailed for 10 and 12c per quart. Oats sold for 25c per bushel; barley, 35c; oil meal, $60 per ton.

Blue Earth County, Minnesota:—The value of good dairy cows has been demonstrated here and, as the result, two carloads of high grade Holsteins were placed around Amboy. Several pure-bred females were purchased, one a 26-lb. cow and another a 23-lb. cow. Several herds are on long-time test and some members have completed 7-day records. During May, market milk testing 3.5 per cent sold for $2.25 per cwt. The creamery paid 43c per pound for fat. Milk retailed for 10c per quart; but-



"PELOUZE" Dairy Scales

Three Sizes: 40, 60 and 120 lbs. by Tenths of a Pound.

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With this wonderful new Libbey Automatic Water Bowl. Each bowl controls own water supply. Animal moves lever, opening water valve, when it starts to drink. Lever swings back closing valve when animal stops drinking. No float tank required. Bowls may be put at different heights or in any stall or pen. Cannot overflow; cannot get out of order; almost no water left in bowl. Most sanitary bowl ever sold. Prevents spread of contagious diseases. Increased milk yield quickly pays back cost. Saves labor; saves feed. Write today. Also for Catalog . . . if interested in Stanchions, Stalls, Carriers, etc. Sent free.

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PAT. 7-2-07 & 9-10-18
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Save your temper, your cows, your milk. Does not excite the cow, nor disturb the flow of milk. Indispensible for breaking heifers, cows with sore teats, or vicious kickers. Cannot wear out. Put on or off in 15 seconds. Guaranteed to be an absolutely perfect anti-kicker, or put on loosely as hobble for cow, horse or mule. Price $1.15 Postage extra. Weight 2 lbs. Send for it today, when you need it you won't have time.

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Makes milk stay sweet longer

Prevents growth of bacteria. Aerating removes stable and other odors and improves the flavor. Cools in one minute. Can be used with ice or running water. Very durable, made of heavy weight best quality tin.

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Prices F. O. B. Chicago

No.	Capacity Quarts	Size Dairy	Price
2	18	1-25 cows	$10.00
3	34	25-50 cows	12.00
4	48	50-100 cows	15.00

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ter for 34c per pound, and cheese for 30c. Bran sold for $20 per ton; silage, $6; clover hay, $15; alfalfa, $18; oil meal, $2.50 per cwt.; oats, 35c per bushel; corn, 42c.

Wausau—Marathon, Wisconsin:—Fifteen pure-bred cows were sold through public sale. Twelve females and 4 pure-bred bulls were purchased. The high herd has this month made the highest average for two months since the association started two years ago. The owner was induced to start A. R. testing. After this was done and better feeding instituted, production of this herd almost doubled. The herd returned $1.95 for each dollar's worth of feed consumed during April. During May, market milk testing 4 per cent sold for $1.30 per cwt. The creamery paid 33c per pound for fat and the cheese factory 32c. Milk retailed for 10c per quart; butter, 34c per pound; and cheese 22c.

Allenton—Kohlsville, Wisconsin:—Forty-six cows made over 50 lbs. butterfat and 12 over 60 lbs. for this month. Twelve grade Holstein cows and 10 grade Holstein heifers sold for a total of $2,187 in this association during this month. Members are all glad to learn we have second highest average of butterfat in Wisconsin associations and have only been in operation for two years. All herds are now on pasture.

Monroe Co-operative, Wisconsin:—This association has 100 per cent pure-bred sires. Some groups of farmers are buying feed co-operatively. During May market milk testing 4 per cent sold for $2.05 per cwt.

Jo Daviess No. 2, Illinois:—Members are taking a keen interest in better dairy cows. It has always been hogs and corn with a few cows as a side line, but it will soon be reversed. A pure-bred bull is used on all herds but two at the present time. Market milk sold for $1.80 per cwt. with 4c per point being paid for each point above the required test. Feeds sold as follows: corn, $1.75 per cwt.; oats, $1.75; bran, $1.10; oil meal, $2.50; cottonseed meal, $2.30; alfalfa, $15—$18; clover, $15; timothy, $15.

Tri-County, Illinois:—One member improved his herd by disposing of one unprofitable cow and purchasing two pure-bred Holstein cows and a pure-bred bull calf. By a tuberculin test made the first part of May, the herds belonging to the Illinois School for Deaf, the Jacksonville State Hospital, and Mrs. J. A. Taylor are free from tuberculosis. During May market milk sold for $2.08 per cwt. Milk retailed for 11c—14c per quart and butter, 32c per pound.

Macoupin County, Illinois:—Three unprofitable cows were sold and two pure-breds purchased. The average feed cost per hundred pounds of milk produced by members of the association was 78c. During May, market milk testing 3.5 per cent sold for $1.89 per cwt. Corn cost 40—70c per bushel; oats, 45c; bran, $1.25 per cwt.; cottonseed meal, $1.90; linseed meal, $2.60; silage, $6 per ton; pasture, $3.

First Rock Island County, Illinois:—Seven unprofitable cows were sold. No feed was purchased. We use as much home-grown feed as possible with cottonseed and oil meal. One old bull was sold for beef. During May market milk testing 3 per cent sold for $2.12—$4.70 per cwt. The creamery paid 28c per pound for fat. Milk retailed for 12c per quart; butter, 30c per pound; and cheese, 45c.

Ringoes, New Jersey:—A good example of what a good herd sire can do in one generation is shown in the herd of J. F. Lambert. Pabst Johanna Segis has three two-year-old heifers and a three-year-old which have all completed seven-day records from 21 lbs. butter, 523 lbs. milk, to 17 lbs. butter, 407 lbs. milk, and are equalling the daily production of their dams in the same stable. During the month, two pure-bred cows were purchased and several grades disposed of. Market milk testing 3 per cent sold for $1.89 per cwt. Milk retailed for 11c per quart and butter for 38c per pound.

Southwest, Virginia:—One unprofitable cow was sold and four pure-bred Jerseys were bought. The creamery paid 25c per pound for fat. Milk retailed for 14c per quart and butter for 35c per pound. Silage sold for $8 per ton; ready mixed grains, $60; cottonseed meal, $40.

Richfield, Wisconsin:—Five cows were sent to the block and 10 were sold to outside buyers for breeding purposes. Testers of Washington County organized and are going to push testing work more systematically. A. R. House was elected president; Martin Land, vice-president; and L. M. Henderson, secretary and treasurer. During May market milk testing 4 per cent sold for $2.10 per cwt. The condensery paid 57c per pound for fat; the creamery, 56c, and the cheese factory, 38c. Milk retailed for 10c per quart and butter for 35c per pound.

Riverside County, California:—Meetings were held in Riverside and San Jacinto, May 17 and 18 on Feeds and Feeding, with Professor E. O. Voorhies of the University of California as the principal speaker. F. H. Scribner was present at the San Jacinto meeting and spoke briefly on feeding experiences. At a general meeting in Hemet on the evening of the 17th, agitation was started toward bringing in more pure-bred cattle to be placed on the fruit farms in that section. It is anticipated that the valley will be practically a one-breed valley and tuberculosis free.



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DAIRY MARKET NEWS

Country Cheese Markets Active

(Report by U. S. Bureau of Markets.)

While somewhat irregular, trading in cheese markets was very active during the week ending June 11. The break in prices on Wisconsin cheese boards, which occurred June 6, was somewhat of a surprise to many dealers who had figured that the advances of the previous week would hold.

At Wisconsin primary markets there was more activity than at any other time so far this year. Buying for storage did not assume important proportions, but numerous inquiries indicated an active interest. Quality of the current make was reported satisfactory. Reports also indicate that production is close to the peak, as receipts of milk at some factories have fallen off recently. Primary market dealers look for a good volume of business from now on unless something happens to unsettle the markets.

Reports from wholesale distributing markets differ somewhat. The result of the break in Wisconsin country prices was that some dealers who were buying under contract cancelled their orders and bought from brokers who could offer them better prices temporarily than their contract prices. Boston was the one market where wholesale prices showed again. Prices were unchanged throughout the week at New York and Philadelphia, and but slight changes occurred at Chicago. Wisconsin prices were directly affected by declines on the cheese board Monday, although the price tendency was upward toward the latter part of the week.

The average wholesale prices on American cheese (style Twins) for the week ending June 11, 1921, and for the corresponding week a year ago were as follows:

	Week ending June 11 1921	1920
	Cts.	Cts.
New York	16.0	28.5
Chicago	14.5	25.5
Boston	16.2	31.0
San Francisco	15.5	27.1
Wisconsin	13.7	24.7

The receipts of cheese at these markets was 5,334,145 lbs. as compared with 4,207,372 lbs. a year ago and 4,707,288 lbs. a week ago.

Butter Prices Decline

(Report by U. S. Bureau of Markets.)

During the week ending June 11 butter markets were exceptionally strong even for the early part of June when firmer markets and good trading are usual. Buying both for storage and for immediate needs was very active until Thursday when a reaction set in causing weakness and a set-back in prices for the rest of the week. As prices had made an advance of 1c to 1½c on top grades, and 2c to 3c on undergrades, this decline did not wipe out the gain entirely.

Receipts for the week were materially heavier than for the previous week and for the same period last year, but there was a shortage rather than a surplus most of the time. Demand was chiefly for the fancy long lines of creamery and for fine centralized cars.

The average wholesale prices on 92-score butter at five of the principal markets for the week ending June 11, 1921, and the corresponding week a year ago were as follows:

	Week ending June 11 1921	1920
	Cts.	Cts.
New York	31.9	56.5
Chicago	30.7	54.0
Philadelphia	32.5	57.0
Boston	32.6	56.6
San Francisco	33.4	52.5

The receipts of butter at these markets were 18,543,918 lbs. as compared with 15,419,704 lbs. a year ago and 15,962,655 lbs. a week ago.

New York Butter Market

NEW YORK CITY, JUNE 14—There was a halt in the advance of butter prices on Thursday of last week and a temporary decline of values materialized on Friday and Saturday. That was due to the withdrawal of the speculators who had been operating very actively for several days. There was a feeling among those operators that values had reached a point too high for the safe storing of butter. Following the lead of the speculators, jobbers and retailers ceased purchasing for about two days with the result that stocks began to accumulate to some extent. However, it was apparent that other markets were not taking the situation very seriously, hence active buying again started at the opening of this week and the market has more than recovered what it lost in price values last week.

Figures which recently became available throw much light on this year's general conditions. On May 1, stocks of butter in storage and warehouses throughout the country aggregated 7,494,000 pounds. On June 1, those stocks had increased to 21,500,000 pounds, a gain for the month of fully 14 million pounds. In comparison, on May 1, 1920, there were 7,554,000 pounds in storages, etc., while one month later that had been increased to 12,872,000 pounds, or a gain of only 5,318,000 pounds. Those figures show clearly that speculative operators feel it to be much safer to store butter at present prices than at the prices of one year ago. Butter in storage in New York refrigerators on June 1 aggregated 6,796,829 pounds as compared to 5,316,263 pounds of one year ago. It is true undoubtedly that the favorable season for production has much to do with the increase in stored butter. Not only has the favorable season been conducive to quantity production but it has also favored high quality production, thereby furnishing much greater quantities of butter of such quality that it can be safely stored.

Consumptive demand is falling off to some extent as is usual at this season of the year. That is the result of warm weather which makes living in the large city almost unbearable. At such times city dwellers, who can afford it, move their families to the country thereby reducing the consumption of all food products. However, consumption of butter, even now, is greatly above normal because of

Carload Prices of Hay and Feed at Important Markets June 11

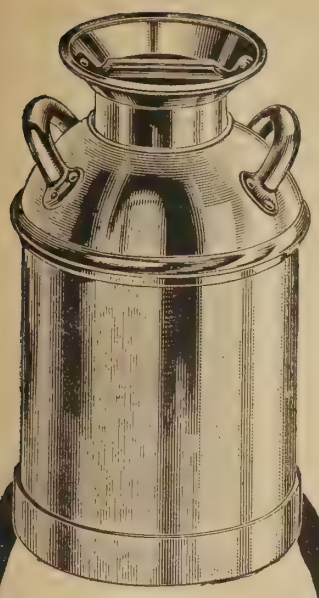
(In dollars per ton)

(Report by U. S. Bureau of Markets)

Commodity	Boston	New York*	Philadelphia	Pittsburgh*	Savannah	Jacksonville	Memphis*	Cincinnati*	Chicago*	Minneapolis*	Omaha*	Kansas City*	St. Louis*	San Francisco*	Los Angeles*
HAY															
Timothy and clover:															
No. 1 Timothy	29 00	29.50	23 00	22.00	27.50	27.00	28.00	18.00	23.00	19.00	.....	†19.00	.....	.....	.....
No. 1 Clover, mixed	23.00	23.50	.....	14.00	.....	25.00	.....	15.00	17.00	15.50	....	†15.00	.....	.....	.....
No. 1 Clover	....	.....	....	14 00	.....	.....	.....	16.00	16.00	†15.00	....	†14.00	.....	.....	.....
Alfalfa:															
No. 1 Alfalfa	.....	.....	.....	.....	.....	31.00	21.00	18.00	23.00	†20.00	18.00	18.00	.....	19.00	18.00
Standard Alfalfa	.....	.....	.....	.....	.....	30.00	19.00	17.00	21.00	†18.00	15 00	16.00	.....	17.00	.....
No. 2 Alfalfa	.....	.....	.....	.....	32.00	28.50	16.50	13.00	18.00	†15.00	11.00	11.00	.....	15.00	.....
FEED—Bagged															
Wheat Bran:															
Spring	24 50	24 00	23 50	22.50	.....	26.50	.....	21.00	17.50	14.75	.....	.....	.....	.....	.....
Soft Winter	.....	25.50	25 50	24.50	27.00	26.50	19.00	22.50	.....	.....	.....	.....	.....	39.00	.....
Hard Winter	....	.....	24.00	23.50	27.00	.....	.....	21.00	.....	.....	13.40	14.00	.....	.....	29.00
Wheat Middlings:															
Spring (Standard)	24 75	24.50	24.00	22.50	.....	30.50	.....	22.00	17.75	14.75	.....	.....	.....	.....	.....
Soft Winter	.....	....	28.00	27 00	.....	.....	.....	27.00	.....	.....	.....	.....	.....	40 00	.....
Hard Winter	.....	.....	.....	28.00	32.00	.....	.....	22.00	.....	.....	18.00	.....	.....	.....	.....
Rye Middlings	21.50	....	21.00	20.00	.....	.....	.....	20.00	15.00	12.00	17.00	.....	.....	.....	.....
High protein meals:															
Linseed	37.00	36.50	36.00	34.50	.....	.....	.....	37.00	31.50	29.50	33.50	31.50	.....	.....	.....
Cottonseed (41 per ct)	42.50	40.00	40.25	41.50	.....	.....	31.50	.....	.....	.....	.....	35.50	.....	36.00	.....
Cottonseed (36 per ct)	38.75	38.00	38.25	39.00	32.00	33.00	29.50	35.00	35.00	.....	.....	.....	.....	.....	30.00
No. 1 Alfalfa me'l (med)	.....	.....	30.00	.....	.....	30.00	24.00	27.00	24.50	.....	21.00	18.00	.....	22.00	23.00
Gluten feed	35.78	35.00	33.71	31.93	.....	.....	.....	30 30	26.50	.....	.....	.....	.....	.....	.....
Hominy feed (white)	31.50	31 00	30.50	....	.....	.....	.....	24.50	24.00	.....	20.00	.....	.....	.....	.....
Ground barley	.....	.....	24 00	.....	.....	.....	.....	38.00	23.50	21.00	.....	29.50	.....	.....	29.00
Beet pulp	28.50	25.00	28.00	25.80	41.00	37.60	.....	26.00	.....	.....	.....	.....	.....	30.00	30.00

*Hay quotations represent average of cash sales at these markets. †Nominal.

Straw:—Receipts of straw were light and prices were higher in all but one or two of the markets reporting. Rye straw is scarce and wanted in eastern markets. Prices were quoted as follows: Wheat straw—Philadelphia $17.50, Pittsburgh $15.50, Cincinnati $12.50, Chicago $11.50, Minneapolis $9.00, Omaha $8.00, Kansas City $9.00; Oat straw—Philadelphia $18, Pittsburgh $15.50, Baltimore $16.50, Cincinnati $12, Chicago $13, Minneapolis $10, Omaha and Kansas City $9; Rye Straw, New York and Philadelphia $25, Baltimore $23, Cincinnati $18, Chicago $16. Quotations for rye straw in eastern markets are usually for straight untangled straw baled in box presses.



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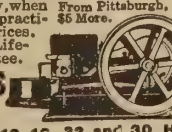
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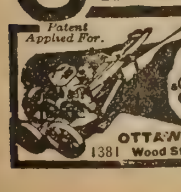
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the fact that consumers in moderate circumstances are buying it freely now that the retail price is at a reasonable level. Speculators are banking on a great consumption of butter throughout the year and are therefore buying more freely than ever before.

Last week opened with prices on an upward trend. Values had been increasing ½@1c each day for several days and continued to do so until Thursday when the top price of 32½c which became established on Wednesday remained unchanged. There was little activity on that day and on Friday prices declined ½c. There was a similar decline on Saturday, but on Monday of this week there was a recovery of ½c and that was followed by an advance of 1c today. Free buying is the order of the day at present and it is very probable that prices will go yet higher although receivers, in general, feel that further advances will result in a curtailment of activity with a resultant slump. Established quotations today are: Extras (92 score), 32½@33c; higher scoring than extras (93 score or higher), 33½@34c; firsts (90—91 score), 31@32c; firsts (88—89 score), 29@30½c; and seconds (83—87 score), 26@28c.

W. B. LIVERANCE.

CHICAGO, June 17—Butter—Creamery, extras, 32½c; extra first, 32c; dairy, firsts, 27@31½c; seconds, 24@26c.

Eggs—Ordinary, 20@21c; firsts, 23½@24c.

Cheese—Twins, 14¼@14½c; Young Americas, 14½@15c.

MILWAUKEE, June 17—Butter—Creamery, tubs, 30c; prints, 31c; extra firsts, 27@29c; No. 1 packing stock, 15@16c; off goods, 10@12c.

Eggs—Miscellaneous receipts, country candled, cases included, 22½@23c; cases returned, 20@20½; seconds, 21½@22c; checks, 14@15c.

Cheese—Twins, 14@14½c; Daisies, 14½@14¾c; Young Americas, 14½@14¾c; Longhorns, 14¾@15c; Bricks, 15@16c; Limburger, 20@22c; Swiss, loaf, 48@50c; block, 30@31c.

NEW YORK, June 17—Cheese—Steady; state milk, common to specials, 10@16½c; skims, common to specials, 8@11c.

Butter—Firm; receipts, 16,826 lbs.; creamery, extras, 32¾@33c; state dairy, tubs, 20@32½c.

Eggs—Unsettled; receipts, 38,554 cases; nearby white fancy, 37@38c; nearby mixed fancy, 24@34c; fresh firsts, 25@32c; Pacific Coast, 27@38c.

Ice Cream Production

The 1920 census of manufacturers shows that there were 3,476 establishments engaged in the manufacture of ice cream in 1919, the value of the product reported being $189,414,000. In 1914, reports were received from 2,437 establishments with products valued at $55,983,000.

Pennsylvania is credited with the largest value of ice cream products, her 476 establishments producing nearly 30 million dollars' worth of ice cream in 1919. New York had 516 ice cream establishments producing over 25 million dollars' worth of products. Next in order comes Illinois, Ohio, Massachusetts, New Jersey, and California.

Folly Farm Dispersion

Folly Farm owned by R. H. Donnelley has long had one of the best Guernsey herds of Illinois, and its dispersion at Fond du Lac, Wis., June 4, was an event of more than ordinary interest in Guernsey circles.

The 38 animals included in the herd brought an average of $400, with three selling for $1000 or more. St. Austell Daybreak, a 4-year-old daughter of Don Diavolo of Linda Vista, now on A. R. test, topped the sale at $1700 going to Jay B. Deutsch of Michigan.

F. J. Reuping of Wisconsin purchased the second animal in the price list for $1400. This was a four-year-old daughter of Langwater Pencoyd, with a record of 593.91 lbs. fat in DD.

Chas. L. Hill managed the sale.

The following list includes those animals selling for $450 or over:

F. J. Rueping, Wisconsin	
Mavourneen of Pencoyd	$1400
Folly Laura	500
Fillmore's Topsy	535
Folly Suzette	550
Folly Honoria	500
A. L. Sheldon, Minnesota	
Folly Dido	$1000
Red Moose Farm, Illinois	
Folly Beatrix	$450
Jay B. Deutsch, Michigan	
St. Austell Daybreak	$1700
Folly Daisy	675
B. F. Sheridan, Wisconsin	
Doris of Sarnia	$450
Mt. Zion Ranch, Wisconsin	
Bella's Golden Lassie	$610



Sharples Standard of the Dairy

...ce." ...out of ... skeptical about machines, when forced to use one because of the shortage of help during the war, became enthusiasts. They found that their boys could do the milking during busy seasons and thus save keeping an extra hired man. Now that labor is more plentiful they do not care to change back to the hand method of milking.

One of our readers ... owned to the ...

"Boys of Twelve and Fifteen do the Milking

—The Machine is Saving me $50 a Month and the Board of One Man"

IF you still milk by hand read the letters (from which the above comment was taken) in the April issue of The Dairy Farmer—then investigate the Sharples Milker. Find out how you can make "milking time" a shorter, more agreeable, more productive and more profitable than ever before. Find out why the percentage of America's 24,000,000 dairy cows being milked the Sharples way is increasing daily.

The Sharples is made in two types. The Sharples Master Milker (for large or small dairies) is now in satisfactory use on over one million cows and is to be found in nearly every country in the world. Our Moto Milker is an electric, portable milker made especially for six to twenty cow dairies that have electricity. No installation is necessary—simply wheel it in the barn and milk. It will run from a farm lighting plant. Both machines have the same suckling action on the teats and the intermittent squeezing by Compressed Air (patented). A Sharples will cut your milking costs and increase your profits from the start. Let us send our free descriptive booklet.

THE SHARPLES MILKER COMPANY
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SHARPLES MILKERS

No other milker has a positive squeeze. No other milker even squeezes the teats out of round. No other milker uses compressed air. Sharples patents protect this big feature absolutely.

Most cows give down more milk to the gentle, comfortable Sharples suckling action than they do to hand milking. They like it and it frequently increases the milk yield

SAFETY

No Stripped Gears—Reverses Under Full Load at Top Speed

Load the Rowell to full capacity, run it at top speed—throw the reverse lever—it *instantly reverses*, No danger of stripping gears. This device may save a costly breakdown. You get it on the Rowell. The automatic safety release on the pulley and fly wheel allows the cylinder to stop before foreign substances can get to the blower fan. No danger of accidents.

ROWELL SAFETY-AUTOMATIC

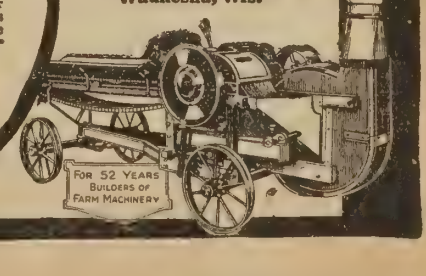
The Safest Silo Filler. All moving parts guarded. Rigid construction keeps every part in line. Cutting cylinder with three or four knives works just like a lawn mower and is as safe to use.

The Rowell makes the best ensilage. You harvest the corn when it is ripe. No danger of damage by frost. You never have to wait if you *own a Rowell*—you're always next.



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HOARDS DAIRYMAN JUNIORS



A DEPARTMENT FOR THE DAIRY FARM BOY

Keeping Pace With the Season

Spring is fast slipping into summer. Indeed we are almost inclined to think that we are in the midst of summer, so rapidly is everything growing. There is an old saying in which there is much wisdom and good advice for each of you Juniors which says, "make hay while the sun shines", meaning of course that one should not allow present opportunities to slip by without being able to give a good account of them.

Now and for the next few months is the time for each of Hoard's Dairyman Juniors to give a good account of his time. Your calf, pig, lamb, poultry, acre of corn or garden will be a fair representative of the work you do this summer. No matter how good the start you have made, the results will not be good unless you continue to do your best. Whether you are working with plants or animals, keep them growing as fast as possible, and only care of the right kind will do the job from now on. Let it be said of you this fall when the growing season is over, "he did his best". And we are certain that if you do your best, you will have something worth while to your credit. Plan right now, if you have not already done so, to have something to exhibit at the fairs this fall when they open. It isn't so much the prize which you may win as it is the fact that you will be doing something really worth while and that you may be the cause of others doing things which are good.

It is easy to begin to slip from the good which one sets out to do and we know that it takes a pretty strong will to bring work of some kinds to a successful close. But it can be done and if you will take the trouble to look up the life of some one that has been considered successful, you will find that he has been a hard working, persevering fellow. Success doesn't come without effort and we don't think there is very much to what many people call good luck. Usually it is a case of good, honest effort instead. And then there is joy in doing things and it grows as results are being obtained. The fellow who watches his calf grow into a fine cow when he has been doing the work himself is certainly rewarded from the pleasure this gives him to say nothing about being the proud owner.

In the past, Hoard's Dairyman Juniors have been invited to write their experiences in the form of stories to be used from time to time on the Junior page. Some have been very well written indeed. But our complaint is that there have not been enough of them from so large an organization as our Juniors have. Here is something for you all to keep in mind through the summer. When schools open up again next fall and we all get back to the habit of school work, we expect to invite the Juniors to again write stories and this time there will be prizes offered for the best ones. So whenever you think of anything this summer that you feel will be of interest to mention in the story you will write, it might be a very good plan for you to make note of it and then when the time comes for you to write you will have it to use. We want every Junior to be successful no matter where he is living and what he is doing, and you will find that there is only one way to success and that is persistence working hand in hand with patience.



TWO GOOD PRODUCTS OF BEECH WOOD STOCK FARM, NEW YORK; GRACE WAGNER, AGED 5, AND COLANTHA DEKOL BLOSSOM

Exercise for the Calf

Muscle and bone of good quality cannot develop from inaction. Growing animals of all kinds must have exercise in order to build up strong, vigorous constitutions. Those of us who are raising calves should be very much concerned about providing a place for daily exercise if we expect them to develop as we would like to have them. It is but a natural law to which we should conform. One may think that his calf is doing very well even though it is quite closely confined, but on the other hand how much better would it be if it had some freedom to do as it pleases. A calf in the pasture usually gets all of the action it cares to have but that is not a good argument for allowing young calves to be brought up in the pasture. There are too many other evils attached to this way of bringing them up. Young calves allowed the freedom of a pasture to the extent that they are kept there all of the time will not make as rapid gains as those which are barn fed. There are some sensible reasons back of this statement, too, which I am sure those of us who have had experience will appreciate. First, we are not so liable to be regular in attending to them; and, second, to be subjected to the hot summer weather and to the torture of flies is not a good thing for them. But while we contend that the stable is the best place to raise calves, everything for the welfare of the calves being considered, we also argue that there must be some provision made to give them an opportunity to run and play. Did you ever see calves at their play? If you haven't you have not been a very good student of them. How they like to run and kick and chase each other about. This is how they like to take their exercise.

The worst thing that we can imagine is to keep a young calf tied up day after day in some dark corner of the stable, where it sees no other living thing excepting the one who feeds it. This we will label cruelty and we trust that there is not a single Hoard's Dairyman Junior who is doing this. It is all wrong and Nature never intended anything like this to be inflicted upon the young of animals. While this is the worst that we can imagine, we think it is also bad to keep a calf confined to a small stall in which he can barely turn about. A big, bright, airy pen is better, but even this does not allow of sufficient exercise. In addition, there should be a runway outside at their disposal especially on bright, fair days and if this cannot be had, then we would suggest that they be given the freedom of the stable during the day time. And if this can't be done, then we have something else to offer.

Since you are planning to exhibit your calf this fall at some of the fairs or shows you will want to teach it to lead. This is one of the many features you will want to look after in its training if you expect it to act to good advantage when the judge is passing on it. Now, then, if you teach it to lead well, you can at least exercise it each day by leading it about the yard and you will find that you will have about as much fun as the calf does. Anyway we know that it is one of the best brands of medicine you can give your calf for keeping it in good health. Good, wholesome feed and plenty of it together with exercise daily and a bright, airy, and roomy place in the stable to live in is about the best combination that we know of to make a calf happy and contented. Happy and contented calves develop vigorous constitutions and make good cows.

Why We Go to School

Some time ago, I asked a number of boys why they were going to school. Rather a senseless question some of you may think. But from the answers that were given, I am inclined to think it is a very sensible one for us to consider. Although I cannot repeat all of the answers, I will give some of them to prove that we are not all keenly aware of the real reasons why we go to school. They ran somewhat like this:

School is a good place to make us work; it keeps us out of mischief; we learn things there that can't be learned in any other way; it will make it easier for us to earn a living; we won't have to work so hard when we get to be men. While most of their answers expressed an element of truth, still we think that they were quite far from the point.

Certainly school is a place where we expect to learn and may be it will fit us to earn a living much easier and in a pleasanter way, and quite as certain it will not let us off easier when we get to be men. The more education one has, the more he should be capable of doing and the greater the service he can render. The school helps us to understand our relationships that daily surround us and it also helps us to find the things that we want to do when we are through. It makes us form good habits of thinking and doing and after all these are the really worth while things to learn. Whether or not we realize it, the privilege of having a good school to attend is perhaps the greatest opportunity that every boy and girl has and we would like to see them measuring up to it. The time will come when those of you who do not appreciate this great advantage will say, "I wish that I had gone to school when I had the chance and that I had taken more interest while I was there". There is never any time quite as good as the present, so we hope that all of the Juniors are enjoying their school days and that they are planning on getting just as much school education as they can. It is the best investment that can be made at this time of your lives, and it is just as much of an honor to be a good student today as it ever was.

What Is Buckwheat?

How many of you Juniors realize what buckwheat is as you sit down to an appetizing breakfast consisting of buckwheat cakes and maple syrup? To be sure there must have been flour from which they were made and it is not the flour used in making bread. Buckwheat is a plant but quite different from the wheat plant that furnishes the flour from which most of the bread is made. It is a member of a plant family to which some of our common weeds belong, such as sheep sorrel and the yellow dock. The name of this family is the Polygonaceae. While buckwheat is commonly grown as a grain crop and is sometimes called a cereal grain, we should know that it is not a cereal in the true sense of that term. Only those grains which belong to the Gramineae or grass family of plants are true cereals. Hence wheat, oats, barley, rye, rice, and corn are the real cereals. But because buckwheat is used to make flour, it also is referred to as a cereal.

Buckwheat is an interesting plant for several reasons. Although the production of it is not very large in the United States, still it has a very important place in some sections of the country. It is interesting to know the habits of different kinds of plants, and it is almost necessary to know them if we are going to grow the best kinds of crops. Some crops can be grown under quite different conditions than others. For example, alfalfa must have a fertile, well limed, and well drained soil to do its best. While this condition will give the best results with most any crop, it is not nearly as necessary for many as it is for alfalfa. Buckwheat is one of those plants that is not very particular about the kind of soil it grows upon. Here, again, we are able to see the workings of an all wise Nature in providing us with a series of crops suitable for all kinds of soil conditions.

If there is any one crop that will do well on an acid or sour soil, it is buckwheat. It will occupy to good advantage the poorest soils of the farm and it usually gives a fair return. While this crop is generally grown as a grain crop, still it has other uses. On account of being able to seed it late in the season, it may be used to good advantage to smother out weeds where soils are badly infested with them. A good thing to do in such cases is to keep the land cultivated until the middle or third week in June so as not to allow any of the weeds to grow. This is called fallowing the soil. Then when the buckwheat is seeded, it will grow so rapidly and vigorously that it smothers out the few weeds that try to come up and in this way we are able to get rid of them by means of this crop.

While there are several kinds of buckwheat, the number of useful varieties is comparatively limited. What is known as Japanese buckwheat is perhaps the leading variety. It is the largest seeded of all varieties and ranges in color from a dark brown to almost black. The next important

one is called Silverhull because its hull has a silvery gray appearance. Compared to the first variety, it is smaller seeded and is inclined to weigh more per bushel than the Japanese. The crop also matures earlier. Then there is a variety that is intermediate between these two known as the Common Gray. It is quite difficult to find samples of seed that are entirely pure of any of these varieties. There are several reasons for this. First of all, the growers do not sow pure seed; secondly, the plant breeders have not improved this crop very much as yet; thirdly, the varieties cross very freely. So for these reasons pure seed is rather difficult to find.

But have you ever seen buckwheat growing? Here, again, it is quite different from wheat. In fact, buckwheat means beech wheat on account of the resemblance of the seeds to those of the beech tree. The seeds are three-sided and three-edged so that they look somewhat pyramidal in shape. The flowers are white to pink in color and they furnish a great deal of nectar for the bees and this is the reason why we are able to speak of buckwheat honey. When the plants are in full blossom, they are visited freely by the bees and so it may be that the majority of honey made for a certain length of time comes from the buckwheat flowers and so has a flavor peculiar to buckwheat. The plants are blossoming for quite a long time, a habit which makes it a good bee pasture plant.

Now suppose we were to seed a piece of land to buckwheat, I wonder if many of us would know much about what to do and when to do it. It might be well for us to consider some of the things we would have to do if we were growing a crop. We do not have to be in a hurry to seed it because early seedings will not amount to much. Buckwheat is very sensitive to frosts so we must wait until that danger is passed. It doesn't take very long for it to make its full growth, so all we must look out for is to give it sufficient time to make its growth and ripen. Growers usually consider any time in June up to about the first week of July as the best time to seed. Somewhere about the middle of June would be the most ideal time. Since buckwheat likes a temperate climate, most of the crop is grown in the states of New York, Pennsylvania, and the New England States. There is little of the crop grown in the south or west of the Mississippi River. Since this crop is not so particular about the kind of soil that it will grow on, it is usually the custom to give the poorest soil of the farm to it where it is grown. And we think that this is quite as it should be, because we should learn to be discriminating in the choice of what we grow.

Now if we continue with the seeding of the field we will learn that buckwheat is very easily seeded, in fact, just the same as any of the other grains. From three to five pecks of seed will be needed and it may be sown with the grain drill or with the broadcast seeder. The seeds will sprout quickly and it is not very long before the field is all green and with the right kind of weather following the crop will make a most rapid development.

If one does not want to thresh the seed, he can plow the entire crop under to furnish organic matter for the soil. This is quite often practiced because it usually is those very soils that are seeded to buckwheat that need organic matter to make them better. But the crop, as said before, is usually grown for seed and the seed is milled into buckwheat flour. When the crop is ripe, it is cut either with a grain binder or a mower and allowed to dry sufficiently in the field so that it can be thrashed directly without having to handle it in the barn or stack. Since the plants are quite juicy at the time the crop is cut, many growers do not have any twine in the binder and so the bundles are not tied. This helps to dry it out faster, but whether one uses twine will depend upon how ripe the crop is at the time he is cutting it. Thrashing is very easily accomplished by means of the regular small grain separator. It is quite possible to produce 25 bushels of seed per acre although an average yield would be about 15 to 18 bushels.

The common use for buckwheat is flour. This is made by a process quite similar to making flour. The hulls must first be removed after which the seed is ground into flour. From 100 lbs. of good buckwheat seed, there should be obtained about 65 lbs. of flour, 20 lbs. of hull, and about 14 lbs. of middlings. The middlings come from the real seed covering just underneath the hull. The hull itself is of little value but sometimes it is mixed with the middlings and the product is known as buckwheat bran. Both are used for stock feed, but the middlings are very much superior to the bran. We hope that this little story will serve to make all the Juniors learn more about this plant, even though it does not rank with more important crops of the farm.



JUNIORS ON DAIRY TOUR

Salem County, New Jersey, has a Junior Dairy Club that made a tour of some of good herds to learn at first hand what good dairy practice consists of and how prosperous breeders are made. There were 44 boys who got a new insight into the possibilities and delights of dairy farming as it should be.

Junior Letters

Hoard's Dairyman Juniors:—We will have a real pig club this year as seven of us are in a sow and litter contest. We have all pure-bred sows. My sow has just six pigs. Another Poland-China in the contest has a litter of ten. We all have Poland-Chinas but two who have Durocs and Chester Whites. I am also raising pure-bred Black Siberian rabbits. I am milking four cows now. They are Jerseys and Brown Swiss. Brown Swiss are easier milkers than Jerseys.

Kansas. Mahlon Beachy.

Hoard's Dairyman Juniors:—I enjoy reading the junior page in Hoard's Dairyman. We have been getting this paper for a long time. I am 11 years old and in the 6th grade in the town school. We have 40 pure-bred Brown Swiss cattle and about 70 sows and small pigs of the Hampshire breed.

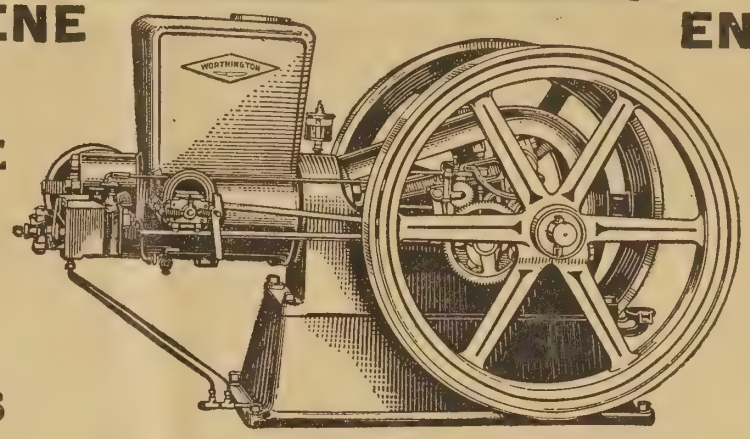
We get out of school about the 3d of June.

Wishing all the juniors good luck. If any of the juniors would like to write, my address is R. F. D. No. 1, Hudson, Wis.

Edward Boody.

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Holstein heifer and bull calves. Pure-bred, registered and high grade. Splendid individuals and breedings. Delivered to you, $25 and up. Your inquiry will be given our best attention. BROWNCROFT FARMS, McGraw, N. Y. 5*

I have usually 100 head of registered and high grade Holsteins on hand for sale. Also registered and imported Percheron and Belgian horses. RALPH HUDSON, Milton Junction, Wis. 12*

For Sale—At Elmwood Stock Farm, high grade Holstein cows, fresh and springers, by the carload. JOHN MURPHY, Mukwonago, Wis. 3*

"The Willows" offers fifty high grade Holstein cows for sale. S. D. SHAMBEAU, Waupaca, Wis 12*

Serviceable grandsons of Lola Segis Pontiac Homestead for sale, he a 34-lb., 1,000 lb. son of Piebe Laura Ollie Homestead King. Their dams are daughters of Joe Oak De Kol Fobes. Well grown, good individuals. Your choice, $150. R. W. MEAD, Stillwater, Minnesota. 10*

Baby Bulls—Registered Holstein-Friesian by high class sires and heavy producing dams. Price is right. C. S. MULKS & SON, Whitewater, Wisconsin. 3-*

We ship our 7 weeks old Holstein calves subject to inspection c. o. d. for $28.00. Express charges paid. Special price on lots. SPREADING OAK FARM, Whitewater, Wis. 17-tf.

Holstein grade heifer calves, two to four weeks old from tuberculin tested herds. Crated $22. Pure-bred bulls from tested sires $75 and up. Shipped C. O. D. WAUKESHA COUNTY HOLSTEIN BREEDERS' ASS'N., Waukesha, Wisconsin. 20*

Registered Holstein-Friesian heifer calves. $40.00, satisfaction guaranteed. HILLCROFT FARMS, Walton, New York. 21-3

Write to us if you want to buy Holsteins. WISCONSIN LIVE STOCK ADVERTISING CO., Madison, Wisconsin. 22-2

A yearly record son of 37th. Very good individual. Four years old. Price $600. Write BOX 783, care Hoard's Dairyman. 22-2

Federally Accredited Holstein herd for sale. Twenty females. Ten have A. R. O. records. Homestead breeding. Price $5,800. Address BOX 782, care Hoard's Dairyman. 22-2

Holstein Bull—Ready for service, 2 dams average 106 lbs. milk in one day, 40.67 lbs. butter in 7 days. $125 terms. Also two heifer calves. ROY HARRIMAN, Appleton, Wisconsin. 23-4

Bulls for sale by "37th" 1127-lb. sire. From tested and untested dams. PESTER BROS., Whitewater, Wisconsin. 23-6

My entire herd of grade Guernseys for sale. Also a few choice heifer calves at $30.00 delivered. SHADY HILL FARM, Whitewater, Wis. 23*

Guernsey heifer calves. Can ship you 10 at once about 4 weeks old. Calves out of my own herd, so know what I am shipping. $30 each crated. F. O. B. Waukesha. WERN FARMS, Waukesha, Wis. 18*

For bargains on May Rose bulls with type and production, write KUHTZ BROS., Waukesha, Wis. 21*

Guernsey calves six weeks old, $20. F. O. B. Knapp. THOMAS HAGERTY, Knapp, Wisconsin. 2*

Guernsey bulls, also a few females. Send for reduced price list. MATH MICHELS & SONS, Fond du Lac, Wisconsin. 21-*

Carload Guernsey yearling and two-year-old heifers all from high producing cows, price right. WETMORE & O'NEILL, Bridgeport, Wis. 22-3

Guernsey bulls from high record cows at very low prices. Send for list. H. W. GRISWOLD, West Salem, Wisconsin. 23-4

Craigamoor Guernseys—The first daughter of Craigamoor Golden Noble at 2 years and 21 days, carrying calf six months, has completed record of 612 lbs. butterfat, in herd of McGordan of Gordandale. I have young sires very closely related to him which I will sell at prices which cannot be duplicated. GEO. C. COOPER, Superior, Wisconsin.

Serviceable and younger Guernsey bulls. Glenwood's Champion (25 A. R. daughters) and Beauty Eagle (846 lbs. fat) breeding. Bargain prices. LA BELLE KNOLL FARM, Oconomowoc, Wisconsin. 23-tf

For Sale—Registered Guernsey bull 18 months old. Splendid breeding. Price $150. EDWARD R. HALL, R-2, Glenview, Illinois. 23-2

My entire herd of full-blood Jersey cows for sale, not registered. My 32 cows made me 843 pounds of butter during the month of May. 32 cows as good as there are, 15 young heifers, 2 full-blood bulls. Will sell at a sacrifice for $7,000. W. E. JEFFREYS, Rocky Mount, N. C. 23-2

Registered Jersey calves, both sexes. Expressage prepaid. "SCHUTZ," Baileys, Colo. 22-2

Jerseys, bred heifers. Will be fresh in July. Price $160 each. Registered and transferred. Also few choice calves. Noble of Oakland's blood lines. M. A. O'BRIEN, R-1, Reedsville, Wisconsin. 22-3

STOCK BUYER

Registered dairy cattle bought and sold. EDWARD A. WALTER, 111 Monroe St., Chicago. 18*

Will buy for you, dairy cattle of any breed, grades or pure-bred. DAVID W. WILLIAMS, Lake Forest, Illinois. 6*

Save 30 per cent by buying your cattle through J. D. POWERS, Fort Atkinson, Wis. 12*

We buy and sell dairy cattle of all kinds. Car lots of registered and high grade Holsteins a specialty. F. B. GREEN & SONS, Evansville, Wis. 18-*

Registered or Grade dairy cattle selected. W. R. GATES, Fort Atkinson, Wis. 19-*

STOCK WANTED

Wanted—A 30-lb. bull, five or six months old. Will consider only good individual. Send picture and pedigree in first letter if possible. Address BOX 784, care Hoards Dairyman. 22-2

Car or more heavy producing Holsteins. Tuberculin tested. Three to five years. W. N. PENCE, Box 171, El Paso, Texas.

Wanted—Registered Holstein cattle in exchange for 120 acres timberland in Clark County, Wisconsin. Good soil in settled country near Dorchester. GUST H. WEBER, Burnett, Wisconsin.

Wanted—Best registered Holstein bull 10 to 15 months old. $300.00 will buy. BOX 75, Darlington, Wisconsin.

DOGS

Male Collie, fine heeler, 2 years, $25. Male collie Shepherd, 9 months, $20. Male Shepherd, 7 months, $15. Both broke to the heels. JOE TAUBER, Waldo, Wisconsin.

POULTRY

Choice S. C. White Leghorn cockerels, 12 weeks old, from real winter layers, best blood of the breed, $2.50 each; 3 for $6; 6 for $10. MARTIN VOGT, Comstock, Wisconsin.

Baby chicks $8.50 per 100 up. Postpaid. Catalogue free. FARROW-HIRSH CO., Peoria, Illinois. 9-16

Live Broilers now wanted. Highest prices paid for poultry, veal, pigeons, lambs, etc. Quick returns, fair treatment. C. E. MC NEILL & CO., 325 West So. Water St., Chicago, Ill. 17-*

SWINE

Registered Duroc Pigs. $10 each. Write your wants. F. A. LAMB, Cassopolis, Mich. 21-3

April Chester White pigs. $7 each. L. SEXTON, Calderwood, Michigan.

For Sale—Big type Poland China pigs, eight weeks old, sired by Smooth Orange, No. 408079. $10 each. S. O. WEBSTER, R-2, South Haven, Mich. 23-2

MACHINERY

For Sale Cheap—A small lot of standard make Swedish Cream Separators, 400 pounds capacity, $29.00, 500 pounds capacity, $34.00, 700 pounds capacity, $39.00. These are all new machines, wonderful bargains. THOMAS TAFFEE, Box 355, Lansing, Mich. 18*

One Waterloo Boy 12-20 tractor good as new. One Grand Detour Jr. 3-bottom plow, new. Two 16-inch pulverizers new. H. C. KARSTEN, Huntley, Illinois. 10*

Perfection Milker at Bargain. Four single units, pump, tank, gauge, and safety valve, used but a few months, everything in good running order. Price $250. BOX Z, Hutchinson, Minn.

For Sale—A 15 H. P. Horizontal Locomotive Type Kewanee boiler used only six months. Also No. 101 De Laval Clarifier Steam. F. M. BYERS, Midvale Farm, Moline, Illinois. 23-2

Several new U. S. Cream Separators. Price right. THOMAS DORGAN, Springfield, Illinois. 23-3

AGENTS WANTED

Representatives wanted to write hail and cyclone insurance every township in the Northwestern states. Little experience necessary, good commissions. Write quick. ST. PAUL MUTUAL HAIL AND CYCLONE INSURANCE COMPANY, 805 Pioneer Bldg., St. Paul, Minnesota. 12-12

Yes Sir, we have a special opportunity for you during spare time, an opportunity to do some good work in your neighborhood, for the betterment of dairy farming, that will pay you in cash for the effort you put forth. Write for our "Special Opportunity Getting Together" folder. Address HOARD'S DAIRYMAN, Fort Atkinson, Wis. 2-tf

TOBACCO

Homespun Smoking and chewing tobacco; 10 lbs. $2.50; 20 lbs. $4.00. FARMERS' UNION, Mayfield, Kentucky. 22-4

HAY

Alfalfa and prairie hay for sale. Prompt shipments. Personally inspected loading. Wire or write GUNN HAY CO., Lexington, Nebr. Reference Lexington State Bank. 11*

FEEDS

Dried Beet Pulp—the wonderful dairy feed. New reduced prices. Ask your dealer or write THE LARROWE MILLING COMPANY, Detroit, Michigan or Los Angeles, California. 12*

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Ship your bags to LARIMER BAG CO., Washington, D. C. 11-spl

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Lightning Rods—Exclusive agency and quick sales to live dealers selling "Diddie-Blitzen Rods." Our copper tests 99.96 per cent pure. Write for agency. Prices are right. L. A. DIDDIE CO., Marshfield, Wis. 9*

STANCHIONS

Crumb's Stanchions are guaranteed to please the purchaser. They are shipped subject to trial in the buyer's stable. They are right. Send for booklet. WALLACE B. CRUMB, Box H, Forestville, Conn. 15-10

Wanted—Second hand steel stanchions and litter carrier. BOX 35, Atglen, Pa. 23-2

BUSINESS FOR SALE

For Sale—Confectionery store and Ice Cream Plant. Fine location in a town of 60,000 population. Address BOX 785, care Hoard's Dairyman. 22-2

PRINTING

Hoard's Dairyman Art Department designs your letter head free. Just tell us your breeds of stock. Book of 5,000 **Farm, Ranch and Cottage names 25 cents.** Ask for samples of letter heads, envelopes, shipping tags, **cards, milk tickets, etc. Poor stationery is** more of a damage than a help. Be sure and give correct post office address, including state. Address HOARD'S DAIRYMAN, Art Dept., Fort Atkinson, Wisconsin. 8-tf

TANNING

Let us tan your hide. Cow and horse hides for fur coats and robes. Cow and steer hides into harness or sole leather. Catalog on request. THE CROSBY FRISIAN FUR CO., Rochester, New York. 10-17

LUMBER

Lumber and shingles at reduced prices. Farmers' trade our specialty. Best quality. ROBERT EMERSON CO., Box 1156W, Tacoma, Wash. 19-5

BARN EQUIPMENT

We are closing out our entire stock of Ideal Barn Equipment at one-half the former price. MT. CALVARY COAL & LUMBER CO., Mt. Calvary, Wis.

FARMS FOR SALE

I have a few choice improved and partly improved farms in the famous potato and dairy region of upper Michigan, 40 to 160 acres. Low prices and easy terms. JOHN MAJOR, P. O. Box 198, Marinette, Wisconsin. 16-13

Hardwood cut-over land, silt loam, clay sub-soil. Neither sandy nor gravelly; close to town; good roads; good schools; in the heart of the dairy country. You deal directly with the owners. No agents and no commissions. Easy terms. Also improved farms. Write for map and Booklet No. 4. NORTH WESTERN LUMBER CO., Land Department, Stanley, Wisconsin. 1*

Farms for sale. We own and control several choice Livestock farms in famous Prairie belt of Mississippi. Write us what you want. HANSON & COCKRELL, Macon, Mississippi. 19-*

Attention Dairy Farmers—Write for our booklet, "Dairying in the South" and get our proposition on co-operative Dairying. High class proposition and only high class dairy farmers wanted. Contract backed by one million capital. Address GA-FLA DAIRY FARMS, Ashville, Fla. 20-4

Rusk County, Wisconsin. The buckle of the clover belt. 16,000 acres of good clay loam land from which to select. Very small payment down, with no more payments for five years. For detailed information, come to Ladysmith, or write T. C. JONES, Ladysmith, Wisconsin. 20-4

Clover, alfalfa, sugar beet, prairie. Owner's price, easy terms. Submit trades. GASEL, Thief River Falls, Minn. 19-7

Farm For Sale—160 acres on Red Cedar lake, Barron County, Wisconsin. Buildings new and modern. Big bargain for the right party. W. A. HANCE, Freeport, Illinois. 22-*

For Sale—Farm Dairy. Modern equipped dairy situated 2½ miles from Dubuque, Iowa (40,000 population). Farm rents for cash and consists of 450 acres of pasture and tillable land. This is an ideal dairy farm, has artesian well which flows through a modern milk house and barns. Stock consists of all first-class horses, hogs and 60 cows and heifers, most of which are Guernsey. The herd bull is a registered Guernsey. Milk wholesales in city, seven stores taking the entire output. Daily average 350 quarts, with unfilled orders at some stores for 200 additional quarts. The milk is the highest test in the city and wholesales for ten cents per quart. For full information come and see or write. Reason for selling does not pertain to the business in any way. FRANK M. KELLY, East Dubuque, Illinois. 22-*

For Sale—2,000 acres fine hardwood timberland, birch, white ash, maple, white pine, spruce. Sawyer County, Wisconsin. Logging would pay handsome profit. Land delightfully situated for stock ranch. Two trout streams, six springs. W. A. HANCE, Freeport, Illinois. 22-*

Wealthy Western New York Farms! Maps, lists, information free. NEW YORK FARM AGENCY, Westfield, New York. 18-spl.

Big farm bargain in New York. 396 acres. Fine land. Big crops. Good buildings. Forty cows, four horses, machinery, hay, grain, everything goes for $17,000.00, $7,000 gets possession. U. G. DAVIDSON, Route 1, Oneonta, New York. 5-spl

Farms near New York City. Dairy, grain, potato, fruit, poultry. 752 pictures sent free. SLOCUM FARM AGENCY, 141-T Broadway, N. Y. C. 23-3

Farms for Less Money—In the Shenandoah Valley of Virginia. Blue-grass, stock, grain, dairy and orchard farms of 10 to 1,000 acres. Perfect climate, solid roads, best of schools, cheap labor. 750-acre dairy farm highly improved near large city. Yearly sales equal price of farm, stock and equipment. 110 acres, 1 mile large railroad town and high school, 2 good dwellings of 7 rooms each, large barn, plenty of fruit and timber. Must be sold. Owner dead. Price $5,000. Write for farm bargains that will make you money and good homes. W. T. BIRMINGHAM, Winchester, Virginia. 23-8

Register and Secure a Farm—Our colonization plan offers the man who wants a farm a greater opportunity than a U. S. Homestead. Good man can register and get good land, and we furnish him 4-room house, barn, cows, and tools. To show good faith, settler deposits $500 on buildings and stock—that is all. After 3 years, settler pays for farm at $100 a year. Over 100 registered, got farms, and started last year. Many from Wisconsin. Good places on new road ready right now, so write for free books, maps and registration blank, or come at once to look. NATIONAL LAND COLONIZING CO., Box B. 15, Ladysmith, Wis.

Dairy Farm For Sale or Rent—On concrete boulevard and arm of Chesapeake Bay two miles from Annapolis, Maryland, seat of U. S. Naval Academy. One hour by automobile on state boulevard to Washington or Baltimore. Recently-built modern buildings—all city improvements, concrete and tile barn, James equipped. 100 acres excellent clay loam soil. Good pastures, ample water. Dairy products always scarce and high in this market. Fine field for some live dairyman. Address BOX 14, Route 2, Annapolis, Maryland. 23-4

$1,000 Secures 157 Acres with 10 cows, 2 horses, crops, harness, vehicles, machinery, etc.; prosperous section, convenient advantages; 100 acres machine-worked loam cut 1½ tons hay acre; 20-cow spring-watered, wire-fenced pasture; wood; apples, pears, plums, cherries, etc.; 7-room house, maple shaded lawn, 15-cow basement barn, etc.; owner's advanced age forcing sale. $4,500 takes all, only $1,000 down, easy terms. Details page 29 Illustrated Catalog 1100 Bargains, Free. STROUT FARM AGENCY, 150 DL Nassau St., New York City.

Dairy ranch of 95 acres irrigated land. Buildings new and modern. Well of soft water, electric lights; street car passes by door on State Highway; 40 rods from Condensery. One mile from town. An ideal place for pure-bred stock in the best valley in the United States. Write owner. BOX 697, Nampa, Idaho. 23-2

For Sale—202-acre river bottom farm, state road, 2 miles from city Oneonta. 120 acres black loam soil level, fine buildings, running water, 56 head stock, 4 horses, 50 acres crops, tractor, threshing machine, big line machinery, tools. Price for all, $24,000, cash $5,000. CAMPBELL BROS., Oneonta, N. Y.

FARMS WANTED

Farms Wanted—Wanted by dairyman, with experienced help and some money, equipped dairy farm. Will work on a percentage or buy. Good reference, and will make every effort for success. Address BOX 793, care Hoard's Dairyman.

Farm wanted must be over 240 acres, good building and fully stocked. WALTER MILLER, Brumder Building, Milwaukee.

PARTNER WANTED

Partner Wanted—For pure-bred dairy cattle and hog business. Jersey cattle preferred. Prefer partner with experience and reputation to furnish herd and management. Most ideal climate, location and conditions for pure-bred business. Fine Blue Grass Farm, partly equipped, 150, 300 or 450 acres or more on railroad with station. 8 springs and creek. Would sell, but prefer half interest proposition. Immediate partial possession if desired. For full particulars write owner. W. G. SCHAMBERGER, President Sumner County Bank & Trust Co., Gallatin, Tennessee.

WANTED TO RENT

Share Renter—Wanted to rent on shares, farm with good sized herd of milk cows; where milking machine is used preferred. Have our own help. JAMES JOHNSTONE, Karlton Farm, Wadsworth, Ill. 22-2

SILOS

Washington Fir—12x24 and 14x26. ALBERT C. WOLLIN, Johnson Creek, Wis. 23-spl



Advertising in this department is 7c per word. Remit in advance.

HELP WANTED

U. S. Government Wants men-women over 17. Hundreds permanent positions. $116 to $195 month. Short hours. Vacation. Common education sufficient. Write immediately for list positions. FRANKLIN INSTITUTE, Dept. M115, Rochester, N. Y. 20-4

Wanted—A first-class dry hand milker. Must be efficient and reliable. Good pay and permanent position. A. C. RAMSEYER, Smithville, Ohio. 21-3

Wanted at once—Maids at WISCONSIN SCHOOL FOR BLIND, Janesville, Wisconsin. 22-3

Wanted—Single herdsman to take charge of registered Holsteins. Must be experienced in feeding cows on test and raising calves. Give references and salary expected. EMIL TURNELL, Tecumseh Farms, Antioch, Illinois. 23-2

Wanted—Owing to disappointment, single working herdsman and foreman certified dairy or man and wife, no children, wife for housekeeper owner's home. Modern house, also good clean milkers. State age, nationality and salary expected first letter. GRACEMORE FARMS, INC., Center Village, N. Y.

Wanted—Single man experienced and reliable, good habits, willing worker, for dairy work in Pennsylvania, one capable of producing good clean milk and experienced with Guernsey cattle preferred. Equipment, living and working conditions are excellent, board furnished. State age, experience and wages expected. Address BOX 791, care Hoard's Dairyman. 23-2

Wanted—Herdsman to take charge of Holstein herd furnishing milk for institution. Wife to furnish meals for two or three men. New home with modern improvements. Address, giving reference, experience, and salary expected. D. A. MACKIN, Supt., Retreat, Pa.

Wanted—Single man for dairy work. Small herd, $50 per month and board. HOLMES DAIRY CO., Whiting, Iowa.

I am desirous of communicating with a young man to work my general farm. He must be clean, neat, of good habits, lover of cattle, a prideful worker, and take pride in the handling of a team of Belgians, acknowledged the finest in the country. In return good wages, a good clean Protestant home. Farm within limits of small, live town, 20 miles from Milwaukee. One block from house to depot and lake. This is not a summer job. Man I want will be his own boss. State wages expected, references, age and full particulars in first letter. Address BOX 792, care Hoard's Dairyman. 23-3

Wanted—Steady man on diversified farm. Good milker and to care for stock and milk. No cigarettes. Could use married man. Separate house. Possible share basis later. State wages expected. G. G. FULLERTON, R-4 Box 20, Dayton, Washington.

Wanted—Man and wife "white", no children to take charge of boarding house on farm for about 15 men. State reference and experience in first letter. HARRY L. VAN HORN, Supt., Homestead Dairy FARMS, Salisbury, Maryland.

POSITIONS WANTED

Wanted—Position as farm manager or herdsman. College graduate. Specialized in Dairying and Farm Management. Experienced. Married. Guernsey herd preferred. Excellent references. Correspondence invited. P. M. LOWE, Glyndon, Minn. 22-3

Position wanted as manager by live dairyman who will show results. Single, 28 years of age, university graduate with life experience in dairying. Address BOX 787, care Hoard's Dairyman. 22-2

Wanted—Position as herd veterinarian on a large estate. Applicant has agricultural and veterinary education and is experienced in the treatment of sterility. California location preferred. Address BOX 789, care Hoard's Dairyman. 23-*

Do you need the services of a Sterility Specialist? Former assistant to Prof. Williams, Cornell University. Appointments made by mail or wire. E. A. SCHMOKER, M. S., D. V. M., Monroe, Wis. 23-*

An unusually successful manager would handle pure-bred Jersey dairy on percentage basis. No salary. Must be good cows and first-class plant. Address BOX 790, care Hoard's Dairyman. 23-2

Experienced married man wants job on farm. Address C. C. POTTER, R. R. 3, Madison, Wis.

Situation wanted by an expert Dutch farmer, married, to take charge of a dairy farm with Holstein or Guernsey breed. Address GEO. M. SAVAGE, 67 Buhl Bldg., Detroit, Michigan.

Position wanted as herdsman by married man. Thoroughly experienced in official test work and all branches of dairying. First class references. State wages and particulars. Address BOX 794, care Hoard's Dairyman.

COVERS
For All Farm Uses
HAY CAPS
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Best value in the market. Write for prices and samples
John Gallagher Company
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WINTER WHEAT
Certified — Guaranteed
This hardy, high-yielding Michigan-grown seed, either Red Rock or American Banner is **certified by the Michigan Crop Improvement Association** and its purity and quality are **guaranteed by us.** Don't risk getting inferior seed—send today for price list of certified, guaranteed Winter Wheat, Winter (hairy) Vetch, Rosen Rye and Winter Barley.
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Alabama—Your Real Opportunity
The "LIME LAND BELT" of the South offers unusual opportunities for the DAIRY and LIVE STOCK farmer.
Montgomery County, Alabama is the only section of the Lime Land Belt that has the wonderful combination of splendid roads, excellent R. R. facilities, stock yards and markets, an abundance of pure water, low tax rate and a great system of Consolidated Rural Schools. You will make good on a Montgomery farm. Write for "A Carpet of Green."
FARM SECTION, Chamber of Commerce, Div. W, Montgomery, Alabama.

Devon Cattle Breeders Form Advanced Registry

At the last meeting of the American Devon Cattle Club, steps were taken toward the formation of an Advanced Registry, in which the milk and fat records of Devon cows will be recorded.

The requirements will be practically the same as those for other dairy breeds and the tests will be conducted under the supervision of an agricultural college or experiment station.

Two cows owned at Roscroft, Massachusetts, are already on test. It is recorded that records have been kept on Devons as early as the seventies when Bright Promise owned by Banker Bros. of Pennsylvania, made 21 pounds of butterfat in a week.

Agricultural Manufactures

During the past five years the United States creameries have decreased 17 per cent in number, while the number of cheese factories have increased 12 per cent and condenseries increased by 111%. These figures are from the report of the census for 1919. In 1914, 4,356 creameries produced 243 million dollars' worth of goods as compared with 3,737 creameries producing 583 million dollars in 1919. The 3,082 cheese factories produced nearly 52 million dollars' worth of cheese in 1914, while 3,530 produced nearly 144 million dollars in 1919. Condenseries increased from 190 in 1914 to 401 in 1919, their product being valued at 69 million dollars in 1914, and at 339 million dollars in 1919.

The following table gives comparative statistics for the various items of manufacture of interest to farmers, the value of products manufactured being given in millions of dollars:

Industry	No. of factories 1919	No. of factories 1914	Value of products in millions of dollars 1919	Value of products in millions of dollars 1914
Agricultural implements	519	601	$ 305	$ 164
Butter	3737	4356	583	243
Automobiles	315	300	2388	503
Butter, reworking	5	17	2	6
Caning fruits & veg.	3069	3153	493	149
Carriages and wagons	2288	4601	92	107
Cheese	3530	3082	144	52
Condensed milk	401	190	340	69
Dairy and poultry supplies	244	236	37	19
Fertilizers	599	784	279	153
Flour and grist	10714	10788	2193	878
Horseshoes	22	22	6	2
Liquors, distilled	35	434	33	207
Liquors, malt	728	1250	380	442
Liquors, vinous	342	318	17	17
Malt	55	97	39	48
Matches	21	20	16	13
Cottonseed oil and cake	713	882	570	212
Oleomargarine	39	17	66	15
Meat packing, wholesale	688	649	3714	1454
Beet sugar	85	60	149	63
Cigars and cigarettes	9930	13515	868	315
Windmills	31	31	10	5
Wool shoddy	77	64	22	8

Eau Claire, Wis., Guernsey Sale

Members of the Chippewa Valley Guernsey Sales Ass'n., like those in every other similar association, took lower prices at their recent annual sale than a year ago.

The sale, held at Eau Claire, Wis., June 1, brought out an average of $232 with the 41 females averaging $242.

W. E. Harrington, Minnesota, purchased the top priced female for $425. This was a yearling daughter of that good sire, Imp. Clara's Sequel, from the herd of Lloyd Rundell.

Love, Benjamin, and Lemanski did the selling with Fox in the box.

The following list includes those selling for $300 or more:

W. E. Harrington, Minnesota	
Victory of Aurelian Farms	$350
Lila's Myra	300
Patience of Sylvanite	410
Maid's Lily	400
St. Croix Catherine	425
E. Beisecker, Wisconsin	
Buttermaid of Excelsior Farm	$350
G. A. Brunstead, Wisconsin	
Glenwood's Dairymaid's Princess	$350
Earl McRoberts, Wisconsin	
Lady Masher of Tristram Farm	$355
R. Fisher, Canada	
Lily of Elk Meadow	$400
Gaylad's Primrosebud	300
J. G. Owen, Wisconsin	
Molly of City View	$390

One bird man declares that insects make up two-thirds of the food of the birds. Yet some farmers still think that birds are their enemies instead of friends.



BETTY OF LAKE VIEW

Breed Brown Swiss Cattle

They prove their superiority over other breeds when subjected to trying conditions on the farm, by keeping in good flesh and filling the pail while other cows grow thin and reduce their yield. You can prove this to your satisfaction.

BROWN SWISS CATTLE BREEDERS' ASS'N
IRA INMAN, Secretary, Beloit, Wis.
William B. Hale, Pres., Aqueduct Bldg., Rochester, N. Y.

JUBILEE FARM
Brown Swiss Bulls

to increase the production of your herd, out of cows on Official Test.

A limited number of heifers now offered for sale.

Box 747, Peoria, Ill.

Pre-War Prices

We have ten Swiss bulls ranging in age from one month to one year that we will sell at very low prices. These bulls have some of the best breeding that can be found in U. S. and each one is a fine individual and will be sold subject to buyer's approval. Write us what age you are interested in and we will describe and quote price on same.

THE HULL BROS. CO., Painesville, Ohio.

Burtondale Farms Registered Holstein Cattle
$150.00—A Bargain—$150.00

Bull calf. Born Jan. 24, 1921. A show bull, beautiful individual, ¾ white. Large and straight. Guaranteed to please or money refunded. His six nearest dams have official 7-day records that average 516.58 milk and 24.39 butter. Write for extended pedigree and picture. Herd under Federal supervision.
W. E. FELLOWS, 305 F. P. Smith Bldg., Flint, Michigan.

SALE ANNOUNCEMENTS

July 1—Guernseys. Dispersal Locust View Farm Guernseys, Garfield, Ohio.
Oct. 19—Holsteins. Chester Co., Pennsylvania, Holstein-Friesian Breeders' Guaranty Consignment Sale. C. J. Garrett and F. C. Brinton, Jr., Mgrs.
Oct. 19—Guernseys. Michigan State Sale of Registered Guernseys at Lansing, Mich. F. E. Fox, Waukesha, Wis., Sale Mgr.
Oct. 25-26—Holsteins. Lake Mills Semi-annual Consignment Sale at Lake Mills, Wis.
Nov. 3—Holsteins. Nebraska Holstein Breeders' Ass'n. Sale at Lincoln, Neb.
Feb. 21-22, 1922—Holsteins. Iowa Holstein-Friesian Association's Annual Sale.
April 1, 1922—Oak Hill Stock Farm Dispersal Sale at Crown Point, Ind.

"The Most Profitable Investment I Ever Made"



A PROMINENT dairyman says: "Since installing a Universal Milker in my barn, I have reduced my labor costs two-thirds and the milk flow has been increased enough to more than pay for upkeep and interest on my investment. I consider the Universal the most profitable investment I've ever made for my farm."

The Universal is doing this same thing in thousands of other dairies. It will do it for you.

A postal card will bring complete facts. Write today.

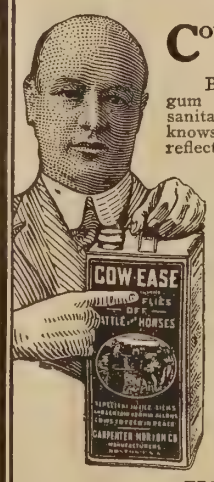
The Universal Milking Machine Company

Dept. A Columbus, Ohio

Branch Offices: Madison, Wis. Syracuse, N. Y.

Universal natural milker





COW-EASE is guaranteed to keep flies off cattle and horses. It is a clean liquid preparation of the right consistency for applying with a sprayer.

Being absolutely harmless, it will not blister the skin nor gum the hair of the animal. Beyond being humane and sanitary it is a profitable investment as well. Every farmer knows what a fly-ridden cow suffers and that suffering is reflected in the quality and quantity of the milk yield.

Insist upon COW-EASE. Try it and prove the claims which I have made.

Ask your dealer for COW-EASE. If he cannot supply you, send me your order per my liberal trial offer below.

M. Elton Voss
Vice-President

CARPENTER-MORTON COMPANY
Established 1840
84 Sudbury Street, Boston, Mass.



I Guarantee It

TRIAL OFFER—If your dealer cannot supply you, send his name and $1.80 and I will deliver prepaid, a half gallon can of COW-EASE and sprayer for applying. West of Missouri River and Canada $2.00. Give both postal and express address as we ship the cheapest and quickest way.

COW-EASE
KEEPS FLIES OFF CATTLE AND HORSES

Jersey Cattle Notes

For week ending June 3:

Number of animals registered: Bulls, 173; cows, 543; total, 716. Number of transfers recorded: Bulls, 159; cows, 454; total, 613.

When writing advertisers please mention Hoard's Dairyman.

JERSEYS

Improve Production Increase Size

By using a

HOOD FARM SOPHIE TORMENTOR JERSEY BULL

Four generation Pedigrees and prices on request.

HOOD FARMS, Inc.
Lowell - - Mass.

Tell us about your herd and we will make suggestions as to the kind of a bull you need.
JIMMY DODGE, MGR.

Tormentor Bull Calf

Sire—Brookside Babe Torono, son of the Register of Merit Brookside Torono, and grandson of the Gold Medal Hood Farm Torono. Dam—Bingieta's Time; Stoke Pogis and Golden Lad breeding on Register of Merit test, and in March (third month in milk) made 69.57 lbs. fat. State test leader. Calf dropped January 30, 1920. Solid color, black tongue and switch. Write for photo and tabulated pedigree.

Price $200.00, f. o. b.

CHAS. A. TILLEY, Frankfort, Kansas

Cloverdale JERSEY BULL FOR SALE

$125—Age 17 mos.—$125

Six of seven nearest dams average 620 lbs. butter and two grandams average 829.6 lbs. butter, R. of M. records. 12 out of 14 nearest ancestors, are R. of M. and two are National Dairy Show winners. Noble of Oaklands and Golden Interest blood lines.

E. O. ANDERSON, Shelby, Michigan.

Cedar Crest Farms

OFFER

Three young Jersey bulls, out of fifty-pound dams, few choice heifers and mature cows. Write for prices and full particulars.

J. K. Dering, Owner, Lake Villa, Ill.

Hillcrest Jerseys

Bull calf born March, 1920. Sired by Imp. grandson of Golden Fern's Noble. Priced right for quick sale. Write

ROLLIE VANDERVORT, TOMAH, WIS.

Ten Splendid Jersey Bulls

Good type, 6 to 18 months old. Heifers bred and open. Hood Farm Torono, King Sappho King, Loretta D. Bright Prince, etc. blood lines. Free from abortion. Dams are in the R. of M. or on test. Accredited herd.

Address: J. Q. Emery & Son, Edgerton, Wis.

HERE'S YOUR OPPORTUNITY

Bull calf born March 4, 1920, sired by a grandson of Majesty's Western King and out of a R. of M. daughter of Ibsen's Chief. For full pedigree and price write

E. E. HILL & SONS, Tomah, Wis.

Jersey Bull Calves

$100 to $150 Each

For immediate sale, we offer several splendid bull calves, some nearly six months old, sired by our high class Majesty bulls and out of Register of Merit dams. They are right individually.

M. D. MUNN,
Elms Jersey Farm, Forest Lake, Minn.

Montpelier Jerseys

Three young bulls ready for service. Trace three times to Oxford Lad. Fine typy individuals. Right in every way.

Montpelier Manor Farms, Laurel, Md.

POLLED JERSEYS

Breeders' names and Spillman's "Inheritance of the Poll Character in Cattle" mailed free.

CHAS. S. HATFIELD, Secy, R4, Box 5, Springfield, Ohio.

Valley Farm is Offering

Several bulls, 6 to 12 months old, from R. M. cows. Sired by Golden Maid's Viscount and Kilda's Royal Majesty, two of the best Island bred bulls living. At prices to sell. Write

FRED STUBLEY, Black Earth, Wis.

JERSEYS—DUROCS

Just one bull old enough for service and a few young calves. Hood Farm breeding.

F. R. Constance & Sons, Waupaca, Wis.

Albion Jersey Farm—R. of M. Jerseys

Herd sires, E S. Kilda's Viscount and T. N. T. Jap, Oxford breeding. A few choice bulls for sale, out of Register of Merit dams or dams on test.

R. C. GREEN & SON, Albion, Wis.

AYRSHIRES

Delchester Farms Ayrshires

Tell us your wants and we can supply them at prices you can afford to pay.

Aged cows, bred to Glenury, an A. R. son of Finlayston.

Aged cows, bred to Rena's Baron of Highland, an outstanding son of Baron's Best of Bargenoch.

Heifers, bred to these two great sires.

Young heifers.

Bull calves.

All the above stock carries some of the best producing blood of the breed with A. R. ancestry on both sides.

Herd free from tuberculosis

DELCHESTER FARMS
Edgemont, Del. Co., Penn. - Thomas W. Clark, Supt.

World's Champion

AYRSHIRES

200 head Fully Accredited, Tuberculosis Free for 3rd consecutive year. 100 records average 13,454 lbs. milk. Many cows weigh over 1400 lbs. For large, healthy, productive Ayrshires, address:

Penshurst Farm, Narberth, Pa.

Pure-bred Ayrshire Cattle For Sale

Best of breeding. Calves sired by a Grandson of Brown Kate, record 1,080 lbs. butter in year.

Wm. Nisbet & Sons, Richland Center, Wis.

Weymouth Farms

"Ayrshires of Quality"

All cows on Advanced Registry Test. Herd Tuberculin Tested.

We can supply you a herd sire of choicest breeding.

MARTIN A. TOWLE, Mgr.
NORTH WEYMOUTH, MASS.

RAVINIA AYRSHIRES

Build Foundation Herds That Endure

We will go out of our way to help any farmer, dairyman, or breeder to found an Ayrshire herd in a way that means lasting success. We will co-operate not only in selecting the foundation stock, but in all the plans necessary to carry the thing through to final achievement.

Write us today what you want to do; and we'll help you do it.

Write today to Box 100-E, for Sales List of bulls and cows, heifers and bull calves of any age.

Write to Box 100 E, Martinsville, Ind.
Martinsville, Ind. Preston, Kans. Axial, Colo.

GOSSARD BREEDING ESTATES

Ayrshire Stock

of all ages for sale. Satisfaction guaranteed

L. W. McCONNELL, Wellington, Ohio

DON'T PUT OFF

Seeing your friends and having them join in for a club of subscribers.

Ashbrook Farm Offer

Seven Heifers of this Type and Age For Sale



STRATHGLASS CREAMPOT 53497

Also the first prize bull calf at the Eastern States Exposition, by Foulton Ambassador.

This will make someone a good herd.

L. E. ORTIZ, Prop., Morris Plains, N. J.

BLACKBURN FARM

Home of Addington's Champion

Grandfathers—Nox'emall and Finlayston.
Father—Rena's Champion—17 A. R. daughters
Mother—Addington Queen 3d—Two mature records each over 19,000 lbs.

Fully Accredited Tuberculosis Free Herd.

SEWICKLEY, PENNSYLVANIA

South Farm

250 Registered Ayrshires

Stock of all ages for sale. Write for prices.

George A. Cross, Mgr., Willoughby, Ohio

MIDDLESEX MEADOWS FARM

OFFERS

Two outstanding AYRSHIRE BULL CALVES for sale for immediate shipment

No. 1—MIDDLESEX WHITE CHANCELLOR 25273, born September 17th, 1920.
Sire—Cavalier's Netherall Chancellor 21216, who sired the winning bull calf at this year's National Dairy Show.
Dam—White Heather of Highland 42752, who stood 2nd in the aged cow class at the same show (this year's National) and who has two good Roll of Honor records.

No. 2—MIDDLESEX MANCHESTER, born March 10th, 1921.
Sire—Auchenbrain Toreador (Imp.) 24761, record priced bull of the breed and Grand Champion at Maryland, New York, Connecticut, and New Jersey State Fairs this year.
Dam—Bida Clinton 31489, who has three A. R. records that average 11,000 lbs. of milk, 453 lbs. of fat, 4.17%; and whose two-year-old daughters will have records of over 10,000 lbs. of better than 4.00%.

Both bulls have excellent individuality, and are fit to go into any show ring and hold their own. They should develop into extra good herd sires. Prices reasonable—we **KNOW** you can't get as good as these two for any less money elsewhere.

A. Henry Higginson (Owner). **W. R. COUTTS, (Supt.)**

South Lincoln, Massachusetts

If you are interested in

Economical Production of Highest Grade Milk

You should become acquainted with the ability for such production possessed by

Strathglass Farm Ayrshires

Among several noted bulls in service in the herd now numbering over 200 head are *Penshurst Mischief Maker, son of the World's Record cow for the breed and sired by a son of the cow standing second in the list for both milk and fat,* and others from the heaviest milking and best breeding families.

Sons of these bulls out of R. of M. cows now in offer may be counted on to materially assist in the accomplishment of above mentioned results.

We also have a few heifers of various ages to sell. Tabulated pedigrees and full particulars sent on request.

STRATHGLASS FARM, Hugh J. Chisholm, Owner, Port Chester, N. Y.

Buy A Top-Notch Young Bull At Your Own Money

The bull "Monstone Blockade" 25114 will be sold to the highest bidder up until July 1st, 1921. Send in your offers there is a likelihood of you securing this young bull guaranteed in every way.

"Monstone Blockade" 25114 Born February 20th, 1920

Sire—"Barclay's Wanderer" 16966 Imp. whose dam, "Dalmusternock Missie 4th" has three consecutively cumulative records of 49,423 pounds milk, 1,786 pounds butterfat, an average for three years of 16,474 pounds milk, 562 pounds fat.

Dam—"Duchrae Jenny" 33773 a great show cow and dam of Duchrae Jenny 2nd that sold at 2nd National sale for $1,200. Duchrae Jenny's record is over 12,000 pounds milk and 4.12% fat.

Send in your offer to

MONSTONE FARM, IPSWICH, MASS.

INCREASED PRODUCTION GUARANTEED

We guarantee any Jersey bull we sell to increase the average production of any herd

OR MONEY REFUNDED

YOU TAKE NO CHANCES. Our guarantee insures increased production and profit. Bulls for sale, ready for service.

AYREDALE STOCK FARM
F. W. Ayer, P. O. Box 713, Bangor, Maine.

N. B. Write us the size and producing ability of your herd, and we will describe and price a bull guaranteed to increase their production.
By mentioning "Hoard's Dairyman" we will know you are asking for a guaranteed bull.



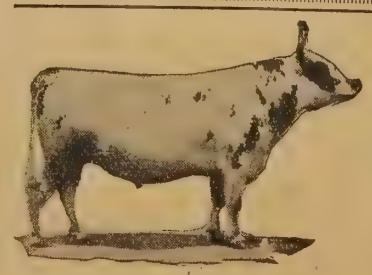
Majesty and Noble of Oakland Heifer FOR SALE

Dropped Sept. 19, 1920, solid fawn color, good size and in fine condition, nice type, fine udder conformation. Sired by Majesty's Ixia's Gamboge 171003, whose dam has a R. of M. record of 639 lbs. butter.

The dam of this heifer (Trial's Pretty Maid) is sired by a son of Noble of Oakland, and her dam has a R. of M. record of 393 lbs. butter as a 2-year-old.

For further information and pedigree write

W. M. KNIGHT, Oak Grove Jersey Farm, (U. S. Accredited Herd.) Eagle, Waukesha Co., Wis.



We Have For Sale

the well bred Ayrshire bull, Bargenoch "Drexel" (18474) Imported. Bred by John Logan, Bargenoch, Scotland. Born Feb. 2nd, 1919. Color white and red. Sire, Bargenoch Magnificent (9579). Sire of Bargenoch "Royal Champion" sold at Bargenoch sale, 1919, for $7,267.00.

Dam, Bargenoch Victoria (37003). Scotch record: 9,221 lbs. milk, 4.23% fat in 43 weeks; 11,070 lbs. milk, 4.50% fat in 47 weeks.

BARCLAY FARMS, John Cochrane, Manager. ROSEMONT, PENNSYLVANIA

Working Cows in Western Washington

(Continued from page 907)

ding was used for each 100 lbs. But it takes something besides feed, labor, and bedding to produce milk.

Other Costs

Large amounts of capital were invested in buildings, equipment, as well as in the cows themselves. It was necessary to charge interest, taxes, insurance, and depreciation on the herd, buildings, and equipment. Repairs on the barns, silos, milk houses, and on the equipment required to take care of the herd and its products had to be charged also. Cost of keeping the bull, and such expense of veterinarian's fees, medicine, disinfectant costs, cow testing association dues, and similar expenses had to be paid and charged against the business. These charges amounted to $0.576 for each 100 lbs. of milk produced in winter and $0.406 for each 100 lbs. of milk in summer. A dairy cow produces other products of value to the farmer beside milk.

Credit for Calves and Manure

In winter the cows were given credit for 115 lbs. of manure and 0.017 of one calf for each 100 lbs. of milk. In summer the corresponding credits were 13 lbs. of manure and 0.009 of one calf. Yes, but what did it cost in dollars and cents to produce milk?

Average Cost and Bulk-Line Cost

The average cost of producing 100 lbs. of milk without charge for management, last winter (1919-1920), was $3.25. One dairyman produced milk for $2.50 a hundred pounds, while it cost another dairyman $4.61 to produce the same quantity. By eliminating the dairymen who had the highest cost it was found that the bulk of the milk, or 86 per cent, was produced at a cost of $3.83 or less per hundred. In the summer of 1919 the average cost of producing milk was $1.60 a hundred pounds, with a range in cost from $1.14 to $2.32 a hundred. During that summer 85.4 per cent of the milk produced by these dairymen cost $1.87 or less per 100 lbs. exclusive of management charges.

Western Washington, with her fine climate, her luxuriant pastures, her efficient dairymen, and her well bred cows is surely a cow country.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.



The Profitable Hog

Hampshires dress out a higher percentage of high priced meat with a less percentage of lard. Hampshires are the most economical pork producers—the most profitable for you.

Write for information regarding them.

AMERICAN HAMPSHIRE SWINE RECORD ASS'N,
E. C. Stone, Sec., 409 Wis. Ave., Peoria, Ill.

GUERNSEYS

Guernsey Bulls For Sale

Polly's Anchor No. 42845, born August 24, 1916, and Imp. Bluebird of Lakeside No. 45329, born June 15, 1917. Good, straight bulls, very gentle and sure breeders.

For Sale by
RADISSON FARM, ANOKA, MINN.

Iowanola Guernseys

We are offering

A Very Fine Son

born July 25, 1920, out of Imp. Kitchener's Express 43925, his dam has 592 lbs. of fat, and out of Franseca of Homa Della who has 12,855.2 lbs. of milk and 640.09 lbs. of fat in Class D. This is a very typy calf and should appeal to any one in need of a bull. Correspondence solicited.

MOUNTAIN BROS.,
Carrier 403, Des Moines, Iowa.

Tilden Farms Guernseys

FOR SALE: Several typy, May Rose bulls out of A. R. cows and sired by Hope's May Rose of Maple Hill (35903), whose dam is a class leader with 776 pounds of butterfat at 3 years. Also several choice pure-bred females and a few excellent grade cows. Herd on Federal Accredited list.

TILDEN FARMS
James H. Murphy, Mgr. Delavan, Wisconsin

Pleasant Acres Guernsey Farm Is Offering For Sale

Bull calves of May Rose breeding from 3 to 14 months old. The dams of these calves either have A. R. records or are now on A. R. test.

Clyde E. Fruit, R. 1, Waukesha, Wis

714 Lbs. Fat Average

For the first 13 tested daughters of May King's Vrangue. This includes cows in (Class AA) and Class A and heifers with credits figured as per A. G. C. C. standard. Bulls for sale from him out of May Rose cows with good A. R. records. Prices very reasonable.

Mineral Home Farm, Platteville, Wis.

Wern Farm Guernseys

I am offering for sale 20 head of choice Grade Guernsey springers coming with first and second calf. Also have two bulls highly bred along May Rose lines just ready for service, that I will sell. For full particulars, write, wire, or come and see the stock.

Wern Farm, Waukesha, Wis.

GORDONDALE GUERNSEYS

3 bull calves offered for sale. They have excellent breeding and dams have or are making good A. R. records. Write for further information, they are priced to sell.

Herd under Federal Supervision
L. E. GORDON, JR.,
Nelsonville, Portage Co., Wisconsin

CITY HOME FARM GUERNSEYS

Fine registered Guernsey bulls of serviceable age and younger of most fashionable breeding. Priced right. Can also spare a few fine females.

F. W. MEYER BARRON, WIS.

8 Registered Heifers For Sale

5 of them are from 18 to 20 months old and in calf to a good son of Langwater Cavalier. Of these, 3 are granddaughters of Langwater Hambro and of Bob Rilma's Monogram. They are well grown and good individuals.
The other 3 are from 5 to 8 months old.

Write or come and see them.
Ralph Tratt, Whitewater, Wis.

Fond du Lac County Guernseys

100 choice bull calves, by best sires of the breed out of dams with records up to 850 fat.
20 choice heifers, 6 months to 1 year old.
Grade cows and heifers. Send for sale list.

B. F. SHERIDAN, Secy.,
Fond du Lac, Wisconsin.

DON'T PUT OFF

Seeing your friends and having them join in for a club of subscribers.

Guernsey Bulls For Sale

Polly's Anchor No. 42845, born August 24, 1916, and Imp. Bluebird of Lakeside No. 45329, born June 15, 1917. Good, straight bulls, very gentle and sure breeders.

For Sale by
RADISSON FARM, ANOKA, MINN.

HONESTY PRIDE OF BIRCHFIELD 44580



Sire — Langwater Warrior 26509
Dam — Langwater Honesty 49479
10,536.9 lbs. milk, 517 lbs. fat, at 2 yrs. and 5 months

We are now offering a few splendid sons of Honesty Pride of Birchfield. From cows with A. R. records or now on test. Everyone is a straight backed, growthy, vigorous youngster. These young bulls will put type and production in your herd. Prices range from $150 to $300.

Quality Guernseys **HIGHLANDS** *Tuberculin Tested*

NYE H. FREEMAN, Herdsman, Linwood, New York

Langwater Traveler

Carries 50 per cent blood of Imp. King of the May, greatest bull of the breed.

His dam is Langwater Lustre, A. R. 806.10 lbs. fat, fifth cow in Class C. She is the second highest testing daughter of King of the May. His sire is Langwater Holliston, sire of Langwater Levity, sold for $6,000.00 and leading cow in Class EE. Traveler's daughters are averaging over 500 lbs. of fat with their first calves. His first daughter to freshen will be a class leader in FF. We offer some excellent bull calves by Traveler out of May Rose cows with fine records. Federal Accredited Herd.

CHICONA FARM GUERNSEYS
A. L. Gile, Prop., Chinook, Washington.

Guernsey Bulls

A few real choice sons of our herd sires, out of May Rose dams with A. R. records up to 757.57 lbs. of fat.

Accredited Herd. Send for list.
E. S. Person, Minot, N. D.

Guernsey Bulls

Our last 9 official records average over 510 lbs. fat, including all ages. Our herd sire has 8 A. R. daughters, including one with 572 lbs. fat in Class GG. His three nearest dams average 822 lbs. fat. Send for pedigrees and prices on young bulls with this backing.

Folly Farm, Box 587, Libertyville, Ill.

Thorn Hill Farm Guernseys

Have several well bred young Guernsey bulls for sale at reasonable prices. All my own breeding. May Rose and Glenwoods, out of A. R. cows with records from 500 to 750 lbs. of fat. Write for sales list to

AUGUST ZIESING, Deerfield, Ill.

Do You Want A Guernsey Bull

Closely related to Pergue's Crescent A. R. with a record of 13,316.9 lbs. milk and over 582 lbs. fat in Class EE and dropping two calves within the year, entitling her to second place in her class? Some excellent young bulls closely related to Pergue's Crescent ready to head your herd. Write for descriptive circular, or come and see them.

Ernest W. Sass, Box H, Streator, La Salle County, Illinois

A May Rose Bull He Will Suit You

He is Gumption of Koshkonong Place, ready for heavy service and as straight as a line. His sire is Anton's King Cecil, one of the best May Rose bulls in the state. His dam is Gladness of K. P. (414.68 lbs. fat Class G), a daughter of Gilt Edge of K. P. (15 A. R. daughters).

Write me today about him.

A. R. HOARD, Fort Atkinson, Wisconsin

Another Real One

Bull dropped Oct. 12, 1920. Light fawn, beautifully marked; straight, deep body, level rump. Sire's 3 nearest dams average 732 lbs. fat. A grandson of Itchen May King. Dam is a very good individual and has 478 lbs. fat.

NORWIND FARM, Sheboygan, Wis.

Homestead Farm

Offers for sale bulls from 11 to 13 months of age from A. R. dams. Also a few young bull calves of excellent breeding, and three A. R. cows. Write for sale list or come and see them.

JAMISON BROS., Appleton, Wis.

Guernsey Bulls

GET A BULL, with Langwater, Pencoyd, May Rose or Haye's Cherub breeding. Prices reasonable, quality considered. Grades in limited numbers.

Fox River Valley Guernsey Breeders' Association,
Harry Leppla, Secy. Appleton, Wis.

MR. GUERNSEY BREEDER

we are offering bulls of May Rose, Glenwood and Yeksa breeding out of A. R. cows. Our records range from 450 lbs. to 864 lbs. of fat; ages from 2 months up to serviceable age for $100 and up.

Can spare a few fine females.

CORIUM FARM, F. J. Rueping, Owner, Fond du Lac, Wisconsin

Head Your Herd With a Son of Imp. Sailor Boy

whose daughters are now making such good records. We have a number of good ones from A. R. dams at reasonable prices. Write

John P. Crozer, Upland, Pa.

Sons of Langwater Fisherman

Serviceable Age and Younger

They are from A. R. daughters of Yeoman's King of the May and of Langwater Demonstrator, with records from 500 to 700 lbs. fat. Strongly bred May Rose calves carrying 15% to 20% of the blood of May Rose 2nd. Priced from $150 to $500. Guaranteed to be as represented.

We will answer your inquiry promptly.

MIXTER FARMS,
J. S. Clark, Supt., Hardwick, Mass.
300 Guernsey Females

Hillswold Farm

Shrewbury, Mass.

Registered Guernsey bull calves for sale. Dams in Advanced Registry and tuberculin tested. Prices right, and animals guaranteed to suit. W. A. Cloues, Mgr.

Falcon's Guardsman 67071

dropped Feb. 10, 1920.

Sire: FALCON'S DICTATOR, 55475, a bull carrying all that is best in Falcon's Flight breeding.

Dam: FALCON'S AMARYLLA, 78633, a splendid young A. R. cow—full sister to a former Class Leader.

GUARDSMAN is extremely handsome and ready for service. Price $250.00.

FALCON'S FLIGHT FARMS
Litchfield, Connecticut.

GRASSLAND FARMS GUERNSEYS

Choicely bred males and females for sale. (The natural increase of the herd.)

Herd federal tested for tuberculosis. Send for sales list. Satisfaction guaranteed.

Taconic, Conn., Litchfield Co., (C. N. E. R. R.)

Guernsey Females

bred to an outstanding son of Ne Plus Ultra, one of the greatest sires of the breed. Fifty head from which to select.

MEADOWLAND FARM, Litchfield, Conn.

HOLSTEINS

For Immediate Acceptance—

Three young bulls ready for service—Holsteins.
No. 1—Sire a 30-lb. bull. Dam a 27.5-lb. cow. Price $300.00.
No. 2—Sire 30-lb. bull. Dam 23-lb. 3-year-old. Price $250.00.
No. 3—Sire 30-lb. bull. Dam 16-lb. cow. Price $100.00.
King of the Pontiacs breeding, well grown and good individuals. Send for extended pedigree.

R. F. JOHNSON, Assumption, Ill.

Whitehurst Farms

BULLS FOR SALE FROM SEMI-OFFICIAL DAMS. Priced Right.

A. F. Randolph, Prop., Canton, Ill.

ORIGIN FARM

HORNLESS HOLSTEINS, Registered and A. R. O. Animals, all ages, for sale. Federally Tested.

GEO. E. STEVENSON, Scranton, Penna.

Quality Holsteins With 7-Day and Yearly Records

Boscow Farms
HOLSTEINS and DUROCS
T. J. BAILEY, Manager



Bonus Lea Farm
HOLSTEINS and SPOTTED CHINAS
FLOYD D. ROTE, Manager

Herds headed by a wonderful son of *Dutchland Creamelle Korndyke Lad.*
Farms located at Belvidere, Boone Co., Ill.

BOONE BREEDS THE BEST



Bonus Lea Farm offers a serviceable son of a 40-lb. bull. Dam is a good daughter of King Segis Pontiac with a 7-day and yearly record.

A Real bargain at $300. Write your wants.

Ready For Service

GOOD INDIVIDUAL

His dam is just finishing a record of over 700 lbs. butter from over 17,500 lbs. milk at 2 years, 6 months. His dam's dam made 1,117 lbs. butter from 24,648 lbs. milk as a junior 4-year-old. At 7 years she made 34 lbs. butter from 742 lbs. milk in 7 days and 1,030 lbs. butter from 24,000 lbs. milk in 305 days.

Sire's dam made 27.86 lbs. butter from 658 lbs. milk in 7 days; 705.9 lbs. butter from 16,820 lbs. milk in 272 days, carrying calf 215 days.

He is a double grandson of SIR JOHANNA FAYNE, who now has 25 daughters averaging over 20,000 lbs. milk in a year, 15 of them in heifer form.

Write for pedigree, photo and price

IOWANA FARMS, (Herd Under Federal Supervision) Davenport, Iowa

HOME FARM HOLSTEIN FRIESIANS

LIGHT COLORED 800-lb. BULL

Dam—a 4-year-old daughter of Sir Sadie Cornucopia, finishing a yearly record of over 800 lbs. She made 731 lbs. at 3 years. Sire—Woodcrest Sir Clyde, son of Alma Clyde (33 lbs. and 970 lbs.), and sire of 16 20-lb. 2-year-old daughters and two over 30 lbs. Bull was born May, 1920, is ¾ white and Federally tested. Reasonable terms.

W. B. BARNEY & SONS Chapin, Iowa

SONS
of Sir Echo Sylvia Johanna —
⅞ Brother to the $106,000 Bull

From high bred fine individual A. R. O. cows up to 30 lbs. Several on test now. All good, straight individuals, backed by lots of milk and butter. Some are ready for service. Priced very low. Write for catalog.
(*Herd Under Federal Supervision*)
CHESTNUT HILL FARMS,
G. A. Burdick, Mgr., Gibsonia, Pa.

M. & P. HEALTHY HOLSTEINS
Federal Tested
Brentwood King Sylvia
a grandson of
May Echo Sylvia
now heads this herd of more than a hundred superior females, 50 cows have A. R. O. records up to 30 lbs.
Markham & Puffer
Avon, N. Y.

What Does Every Dairyman Want?

Better Cows, of course, which mean bigger profits for his labor and expense.
If you want them quick we will sell you any number as good as you wish to pay for, if you prefer to raise them we can sell you a pure-bred bull that will sire them. If you can use heifer calves River Meadow can be of service to you.
Everything in Grade and Pure-bred Holsteins.
Let us figure on an order with you.
RIVER MEADOW FARMS, Portlandville, N. Y.

A Youngster Rich in King Segis Blood
Born March 18, 1921

His sire is a son of KING LYONS, out of a 35-lb. daughter of KING SEGIS.
His dam is a 25.81-lb. daughter of JOHANNA KING SEGIS, a 40-lb. grandson of KING SEGIS.
For pedigree and price write:
G. G. Burlingame, Cazenovia, N. Y.

Choice At $100

of four yearling bulls. Sire, Joh Segis, 15 nearest dams average 30 lbs. His dam gave 710 lbs. milk in 7 days. Dams and Grandams—A. R. O. cows up to 24.74 lbs. Federally tested by all three tests.
HENRY J. KARPINSKI, R-7, Oswego, N. Y.

Holstein Bulls
At Reasonable Prices

Breeding considered from 3 months to 18 months of age. From both tested and untested dams and sired by some of the best bulls of the age, such as
King Pietertje Ormsby Piebe 4th
King Pietertje Ormsby Piebe 2nd
Colantha Wayne Ormsby
Wolfspring Sethje Mooie Pontiac
Write for prices and descriptive list
Herd under Federal Supervision
STATE HOSPITAL AND COLONY FOR EPILEPTICS
Woodward, Iowa.

Bull of Ormsby Breeding

We offer Chief Segis Lyons Ormsby No. 280751 Born March 8, 1919, a grandson of Sir Pietertje Ormsby Mercedes 41st. His sire a 33-lb. bull; his dam a granddaughter of Sir Pietertje Ormsby Mercedes, who had more 1,000-lb. daughters than any other sire in the world. Also some splendid bull calves ready for service, from A. R. O. dams. Herd tuberculin tested. Write for prices.
Schermerhorn Farms, Mason City, Iowa.

Son of Lieutenant Rag Apple

from a daughter of Admiral Urmagel Burke a real combination, light in color, priced right, serviceable. State and Federal accredited herd.
BLUEBELL FARM, Riceville, Iowa.

A Few Good
Granddaughters
OF
King Segis Pontiac
and from A. R. O. Dams.

Guaranteed right. You Get Your Papers When You Buy.

Rock Valley Stock Farm
Fort Atkinson, Wisconsin

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QUALITY
Holsteins or Guernseys, registered and grades, to choose from. I would like to get in touch with parties wanting either breed.
BYRON GATES, Ft. Atkinson, Wis.

HEAD YOUR HERD

With a Son of S. P. O. M. 41st

We Have Several For Sale

They aren't all high priced bulls, either. We have some good ones from A. R. O. dams that will have a chance to increase their 7-day and yearly records.

One of these youngsters will suit you; he's priced to sell, and he is bound to increase in value.

Write for information or come and see for yourself.

Gustave Pabst's Hollyhock Farms
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20,000 HEAD HOLSTEINS
From which to select Foundation Stock.

AT PRESENT: Excellent offerings in yearling heifers, bred heifers and cows, both grades and pure-breds. Choice pure-bred bulls of all ages.
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Waukesha County Holstein-Friesian Breeders' Ass'n
Waukesha, Wisconsin.

RELIABILITY BANKER FARMER QUALITY
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EXCHANGE

HOLSTEINS FOR SALE

SPECIAL—Prize winning yearling Holstein bull. 30-lb. sire; 19.58-lb. dam. Splendid individual.

PURE-BREDS: 161 Cows, 134 Heifers, 19 Heifer Calves, 290 Young Bulls
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Some good carloads at reasonable prices. Listed for sale through Wisconsin banks. Other Live Stock: Breeders are listing with us other dairy cattle, beef cattle, horses, sheep, and swine. Write us if you want stock. We will answer promptly.
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Choice Young Bulls

from one to fourteen months old for sale. Sired by Cloverlawn Johanna Piebe whose five nearest dams average 1,070 lbs. of butter, 23,809 lbs. of milk a year. Herd numbers 140 head, forty cows with yearly records. State exactly what you want.
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We offer for sale a number of cows, heifers, bulls and calves of all ages. Some sired by King Korndyke Veeman whose two nearest dams average over
WISCONSIN STAR STOCK FARM,

HEIFERS and BULLS

37 lbs. butter in 7 days and bred to King Sadie Vale Walker who is a son of the youngest 29-lb. cow in the world. Come and see them or write to
ED. M. SCHULTZ, Hartford, Wis.

Cows and Heifer
A Few Good Bulls

Because I am overstocked, I am offering some very good registered females for sale. They either have A. R. O. records or are from A. R. O. dams.

Can also offer some excellent young bulls by a 33-lb. sire and from A. R. O. dams with records up to 28 lbs.

Every animal sold is guaranteed to be as represented.

Write or come and see for yourself.

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Quality Holsteins
GRADES AND PURE-BREDS

Just now we have a splendid lot of grade heifers. Write for our pure-bred bull list.
Jefferson County Holstein-Friesian Breeders' Association,
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I-N-V-E-S-T-I-G-A-T-E—Pure-bred Holstein bulls sired by Wisconsin 3-year-old at National Dairy Show 1920. Herd tuberculin tested. Pure-bred Duroc pigs sired by Great Wonder Sensation.
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Three bulls of serviceable age—four others will be old enough for service in a month or two—others three months old and older. Almost all of them sired by SIR ORMSBY BEAUTY PONTIAC SEGIS, the son of a 37-lb., 1112-lb. three-year-old daughter of KING SEGIS PONTIAC COUNT.

If it will be of an accommodation to the purchaser, we will accept a six months' note in payment, WITHOUT INTEREST, or will accept payment on installment plan basis.

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$100 to $200 Buys A Bull From A Good Record Dam

Am offering several for those prices sired by a 26-lb. bull and from A. R. O. dams with records up to 25.46 lbs.

Write at once. They'll go fast.

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ORMSBY BULL - Born Feb. 28, 1919
Sire, King Ormsby Pontiac De Nijlander, whose two nearest dams average over 30 lbs.
Dam, Aaltje Hengerveld Tritomia Segis. A. R. O. 17 lbs. at 3 yrs., next dam 29.68 in 7 days. Color light, fine individual. Ready for service. Price $300.
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Fairhurst Herd
On the Accredited List

We offer young bulls, fine individuals and well grown. Sired by 33-lb. bull and from dams with records up to 30 lbs. Write for pedigree and price.
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When writing advertisers please mention Hoard's Dairyman.

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KING SEGIS PONTIAC COUNT
"The Marvel of All Sires"
Whose daughters have broken more World's Records than the daughters of any other sire.



PIEBE LAURA OLLIE HOMESTEAD KING
"The Present Day Sensation"
The only bull in the world with five 20,000-lb. two-year-old daughters.

Will Triple Your Milk Check Because It Will Put Production Into Your Herd

And more than triple the price you are getting for your calves. Because it combines individuality with production, it has given us thirty cows at Arden Farms that have **each produced $1,000 worth of milk per year. Do you want that kind?**

We Offer
Sons of "Count" from Daughters of "Piebe"
Sons of "Piebe" from Daughters of "Count"

We have the finest line of young bulls we have ever raised at ARDEN FARMS, priced in accordance with present financial conditions. LIBERAL TERMS GIVEN IF DESIRED.

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MINNESOTA HOLSTEINS



MISS KORNDYKE AKKRUMMER ORMSBY
30-lb. 4-year-old, 39.67 lbs. butter at full age.
(Owned and developed by J. B. Irwin.)

"The Home of the Ormsbys."

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A few richly bred choice young bulls ready for service,

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Let us give you a good individual well bred at a very low price while they last. Tuberculin tested. Guaranteed in every respect and ready to ship. Come and see them.

Woodlake & Clover Farms,
JOHN B. IRWIN, Sta. F, Minneapolis, Minn.

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We have on hand more females than we usually carry so are able to offer some good ones for sale. A number have A. R. O. records and most of them are from tested dams. Bred to a yearly record sire and themselves backed by yearly producers.

Address correspondence to Axel Hansen, formerly with John B. Irwin.

MINERAL SPRINGS STOCK FARM, - - SAVAGE, MINNESOTA
Stuart—McIntyre—Hansen, Owners.

Address correspondence to Axel Hansen, formerly with John B. Irwin.



Lola Segis Pontiac Homestead

the highest record bull in southern Minnesota, heads our herd. His sire, Piebe Laura Ollie Homestead King, has more daughters that as 2-yr.-olds have produced 20,000 lbs. milk in a year than any other. His dam, a 34-lb. 4-year-old daughter of King Segis Pontiac Count, has 3 records averaging 33 lbs. and has made over 1,000 lbs. in 1 year. We have a few serviceable bulls and younger from A. R. O. dams for sale.

Clover Lea Farm, W. W. Walker, Owner. Austin, Minnesota



Sir Walker Segis Homestead

The best show bull and son of the great bull, PIEBE LAURA OLLIE HOMESTEAD, out of a "COUNT" daughter, BEAUTY BEETS WALKER SEGIS, world's greatest heifer, with two yearly records over 25,000 lbs. milk and 1,000 lbs. butter in heifer form, and a seven-day record of 35.03 lbs. butter from 730 lbs. milk.

We offer several choice bulls, one month to a year old, out of high yearly record and A. R. O. cows, at very reasonable present day prices. Pedigrees and photos will be sent.

A. J. LASHBROOK, - - Northfield, Minnesota

6 Good Cows For Sale

THE MINNESOTA KIND

They are all by a 36-lb. sire, are bred to a son of King Korndyke Colantha Ormsby, and are due to freshen this fall and winter. They are from 3 to 5 years old and absolutely straight and right. Lack of barn room forces us to sell.
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Grandsons of Sir Pietertje Ormsby Mercedes

The sire is Sir Pietertje Ormsby Mercedes 22d a son of Minnesota's first 1000-lb. cow. These bulls are all nicely marked, straight top lines. Very good individuals from good A. R. O. dams.
For pedigrees and prices, write
O. J. GROVER, - GLYNDON, MINN.

Grandsons of
Duchess Skylark Ormsby and of S. P. O. M. 38th

Good Ones — From Yearly Record Dams. Priced to Sell.

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For Sale—Four heifers from good sires and tested dams. Bred to our 34-lb. sire, Count and Piebe breeding. Are good individuals, priced $1,175. Herd under State supervision.
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We have a grand bunch of youngsters on hand. Come and pick out a calf while you have a big choice. Grow him to suit you. Saves you money and we are selling them as cheaply as we can. Show calves that are backed by generations of official testing and careful breeding. Sons of DUTCHLAND CREAMELLE COLANTHA LAD No. 165049. His yearly daughters all average over 834 lbs. of butter at 26 months of age.

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From good record dams. Priced from $150 to $700. A few higher. Tell us your wants, or better still, come and see us.

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advertised last week is sold. Here is another good one ready for light service. Sired by a 30-lb. bull. Dam a 14-lb. 2-year-old who will be tested again next spring. Priced so reasonable that you can't afford to be without him. $150.00 for immediate sale.

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COME TO BISCAY

for your next purchase of pure-bred or grade Holstein cattle, mature or young stock. Large selection, also a few select male calves to offer. Located near station
BISCAY SALES CO., BISCAY, MINN.

A LINE-BRED "41st" BULL CALF FOR SALE



SIR PIETERTJE ORMSBY BESS BURKE
Born Dec. 20, 1920

A real showy calf, straight as a line and of ORMSBY type

His dam and sire's dam are both daughters of SIR PIETERTJE ORMSBY MERCEDES 41ST, the only son of Spring Brook Bess Burke. His dam is on yearly test as a junior two-year-old and bids fair to go 800 lbs. The sire's dam made 28.93 as a 3-year-old and 26.82 as a 2-year-old.

THIS CALF WILL GROW INTO MONEY —SEND FOR PHOTOS, PEDIGREE AND FULL PARTICULARS.

E. C. Schroeder Farms

(Under Federal Supervision)
MOORHEAD, Minnesota

"DUKE"

The only place you can buy sons of serviceable age sired by DUKE PIETERTJE KORNDYKE ORMSBY

The bull selling at the last Minnesota state sale for $33,000.00 is from the herd where he stood for three years prior to the sale. "Duke's" dam now has three records above 1,000 pounds, the last one was 1,190 pounds.
Now is the opportune time to buy one of these bulls as their sisters will be given every opportunity. Get a son now and be in line. Clean bulls from a clean herd. Prices reasonable. Write
EDW. H. ULRICH, Biscay, Minn.

REGISTERED BULLS

FROM TESTED DAMS

Sired by a 30-lb. son of Colantha Johanna Lad and a 26½-lb. son of Laura Piebe Ollie Homestead King. Well marked, straight individuals from two months to 2 years old. Priced to suit present conditions.

GEO. H. ELWELL,
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HOLSTEIN BULL CALVES

out of A. R. dams and sired by our two richly bred herd sires — **King Piebe Ormsby Mercedes**, a 35-lb. son of Sir Korndyke Bess and every dam in pedigree over 22 lbs. and **King Pietertje Mercedes Ormsby**, a son of Sir Pietertje Ormsby Mercedes and out of a 19-lb. senior two-year-old dam.
Herd tuberculin tested. Write for information or visit herd.

P. FROST SPAULDING FARM CO.
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Fayne Star Sir Korndyke

Ready For Service. Price $400

He is by King Segis Pontiac Fayne Star, the best son of "Count," and from a wonderfully good 2-year-old granddaughter of King Korndyke Colantha Ormsby. She made over 15 lbs. as a 2-year-old and will be run again both for 7 days and a year.

Write us and ask for bull circular

Flecks Farms Faribault, Minn.

YOUNG H.-F. BULLS

FOR SALE

From one year to a week old. Bred by 30-lb. sire and 44-lb. grandsire.

G. A. UITDENBOGERD, Rosemount, Minn.

THE TRAVERSE HERD

We have what you want in

BULL CALVES

the large, fine growthy type, guaranteed right in every way. They are from high producing A. R. O. ancestors. Dams' records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.

Traverse City State Hospital, - Traverse City, Michigan

The Pontiac Herd

"Where the Champions come from"

Offer Bull Calves sired by sons of *Pontiac Korndyke, Hengerveld De Kol, Pontiac Dutchland, or Admiral Walker Pietertje.*
Do you want a Pontiac in your herd?

PONTIAC STATE HOSPITAL, Pontiac, Mich.

BULL CALF

Sire's dam, butter, 1 yr., 848 lbs.; her daughter, 1,055 lbs. Grandsire's dam, 987 lbs. at 11 yrs.; her full sister, 1,344 lbs.; another, same dam, 1,322 lbs. Dam, Miss Pietertje Alexina 3d, sister to Miss Pietertje Alexina 2d, 1,290.91 lbs. A dandy calf, priced right. Write quick to

McKAY BROS., - - CADDOA, COL.

THE MARK OF QUALITY

Success Insurance

"A Son of Count"

Suppose someone offered to insure your future success as a breeder and charge you only a small premium. Would you pass up such an opportunity? Not many of you would.

Oak Dale is offering some breeder the chance of a lifetime to buy herd insurance. The offer comes in the shape of a young Bull, a son of King Segis Pontiac Count, the greatest sire of all times.

"Count" has more daughters with over 700 lbs. milk than any other living sire. He is the only sire that ever lived with three daughters with over 700 lbs. milk under full age. He has more daughters with records above 1,000 lbs. butter than any other living sire. His daughters have won more first prizes in the past five years than the daughters of any other sire in a lifetime.

Buffalo Lois Beets, the dam, seven days 22 lbs. butter, is by a son of Paul Beets De Kol. One of this great bull's grandsons is the sire of the present world champion four-year-old. Buffalo Lois Beets bears the same relation to Paul Beets De Kol as does the sire of this world champion 46-lb. four-year-old.

This young bull traces twice to Pontiac Korndyke, Hengerveld De Kol, King Segis and King of the Pontiacs; once to Paul Beets De Kol and Sarcastic Lad. Thus, in the first five generations he has represented six of the greatest bulls the breed has ever known.

Is this herd insurance or not? Figure it out for yourself. The price of this bull is so reasonable that anyone can afford to pay it.

Write for complete information or come and see him, if you can. The farm is on the Oak Dale Trail at Blooming Prairie, Minnesota.

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INCORPORATED
BREEDERS of HOLSTEIN FRIESIANS
Austin Minnesota

Holstein Bulls

At Farmers' Prices

We are not in the game to get rich but to help promote the breed by offering pure-bred bulls at the lowest prices, enough to cover raising. Write for prices and descriptive list. The Ormsby kind.

RAMSEY COUNTY HOME,
J. E. McMahon, Supt., North St. Paul, Minn.

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The Ready Ration For Dairy Cows

What kind of a dairyman makes the most money?

Who makes more money—

The man who uses a low priced ration—saving *one, two,* or *three cents* daily on a cow's feed?

Or the man who feeds Larro (under our absolute Money Back guarantee)—and *gets one, two, or three more quarts of milk* every day.

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Write for literature.

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KIL-ZEM acts instantly. When applied with a fine fog sprayer it positively kills flies, fleas, lice, ticks, mosquitoes, bed bugs, cock roaches, and many other insect pests.

Kil-Zem protects all stock in barn or field from flies and other insect pests. It is non-inflammable: will not stain, mat the hair nor blister. Pleasant odor—will not taint milk. Prevents development of larvae when sprayed about farm buildings and stagnant water.

Kil-Zem has been proven superior to any other fly spray by many of the largest dairy farmers in Wisconsin and Minnesota. Approved by hundreds of herdsmen, and by Dairy Departments of State Experiment Stations.

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Special—2 gallon can, (sample order)	1.50 per gal.

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Guaranteed to Do All We Claim for It

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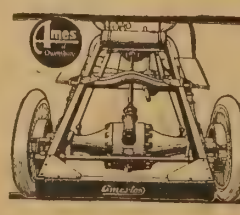
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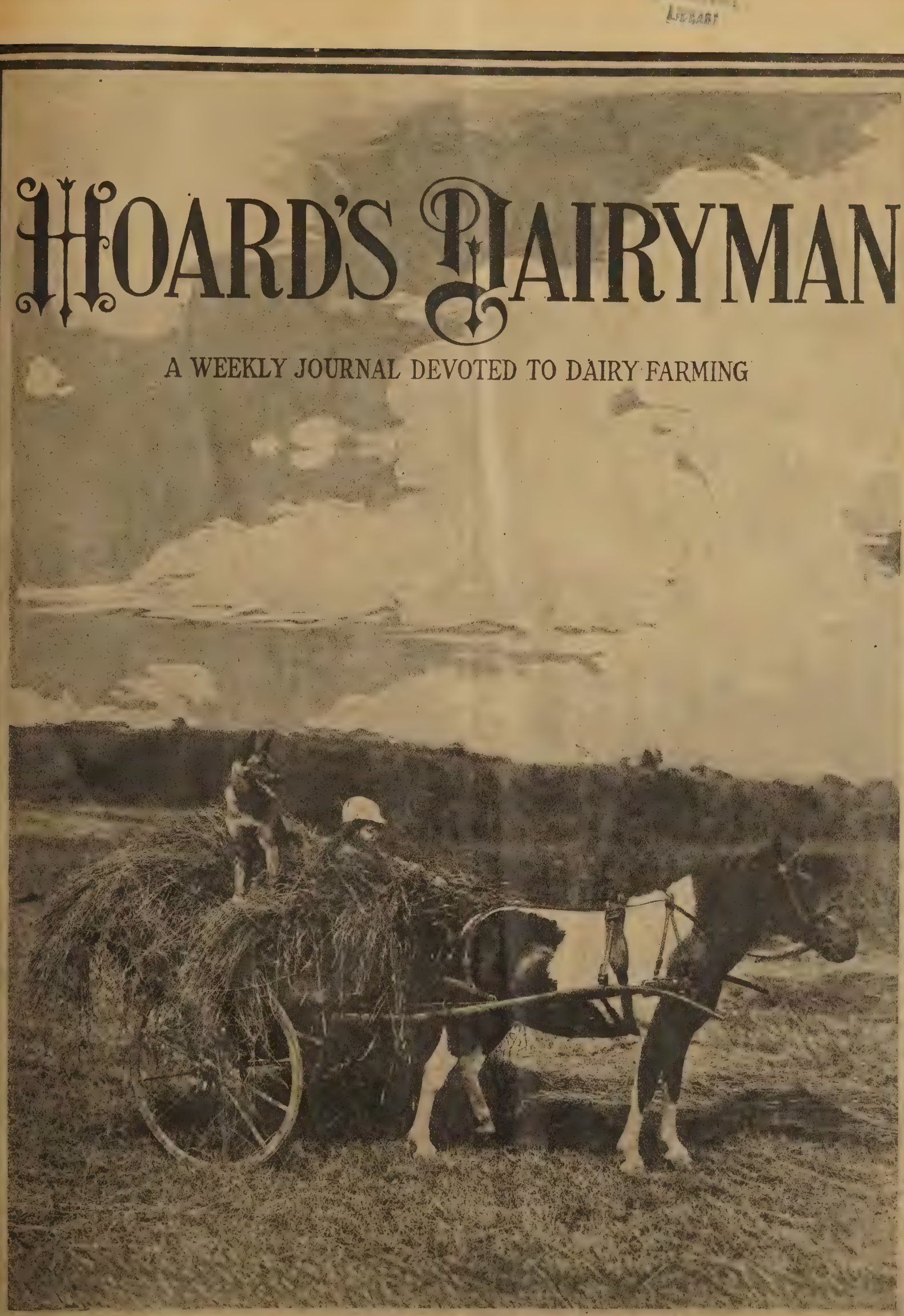
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A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING





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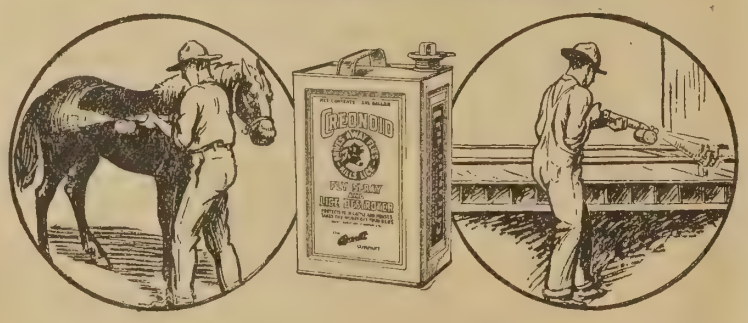
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Dairy Cattle on Farms

FOR the first time the federal census makes a distinction between real dairy cattle and beef cattle; that is, heretofore, dairy cattle have been carried under the general heading of milch cows which included also beef animals producing milk and all heifers 15½ months old or over. According to the census of 1920, there was a total of 31,386,378 dairy cattle on farms in the United States, 1,220,564 in villages and cities. Of dairy cattle on farms, nearly 7 million were calves under one year of age, 4 million heifers one year old and under two, 19½ million cows over 2 years old, and 750,000 bulls one year old and over. The states having one million dairy cows or over are Wisconsin, New York, and Minnesota. Because of changes in classification a comparison with the previous census is not practical, but it is believed there has been a substantial though not large increase.

Special figures for the states are as follows:

States	Cows and heifers two years old and over	Heifers one year old and under two years	Calves under one year of age	Bulls one year old and over	Total
Alabama	394,112	97,051	214,219	16,192	721,574
Arizona	31,619	7,768	13,293	1,041	53,721
Arkansas	415,507	101,182	198,445	12,026	727,160
California	502,415	111,543	150,119	14,874	778,951
Colorado	192,234	41,513	81,447	6,999	322,193
Connecticut	112,622	22,392	23,606	4,119	162,739
Delaware	33,026	4,852	5,141	1,738	44,757
District of Columbia	704	95	118	29	946
Florida	71,641	18,239	27,995	2,756	120,631
Georgia	391,514	96,387	175,276	15,315	678,492
Idaho	115,336	27,616	56,207	3,232	202,391
Indiana	608,211	118,662	200,243	19,285	946,401
Illinois	957,986	193,860	315,633	43,132	1,510,611
Iowa	897,668	196,707	385,628	39,507	1,519,510
Kansas	574,257	107,010	227,431	21,055	929,753
Kentucky	441,346	73,571	137,312	7,565	659,794
Louisiana	176,936	40,754	92,886	5,956	316,532
Maine	175,425	41,596	43,898	6,354	267,273
Maryland	161,972	26,565	31,345	9,829	229,711
Massachusetts	147,331	26,513	26,618	5,548	206,010
Michigan	783,176	165,371	269,311	22,497	1,240,355
Minnesota	1,229,179	303,279	479,210	68,959	2,080,627
Mississippi	427,406	102,868	241,116	17,848	789,238
Missouri	661,959	131,317	254,069	19,405	1,066,750
Montana	127,581	25,844	54,422	3,251	211,098
Nebraska	440,838	78,604	158,864	18,194	696,500
Nevada	13,349	3,133	7,123	486	24,091
New Hampshire	95,997	23,206	22,482	3,691	145,376
New Jersey	130,497	17,635	18,764	5,797	172,693
New Mexico	37,805	8,022	15,779	1,188	62,794
New York	1,481,918	248,164	291,721	59,271	2,081,074
North Carolina	290,223	64,334	99,222	8,298	462,077
North Dakota	370,707	90,386	181,739	17,191	660,023
Ohio	888,057	171,426	261,003	28,887	1,349,373
Oklahoma	464,556	105,835	235,306	16,035	821,732
Oregon	180,462	36,011	57,840	6,098	280,411
Pennsylvania	874,286	163,908	209,325	44,742	1,292,261
Rhode Island	21,431	3,486	3,183	716	28,813
South Carolina	188,305	40,822	81,835	7,114	318,076
South Dakota	338,253	70,444	133,767	13,515	555,979
Tennessee	415,128	79,595	165,877	8,760	669,360
Texas	844,545	169,028	439,456	28,842	1,481,871
Utah	66,724	14,077	25,794	1,420	108,015
Vermont	290,122	55,521	64,147	11,490	421,280
Virginia	357,880	59,894	83,952	8,963	510,689
Washington	238,270	51,365	80,990	8,200	378,825
West Virginia	181,206	28,608	41,558	3,649	255,021
Wisconsin	1,795,122	384,695	503,256	80,410	2,763,483
Wyoming	34,933	6,893	16,615	902	59,343
United States	19,671,777	4,057,644	6,904,586	752,371	31,386,378

A County Fights T. B.

HOARD'S DAIRYMAN:—On May 1, 1921, the Allegany County Farm Bureau, New York, started a fight to the finish on tuberculosis. This was a result of a meeting of the executive committee only twelve days before, at which it was voted to adopt a five-year bovine tuberculosis eradication project. A county veterinarian is on the job, hired by the farm bureau, working under the federal department.

This project is not a half baked one. There was a real need for such a plan. Ever since federal accredited herd work started in the county two years ago, the demand for testing has grown by leaps and bounds, and the state was not able to do all the testing. Hence, the arrangement with the federal department. The plan is in writing and both parties have signed it.

The farm bureau is in active charge of this work. The veterinarian is not to work outside of his county. The farm bureau office is county headquarters. The county agent is "go between" for the farm bureau and farmers. The goal is, to test every cow in the county.

Salary and expenses of the veterinarian must come from the work he does, and therefore a charge of $1 each for cows tested, up to ten cows, and 50 cents for each animal above ten is made. These charges cover a second test, six months after the first, if reactors are found. If any animals look suspicious, a third test is made within the year. The intradermal test will be used. The subcutaneous test will be used if owners of animals want it, at a slight increase in charge.

The state continues to pay the cost of appraising and post mortem, and allows not more than $67.50 for grade cows, and not more than $112.50 for registered stock. If a cow is killed and no lesions are found, the state allows $75 for grades and $125 for registered animals. The Federal Department pays not more than $25 for grades and $50 for registered stock. Besides, reactors are property of the owner. The state appraiser and owner will set the value of reactors, and they must be killed and sold within the state.

Words will not tell what this five-year plan means to Allegany County. It can be told only in figures with a dollar sign in front of them. The loss from tuberculosis is enormous each year, and the only way to check the loss is to fight the disease to a finish. That is, to test every cow.

Pennsylvania. E. A. KIRKPATRICK.

HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING

olume LXI — FORT ATKINSON, WIS., JULY 1, 1921 — Number 24

A PRODUCT OF COW TESTING

FRANK M. CHASE, KANSAS

VIDENCE of the good work of cow testing associations is not lacking. It is written in many es in improved herds and better y practices. Perhaps the highest ice that one of these organiza- s can render, however, is to give a the interest and impetus where- e lifts himself from the obscurity he keeper of scrubs to the plane of successful breeder of registered le.

his is what a cow testing associa- did for A. B. Wilcox, one of the y good dairymen of Kansas. To a e extent his success has been a duct of cow testing; and in his ex- ience, methods, and ideas lies much hope and encouragement for the rage dairyman, to whom the same ans of progress are available.

Vilcox began to follow the dairy provement trail in earnest about years ago. At that time he was ming in Dickinson County, Kansas, milking grade Shorthorn cows, he had done previously in Western braska, dairying having been his occupation. In 1911, accompanied O. E. Reed, then of the Kansas ate Agricultural Col- e, he spent a day or in driving among neighbors and iends in Dickinson unty, the object being arouse interest in a testing association. a result 26 farmers eed to enter the pro- ed organization which ame the first cow ting association in state.

t is doubtful whether of the members ob- ned more benefit from association than Wil- , who held the posi- n of secretary for sev- l years after its for- tion. He began to put tester's suggestions to rations and man- ement into effect at e, and it was not long before he akened to the fact that his red s were not well adapted for milk duction.

He decided to raise Holsteins, and establish an all pure-bred herd of m as soon as possible. This he ld not do as quickly as he wished, pure-bred dairy cattle were very ch scarcer in Kansas ten years ago n now. In the entire Dickinson unty Cow Testing Association re was not one herd whose animals re all registered, while only a few the members had even a few head pure-breds. Wilcox wanted good mals to start with, so he made his rchases slowly and as he could find irable foundation stock, taking out three years to bring together a re-bred milking herd of about six- n animals.

The care with which he chose the cleus of his herd, as well as the importance of careful selection in herd building, is illustrated strikingly by his very first pure-bred purchase. This was a heifer which he bought as a calf in 1912. She was well bred, and he paid $90 for her when only a few days old. Before this calf had passed her fourth year, she brought to the Wilcox farm three more heifers, one of these meanwhile giving birth to another female. All four were sold, to the enrichment of Mr. Wilcox's bank account by $850. This amount can be fairly considered profit, for a careful computation of the original cow's milk production during this period revealed that her product paid all the expenses of her own keep, of the rearing of her daughters and the one granddaughter, and $147 besides. Thus, lacking $3, from an investment of $90 and within four years, this cow profited her owner $1,000. Nor was that all. Shortly after moving to Shawnee County, Kansas, early in 1918, Mr. Wilcox sold this cow at auction, as a six-year-old, for about $400. During his ownership of the cow eleven of her offspring joined the Wilcox herd. Ten of these were females, and one of the old cow's daughters still remains in it.

Among the herds of the Dickinson County Cow Testing Association, the Wilcox cattle led in production several years. For three years his herd of sixteen cows made an average net profit of $100 apiece yearly. One of his cows, Sunny Pauline, also held the state record for two-year-olds during two years, with a seven-day butter record of nearly 25 pounds.

In order to get onto a farm better adapted to his requirements, Mr. Wilcox moved to Shawnee County three years ago, where the dairy operations are now conducted on a 280-acre tract which includes a good deal of pasture land. Shortly after this change in location a son, Guy E. Wilcox, assumed the active management of the farm, though the hours that he puts in with the Holsteins do not greatly exceed those of his father. As before, the herd is in good hands, for in addition to developing a good herd of cattle and improving his methods in various ways, A. B. Wilcox reared a son in the ways of good dairy husbandry. Guy, naturally a lover of cows, equipped himself with special dairy training at the University of Nebraska, having graduated from this institution in 1915, so is admirably fitted to go on with his father's work.

A recent indication that the business is getting along well with the son at the steering wheel is found in the average production of 1,300 pounds of milk for the nine cows that milked during December. Also, as the senior Wilcox and I talked, he showed me the bank receipt for the milk of the nine cows for the last week of January, which was for $72.77, or considerably better than a dollar a day for each cow. For cows well advanced in their lactation periods and without effort being made to force them for a record, this is a very satisfactory showing.

Owing much of his success to the cow testing association, Mr. Wilcox still maintains his appreciation of this institution. In Shawnee County, as in Dickinson County, he was instrumental in the formation of a cow testing association, and by this means the entire milking herd is regularly tested. Here, too, the Wilcox herd frequently leads the association in the average monthly production per cow.

For several years the Wilcoxes have relied on a dairy ration which has been recommended widely by the Kansas State Agricultural College. This ration is made up of 1 part oil meal, 2 parts bran, and 4 parts corn chop, the cows being allowed in addition about all the alfalfa hay and silage that they will clean up. While the college has recommended that, as a rule, one pound of such a grain ration be fed for every four pounds of milk produced, these dairymen usually have not fed quite so heavily. They have made a special point of reserving for the cows the very best of the alfalfa hay produced on their farm, and of trying to have this of the highest quality. By having this roughage of the best they believe that they are able to save considerable in the amount of grain required. The logic of this is simple, as up to the capacity of the cow to handle this roughage, protein may be obtained much more cheaply in alfalfa than in grain feeds.

Regularity, kindness, and an abundance of outdoor exercise figure largely in the Wilcox methods of dairy management. "Treat a cow roughly and she will treat you the same way," is A. B. Wilcox's pithy summary of the need for careful and sympathetic handling of dairy animals. He also stresses the need for treating cows as individuals, especially as regards feed requirements. During all the mild weather of last winter the milking herd has remained in the barn lot the greater part of each day, being stabled at night. The lot is provided with feeding racks, and good protection against the wind and storms. The young stock, except the small calves, has remained outdoors all winter, being sheltered at night by the covered sheds.



AN ALFALFA FIELD IN DESCHUTES COUNTY, OREGON

Together the Wilcoxes now possess a herd of 27 head, 25 of which are females. Of the 19 females owned by Guy, 12 are two-year-olds by one sire. Both bulls trace to Pontiac Korndyke. Mr. Wilcox has specialized in this line of breeding since his start in pure-breds, some of his first registered animals carrying the blood of this noted sire.

For dairying, even in the midst of the present period of distress for nearly every line of farming, Mr. Wilcox sees a bright outlook. This applies to the production of both milk and dairy breeding stock, though he naturally sees the greatest opportunities for the breeder. In his view, the war period taught dairymen a lesson in regard to the scrub cow that they will not soon forget. "Under the stress of war the poor cow was found to be a very inefficient and wasteful machine," he says. "Because of this many farmers were forced to get better cows or quit dairying. During the next few years scrub dairy cows are going to be replaced by large numbers of well bred dairy animals, with good profits resulting to both the men who buy them and the men who sell them. It is a good time to raise good pure-breds."

A Low Hung Hay Wagon

H. E. WILKINSON, IOWA

A HAY wagon that will haul up to two tons of hay to the load and yet cannot be upset, and a power hoist that replaces a team in the haying rush, are two important parts of the machinery used at that season of the year on the J. S. Harrington Farm in Clinton County, Iowa. Hay has always been a major crop on the land under the Harrington management. Hence, the necessity for efficient and rapid handling of it.

The accompanying picture shows one of the two hay wagons now in use on the farm. It would be impossible to buy one like it anywhere. It was made seventeen years ago by Mr. Harrington. He saw the need of a hay wagon that would stand up under heavy and long continued use. And these wagons are in excellent condition today. As a young man, Mr. Harrington, by diligent practice and experimenting, in his little shop on the farm, became skilled in the use of blacksmithing and wagon-making tools. When he had designed these wagons and was ready to build them he bought the skeins, wheelstock, the necessary lumber and iron stock, and went to work.

Two two by eight fir bed-pieces, fifteen and one-half feet long, support the rack itself. These are hung with U-bolts beneath the rear axle, which is ten feet long and come together just behind the front axle, which is five feet and ten inches long, allowing for short turning. This makes room for a rack fourteen feet long by seven and one-half feet wide and only twenty-six inches from the ground. Ordinarily, three horses are required to pull the outfit when using a hay loader, although a tractor is sometimes used. For threshing, these wagons are very handy, since their low-hung body make high pitching unnecessary.

Six years ago Mr. Harrington built the power hoist shown here. The gearing was originally designed for a sawmill but works here very nicely. The drum is an old belt tightener pulley with wooden ends added. The control is simple. One lever works the clutch. The other brakes the dr as the rope is pulled back by the m operating the hay fork. Last year twelve-year-old boy handled the ho easily. Power is furnished by 3 H. P. gas engine. The outfit mounted on skids to permit quick a easy moving.

The small box to the right of t engine contains dry cells and an el tric bell, which is wired to a switc box on one of the stacker poles at t opposite end of the stack. The m who sticks the fork pulls a rope a tached to the switch when the fork loaded and the man at the hoist ge the signal above the noise of the e gine.

This field outfit will build a sta sixty feet long by eighteen feet wid holding from twenty-five to thir tons, depending on the kind and co dition of the hay.



A HAY HOISTING DEVICE



A LOW HUNG HAY WAGON

OREGON DAIRY NOTES

E. L. BALLARD, OREGON

DAIRYMEN in Oregon are attempting to legislate the scrub sire out of existence. They secured passage by the legislature of a law requiring any dairy bull offered for sale in the state to be licensed by the State Dairy Bull Registration Board, which is set in the law as the Dairy Husbandry Department of the Oregon Agricultural College ex-officio. In order to secure a license the owner of the bull must make application to the Board showing, with the application, certificate of registration. The Board is authorized to refuse a licensed certificate to any bull known to be infected with a dangerous disease or that is known to transmit inferior qualities to his offspring. In case the supply of suitable dairy bulls shall at any time fail to meet the demand, the Registration Board has authority to waive the requirements of the law for a stated period of time. The new Board was also authorized to gather dairy statistics through county assessors, county agricultural agents and others. Protests against decisions of the board may be made, following which direct examination of the bull in question shall be made by three qualified men, one appointed by the registration board, one by the owner, and the third by these two in conference. There is much interest in the bill and its effect upon the dairy industry.

The Oregon Farm Bureau Federation has established offices in Portland with the Oregon Dairy Council. The federation affairs are in charge of State Secretary P. O. Powell of Monmouth, a substantial Willamette Valley farmer and a member of the last legislature. The organization work has been temporarily suspended during the busy spring months and attention is being directed to getting results on some of the projects which have been adopted. No project has yet been developed directly along dairy lines, but the federation has gone on record in favor of commodity co-operative associations and is rendering support to the Oregon Dairymen's Co-operative League.

The farm bureau project attracting most attention at the present time is the organization of the Oregon Wool and Mohair Co-operative Association which will assume legal status as soon as owners of fifty per cent of the sheep and goats of Western Oregon have signed the five-year contract. R. A. Ward, former vice-president of the First National Bank of Bend, Oregon, who developed an agricultural program for the bank which attracted national attention, is acting as organization manager of the association. The State Farm Bureau was also active in organizing the Oregon Wheat Growers' Co-operative Association which is signing up a large percentage of the wheat in many counties, a total of three million bushels having been signed already in the campaign.

Governor Hart of Washington vetoed the bill passed by the Washington legislature appropriating $20,000 to the Western Royal Live Stock Show at Spokane and $10,000 to the Pacific International Live Stock Exhibition at Portland. The Idaho Legislature was a little conservative and killed the bill appropriating $20,000 to the Northwest Live Stock Show at Lewiston before it got to the governor. The various managements are going ahead, however, and making an effort to continue the excellent standard of the Northwest show circuit.

There are now fourteen gold medal Jersey bulls, according to records of the American Jersey Cattle Club. Of these, seven are Oregon bulls and the eighth is owned in the state of Washington, which gives the Northwest a distinct lead over any other section of the country. Oregon feels pretty proud of her excellent Jerseys. A recent checking of the records showed that Oregon Jerseys were either first or second in seven of the eight classes in the Registry of Merit.

One of the most successful co-operative marketing associations in the Northwest is the Pacific Co-operative Poultry Producers' Association, which has a membership of nearly 400 poultrymen owning 210,000 hens in Western Oregon and Southwestern Washington. The headquarters of the association are in Portland. Last year the organization handled 782,000 dozen eggs valued at $432,000. Carload shipments were made to New York and other eastern cities. Prices returned to the producers were far above Northwest quotations.

The association's plant has been enlarged for this year's business which will be more than twice that of last year. Cold storage facilities have been secured and the spring surplus production is being held. Eggs are graded and during the spring months producers have received at all times at least eight cents above the general market for the better grades.

The ladies of Grants Pass, Oregon, have established milk stations in pub lic schools, working in co-operatic with the home demonstration agen At the start milk was supplied eight six children in three school rooms. C this number forty-seven were at lea seven per cent under weight. After trial of three weeks, it was decide that the results justified the time an money necessary to make milk availa ble to all the school children.

The number of silos in Lincol County doubled last year. Lincol County is one of the Pacific Coas counties lying between Coos and Till amook Counties. Because of its rough er topography it has not developed a rapidly as the neighboring counties but has many of the same advantages as a dairy district. Sunflowers, corn oats, and some native grasses hav been found excellent silage crops. Al though producing a large yield, sun flowers do not prove so satisfactory an ensilage crop in the coast counties as in other sections of the state. Just why this is so is a matter for future determination.

The Clatsop County Cow Testing Association has recently organized for its second year and 650 cows have already been signed up. Still more dairymen are anxious to join the association and it is thought possible that a second tester must be employed.

The people in Walla Walla Valley in Washington believe they have the largest boys' and girls' dairy calf club in the West, having organized recently a Holstein club with twenty-five members. One hundred and seventy-eight Holstein heifers have already been secured for the boys. They were purchased in Yakima Valley.

THE THIRD ANNIVERSARY OF AN IDEA

C. R. GEORGE, INDIANA

WHEN the Guernsey breeders and enthusiasts of Indiana gathered at Lebanon on June 4th for the third annual show of the Boone County Calf Club they had a dual purpose in view. One was to measure and observe the progress of the calf club work. The other was to celebrate the third anniversary of an idea. The idea in question was the father of the modern dairy calf club project which is organized on a three-year plan and the Boone County Guernsey Calf Club was the first-born of this most prolific sire. The plan of organizing the clubs on this long time basis was worked out at Purdue University in 1918 and put into operation on July 5th of that year when the Boone County Club was organized. Previous to that time many junior calf clubs had been started but they were formed on a short time basis and most of them had sales at the close of the project. It was felt that this would tend to develop dealers instead of breeders, and to overcome this tendency the long time project that encourages permanent ownership of the animals was developed.

The show held at Lebanon to complete the work of this first club was a fitting answer to the desirability of the plan. When the bugle blew as a signal for the calf club parade to move, 67 head of pure-bred Guernseys with their young owners at the halter swung in behind the brass band and the four cars carrying the officials of the city of Lebanon, the American Guernsey Cattle Club, and the Indiana Guernsey Breeders' Association. They in turn were followed by delegations of visiting calf club members from other clubs over the state who came to see the show and to help with the celebration. The Hendricks County Club, the Carroll County Club, the Sheridan Club, the Argos Club, and the Marshall County Club were all well represented and the enthusiasm of these junior breeders added zest to the occasion.

One might wonder how 25 calves distributed in 1918 might increase to 67 head in three years. This was done through the organization of a second division of the club with 14 members the following year and a third division with 12 members in 1920. Forty-two of the original club animals are still owned by the members and 37 of them were shown. Thirty additional calves and yearlings were shown in the classes for offspring. These were from the two crops of calves from the heifers in Club No. 1 and the first calves from the heifers in Club No. 2.

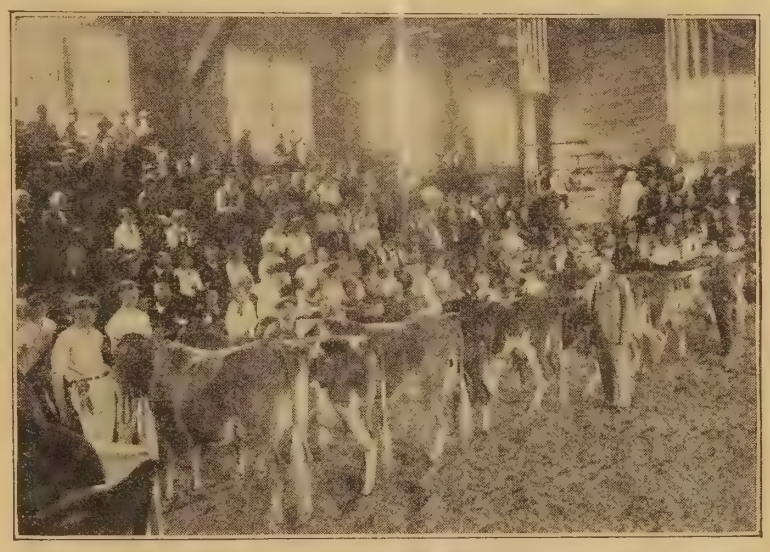
A unique feature of this show was the fact that all three stages of a calf club project were represented. Club No. 3 held its first show, Club No. 2 its second show, and Club No. 1 its third and final show. This made the show especially valuable.

A survey made at the close of the project for Club No. 1 shows that the 25 calves distributed July 5, 1918, went to 19 different homes. Of this number 15 members completed the project although five of these did not keep production records and 7 did not keep feed records of their cows during the third year. These 15 members represented 11 homes. Four other members representing 4 homes still have their cows but did not exhibit them in the final show. This makes a total of 19 members from 15 homes still owning their club animals at the end of three years.

Records of Production

Ten members kept complete records of production during the first lactation period and the showing which they made speaks well for the quality of the cows and the care given them by the members. These first calf records varied from 400 lbs. of butterfat made by Imp. Boone's Topsy, owned by Eugene Buchanan, to 244 lbs. of butterfat. Seven of them made over 300 lbs. of fat and the average for the ten head was 6,638 lbs. of milk and 323.1 lbs. of fat.

The club work has been a financial success even during this period of development which included only one year of production, for the records show an average net profit or labor income per member for the three years amounting to $554.63. It is interesting to compare the feed cost for the third year which averaged $107.94 with the value of the product for the same year which averages $231.41. This leaves a net return per cow from milk alone, after the feed was paid for, amounting to $123.47.



BOONE COUNTY GUERNSEY SHOW

Scoville, Mills, and McNagny placing the ribbons in Club No. 1. The show was held in the high school gymnasium, the floor of which had been covered with heavy paper and sawdust.

The Club Show

The club show was held in the large new high school gymnasium where the 500 to 600 people who came to hear the talks and see the judging could be seated in a comfortable way. The meeting which followed the parade was opened by P. H. Crane, president of the Indiana Guernsey Breeders' Association. Mayor Tower of the city of Lebanon was introduced for a few words of welcome and a response on behalf of the Guernsey interests was given by W. O. Mills of Mooresville. President Robert Scoville of the American Guernsey Cattle Club gave a most interesting talk directed primarily to the calf club members in which he complimented them on the fine work that they had done and encouraged them to go ahead with the breeding of Guernsey cattle after their club work was completed. E. J. Barker of the State Board of Agriculture told in a brief way of the Dairy Cattle Show at the state fair and asked for a good showing of Boone County Guernseys. President Scoville assisted by W. O. Mills of Mooresville and Rob R. McNagny of Columbia City judged the seven different classes in the show.

Awards for Club No. 1

In making the awards for the club contest the animals are first placed on individuality and then this placing together with such factors as the methods of feeding, production of milk and butterfat, quality of bull to which animals were bred and a story of the work are all considered in placing the final awards. In the third year's work the individuality counts 20 points, the feeding 20 points, production 40 points, quality of the service bull 10 points, and story of the work 10 points.

In the awards on individuality for Club No. 1 were: 1st, Morris Crain on Imp. Boone's Fanny; 2nd, Robert and Carl Nelson on Imp. Boone's Daisy; and 3rd, Noble Crain on Imp. Boone's Carrel's Princess.

The final awards for the third year contest in Club No. 1 were: 1st, Chester A. Jones with 96.3 per cent; 2nd, Arthur Van Huss with 93.4 per cent; 3rd, Robert and Carl Nelson with 93.1 per cent.



IMP. BOONE'S VALENTINE

First prize heifer, Club No. 2, and champion club female, shown by Chas. Nelson, Indiana. Charles with his heifer won first place in final awards for Club No. 2 with a score of 98 out of a possible 100.

Awards for Club No. 2

Club No. 2 completed the second year of the club project which should end at the time when the heifers freshen. Five of the ten animals shown were in milk having freshened recently while the remainder were mostly heavy in calf.

The awards for this year were based on 40 points for individuality, 20 points for feeding, 20 points for service bull, and 20 points for story.

The final awards for the second year contest in Club. No. 2 were as follows: 1st, Charles Nelson with 98 per cent; 2nd, Katherine Jones with 96 per cent; 3rd, Ralph Howard with 94 per cent.

Awards for Club No. 3

The calves in Club No. 3 were shown in the first year contest which gives 40 points to individuality, 30 points to feeding, and 30 points to story. The awards on individuality were placed as follows:

1st, Coza Chambers on Imp. Boone's Neta; 2nd, Bernice Adair on Imp. Boone's May; 3rd, Helen Adair on Imp. Boone's Tiney.

The final awards for the first year's contest in Club No. 3 were:

1st, Coza Chambers with 97 per cent; 2nd, Helen Adair with 96 per cent; 3rd, Bernice Adair with 93.8 per cent.

Awards to Offspring

The showing of the 30 head of calves and heifers in four different classes for offspring was a most interesting feature of the program. These were the "fruits of the vine" and offered a good indication of what these calf club members would do as breeders in the future. The very high quality of the entries was a surprise to all.

On female offspring over one year old Robert and Carl Nelson took first prize on Boone's Pansy, as also champion female, Lowell Denny taking first on heifer calves under one year. For male offspring over one year old, Areva Van Huss took first place on Dividend's Kitchener, as also champion bull, with Robert and Carl Nelson taking first on bull calves under one year.

It is encouraging to know that as this club work develops the interest in the project and in the breeding of Guernsey cattle is spreading very rapidly in the community which covers the larger part of Boone County. One feature of the organization which has been quite largely responsible for this interest has been the work of the advisory committee of farmers and breeders who have been given a definite responsibility in looking after the club members and checking up on the work, and this responsibility has resulted in an unusual interest on the part of these men.

Washington, D. C., Weekly News

[SPECIAL TO HOARD'S DAIRYMAN]

WASHINGTON, JUNE 21—The passage by the Senate of the Packer Control bill on Friday afternoon clears the atmosphere and indicates clearly the congressional line-up on this matter which has been pending as a source of contest in Congress for at least a dozen years. The bill is not finally passed as this is written, but the House has voted by a very large majority to pass the Haugen bill, and the Senate, after adding several amendments making this bill more drastic, scoring a close vote on each amendment, finally passed the amended bill by a vote of 45 to 21. So the chances are that should the House fail to accept the whole of the Senate amendments a compromise will be reached in conference somewhere between the two measures.

A strong fight has been waged against this legislation on the ground that it was putting the government into the control of business in violation of the pledge of the President that there should be "less government in business". That two-thirds of the members of the House and 45 to 21 of the members of the Senate—the rest being paired—voted for the measure, indicates that the sentiment is overwhelming in favor of control.

Banking control has been a matter of course for many years and railroad control for two generations. Looming right up ahead is coal control. To quiet apprehension, however, that the government is embarked on a wild career of control over everything and everybody, it ought to be pointed out that it has taken twelve years to convince Congress that the packer business was of such public importance that control was necessary. It will take some years before coal control is effected.

⚜

Final amendments to the Packer Control bill left the definition of the products which are to be followed through trade channels by the control officials, operating under the direction of the Secretary of Agriculture, so that only the products of the business of slaughtering live stock are included. This leaves the butter, egg, and cheese business and also the purely vegetable oleo business outside this authority. However, in another section of the bill as amended all the business of the "Packers" must be conducted on uniform accounting lines, under supervision, and this will of course include dairy and poultry products, oleo, and everything else.

⚜

Cold storage hearings before the House Agricultural Committee Tuesday, Wednesday, and Thursday, resulted in complications rather than clearness, and adjournment was taken Thursday, with an agreement between the Committee and the representatives of the Cold Storage Association that the cold storage people would get together among themselves and come back next week with a program on which they would agree. Features of the hearing were the protests of the apple shippers against time limitations and the necessity of marking every package, and the protests of large manufacturers of butter against the provisions of the bill making butter in storage over 30 days carry the "cold storage" mark. This, it was explained to the committee, would penalize all butter so marked as to price, whether it was good, bad, or otherwise. "All butter is cold storage butter," said J. A. Walker, while making a prepared statement. "We put butter into storage the moment it comes from the churn. I am in favor of going the whole course and marking it all storage, and teaching the public the facts, rather than having it arbitrarily marked and penalized at any point after that. We are suffering from public prejudice against storage butter and we want to correct that prejudice rather than strengthen it."

Professor George L. McKay told the committee of experiments in the keeping quality of butter in storage, showing that some butter was better when it came out of storage than other butter when it went in. The gist of Dr. McKay's testimony was to the effect that the time which the butter was kept in storage was not the essential factor and that since the labeling provided for in the proposed law covered only time, it was not the big question in so far as the measure related to public health and commercial honesty.

It is interesting to note in this connection that the Dairy Division has recently taken samples of butter out of storage in San Francisco, which have been sent here and tested, which were made during the earlier period of the war, and put into storage in 1917. More than three years in storage was the record of this butter but it showed up here after being shipped from the Pacific coast not in cold storage, and was tested here and found to be in fine condition. Some of it tested by New York experts was scored at 92. That is, this butter came out of three years storage as good as most butter when it enters storage.

⚜

The Federal Trade Commission has made public its report of an investigation of the milk and milk products trade during the period of 1914 to 1918. This investigation was authorized by a resolution adopted in the 66th Congress by the U. S. Senate. The report includes statements of the business, the prices, and the profits in the milk products industries including canned milk, butter, and market milk industries, and is detailed and interesting. A single paragraph from the report on "profits in the butter industry" may be worth quoting here. "Butter prices of jobbers increased in the five-year period 72 per cent; those of retailers 59 per cent. Prices of centralizers, who reported to the Commission both prices and costs, advanced 74 per cent, while costs advanced 79 per cent. Profits per pound declined 25 per cent, and percentage of profit on sales of current production (disregarding inventories) declined from about five per cent to about 2 per cent."

This is about as clean a bill of health and answer to the cry of "profiteering" as any industry has been able to show.

The paragraph of the report on "unfair practices" is surprisingly short and includes "false testing of cream", "employing agents of common carriers", "false advertising", "price discriminations", and "furnishing of cans without charge to producers" among a number of others. An interesting paragraph deals with profits of market milk distributors quoting one firm in Minnesota which made less than one per cent, and one firm in New York that made 52.4 per cent.

The First Pool Check in New York

H. H. LYON, NEW YORK

I SAW pool check number one of the Dairymen's League Co-operative Association, Inc., today. This check is written for $246.91 and it goes to A. R. Case. I saw other checks being written on special machines made for that purpose. In the League office there are thirty-two of these machines, but only a few of them are in use today. The clerks are just practicing up a little getting ready for the race. None of the young ladies who are to operate the machines have yet gotten up speed. I timed a few and I think there will be little difficulty in getting them out at the rate of one a minute. It does not follow, however, that such a speed can be kept up all day for the entire eight hours. It may be a larger average than that, but I would think that it might average very much lower. They may be able to get out 15,000 a day but if they get out 10,000 I shall say they are doing well.

Time and again have I heard that no accounting is to be made concerning the funds of the pool. Well, on this first check and on every subsequent one there is a good deal of information. Rather this is on a narrow strip attached to the check. This strip extends the whole length of the check proper. It gives the number of pounds of milk delivered by the patron, its fat test, the pool price, which means the price paid into the pool by the dealer, and the amount, also deductions and the amount of the check to the farmer.

The information entries on this check are as follows: Pounds milk, 15,337; test, 3.6%; pool price, $1.74; amount, $266.86; League deductions: advertisting, $.77; certificates of indebtedness, $15.34; pool expenses, $3.53; organization, $.31; check, $246.91.

These League deductions are figured as follows for 100 lbs. of milk: Certificates of indebtedness, ten cents, advertising one-half cent, to turn back to the local leagues to carry their organization two-tenths of one cent, and for operating expenses of the pool, 2.3 cents. This amounts for the month of May to thirteen cents a hundred pounds of milk, and ten cents of this is to be returned on January first in the form of an interest bearing certificate payable in five yearly installments. One thing does not appear on this slip and that is the fact that considerable quantities of products are in storage to be disposed of according to market conditions. This has been inventoried and a tentative valuation of 15.5 cents a hundred pounds of milk is placed upon it. Then again the base pool price is not given, which is $1.58 a hundred for three per cent milk.

Lest some one like myself who likes to "fool" with figures should attempt to figure out the above memoranda, let me add a little explanation. I soon got stalled when I figured. Remember that the "pool price" includes the 15.5 cents deferred on storage goods, and really is $1.735.

Mr. Case is credited with $1.58 a hundred for his milk on a basis of three per cent test at 200-210 miles from New York. His test is 3.6 and he is far enough out so that his extra freight differential amounts to eight cents a hundred. His test adds 24 cents, his freight deducts 8 cents, his certificates 10 cents, and the three expenses charges 3 cents. The addition is 24 cents and the total deductions are 21 cents. This leaves him $1.61 for May. We should go a step further in explanation. His certificate of indebtedness of 10 cents a hundred is his to realize on later and there is in addition supposed to be 15.5 cents a hundred to come to him from goods now in storage. Should all this prove out as is now understood his price per hundred is $1.865, or a total addition of 25½ cents to the actual price he received in May.

Here, however, is a very important addition to make. Some one may glance over these figures and remember that a thirteenth payment is promised for the year to take up any proceeds made available by final sales. If 5, 10, or 15 cents should be formed each month for the year one may get the idea that he is likely to get a big check. Now, it is going to be a small one. As the goods in storage are sold the proceeds will go right into the pool. It would not be impossible for patrons to get that 15 cents in their June or July checks, although it is likely to be a month or two more before it will all come back. It is very probable that the most of these monthly deferred credits will be paid before the end of the year. Better look for that extra check to be a small one.

My understanding is that the League folks furnish 434,000,000 lbs. of milk for May, of which 261,000,000 is pooled. In addition the League plants handle 45,000,000 lbs. which after deducting expenses is also pooled. The certificate of indebtedness amounts for May to $261,000. The amount deferred on storage goods is $404,550, making a total withheld for the first month $665,550. I do not know precisely the sum to be checked out, but if in the freight differentials there is as much added as deducted and the average test is 3.5 per cent it figures over $4,300,000. The League and operating expenses are over $60,000, apparently. This is less than we had reason to expect, and it includes depreciation for the month on equipment.

Some one says these expenses and the certificate deductions will mount up as time goes on. I beg to differ. It will not take as many employees to do the same work when once the "ropes" have been learned. There may be more plants acquired, it is true, and that will add to the cost to be carried. On the other hand, thousands of our members are not in the pool for May because of various technical points. As these are added it will make a little more work but I look for acquired efficiency in the office force to take care of that without additional cost. The millions of pounds of milk to be added to the pool over which all deductions are to be spread will, I believe, take care of any additional costs, and probably more than that.

Granting that the above figures are substantially correct, and I have sought to be accurate, where are our pool fighters that are honest men? There were honest objectors to the pool, but it seems to me that they have no place to stand any longer. Those continuing to object are either stubborn, I fear, or worse. True there are questions of policy to be solved, but the working of the pool, as Mr. Weiant says, needs now only "oil on the bearings".

NEW WORLD RECORD FAT PRODUCER

F. E. ELLIS, CANADA

WHAT is perhaps the most coveted of all inter-breed championship honors, the record butterfat production of a year, has changed hands again after staying safely for six years with Duchess Skylark Ormsby, the Minnesota Holstein owned by J. B. Irwin. In 1915 this great cow completed what then seemed the unbreakable record of 1,205.08 lbs. of fat in the year. The new champion, who completed her record on June 18 last, is also a pure-bred Holstein, Bella Pontiac, with a production of 1,258.4 lbs. of fat from 27,017 lbs. of milk. She is owned by Mr. T. A. Barron of Ontario. Perhaps the most interesting feature of the new record is that it was made in an ordinary farm stable by a young farmer who was not overburdened with this world's goods and confesses that it is no cinch to milk a cow four times a day for a year while doing a lot of other chores and attending to his regular farm work. Perhaps Mr. Barron will not object if I tell a part of his story.

When Mr. Barron purchased a small farm a few years ago he was almost altogether without farm experience. His father was a miller, but the young man had always had a hankering for farming and the result of his inclinations was the purchase of "Vimy Ridge Farm", as he calls his place. It is just an ordinary farm of fair fertility with a small brick house and barns that most breeders would not consider modern or up-to-date. Certainly there is nothing about the Vimy Ridge buildings to attract the attention of the passerby. His lack of experience was a handicap that he overcame fairly quickly, but he soon found that the drag of a poor class of live stock made worth-while progress impossible.

It was his banker who finally headed Mr. Barron in the right direction. He called him into his office one day and addressed him somewhat as follows: "Look here, Barron, we are not getting anywhere with this proposition and neither are you. We have been lending you money but you are working with the wrong kind of tools to make proper use of it. Now, here is our proposition: You go out and buy some good pure-bred dairy cattle and we will back you up; or, if you want to go ahead with the kind you've got, you can do so on your own responsibility"

Mr. Barron decided to make the plunge. He had no choice in the matter. Otherwise he might not be the present possessor of Bella Pontiac. He purchased several animals at moderate prices and the uniform success that he has had with these animals would indicate that the young man has a special aptitude for handling high class live stock. At any rate he has made several fine records since then, the culmination of them all being the world's record for yearly butterfat production.

The purchase of Bella Pontiac was almost an accident. It was the first year of the "flu". Mr. Barron had been sick and on the day of a neighbor's sale he was not able to do much work, so jumped into his car and went over. He bought Bella Pontiac for $175. When she freshened at four years and three days old, he entered her in Record of Performance test and, although she was just on pasture, she did well and when she had been milking five months she was officially tested for one week, making 13.2 lbs. of fat in seven days. This is not a large 7-day record but she proved herself a consistent producer by finishing her year with 20,129 lbs. of milk and 814.4 lbs. of fat.

She was not long dry when she freshened again and was started on her big year's work. It has been the intention to give her an official test soon after freshening but several months went by before an official supervisor could be obtained. This time she made 26.4 lbs. of fat in seven days. It was about this time that Mr. Barron became aware that his cow was going at a world record clip. The Holstein Association became interested and for the final months of the test the Association kept two inspectors constantly at the farm, thus making this part of the record official and, of course, the entire record was under the supervision of the Record of Performance inspector. Her production from month to month was remarkably consistent as is illustrated by the following chart:

	Lbs. milk	Lbs. fat
June	626.75	26.95
July	2424.25	104.24
August	2438.75	104.85
September	2609.50	112.21
October	2488.00	122.11
November	2486.00	124.30
December	2484.00	115.44
January	2330.00	106.99
February	2062.75	107.26
March	2153.75	121.83
April	1973.75	84.38
May	1752.50	73.51
June (18 days)	1160.00	47.94
	27000.00	1252.01

It will be noticed that her fat production dropped off seriously in April and May. The drop indicates the time when the silo went empty and although the allowance of mangels was increased from 70 lbs. to 150 lbs. a day, this did not sustain her production of fat, although the milk kept up fairly near to the old mark. Had the supply of ensilage held out she would have had a greater record to her credit. As it is, she averaged just about 24 lbs. of fat a week for the entire year, and when we consider that many good breeders have never had a cow make 24 lbs. of fat in a week when at their best, this record seems all the more remarkable. Eleven months after calving on official test she produced 20.18 lbs. of fat in seven days and her production for the last 50 days of her test is a world's record for that period.

His work with Bella Pontiac does not represent all of Mr Barron's official testing. He had started a couple of cows on test—his first purchases—before he even purchased Bella, and, as he made some good records, followed by some good sales, the financial strain under which he had first labored has been largely removed. Dora Fayne Posch, for instance, made 13,281 lbs. of milk and 490 lbs. of fat as a two-year-old. She was dry 12 days and after freshening made 20.8 lbs. of fat in seven days and 41.2 lbs. in 14 days. That year she made 16,880 lbs. of milk and 690.4 lbs. of fat in Record of Performance. The following year, after being dry only 33 days, she made 28.8 lbs. of fat in a week and was sold at the National Sale in Toronto for $1,000. I might mention other records made by this breeder but that of Dora Fayne Posch demonstrates the fact that Mr. Barron had to put in two or three years gaining experience before he was able to feed a world's record cow.

The ultra-fashionable strains of today are notable by their absence from the pedigree of Bella Pontiac. She has, however, good honest producing ancestry back of her for several generations. She is a granddaughter of the splendid old transmitting sire, Brookbank Butter Baron, with 38 tested daughters, and her dam is a sister of the former Canadian champion, Queen Butter Baroness. Her sire, Pauline Pet's Pontiac, has four tested daughters and is a brother of Calamity Snow Pontiac who produced 992 lbs. of fat in one year from 28,443 lbs. of milk, and is the third highest cow of her breed in Canada. Bella Pontiac, therefore, is not a sport. She has honest breeding behind her and in previous lactation periods has proven herself a consistent producer.

Mr. Barron now owns Bella and two of her daughters. He has a big problem to decide. Will he sell Bella and her offspring for the big price that they will command or will he retain them as the foundation of a future herd? Mr. Barron does not know. He hasn't had time to think. He has a lot of visitors to entertain nowadays and he is still doing his farm work much as if he did not know that he had made his fortune in the performance of one cow. There is another story worth telling. Bella's first calf was a bull. When it became evident that she was going to make a great record, a neighbor, Mr. H. H. Bailey, started out to locate this animal. He found him in a grade herd and due to be sold to the butcher in a few weeks' time. He was then purchased for a merely nominal sum and now that he has gotten a few months of good feeding he has proven to be a first class individual. Fortunately, this bull is sired by a close relative of May Echo Sylvia.

As I write I learn that Bella closed her test, milking over 70 lbs. a day and will be continued in the hope of making 27,500 lbs. of milk and 1,280 lbs. fat, equivalent to 1,600 lbs. of 80 per cent butter.



BELLA PONTIAC, CHAMPION BUTTERFAT COW OF THE WORLD

F. Lothrop Ames

F. Lothrop Ames, foremost Guernsey breeder of America, died in a Boston hospital Sunday, June 19. Mr. Ames had been very ill for several weeks, his condition gravely concerning his fellow breeders as early as the date of the annual meeting of the American Guernsey Cattle Club, May 13. By the time of the Massachusetts Guernsey breeders' sale, June 9, the many friends of the famous breeder were encouraged by news of his improvement. Now comes the report of his death, carrying a sense of great loss throughout the entire dairy husbandry world.

Few men in the history of dairying have contributed so largely to the improvement of a breed as the owner of Langwater Farms. In his hands May Rose Guernseys were molded, seemingly at will, into a distinct type. So evident was the perfection reached that this family of Guernseys soon gained a popularity never equalled by another. Breeders from coast to coast, in their ardent seeking for that blood, have paid the highest tribute which may be given a breeder.

River Falls Show

The live stock show at River Falls, Wisconsin, June 16 and 17 was one of the largest and best ever held in that part of the state. This show is an annual affair, the first having been held eight years ago. At that time very few animals were shown and three-fourths of them were grades. This year 255 animals were led into the show ring, 60 exhibitors showing. There were 53 Guernseys, 39 Jerseys, 82 Holsteins, 76 Shorthorns, and 5 Angus.

Twenty-one farmers donated pure-bred bulls to be offered at auction, allowing the entire proceeds to go to defray the expenses of building new stock sheds. The bull sale was a decided success considering the times. Twenty-one animals brought a total of $1,370, or an average of $65.

Wisconsin. J. M. MAY.

League July Price

It is unofficially announced that the price of fluid milk in New York will be advanced from $1.95 to $2.20, and that this advance is to be absorbed by the dealers and not passed on to the consumer. Manufacturers' prices are to remain at $1.55 and $1.50, with fourth class to depend as formerly on the market price of butter and cheese.

The cultivated crops are good for your morale. The procrastinator seldom gets far with them.

EDITORIAL COMMENT



A cow owned by the Dairy Division produced in one year 470 lbs. fat and received nothing but roughage which consisted of alfalfa hay, corn silage, and pasture. The following year she received grain with the roughage and produced 820 lbs. of fat or 350 lbs. more fat. The extra 350 lbs. of fat may be credited to the grain fed; however, we should not neglect to consider that cows vary in production even under the same system of feeding. A cow that can produce 470 lbs. of fat on roughage alone and 820 lbs. when fed grain is an animal of large capacity. She is the kind that should be used as foundation stock.

It may be stated that the extra fat produced by feeding grain did not return a profit. This does not indicate that it is unprofitable to feed grain for in this particular instance attempt was made to determine the capacity of the cow and economical feeding of grain was not considered. It must be borne in mind there is a difference between feeding for profitable production and possible production. There is no question but that some grain could have been fed to this cow and she would have returned a profit for it. In most cases the feeding of grain pays, but the quantity fed must be determined by the capacity of the cow, the price of grain and of dairy products.

COLLECTIVE BARGAINING BILL

We have favored and urged that the farmers cooperate in the marketing of their products. If done in the right way it is a more economical and efficient way of marketing farm produce and therefore of benefit to both producer and consumer. In recent years milk producers have formed organizations and have elected representatives to sell their milk. This brought trouble to several milk producers' associations, for it was held by some governmental and city officials that to sell milk in this way was a violation of the Sherman Anti-trust law. Arrests were made and those elected to sell the farmers' milk collectively were arrested and cast in prison. They were acquitted in every case, for the courts did not find any law had been violated by them.

In order to put a stop to any danger of governmental and city officials interfering with representatives selling milk for farmers' associations, several states enacted laws legalizing collective bargaining, and a bill was introduced in Congress permitting all co-operative farm organizations to sell their products collectively. Certain restrictions were provided in the latter bill in order to prevent monopoly or a misuse of such power. This bill has had a troublesome time in Congress. It has been amended and revised several times. So far as we can determine it extends no rights for selling farm products collectively that the laws do not already provide. It does provide for supervision of co-operative farm organization in respect to selling their products.

We believe the present bill has been so amended as to make it of little value to co-operative societies and that a new bill should be drawn which would extend to every co-operative organization, farm or otherwise, the right to sell their products collectively. It should contain provision that will not permit the misuse of such rights or privilege. Co-operative associations can weary along under the present laws, but it is irritating and expensive to have their representatives hauled into court by some overzealous officials and be forced to prove they have violated no law. It would be well to have a national law which would preserve the right of selling products co-operatively and do away with arrests and court proceedings.

FILLED MILK LEGISLATION

A hearing on the Voigt bill, which proposes to so amend the national pure food and drugs act as to make the interstate shipment of filled milk a misdemeanor, was held before the Agricultural Committee of Congress on June 13th. The hearing was not completed, but the committee has planned to continue it after July 4th.

We have come to the conclusion that it would be a waste of time to continue the hearing on the Voigt bill. First, it is very doubtful if it would be constitutional to prevent the interstate shipment of filled milk; second, the secretary of agriculture is opposed to this bill, and this would make it difficult to enact into a law; third, some of the farm organizations are against it; fourth, if the bill were passed the manufacturers of filled milk could obtain an injunction restraining its enforcement and it would require several years to dissolve the injunction; and, fifth, dairy organizations desire a taxing and licensing law, similar to the filled cheese act. We most emphatically favor a taxing and licensing bill for governing the manufacture and sale of filled milk. The filled cheese law has stood the test, and why experiment with any other form of legislation?

The chairman of the Ways and Means Committee, Congressman Fordney, has informed us that he would welcome the opportunity to have his committee introduce a bill similar to the filled cheese law and would do all he could to have his committee report it favorably to Congress. It is our opinion that those interested in this legislation should support such a bill and be ready to appear before the Ways and Means Committee in its behalf. Making the filled milk bill a committee measure insures united support and more prompt attention.

This committee will dispose of the tariff bill in about three weeks and the committee will then take up the special revenue bills. At this time there will be opportunity to consider the filled milk bill.

The dairy interests must be ready to act, for our enemies are well organized and will do all they can to defeat this legislation. The dairy cow needs this protective legislation as she cannot compete successfully with the cocoanut cow of the South Sea Islands. Further, her product, milk, is our only protective food and there should be given no opportunity to sell a compound as milk. The consumer, as well as the dairy farmer, is entitled to protection against fraud and deception.

COLD STORAGE BILLS

There are several bills before Congress to regulate the length of time food may be kept in cold storage and how it shall be labeled and sold. The purpose of these bills is to prevent monopoly, to advise the consumer as to how his food has been handled, how old it is, and to protect those selling strictly fresh foods. This legislation is demanded by various women's clubs and those interested in protecting the public against fraud and excessive prices. For instance, when eggs are advertised by the grocer as fresh, they must have come direct from the hen to his counter and not from cold storage where they may have been held for several months. Fresh creamery butter must be that kind of butter and not cold storage goods.

The sale of certain cold storage foods may well be controlled, but there are no hard or fast lines which can be drawn between fresh products and cold storage. In the case of butter as soon as it is made it goes into a refrigerator and if properly handled is kept under refrigeration till sold to the consumer. It would be unfair to mark butter "cold storage" which has moved in a reasonable time direct from the creamery to the market. Some bills now before Congress are so phrased that all butter would have to be labeled cold storage if they are enacted into laws. This would be unfair to the butter industry.

It is plain that it will be necessary to put a time limit upon butter, that is, the number of days it may be held in storage before it will have to be marked cold storage. Here lies the difficulty. Butter properly made and held at the right temperature in storage may score quite as high when a year old as when placed in cold storage. A law to regulate the sale of storage butter because of the quality of such butter is not the main purpose of the bills before Congress. The real object is to prevent monopoly. Quality of butter does not depend so much upon its age as on the character of product from which it is made. A freshly churned butter may be poor while a butter that has been in cold storage for a year may be very good, may sell as an extra.

It seems to be the opinion of those who understand the marketing of butter that it should not be labeled cold storage till it is at least 60 days old. Others hold the better way would be to put the date of make on each package of butter and let quality, as it will, determine its grade and value. The age of butter does not determine its healthfulness and only to a limited extent its quality.

The purpose of governing the sale of storage butter is more of an economic question than of deception or wholesomeness. It would seem that a law which would permit the storing of butter for one year would be fair and would prevent holding butter for exacting undue profits. Since it is not a question of healthfulness or deception so much as it is a question of economics we believe butter should be at least 60 days old before it will be required to be labeled "storage". To require butter to be labeled "storage" earlier than 60 days would be a great injustice to the creamery industry and would accomplish nothing for the consumer. So far as the wholesomeness and deception is concerned, butter needs no storage law to govern its sale.

A Tuberculosis Symposium

A Western Reader Criticizes the Tuberculin Test. Three Scientists Reply

In a recent issue of Hoard's Dairyman you answer certain questions in regard to the tuberculin testing of dairy cattle. First question verbatim.

"When cattle are killed that are reactors to the tuberculin test do they find many that have no lesions?"

Answer: "Post-mortem examination of reacting animals will not ordinarily disclose lesions in more than 85 or 90% of the cows. This does not mean that the animal does not have tuberculosis, but merely that no observable lesion can be found. It is quite possible that the animal may be in the incipient stages of the disease, or it is quite possible that the lesion is so covered up, or is so small, that it is not ordinarily found with the examinations as they are made on the killing floor."

Is not this latter, to say the least, far-fetched, for frequently the veterinarian that has made the test makes a microscopic examination in post-mortem to prove the truth of his diagnosis. Your position is about the same as a judge before whom a person charged with some crime has been tried. The jury hear all the evidence, pro and con, and bring in a verdict of not guilty. The judge then disregards the verdict and sentences the prisoner on the theory that evidence to convict had not been adduced or had been covered up.

Under our law any person is presumed innocent until proved guilty, and the same should hold good with a dumb animal, but in this case, although the post mortem says she is innocent, you disregard the evidence of the post mortem and say she is possibly guilty. By all the rules of law she was innocent, or in other words perfectly healthy and should not have been killed.

Second Question. "Could the tuberculin in any way affect the cattle so they would react if they did not have tuberculosis?"

Answer: "The tuberculin will in no way affect cattle so they will react when free of the disease. There are people who fear tuberculin may communicate the disease to their cattle. That this is not possible is not only proven by many demonstrations, but also by the fact that the tuberculin itself consists of the dead disease germs and, therefore, will not communicate disease.

I claim the answer to this second question entirely misleading and incorrect. An overdose of tuberculin will cause a perfectly healthy subject to react. This is such a well known fact as to be beyond dispute.

Next. The injection of dead bacilli into a healthy cow will produce sterile abscesses and also produce tubercular lesions similar to those occurring after the injection with the living germ and will often lead to marasmus and other systemic

symptoms of poisoning. Further, when the tuberculin test is applied the *tuberculin can not distinguish between the lesions produced by dead bacilli and live bacilli.* How are you going to eliminate tuberculosis by the use of the tuberculin test when every time you test you are sowing the seed for a new crop of reactors? The plain facts are that the tuberculin test is the most colossal fraud ever perpetrated on the dairy interests of the country and, as all of its advocates know, will not bear scrutiny. It has been the cause of the slaughter of hundreds of thousands of perfectly healthy cows and has ruined tens of thousands of good, industrious, law abiding dairymen of this nation. It is utterly without merit and should be wiped from our statute books.

Washington. DONALD MCINNES.

Reply by Dr. Moore

My personal experience in testing and holding post mortems has been that very few animals that gave a reaction failed to show lesions. This is restricted, however, to the subcutaneous method of using tuberculin. My experience is similar to that published in Farmers' Bulletin No. 351, in which Dr. John R. Mohler states that the reports of the tuberculin tests made in the fifteen years from 1893 to 1908 by federal, state, and other officers with tuberculin prepared by the Bureau of Animal Industry show that lesions of tuberculosis were found in 98.39 per cent of 24,784 reacting cattle slaughtered. It is known that a small percentage of tuberculosis cattle have, at the time of slaughter, the lesions restricted to the nervous system, bones, or skin where they might not be detected on an ordinary examination. It is also believed that animals may be infected, but the tubercles that have developed are still too small to be seen by the unaided eye but yet lesions enough that may be microscopic in size have developed to enable the tuberculin to cause a reaction. I believe, therefore, that by the subcutaneous method of administering tuberculin there should not be more than from 1½ to 2 per cent of cattle that are tested by the subcutaneous method that fail to show lesions. For the reasons stated, the few animals that give a good reaction but do not show lesions should be considered tuberculous. When the reaction is suspicious, that is, within a possible physiological variation of the temperature, a good many of them are not infected. Professor Poles of Holland found between 40 and 60 per cent of the so-called suspicious cases to be tuberculous when they came from diseased herds.

More recently tuberculin is being administered by what is known as the intradermal and ophthalmic methods. The reports I have received from those who have employed these methods vary. Some are finding a very small, and others a very large, percentage of no-lesion cases. These methods do not appear to give the uniformity of results that were obtained in the past by the subcutaneous test. I have not had sufficient experience in the use of tuberculin by these methods to be more definite relative to their merits.

The second question is, "Could the tuberculin in any way affect the cattle so they would react if they did not have tuberculosis?" In my experience I have not found any evidence that tuberculin will cause healthy cattle to react. It has been suggested that when large doses of tuberculin are injected, the tissues may become sensitized so they would give what is known as an anaphylactic reaction if the animals were injected with tuberculin later. To my knowledge, this has not been demonstrated to be the case. A few animals have given a reaction to the subcutaneous test after failing to react in previous tests and on slaughter lesions were not found. These cases suggest an anaphylactic reaction although it has not been proven that tubercles in remote parts of the body or microscopic in size did not exist.

Tuberculin cannot infect an animal with tuberculosis. It is prepared from bouillon cultures of tubercle bacteria which have been heated to kill the organisms and then filtered through a Berkefeld filter to remove them. Tuberculin, therefore, cannot produce tuberculosis any more than "maple syrup can grow maple trees". Repeated injections of tuberculin do not mean "sowing the seed for a new crop of reactors" as stated in the letter.

The third question is relative to dead tubercle bacteria. When tubercle bacteria that have been killed by heat are injected into experimental animals they may produce lesions quite similar to those produced by living organisms, at least, insofar as the necrosis of the tissues is concerned. I have not, however, had experience in injecting dead bacteria into cattle or in testing animals that have been injected with dead bacteria with tuberculin. I am not able, therefore, to answer this question further.

The injection of tuberculin into infected animals is the surest way that is known to science of detecting tuberculosis in an individual and cattle owners can by its proper use determine the animals in their herds that are tuberculous if they use it properly and persistently. Tuberculin, however, has its limitations in that it sometimes does not produce a reaction where the disease is far advanced or when the lesions are arrested or encapsulated. It is not infallible but it is the best diagnostic we have for tuberculosis.

N. Y. Veterinary College. V. A. MOORE.

Reply by Dr. Mohler

In answering the question as to reactors showing lesions, the editor of "Hoard's Dairyman" has understated rather than overstated the facts. Since the beginning of the tuberculosis eradication campaign in the United States in 1917, thousands of animals that have reacted to tuberculin have been slaughtered and in approximately 92 per cent of these reactors the lesions of tuberculosis have been found. This does not mean that the remaining 8 per cent were not tuberculous. Let us remember that all diseases have a beginning. Tuberculosis starts as a minute point in some one of the organs or tissues of the body and it has been repeatedly shown that a tuberculous area the size of a millet seed is sufficient to cause cattle to give typical reactions to tuberculin. When the size of the bovine carcass is considered, is it to be wondered at that some of these small lesions are not found at autopsy? Think of the difficulty of finding a millet seed concealed somewhere in the various glands, in the lungs, in the liver, or perhaps beneath the skin, of a slaughtered cow!

I am in entire agreement with the editor of "Hoard's Dairyman" when he states that tuberculin will in no way affect healthy cattle so that they will react to the tuberculin test. It is hardly correct, however, to say that tuberculin consists of the dead disease germs because while tuberculin is obtained from the cultures of the disease germs, and while all the disease germs are killed so that there is no possibility of communicating disease through the tuberculin, the tuberculin itself is obtained by filtering off the dead disease germs and is a clear fluid which never causes abscesses and which can not render healthy cattle susceptible to a second injection. This last statement has been proved over and over again experimentally and through practical work in the field. Thousands of herds have been tested at intervals of from three months to one year over a period of many years without one single instance of healthy animals being rendered susceptible to the tuberculin test. This applies not only to small doses but to enormous doses of tuberculin which were administered in an experimental way and which are far greater than the doses administered in practical work.

It is an indisputable fact that tuberculosis annually causes millions of dollars loss to the farmers of this country and it is equally true that the tuberculin test is a wonderfully accurate method for detecting the presence of that disease. I believe that later, when Mr. McInnes has been more fully informed, he may be found among those who believe in the reliability of the tuberculin test and who insist upon its use to rid their herds of tuberculosis. J. R. MOHLER.

U. S. Bureau of Animal Industry.

Reply by Dr. Hastings

Before attempting to discuss the specific points mentioned in the letter of Mr. McInnes, it seems proper to present a few facts concerning bovine tuberculosis and its eradication from a herd or its exclusion from a healthy herd.

Any method to be used for these purposes must involve the detection of the tubercular animal. Such an animal is one whose body has been invaded by the tubercle bacillus which has succeeded in establishing itself in the tissues, and is growing there to the injury of the animal. During the early stages of the disease, the tubercle bacilli are so enclosed in the so-called "tubercles", which are an expression of the reaction of the tissues of the animal to the growing tubercle bacilli, that there is no opportunity for the bacilli to leave the body of the affected animal. It is, of course, evident that such an animal can not be a source from which other animals can acquire the disease. Sooner or later, however, the condition is so changed that the tubercle bacilli find opportunity to leave the body and now the animal in question becomes a source from which other animals may acquire the disease. It is proper to speak of it as an opportunity which is presented to the tubercle bacillus to leave the body of the animal in which it is growing; for under natural conditions this organism can grow only in the body of the living animal. This implies that unless it has some way by which it may leave the body of the diseased animal, and some way by which it may enter the body of still another animal, the race of tubercle bacilli will soon become extinct. Nature has been as careful to provide ways by which the tubercle bacillus can maintain itself, as she has to provide ways for the perpetuation of plants and animals. One marvels at the means she uses to fertilize the blossoms of the flowers, and just as marvelous ways have been provided for bringing disease-producing organisms in contact with fresh food.

It will be evident to everyone that our fight against bovine tuberculosis will be more successful if we have some means of detecting the disease before it reaches the stage in which the organisms are given off from the body of the animal than without such a means; for certainly if the animal can be detected and removed before this condition is reached, far less opportunity will be presented for the tubercle bacillus to find fresh pastures in the bodies of the still healthy animals of the herd. The tuberculin test is the only means at our disposal for detecting the disease before it has reached the stage in which the bacilli are leaving the body of the animal. It is the only weapon which we can use against this enemy that threatens our cattle.

It is idle to say that the test is a weapon by which each shell fired lands on the mark and explodes. Some "duds" there will be, but because there is one dud out of ten shells, shall we refuse to use shells in our warfare and stick to solid shot? The tuberculin test is not free from error. It probably causes the removal of some healthy animals from the herds. It certainly leaves, now and then, diseased animals in the herd; but by its use thousands of herds have been freed from tuberculosis, and many thousands more have been protected from this disease. It certainly gives at least nine successes to one failure. If we allow the failures to influence us to a greater extent than the much more numerous successes, we shall be making a mistake. Some who use the test are to have experiences that will lead them to believe that they would have been as well off without it, not better off however, while many others will be certain that it has been a great factor in their success.

Now to answer, if I can, the specific points raised by Mr. McInnes. We must select one method of determining whether an animal is tubercular. We can say that the test shall be our measure or we can say that the post mortem examination shall be the measure. If the answers conflict, who shall say which is right? It is clear that the only workable plan is to abide by the decision of the test, and disregard the post mortem. The test will certainly be justified by the post mortem in nine out of ten cases, and the remaining case may or may not justify the test.

Mr. McInnes is probably right in saying that an overdose of tuberculin will cause a reaction in a healthy animal. If he had been more definite and defined just what he had in mind, his statement would have been more valuable. There is no reason to believe that twice or ten times the normal dose of tuberculin will cause a reaction in a healthy animal. In other words, the tolerance of cattle for tuberculin is so great that the danger of making mistakes by overdosage is outside the bounds of possibility.

Mr. McInnes is also right in saying that dead tubercle bacilli will cause tubercles to form in the tissues of animals into which they have been injected, and that such animals might react to subsequent tuberculin tests. This again is something outside the bounds of possibility since the tuberculin contains none of the dead organisms. It contains the products formed by the tubercle bacilli as they grow in the beef broth of the bacteriologist. The methods of manufacture are such as to remove all of the dead organisms. As far as the writer is aware, no one has ever produced tubercles by the injections of the products of the tubercle bacillus. In fact tubercles produced by dead organisms have been noted, primarily if not solely, in small animals like the guinea pig and usually when the material injected contained a considerable amount of fat, and when the mixture of fat and dead tubercle bacilli was injected into the abdominal cavity of the animal.

Such letters as that of Mr. McInnes are of value since they cause some of us, who are attempting to supply clear statements in regard to the tuberculin test, to try anew and thus possibly come a little nearer our goal, which is such a complete understanding of the tuberculin test that each breeder and dairyman can make his own decision in regard to its use in his herd. E. G. HASTINGS.

Wisconsin College of Agriculture.

Hoard's Dairyman

Fort Atkinson, Wisconsin

Founded 1885 by W. D. HOARD

W. D. HOARD & SONS CO., Publishers
H. L. HOARD, A. R. HOARD, F. W. HOARD
EDITORS
A. J. GLOVER, P. C. BURCHARD,
C. L. BURLINGHAM

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Subscription in United States and Mexico $1.00 per year; 3 years, $2.00; Canada, $1.50 per year.

FOREIGN SUBSCRIPTIONS may be sent through news dealers and book sellers in all foreign countries.

All foreign countries in the Postal Union $2.50 a year; not in the Postal Union $3.00, including postage.

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Entered at Fort Atkinson, Wis., as second class matter.

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Coming Events

Sept. 26-Oct. 2nd—Dairy Cattle Congress at Waterloo, Iowa.

Oct. 8-15—National Dairy Show at Minnesota State Fair Grounds. Manager, W. E. Skinner, 910 So. Michigan Ave., Chicago.

Pure-bred Cattle Statistics

The United States Bureau of Census credits Connecticut with 10,284 pure-bred dairy cattle, of which number 8,364 are females. The state is credited with 1,250 Ayrshires, 1,566 Guernseys, 4,859 Holsteins, 2,257 Jerseys, and 352 other breeds.

The state of Pennsylvania has, according to the census, 75,189 pure-bred dairy cattle, of which number 57,432 are females. By breeds, the classification shows 3,097 Ayrshires, 534 Brown Swiss, 9,618 Guernseys, 48,652 Holsteins, 11,036 Jerseys, and 2,252 other breeds.

Milk may be white but it helps put roses in the children's cheeks.

Oregon Jersey Jubilee

HOARD'S DAIRYMAN:—Enthusiasm, undismayed by the price of butterfat, coupled with a wide representation of lovers of the Jersey cow from all northwestern states as well as British Columbia, has made the third Oregon Jersey jubilee a decided success. This annual event which has now become a fixture in Jersey annals of the state, had its inception in the fertile mind of Professor P. M. Brandt, head of the Dairy Division of the Oregon Agricultural College, who conceived the idea that some fitting celebration should mark the completion and acceptance by the American Jersey Cattle Club of the wonderful record for production made at that time by Viva La France when she broke all previous records and produced on official test 1,039 lbs. butterfat in one year. The further fact that one-half the class leaders of the breed at that time had also made their records in Oregon seemed to afford plenty of excuse for a fitting celebration of the event. The thought crystalized in a tour of inspection of the various good Jersey herds of the Willamette Valley, much feasting and speech making on the way and a general "get together" occasion lasting three days. The initial trip was so fruitful of results that it was unanimously decided to make it an annual event.

The second jubilee was practically a repetition of the first, the territory embraced being entirely within the limits of the Willamette Valley. This year it was decided by the executive committee of the Oregon Jersey Cattle Club to carry the tour into new territory and the Tillamook district was decided upon as the object of their visit. Assembling at the farm of F. E. Lynn in the Willamette Valley, the home of Poppy's Dortha, the junior 3-year-old breed champion, with a record of 17,804 lbs. milk and 994 lbs. fat, the caravan of about fifty auto loads of enthusiasts moved west over the Coast range of mountains and down into the valley of the Tillamook, made famous by the cheese that bears its name. The trip of eighty miles was made in about five hours with stops at various modern cheese factories that lie along the route.

On arrival at Tillamook, a banquet was served at the Elk's Club rooms followed by talks from the visiting breeders. Friday's program included an inspection of the various pure-bred herds of the Valley. The dinner served by the ladies at Fairview Hall at noon to some five hundred visitors will long be remembered by all who partook of it. Returning to Tillamook in the evening, the day was closed with a rousing evening meeting at the gymnasium. The jubilee closed on Saturday with a gigantic clam bake on the beach, which seemed a fitting climax to an event that leaves only pleasant memories of the generous hospitality of a prosperous community whose wealth has been almost entirely derived from the dairy cow.

This fertile little valley nestling among the high hills bordering the Pacific ocean is a striking example of the prosperity that follows a successful co-operative effort. For a great many years the community was an isolated one without transportation other than by water. A treacherous coast at certain seasons of the year made even that more or less uncertain. The early settlers with their cattle were thus forced into the cheese making industry because this dairy product could be taken out over the mountains by wagon or pack horse. Their early product was of extra quality and met an eager demand in the outside market. From a small beginning, their output has steadily increased until today there are twenty-nine factories in the county with a total output in 1920 of nearly six and a half million pounds of cheese valued at over two million dollars. The average price returned to the producer for butterfat during the year 1920 was 71.63 cents per pound or $2.93 per 100 lbs. of milk.

When County Agent Roy C. Jones came to Tillamook in March, 1914, and started a campaign for better dairy cattle, there were three herds with pure-bred Jerseys. Today, there are over eighty herds of pure-bred Jerseys and 207 pure-bred Jersey sires in service in the county. Cattle graze the luxuriant pastures in the bottom lands practically twelve months in the year, thus affording heavy production at a minimum of cost. The bottom lands have a carrying capacity of a cow per acre while the higher or bench lands will carry one cow for each 1½ acres.

By the use of pure-bred bulls and the rapid increase of pure-bred females, the average yearly production of butterfat per cow is steadily increasing. While Register of Merit testing is comparatively new, the Valley expects to add three gold medal cows to their list this year. The jubilee was a decided success, not alone for its benefit to the Jersey breed but the dairy industry as a whole has surely been advanced in the Tillamook Valley.

Taylor Christgau Dispersion

Taylor & Christgau held an exceptionally successful dispersion sale at Owatonna, Minn., June 16. The 64 head offered brought an average of $330, a very good figure if one considers the lack of high record or exceptionally valuable stuff.

Ravenswood Bess Ormsby, an 18-lb. 2-year-old daughter of S. P. O. M. 41st was easily the best thing in the sale. She would in fact have been a credit to any sale, and P. O. Holland buying for St. Olaf College had enough competitors who wanted her, to force him to $1,325, top price of the sale.

Mack, Krause, and Hanson did the selling with Secretary Scott in the box.

The following list includes those animals selling for $300 or more and buyers:

M. L. Nelson, Minnesota	
Sir Ormsby Hengerveld Segis	$610
A. W. P. Piebe Longfield Burke	590
J. P. Peltz, Minnesota	
Taylor Pietertje Ormsby	$400
Bessie Clothilde Korndyke	740
Bairdland Pontiac Mercedes	550
Kosa Echo	500
Lady Douglas Mercedes Colantha	300
Wm. Wiechman, Minnesota	
Taylor Ormsby Echo	$300
Princess Akkrummer Ormsby	350
Miss Ormsby Korndyke Rue	380
Edenvale Secret Ormsby	400
Duchess Segis Netherland	350
Christgau Pietertje Ormsby	350
M. S. Alexander, Minnesota	
Zella Hengerveld Ormsby	$500
Beauty Posch Ormsby	475
H. C. Greengo, Minnesota	
Golden Valley Julia Ormsby	$400
Golden Valley Speckled Ormsby	460
Golden Valley Clothilde Ormsby	400
Wm. Washman, Minnesota	
Beauty Mercedes Ormsby Segis	$400
Jas. G. Swan, Minnesota	
Spring Rose Ella	$500
Edenvale Daisy Beets	480
C. J. Ost, Minnesota	
Marshall Pietertje Ormsby	$500
A. J. Wayne, Minnesota	
Warfin Princess Hengerveld	$300
St. Olaf College, Minnesota	
Ravenswood Bess Ormsby	$1325
W. L. Chester, Minnesota	
Vale Pietertje Korndyke	$300
O. L. Schuster, Minnesota	
Cornucopia Pontiac Celeste	$700
Jean Du Luth Farms, Minnesota	
Evergreen Idaline Hartog	$390
W. D. Boynton, Minnesota	
Christgau Lawn Fairmount	$360
C. A. Nelson, Minnesota	
Minita Christmas Belle	$350
Woodville Minita Christmas Belle	315
Lady May Homestead Aaggie	400
Paul J. Leach, Minnesota	
Mercedes Bonheur Champion	$310

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Tariff on Dairy Products

On the basis of the difference in cost of production in foreign countries and competing sections of the United States, the dairy tariff committee of the United States Milk Producers' Federation states that the following rates of tariff on dairy products are necessary:

Milk 3½ cents per gallon; cream 35 cents per gallon; butter 10 cents per pound, cheese 5 cents per pound, condensed milk 2 cents per pound, casein 5 cents per pound.

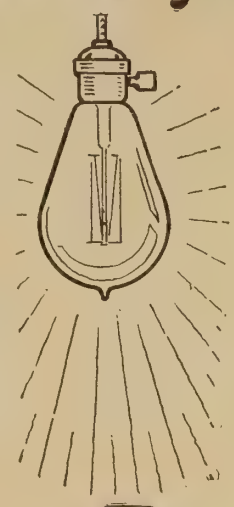
In support of these recommendations the committee also cites investigations as to costs of production made in several sections of the United States and in Canada and Denmark. It finds, for instance, that the average United States cost of producing 100 lbs. of milk in April, 1921, was $2.80; whereas costs in Canada for the same month were $2.37. This is a difference of 43 cents per hundred, or 3.7 cents per gallon. If New England costs were considered, the difference would amount to 4.1 cents per gallon.

Like comparisons were made in regard to costs of other dairy products. Butter, for instance, costs 10c a pound less to produce in Canada than in the United States while the costs in Denmark give the producer there an advantage 15 to 19 cents a pound. The ocean freight rate from Denmark to New York is only 2½ cents a pound while the Wisconsin and Minnesota producers will pay about the same to deliver their product in New York.

The committee favors a specific duty in preference to an ad valorem duty, that is, a specified number of cents per pound or gallon rather than a percentage duty on the valuation of the imported product. It believes such a duty to be easier of administration. It also asks for a tariff of 10 cents a pound on vegetable oils, or the same as that on butter for which it is used as a substitute. The importation of vegetable oils used largely in the production of substitutes for butter and other milk products increased from 82 million pounds in 1912 to over 435 million pounds in 1920. The importation of the past year replaced the equivalent of over a million cows or 7 per cent of the total cows in the United States.

The dairymen of the United States are under a deep obligation to the National Milk Producers' Federation for its careful survey of the tariff situation and its presentation of the needs of dairymen to the Ways and Means Committee of Congress. Its investigation represents the expenditure of a no small sum of money and time, and is the most exhaustive of anything that has been done to the present time in relation to the tariff on dairy products. Persons desiring copies of the complete report may doubtless secure them upon application to the National Milk Producers' Federation, 1731 Eye St., N. W., Washington, D. C.

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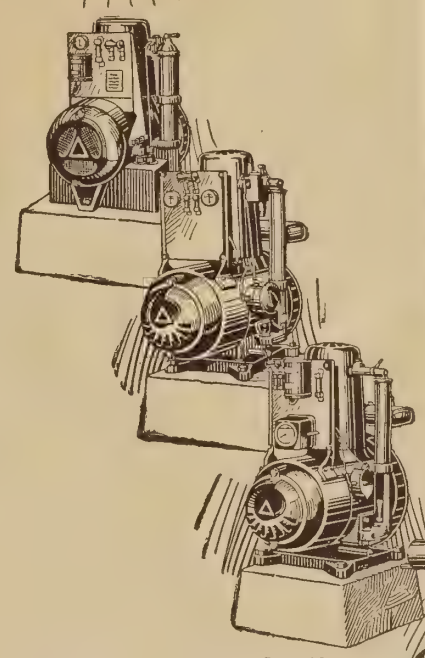
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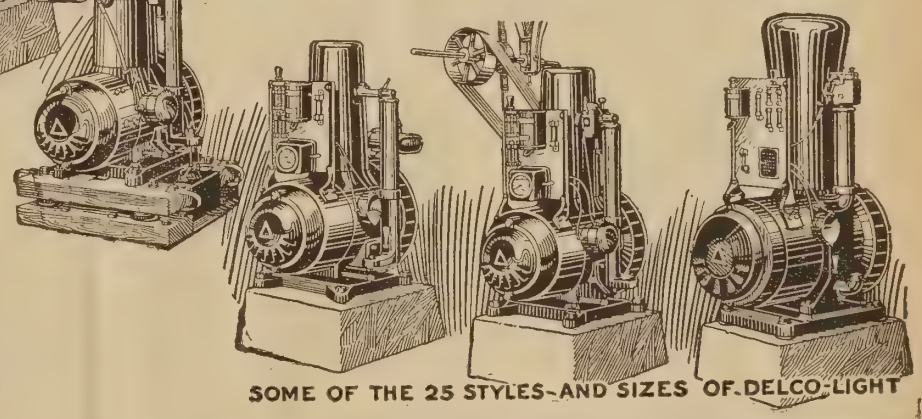
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Minnesota Guernsey Breeders Sell

Minnesota Guernsey breeders held a very successful state sale at the Fair Grounds, St. Paul, June 14th. It was a well managed, well attended sale of good cattle that brought fair prices—50 head averaged $336. The evening previous to the sale about 30 of the breeders attended a very enjoyable banquet at the Hotel Radisson. Instead of the usual long, tiresome program it was featured by short informal talks by members and breeders present.

The sale itself was a good example of the fact that even under present conditions good individuals backed by productive breeding can be sold at a profit, yearling heifers bringing as high as $500 and $600.

Geo. E. Richardson topped the sale with a two-year-old daughter of Bob Rilma's Monogram from a 542-lb. granddaughter of Gov. of the Chene. She was a splendid individual and bidding was brisk from the beginning. R. N. Bruer, Minnesota, bought her for $875.

An excellent daughter of May King of Linda Vista, with 561 lbs. fat in Class C consigned by Jean Du Luth Farms, took second place in the price list going to Radisson Farm for $840.

Love, McGuire, and Benjamin did the selling with F. E. Fox in the box. Sec. L. V. Wilson managed the sale.

The following list includes all animals bringing $300 or more and buyers of the same:

R. E. Coussens, Minnesota	
Lucretia's Emerita of Glenhurst	$300
F. A. McCortney, Minnesota	
Gemsey of Echo Farm	$305
A. H. Ehlers, Minnesota	
Aspara 2d	$345
Ben Schafer, Minnesota	
Little Eva of Roadside Farm	$300
University of Minnesota	
Sunny Cora of Roadside Farm	$500
St. Croix Chloe	600
J. O. Jacob, Wisconsin	
Imp. Gay Lad's Cupid of Iowa	$305
F. R. Cort, Wisconsin	
Mazie of Bon Ayre	$345
Hoffman Bros., Minnesota	
Juanita of Peacevale	$325
W. E. Harrington, Wisconsin	
Pride of Lone Elm	$325
Rouge Nancy of Jean Du Luth	325
Governor's Fleurie De La Cache	410
Dorothy's Dot of Clover Lawn	300
H. H. Chapman, Minnesota	
Governor's Alicia of Floridale	$350
Radisson Farm, Minnesota	
Ultra Pearly	$375
Gree's May Rose of Jean Du Luth	840
R. N. Bruer, Minnesota	
Imp. Freeman's Bountiful	$550
Linda of Ferry Farm	440
Park's Isabelle Pet	300
Bob's Melrose	875
Howland Bros., Minnesota	
Lady Ponchez of Ingleside	$500
C. H. Yancey, Minnesota	
Zenoria Lad	$325
Geo. E. Sherwood, Minnesota	
Governor's Glory	$305
W. J. Bullivant, Minnesota	
Bopeep's Dairymaid of Oakley	$400
C. L. & M. Arnold, Wisconsin	
Cherub's Dean of Shorewood	$520
Paul T. Pfeifer, Minnesota	
Minnehaha May Rose Victor	$425

Uncle Ab says: In times of change stick to the time-tried thing even though they may seem to be a bit time-worn.



Why "Slow Down" in Summer?

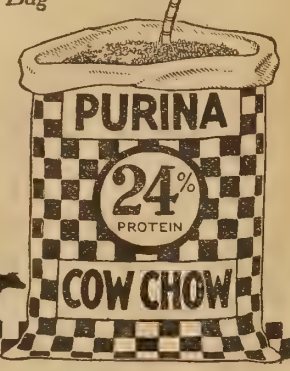
DON'T let your cows slow down in summer. It takes twice as much feed in the fall to bring them back again. Supply the supplement that grass needs, *now.*

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contains protein and minerals that are daily becoming scarcer in your pasture. They will keep your cows from drawing upon their own bodily tissues to make milk.

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Keeps cows fresh longer—

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Ft. Worth, Tex. Nashville, Tenn. Buffalo, N.Y.

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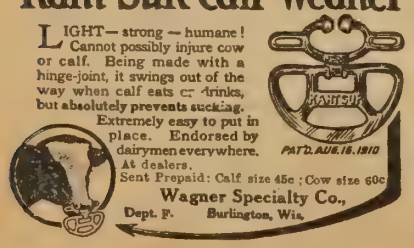
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SHOMONT KENNELS
Thos. Shover, Prop,
Dept. D, Monticello, Iowa

Cow Testing Associations

RECORDS, PRICES OF FEEDS, FAT, AND MILK

Following is the summary of reports received during the week and up to the time of going to press of this issue:

State	Association	Tester	Month	No. of cows tested	No. of cows producing over 40 lbs. fat	Fat production of high cow	Owner
Penn.	North Branch	J. Holt	May	281		70.2	A. M. Northrup
Vt.	Washington Co.	Earl M. Maxham	"	540	85	68.5	T. R. Phillips
Wis.	Wilton	E. V. Doemming	"	492	92	75.7	C. C. Heath
Va.	Fairfax Co. No. 1	G. H. Carey	"	380	82	86.8	B. H. Bready
Wis.	Darien—Sharon	Frank M. Barber	"	521	78	63.3	Aug. Henning
Minn.	Northfield	Harold Marshall	"		89	79.6	Wendlandt & Son
Wis.	Avoca	F. R. Austin	"	438	59	72.2	J. Malter & Son
"	Moscow—Center	Herman Marx	"	577	120	73.0	Rudy Lerch
Ohio	Canfield	Wm. E. Pew	"		40	102.2	C. Bowman & Son
Wash.	Eatonville	H. E. Pratt	"	94	11	63.9	Geo. H. Nelson
Penn.	So. Franklin Co.	H. M. Graff	"	276	31	68.7	W. F. Barkdoll
Ohio	Ohio Valley	D. W. Harpley	"	257	75	67.3	G. Sumption & Son
Mass.	Central Berkshire	T. F. Coyle	"	360	53	74.6	Highlawn Farm
Wis.	Polk Co.	F. Christopherson	"	394	94	85.1	W. C. Peper
Ohio	Delaware Co.	E. L. Creager	"	149	29	74.8	A. H. Newhouse
Wis.	Mt. Hope	A. S. Hayford	"	344	48	77.2	Wm. Noone
Ohio	5th Portage Co.	Olaf Beaver	"	217	74	74.9	D. H. French
"	Allen Putnam	Lowell Lee	"	170	45	82.3	S. W. Kesler
Ill.	Du Page Co.	C. J. Rieck	"	413	110	75.6	Wm. D. Fiene
Va.	Loudoun Valley	W. D. Wermuth	"	456	66	71.8	C. E. Ward
Penn.	1st Bedford Co.	H. B. Bechtel	"	277	34	56.0	J. B. Hoover
N. H.	Cheshire Co.	W. T. Twedell	"	275	27	73.2	E. M. Phillips
Wash.	Skagit Valley	Claud Riese	"	520	259	90.0	A. J. Lawson
Ill.	De Kalb Co.	C. Willberger	"	336	60	120.0	Roberts Hol. Co.
N. H.	Claremont—Lebanon	E. C. Piny	"	408	32	65.0	W. Beaman
Minn.	Chippewa	E. Lee Brown	"	276	76	82.4	Stensrud Bros.
Ind.	Porter Co.	Geo. Huitema	"	372		79.0	Morgan Bros.
Ill.	Lake Co.	A. Christiansen	"	498	142	82.5	J. S. Nicol
Wis.	Amery	L. Otterson	"	387	54	69.6	Geo. Erickson
Penn.	West Juniata	Frank Jackson	"		25	60.8	H. I. Gray
Ore.	Clatsop Co.	Will Kent	"	657	152	71.9	E. Eilers
Ohio	Erie—Lorain	F. L. Campbell	"	195	33	81.4	A. J. Portman

Association Notes

North-Branch, Pennsylvania:—During May market milk sold for $3.38 per cwt. Milk retailed for 11½c per quart; butter, 50c per pound, and cheese, 28c. Corn silage sold for $6 per ton; mixed hay, $18; ground oats, $29; corn and cob meal, $21.50; cottonseed meal, $42.50; linseed meal, $51; pasture, 10c daily.

Washington County, Vermont:—Every farmer in the association now owns a pure-bred registered bull. All herds except two have been tuberculin tested and these owners have applied for test. Nearly all farmers are feeding grain through the summer months. The creamery paid 40—50c per pound for fat. Milk retailed for 12c per quart and butter for 37c per pound. Bran was priced at $1.50 per cwt.; corn meal, $1.65; ground oats, $1.90; cottonseed meal, $2.25; linseed meal, $2.15; gluten, $1.95; hominy, $1.70; Unicorn, $2.30.

Wilton, Wisconsin:—Several cows were condemned to go to the block having indications of not being able to produce at least 250 lbs. butterfat per year—our standard. June 5th we conducted our first inspection tour in the vicinity of Tomah and Wilton-Monroe County. There are nearly 50 cows in the association eligible to Register of Production. No scrub bulls are used. The creamery paid 54c per pound for fat. Wheat bran cost $21 per ton; alfalfa hay, $30; mixed hay, $12; oats, 30c per bushel; barley, 60c; shelled corn, $1.25 per cwt.

Fairfax County No. 1, Virginia:—Two unprofitable cows were sold to the butcher and one new member was secured. Several members are feeding home mixed rations. Very satisfactory home mixed rations can be made for from $10 to $15 less per ton than the price of ready mixed dairy rations. The record cow for the month bred by Mr. Bready has produced during the last three months 6,405 lbs. milk containing 252.24 lbs. fat. Market milk sold for $3.25 per cwt. during May. Milk retailed for 14c per quart. Larro sold for $48—$50 per ton; cottonseed meal, $45; linseed oil meal, $50; bran, $38; corn meal, $28; wheat middlings, $50; beet pulp, $44.

Darien-Sharon, Wisconsin:—Three young Holstein bulls were purchased this month. Three poor producing cows were sold for beef; one pure-bred Guernsey cow sold for dairy work; 1 new cement silo is being erected; 3 sets of drinking cups are ordered. Pastures are poor. Plans for a pure-bred calf club among boys and girls of this association are well under way. We are doing some real work in this association because Tester Geo. Moss got every member to pledge against the use of oleo. Market milk testing 3.5 per cent sold for $2.05 per cwt. Four cents were paid for each point above. Milk retailed for 10—12c per quart and butter for 39c per pound. Alfalfa cost $18 per ton; mixed hay, $10; oil meal, $50; oats, $32; silage, $6; bran, $24; middlings, $22; corn, $25; oil meal, $52; pasture, $2.

Moscow-Center, Wisconsin:—A carload of feed was bought with an estimated saving of $250. Members are learning the advantages of summer grain feeding. Every member has a pure-bred bull which is a good start for a new association. During May, market milk testing 3.5 per cent sold for $1.50 per cwt. The creamery paid 31c per pound for fat. Oil meal was quoted at $38 per ton; cottonseed meal, $40; hominy, $25; bran, $22; oats, $30; corn, $25; silage, $7; alfalfa, $18.

Southern Franklin County, Pennsylvania:—During May, market milk sold for $2.50 per cwt. and 21c per gallon. The condensery paid 35c per pound for fat, and in addition 50c per 100 lbs. milk; the creamery paid 40c per pound for fat; the cheese factory, 35c. Milk retailed for 10c per quart; butter for 25c per pound, and cheese for 24c per pound. Feed prices: Union Grains, $46 per ton; bran, $40; corn and cob meal, $20; cottonseed meal, $42; oil meal, $45; hay, $15; stover, $6; silage, $6; oats, 70c per bushel; pasture, $3.

Delaware County, Ohio:—Four unprofitable cows were sold this month. More members are feeding grain with pasture this year. Market milk testing 4 per cent sold for $1.95—$2.35 per cwt.

Central Berkshire, Massachusetts:—Every herd in the association has a

pure-bred registered sire. Several members that always bought ready grain rations are now mixing their own and saving money. Milk wholesaled at 7c per quart. Linseed cost $2.60 per cwt.; cottonseed meal, $2.25; middlings, $1.65; corn meal, $1.60; ground oats, $2.18; gluten, $2.25; hay, $25 per ton.

Allen-Putnam, Ohio:—Fifteen pure-bred bulls are among the herds. Six cows here sold over the block. There are 7 milking machines in the association but only 3 are in use. The condensery and creamery paid 25c per pound for fat. Milk retailed for 10c per quart; butter for 25c per pound, and cheese for 20c. Corn and oat chop was quoted at $20 per ton; cottonseed meal, $34; oil meal, $35; silage, $8; bran, $1.75 per cwt.; middlings, $1.75; silage, $8.

DuPage County, Illinois:—One member put his herd under federal supervision, and had his first test during the past month. Eleven reactors were found. Another herd under federal supervision passed the first clean test. Five herds are now under federal supervision. Eight unprofitable cows were sold during the month. Market milk testing 3.5 per cent sold for $2.05 per cwt. Milk retailed for 14c per quart and butter for 35c per pound. Corn sold for $21 per ton; oats, $24; barley, $29; hay, $25; silage, $6; bran, $22; oil meal, $42; cottonseed meal, $34; gluten, $33.

Loudoun Valley, Virginia:—Five unprofitable cows were sold and an increase in production of 11,276.7 lbs. of milk and 636.1 lbs. fat was made over last month's production. Market milk sold for 24c per gallon. There are no condenseries, creameries, or cheese factories in this community—about everybody ships to Washington City. They received $1.35 for 20 per cent cream and 81c for butterfat in May. Bran cost $35 per ton; cottonseed meal, $36—$40; mixed grain, such as Unicorn and Larro, $42—$45; alfalfa hay, $20; clover and mixed hay, $16—$20; pasture $2.50.

First Bedford County, Pennsylvania:—Nine unprofitable cows have been sold during the month. Sixteen members own pure-bred sires. Two members have signed up to go in the accredited herd work. Market milk sold for $2.86 per cwt.

Cheshire County, New Hampshire:—There are 5 grades to each pure-bred in the association, nevertheless nearly one-half of the honor roll cows for May were pure-breds. Market conditions in this section are poor. Whole milk testing 3.5 per cent brings the farmer from 2½ to 10c a quart at the farm, the average return being about 4c. A good salesman can retail high grade butter for 30 cents, but the average farmer can't unload his product and realize any profit.

Lake County, Illinois:—A splendid bred herd sire was purchased and also two grade Holsteins were purchased. G. R. White sold 17 grade Holsteins at auction for an average of $155 per cow. That goes to show it pays to test. During May, market milk sold for $2.05. Silage sold for $6 per ton; hay, $18—$20; corn and cob meal, $16; ground oats, $22; ground barley, $24; oil meal, $40; cottonseed meal, $40; bran and middlings, $22.

Skagit Valley, Washington:—Two new silos are being erected by members who had none. This makes 25 silos on the farms of our members. Market milk sold for $1.90 per cwt. during May. The creamery paid 44c per pound for fat. Milk retailed for 11c per quart.

DeKalb County, Illinois:—This association numbers 24 members. The total milk for the association has a value of $66,853.70, which is but a small part of the total dairy products of DeKalb County. To Walter Hulmes goes the credit for the most economical production of milk for the month. This was made on pasture with a well balanced grain ration. Fox & Arison had their herd tuberculin tested this month and their herd was found clear of the disease. A motto: Think right, get right, and then all get together and boost.

Claremont—Lebanon, New Hampshire:—Farmers in the vicinity of Claremont expect to do federal accredited herd work. Market milk testing 3.7 per cent sold for $2.25—$3.50 per cwt. The creamery paid 55c per pound for fat. Milk retailed for 12c per quart and butter for 45c per pound. Bran was sold for $34—$37 per ton; gluten, $45; cottonseed meal, $41—45; linseed meal, $40—$50; ground oats, $35—$45; corn meal, $33—$35; mixed hay, $20.

Porter County, Indiana:—Two unprofitable cows were sold and one pure-bred Holstein cow was purchased. Milk sold for $2.05 per cwt. during May. Milk retailed for 11c per quart. Feed prices: Clover hay, $14 per ton; alfalfa $15; corn meal, $21; corn and cob meal, $18; bran, $25; oats, $23; cottonseed meal, $38; oil meal, $42; gluten feed, $29. The month of May concluded the present testing year but the reorganization is nearly complete and the Porter County dairymen will still continue the work of improving their already excellent herds.

Hancock County, Ohio:—This association has just completed a very successful year's work, climaxing the whole thing by placing sixty cows on the "Quality List" for the month of May. The requirements for the "Quality List" are 1,000 pounds milk or 40 pounds butterfat in a month. There were less than 150 cows on test.

When writing advertisers please mention Hoard's Dairyman.

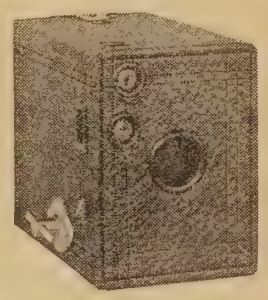
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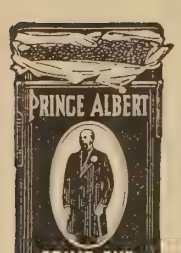


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Because, a pipe packed with Prince Albert satisfies a man as he was never satisfied before—and keeps him satisfied! And, you can prove it! Why—P. A.'s flavor and fragrance and coolness and its freedom from bite and parch (cut out by our exclusive patented process) are a revelation to the man who never could get acquainted with a pipe! P. A. has made a pipe a thing of joy to four men where one was smoked before! And, you'll say so as soon as you start to cash-in on this smokehunch!

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DAIRY MAKRET NEWS

Butter Markets Active

(Report by U. S. Bureau of Markets)

The trend of the butter markets during the week ending June 18 was similar to that of the previous week. Out-of-town buyers, particularly at New York and Chicago, have been regular factors on the market taking some of the best lots for storage.

While the most active trade is, of course, along lines of fancy creamery and fine centralized cars which are being taken chiefly for storage, the cleaned up condition of the markets on undergrades is rather remarkable and is worthy of more than passing notice. This is probably due in part to purchases of undergrade lots by buyers who want to obtain cheaper butter and thus avoid following the advance of the market on top grades, but it is also due to the fact that the quality of arrivals has been so good that the offerings of undergrades have been far short of the usual June showing. One market at least has commented on this for several weeks past, even going so far as to state that the butter arriving is better than has been seen for several years.

Neither reports from producing sections nor market receipts indicate any falling off in the make as yet. Some sections do, of course, show a shrinkage but more show an increase.

The average wholesale prices on 92-score butter at five of the principal markets for the week ending June 18, 1921, and the corresponding week a year ago were as follows:

	Week ending June 18 1921	1920
	Cts.	Cts.
New York	32.8	57.5
Chicago	32.2	55.2
Philadelphia	33.2	57.7
Boston	33.8	57.9
San Francisco	33.5	54.9

The receipts of butter at these markets were 18,737,420 lbs. as compared with 16,028,266 lbs. a year ago and 18,543,918 lbs. a week ago.

Cheese Markets Steady

[Report by U. S. Bureau of Markets.]

Cheese markets maintained a good healthy tone during the week ending June 18, but on the whole trading was not quite as active as the previous week. Consumptive demand was good, and many dealers were still looking for fine cheese suitable for storing, although buying of the latter type has been done with more or less caution on account of losses incurr the past two years. Regardless of this, ho ever, storage holdings at the four large who sale markets have shown a steady increa and are already some 4,000,000 lbs. heavi than a year ago. The total holdings in t United States on June 1, according to the r port just released, amounted to 17,767,752 lb as compared with 13,400,000 lbs. last ye 12,400,000 lbs. in 1919, and 20,395,000 lbs. 1918.

Wholesale prices on the Wisconsin chee boards Monday, June 13, were mostly u changed except in the smaller styles which a vanced an average of 1c. Young Americ have been especially in demand. At the clo of the week, business at Wisconsin prima markets had become lighter, and some shadi of prices were taking place.

The average wholesale prices on Americ cheese (style twins) for the week ending Ju 18, 1921, and the corresponding week a ye ago were as follows:

	Week ending June 1921	19
	cents	cen
New York	15.5	28.
Chicago	14.7	25.
Boston	16.2	27.
San Francisco	16.0	28.
Wisconsin	13.7	24.

The receipts of cheese at these markets we 4,987,793 lbs. as compared with 4,344,334 lbs. year ago and 5,334,145 lbs. a week ago.

CHICAGO, June 24—Butter—Creamery, e ras, 32c; extra firsts, 32½c; dairy, first 28½c; seconds, 24@27c.

Eggs—Ordinary, 20@21c; firsts, 24@24½

Cheese—Twins, 14c; Young Americas, 16c.

MILWAUKEE, Wis., June 24—Butter—Creamery, tubs, 33c; prints, 34c; extra first 30@32c; firsts, 27@29c.

Eggs—Miscellaneous receipts, country ca dled, cases included, 24@24½c; cases returne 23@23½c; seconds, 17@18c; checks, 15@16

Cheese—Twins, 14@14½c; Daisies, 14½@ 14¾c; Young Americas, 14½@14¾c; Lon horns, 14¾@15c; Bricks, 15@16c; Limburge 20@22c; Siwss, loaf, 48@50c; block, 30@31

NEW YORK, June 24—Cheese—Firm; sta milk, common to specials, 10@16½c; skim common to specials, 8@11c.

Butter—Steady; receipts, 21,444 pkgs creamery, extras, 33½@34c; state dairy, tub 22@33½c.

Eggs—Firm; receipts, 32,069 cases; nearb white fancy, 38@39c; nearby mixed fancy, 23 @34c; fresh firsts, 25½@32c; Pacific Coast, 2 @39c.

Carload Prices of Hay and Feed at Important Markets June 18

(In dollars per ton)

(Report by U. S. Bureau of Markets)

Commodity	Boston	New York*	Philadelphia	Richmond	Atlanta	Jacksonville	Memphis*	Cincinnati*	Pittsburgh*	Chicago*	Omaha*	Kansas City*	Minneapolis*	San Francisco*	Los Angeles*
HAY															
Timothy and clover:															
No. 1 Timothy	.....	28.50	23.00	24.50	27.00	27.00	28.00	19.00	21.00	22.00	.....	†19.00	†19.50	.....	....
No. 1 Clover, mixed	.....	24.00	....	23.00	25.00	25.00	.....	16.00	13.50	17.50	....	†15.00	†16.00	.....	....
No. 1 Clover	....	.....	....	.....	.....	.....	.....	16.00	13.50	16.50	....	†14.00	†15.00	.....	....
Alfalfa:															
No. 1 Alfalfa	.....	.....	.....	.....	27.00	31.00	21.50	18.00	.....	†23.00	.....	†19.00	†20.00	19.00	21.0
Standard Alfalfa	.....	.....	.....	.....	26.00	30.00	19.00	17.00	.....	†20.00	.....	†16.00	†18.00	17.00	....
No. 2 Alfalfa	.....	.....	.....	.....	24.00	29.00	17.00	13.00	.....	18.00	.....	†12.00	†15.00	15.00	....
FEED—Bagged															
Wheat Bran:															
Spring	24.25	24.00	23.25	25.00	25.00	26.00	.....	20.00	22.00	17.50	.....	.....	14.25	.....	....
Soft Winter	.....	25.00	27.00	28.00	25.00	26.00	38.00	20.50	24.00	.....	.....	.....	.....	39.00	....
Hard Winter	....	.....	24.00	.....	25.00	.....	.....	20.00	22.00	.....	13.00	14.00	14.75	.....	28.0
Wheat Middlings:															
Spring (Standard)	24.50	24.00	23.25	25.00	27.00	29.00	.....	21.00	22.00	17.25	.....	.....	14.75	.....	....
Soft Winter	.....	.....	28.50	.....	30.00	.....	22.00	25.50	27.00	.....	.....	.....	.....	40.00	....
Hard Winter	.....	.....	.....	.....	29.00	.....	.....	21.00	29.00	.....	17.50	21.00	.....	.....	....
Rye Middlings	21.50	.....	21.00	23.00	.....	.....	.....	18.00	19.50	.....	16.50	.....	12.00	.....	....
High protein meals:															
Linseed	36.50	36.50	35.50	.....	.....	.....	.....	37.00	37.50	31.00	32.50	31.50	28.00	.....	....
Cottonseed (41 per ct)	41.50	.....	40.00	.....	.....	.....	.....	.....	40.50	38.00	.....	36.00	.....	32.00	....
Cottonseed (36 per ct)	38.50	38.25	38.00	.....	30.50	33.00	29.50	.....	38.00	.....	.....	.....	.....	.....	30.0
No. 1 Alfalfa me'l (med)	.....	.....	.....	.....	.....	30.00	24.00	27.00	.....	25.00	20.50	18.00	.....	21.00	23.0
Gluten feed	35.78	35.00	33.71	.....	.....	37.50	.....	30 30	31.93	27.00	.....	.....	.....	.....	....
Hominy feed (white)	32.00	32.50	30.95	32.00	31.00	30.00	.....	24.50	.....	24.50	20.50	.....	.....	.....	....
Ground barley	.....	.....	.....	.....	.....	.....	.....	.....	.....	25.00	.....	27.00	22.00	...	28.0
Beet pulp	27.00	25.00	27.70	.....	.....	36.00	.....	25.00	25.80	.....	.....	.....	45.00	30.00	30.0

*Hay quotations represent average of cash sales at these markets. †Nominal.

Straw:—Receipts continue light, but the tone of the market appears to be a little weake than last week. Prices are practically unchanged and are quoted as follows: Wheat straw—Philadelphia $17.50, Pittsburgh $13.50, Cincinnati $11, Chicago $11.50, Minneapolis $9, Kansas City $9; oat straw—Philadelphia $18, Pittsburgh $13, Baltimore $16, Cincinnati $11, Chicago $12, Minneapolis $10; rye straw—New York and Philadelphia $25, Baltimore $22.50, Cincinnati $17, Chicago $15, Minneapolis $10.50. Quotations for rye straw in eastern markets are usually for straight untangled straw baled in box presses.

Dodge County Picnic

The big Dodge County Holstein picnic held at Horicon, Wisconsin, June 19 proved a winner in every respect. About twenty-five hundred people turned out for the occasion. A masterful address was delivered by Ex-president D. D. Aitken of the National Holstein Association. Mr. Aitken, among other things, urged the importance of organization and dwelt at some length on the merits of the black and white cow.

Wisconsin. F. DARCEY.

A long ladder is a piece of farm equipment which will pay a good dividend in convenience.

Krause's Annual Sale Averages Well

W. H. Krause, Wisconsin, held his first annual bred heifer sale June 9 in the face of unusually poor business conditions but in spite of them held a very satisfactory sale, the 63 animals offered bringing an average of $250.

Buyers from four different states were present. Limbeck & Hultgren, Iowa, were the heaviest buyers taking fourteen head for just short of a $270 average. Minnesota, Montana, and Wisconsin were also represented.

Anton Baldeschwaler, Wisconsin, paid the top price of the sale, $450, for an excellent 4-year-old granddaughter of Sir Johanna Piebe, from a 26-lb. dam. The heifer sold with her calf at foot.

Mack, Hanson, and Krause did the selling with Scott and Everson in the box.

Following is a list of those animals selling for $300 or more and buyers:

A. H. Heckler, Minnesota	
Homeside Pietertje Ormsby	$405
C. W. Bush, Wisconsin	
Johanna Calmia Ormsby	$400
Homeside Queen Pietertje	400
Limbeck & Hultgren, Iowa	
Thorla Tolita Duchess	$300
Clover Hill Hengerveld Rozena	355
Vesta Netherland Hartog Colantha	355
John Barth, Wisconsin	
Homeside Tolita	$390
Lilith Mercedes Bess	390
Elmood Segis De Kol	350
Allen Odegard, Wisconsin	
Homeside Pearl De Kol	$310
Anton Baldeschwaler, Wisconsin	
Johanna Homestead Piebe Watson	$450
Chas. Sigglekon, Wisconsin	
Clover Hill Vesta Colantha	$365

Handles Over 600,000 Pounds Cheese

The Wisconsin Cheese Producers' Federation received at its Plymouth warehouse for the week beginning June 6th, 523,333 lbs. of cheese. Besides this, the Federation is now receiving at its Spring Green branch more than 100,000 lbs. per week. This is more cheese than the Federation has ever received before in one week during any time since its organization, and for all of this cheese the management finds a ready sale.

This certainly does not look as if the Federation is losing out, as its enemies so freely predicted it would do when it adopted its new financing plan several months ago.

The new financing plan under which the Federation members finance their business by deferring payments a short time is working out very satisfactorily, much better than we thought it would. So far since adopting this plan farmers have been obliged to wait only about ten days longer on the average for their money than they formerly did. Before this plan was adopted patrons of cheese factories both in and out of the Federation usually received the money for their April milk anywhere from the 18th to the 25th of May. This year under the new plan the Federation advanced to its members on about the 20th of May about half of the money they had coming for April cheese. The balance of the money they had coming for April cheese was sent to the factories between the 7th and 10th of June, making on the average less than ten days longer that they had to wait for their money than they formerly did. In other words, the farmers have financed their business and saved more than $10,000 interest a year by waiting only about fifteen days longer for half of the money they received for the previous month's milk.—Wisconsin Cheese Producers' Federation.

Holstein Men Called in Conference

Those interested in the recent stormy session of the National Holstein Breeders' Association in Syracuse, when there was so much discussion over policies, will be interested to note that the newly elected president of the association, Ex-governor Frank O. Lowden, of Illinois, has called a conference of prominent breeders of the East in Chicago. The following will be present in the conference: A. L. Brockway of New York, W. C. Newman of Pennsylvania; F. M. Peasley of Connecticut, H. C. Reynolds of Pennsylvania, T. E. Elder of Massachusetts, and George E. Stevenson of Pennsylvania.

These men were prominent in securing a policy of retrenchment of expenses and in Mr. Lowden's election. The conference is believed to be a sign that Mr. Lowden will accept the office. It is thought that the meeting is to determine whether unified support can be expected in the future work of the association. Fundamental problems of importance will come up for discussion at the conference.

Dryden, N. Y. E. F.

Barron Co. Guernsey Sale

Guernsey breeders of Barron County, Wisconsin, held a very satisfactory sale of grade females and registered bulls at Barron, May 31st, with prices ranging up to $215. J. W. Sauk of North Dakota was one of the heaviest buyers, taking 12 head to complete a carload shipment.

Johnson of Iowa did the selling with G. R. Ingles in the box.

"Did you ever stop to think," said the farm philosopher, "that the farmer is practically the only producer who does not set a price on his product?"

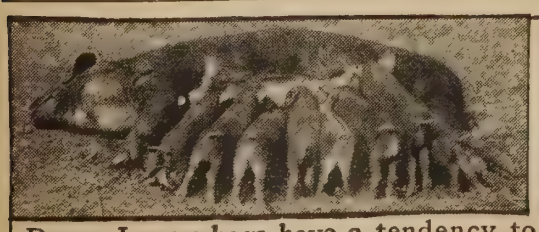


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For summer feeding get a supply of *Buffalo Corn Gluten Feed* and mix two parts with one part of wheat bran, or one part of ground oats.

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Buffalo Corn Gluten Feed, which is a straight corn feed, contains the most nutritious parts for animal feeding. It will solve your feed problems for you.

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HOARDS DAIRYMAN JUNIORS

A DEPARTMENT FOR THE DAIRY FARM BOY

The Race Through the Corn Field

"Guess we won't quite finish this job today," said Jerry as he pulled his sweating, panting team up to the inviting shade of the gnarled, old oak that had guarded the rights of the Green line fence for the past fifty years or more. Jimmy had already stretched himself full length on the grass, and in answer to his brother's comment, he said, "I don't intend to finish to-day, and I guess if we did, it would be the finish for us and the horses too. Gee whiz, isn't it a scorcher! Hot enough to boil eggs," and he wiped his dusty hands across his hot, sunburned brow, leaving it streaked with mud.

"You're right, Jim, it is some hot! If I had gone on much longer, old Pete here would have dropped in his tracks," and he stroked the hot, belching nose of his favorite horse.

"Well, there's another day coming," said Jimmy and I guess cultivating corn is just about as good a job one day as it is any other. It's just eleven o'clock now," he added, "and that means that we stay right here until noon. These horses have done enough work for one-half day and I feel the same way about it too. So there you are and consequently I have declared 1-24 of a holiday for just an hour's rest." And he grinned up at Jerry a grin of careless mischief which the latter returned with a face filled with seriousness.

To Jerry this much time for rest was wasteful and this he made known in about as many words as would convey the idea, adding "and dad won't like it either."

"That isn't any cause for worry," Jimmy laughed. "Dad isn't doing this job and he's not in any position to say how hot it is. No, sir, this hour is for rest, a well earned rest," he emphasized "and we're going to take it. If dad would prefer four dead horses —well, that is what he would have if we continued to work under the heat of this sun. Use your head, Jerry, and don't worry about what dad will say. That's the trouble with people, they don't do enough real original thinking; too dependent upon what others say. If I had to name one important thing that my first two years at college have done for me, I would say that they have taught me to think."

"That's all right for you to talk that way," Jerry interposed, "but if you were working alongside of dad day after day, you'd know that his way of doing things is the best way, and even if you did think differently, you'd keep still about it in order to keep the peace. It's quite different with you though," he confided. "Dad looks up to you some now that you have been away to college and he's half inclined to believe that most of what you say and advise is true. Any way he knows that he is doing quite different on this farm now compared with the past. He's got things running more on a business basis and I really think that he is studying his problem and that is how to get the most from the labor and capital that is operating this place."

"Oh, pshaw, Jerry," he exploded. "Get it out of your head that dad looks up to me. He treats you just as good as he does me. You are to blame yourself if things do not go to suit you. If you produce the goods, dad will be O. K. on everything you suggest. I know he is one of the 'show me kind' and I think that is one of his strong points. He doesn't go off half cocked on every new idea that completely takes possession of many people. You know, Jerry, there is an old saying that runs something like this: 'be not the first by which the new is tried, nor yet the last to lay the old aside', and I must say that dad is practicing that to good advantage."

"Well, things are lots different than they used to be, that I'll admit," answered Jerry. "But just wait, Jim, until you and I get to running the old farm, then you'll see more changes that are real changes," he burst forth in boyish anticipation. But Jimmy did not enthuse over the idea and Jerry was quick to notice that. In fact, as he sat there moving the levers of the cultivator back and forth, he noted that Jimmy did not even make a reply which was entirely out of the ordinary for him, especially when things were mentioned that concerned him.

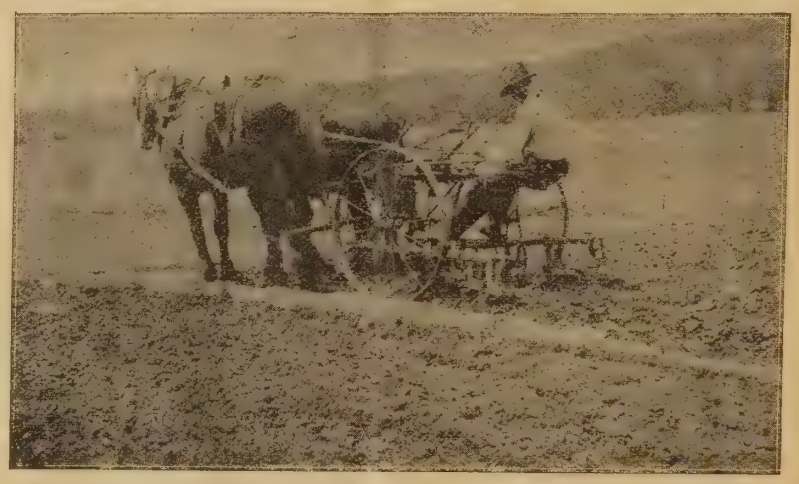
"What ails you anyway, Jim, you don't act the same as you used to," Jerry broke forth again somewhat disappointedly impatient. "You act just as though college is spoiling you. Anyway you haven't been the same since you've been home this time. You don't care to talk about the plans for the future the way we used to. Are you really stuck up about going to college or are you love sick?" he concluded abruptly.

"Nonsense," he replied, and the tired look in his steel grey eyes gave way to their usual brightness as he straightened to a sitting position. "I shall always be interested in the farm, Jerry, but I might as well tell you now seeing that you have already noted a changed attitude in me that I made a new decision shortly before I came home." By this time Jerry had slid from his seat on the cultivator to the ground alongside of his brother, evidently expecting that he soon would have him engaged in one of their old time confidential conversations pertaining to the future.

"You see, Jerry, it's like this. When I left home to go to college, I really thought that I would return at the end of the four years to join with you in running the farm. At that time I was only a boy and of course being brought up on a farm and not having had any other experiences to fall back on, I really believed what I had promised you at that time. I didn't realize that two years at college would change my thoughts as much as they have, but they are changed and that is what I want to talk to you about at this time. It's been on my mind ever since I've been home and I'm glad that you have noticed that I have not been exactly the same."

"Oh, come out of it, Jed," he said in his jocular way as he stared into the white, serious face of his brother. "There isn't going to be a funeral, is there? You'll see that what I have to say will be for your best interests also, so please look pleasant at least. You almost scare me, when you act that way. You always were too serious minded any way for a boy of your age," he laughed.

"Well, go on," urged Jerry, "I'm listening and I don't think that I shall faint either, but if you tell me that you are going to do something else instead of coming back to the farm, I'm right here to tell you that I'd hate to be in your shoes when dad gets hold of the news. He's got to where he's banking on you returning when you're through college and I've even heard him talking to ma about it. You can dig your own grave as far as I am concerned, but go on now and tell me what you plan on doing."



JERRY WAS A GOOD HAND WITH A TEAM ON A CULTIVATOR

"You'd make a peach of a fellow, Jed, for the very thing that I have planned on doing, and I'm not so sure but what you will form a partnership with me in that some time."

"Just pass over the hot air part of your tale," he replied in disgust and let's have what you've got to say before it is time to go up for dinner."

"Well, you've already guessed it, brother; I'm going to change my course this fall when I return to college. Not that I'm tired of studying agriculture, no not at all. I could study that all my life and still be interested to learn more about it. But I've just discovered within the past few months that I have some other talents which I believe will make me better fitted for the study of law. And so the truth of it is, I've decided to become a lawyer and the next year will be the first one to study it."

"Yes, and perhaps you'll be sick of that before the year is over," Jerry added in disgust. "If you don't watch you'll be like the rolling stone, you know the old saying says they never gather moss."

"Oh, I've got a good answer to that argument, sonny," Jimmy jumped in quickly. "A resting stone never gets a polish either," and he laughed outright at his brother as he left him standing in his tracks unconsciously kicking at everything movable—stones, lumps of dirt, anything—whilst he proceeded to climb back to his cultivator.

"Don't take it so hard, old fellow, you'll find out in the end that it will all be for the best. You'll go to college just the same and unless you get to be a rolling stone, you'll return to this farm and become the biggest farmer in the entire community, and I don't except Bob either. Besides, the Greene family needs a lawyer, being so many of us, some are bound to become involved so that only the proper interpretation and application of the law will straighten them out into the channels of good citizenship."

"What are you trying to do," said Jerry attempting a sickly smile, "trying to pull some of your flowery talk on me? Well, it won't work and I just hope that dad gives you the blessing of your life when he finds out about it. Say, kid," he bawled out in his anger, "do you know what's the matter with you?" But Jimmy only smiled,—the smile of the undaunted. "Well, I'm right here to tell you if you don't know it, that you're a fat head! Say, you've got the big head so bad that you think you can move the world, but you've got another guess coming. I don't care what you do! You wouldn't make much of a farmer anyway."

"Well, are you through?" answered Jimmy calmly. "You've given me quite a lecture, young man. I don't know but that you'd be a pretty good professor; guess you could handle the boys all right," and he stepped up and poked his brother in the ribs in an attempt to win him back to his usual composure and good nature.

"That stuff doesn't go with me and I'm going home," was Jerry's retort. "You'd better stay right where you are if you don't want dad to trim you," he called back while he used all the strength he had to hold the prancing Pete in check, so anxious was the old horse now that the noon hour had come. But if he guessed that Jimmy would follow his advice or if he had any doubts as to what was going to happen, they were quickly dispelled, for Jimmy not only caught up to him before he was half way across the field, but he whipped his team ahead before Jerry could realize what had happened. This only served to anger him the more and before either was aware what had really happened, the two teams found themselves racing across the dusty corn field at a breakneck pace.

"Get out of my way or I'll run over you," yelled Jerry as he swallowed a cloud of dust every time he opened his mouth. "Come on, Pete, you old pelt! Will you stand for this?" and he applied the end of the reins to the rump of the old bay so hard, that at times he almost lost his balance.

And old Pete responded the best he could—a response not at all coltish but still very good considering his fifteen years of hard service. Besides, he knew a few things about a race, at least a green race such as many a farm boy has enjoyed down in the back pasture on a Sunday afternoon. Yes, Pete in his day had been some horse according to the tales told by Jerry whenever the boys of the

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neighborhood got together. Pete had always been the winner in all of these events and according to Jerry, he could beat any of them still in spite of what he liked to call his infirmities.

And Pete knew now what was expected of him. With ears laid back and with neck and tail as straight as they could be comfortably carried, he laid to the task. His mate, a young black mare, was more than his equal and Jerry knew that if only Pete's wind held out, he would beat Jimmy to the gate that opened into the lane. Jimmy had one advantage. The pair of grey geldings that he was driving were both in their balmiest days, but whether this was really an advantage when compared with old Pete's knowledge of amateur racing was quite another matter. The fact of the matter was, Pete had the experience of years in knowing how to handle himself on soft soil.

Down the headland they raced, both yelling like young Comanches at their straining steeds. Jerry was gaining! Pete was using every ounce of his energy. He would go by his brother at all costs! He was now standing on the frame of the cultivator, lashing the backs of his frightened horses with all the strength that he could muster and still maintain his perilous position. And then something happened which gave him the advantage. In some unexplainable manner the teeth of Jimmy's cultivator dropped to the ground which served to check the speed of his team somewhat. But as Jerry afterward said, "the race was won by old Pete before that ever happened, for at that very moment he was a full length in the lead."

The first lap of the race was won and Jerry was off the seat in a hurry to open the gate leading into the lane so as to have the advantage in the home stretch down the long, grassy course. Nor did he lose any time in snatching the reins and getting back to his jockey seat. He was beginning to thoroughly enjoy the situation, notwithstanding the sympathy he had for old Pete who was panting so hard that made Jerry almost hesitate to continue.

And just at that moment there came a roar from somewhere nearby—a familiar roar that almost stopped his heart. "Hey, you stop running them horses! Stop it, I tell you, or I'll flog you within an inch of your lives!" Jerry faced Jimmy who was now up with him! He turned suddenly white and stood gazing with empty face while all the time the elder Greene was rapidly approaching at a dog trot pace.

"Well," said Jimmy with an air of bravado. "Get out of the way; I want to get through that gate."

"Well yourself," trembled Jerry. "You started it and you'll have to take the blame. He's mad as a mad dog and he's got a big stick," he almost whined at the thought of what might happen.

"Get out of the way I tell you," Jimmy commanded once more as he wedged his team in between the post and Jerry's cultivator.

"Stay right there, you young loafers," came from the irate father. "I'll teach you to loaf on the job and to run them horses that way!"

By this time he had almost reached them. Jerry started forth to meet him, but try as he might he made little progress, so stiff were his legs with fright.

"It wasn't my fault," he whimpered.

"Not a word from you," roared his father. "What does this mean?" he demanded looking sternly at Jimmy.

"Just a little race, dad," answered Jimmy lightly, "to see who has the best team and to settle a little argument that we got into."

"Yes," Jerry chimed in, "we had an argument and I got hot and started home and first thing I knew Jimmy tore by me to beat me home. And as soon as old Pete caught sight of what was going on, he just lit right out and I couldn't hold him back, so I just let him have his way. That's how it all happened," and he turned to hid his face in the heaving flank of old Pete, who was now puffing like a steam engine. "Anyway we won, didn't we, Pete," and he started to sob.

"I suppose that's some of the stuff you learned at college," said their father looking sternly at Jimmy. And Jimmy knowing the psychology of fathers and realizing that the worst was over said, "Sure, dad, that's a regular college trick! Hold your own! Don't let the other fellow get the best of you! But I'm really sorry, dad, that it happened, especially if you don't like it. But it was really fun and I guess no harm's been done. Pete and the colts will cool off and so will Jerry," he sarcastically added.

"Well, I want you to understand college ways don't go 'round here when it comes to abusing horses."

"They had a good rest before starting the race, dad," Jimmy interjected, "and they seemed to enjoy it about as well as we did, eh, Jerry?"

"Yes, indeed, you did rest! I was watching you both for the past three quarters of an hour and you never stirred from the shade of that old oak."

"Don't blame us, do you, dad?" Jimmy argued trying out his diplomatic graces on his father. "Why should we stir about on such a hot day. We enjoyed it and certainly the horses did, and besides you wouldn't have had the fun of seeing your oldest horse win the race if this hadn't all happened."

"What's the argument about?" he asked turning his attention to Jerry.

"Oh, it didn't amount to much I guess," responded Jerry who by this time had quite recovered himself now that the first scare was over. "I don't want to tell; it's Jim's business, let him tell you."

"Go ahead," persuaded Jimmy. "I got you out of this scrape, now let's see if you can do the same by me."

"Well, he told me," he began, "that he was not going to be a farmer when he gets through college. He says he's going to study law next year and I suppose the year following he will make up his mind to be a minister," he tried feebly to joke. "He's looking for a snap, that's what I'd say."

The elder Greene was completely silenced by this unexpected bit of news. It was plain that he was painfully surprised. His square, strong jaw dropped perceptibly and he moved slowly toward Jimmy.

Jerry who now feared a new outbreak attempted to come to the rescue. "He says there are so many of us in the family that the time will come when some of us will need the services of a lawyer," trying to clear the situation with this bit of light explanation.

"Well, I think it'll take a better lawyer than he'll ever be to allow him to study law instead of agriculture! We'll see about this," he replied as he threw himself onto the frame of Jerry's cultivator, saying as he did so, "Drive home now, this matter we'll settle there so that your mother will know about it."

[To be continued]

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Middle aged herdsman, single, seeks position. Good milker, feeder and calf raiser. Reference. State wages. THOMAS VICKERS, Coshocton, Ohio.

Cass County Jerseys

HOARD'S DAIRYMAN:—The Jersey breeders of Cass County, Missouri, have just organized the Cass County Jersey Breeders' Association with the following officers: J. S. Moss, president; J. N. Denham, vice-president; and R. E. Miller, secretary-treasurer. The first work they will take up is a census of all grade and pure-bred Jersey breeders in the county in the hope of attracting all these men into the organization. The next project will be to eliminate the grade sires and form calf and bull clubs.

Missouri. F. W. ATKESON.

Jersey Cattle Notes

For week ending June 17:

Number of animals registered: Bulls, 204; cows, 564; total, 768. Number of transfers recorded: Bulls, 221; cows, 441; total, 662.

Watered Butter Prosecution Made Under New Act

With the watered butter bill in effect in Pennsylvania less than one month, eighteen prosecutions have already been entered by the agents of the Bureau of Foods, Pennsylvania Department of Agriculture. The offenders in every case were concerns located largely in the Philadelphia section.

The Act provides that butter shall not contain more than 16 per cent of water or less than 80 per cent butterfat, with a fine of $100 to $200 for violation, or imprisonment for 30 to 60 days, or both. Of the samples examined by chemists of the Bureau of Foods, one was found to contain more than 37 per cent of water.

Agents of the Pennsylvania Bureau of Foods have found similar butter frauds for several years past, but until the legislature passed the act covering the cases, the Bureau was without adequate machinery for curbing the practice.

Loyal Holstein Sale

The Loyal Holstein breeders held their first sale at Loyal, Wis., June 10, selling 56 animals for $8,380, a fair price considering that almost half the sale entries were bull calves.

Harry Gillingham, Wisconsin, paid $535 for one of the very best entries of the sale, a fresh five-year-old consigned by Jno. Wuethrich.

Mack, Krause, and Bowman did the selling with B. D. Scott in the box.

Following is a list of those animals selling for $200 or more and buyers:

S. P. Tenniss, Wisconsin	
Ormsby Battels Sadie	$230
Viggo Lorentzen, Wisconsin	
Clarice Cornucopia Ormsby	$240
Geo. Castner, Wisconsin	
Lady Alcartra Fayne De Kol	$225
John Haas, Wisconsin	
Queen Mercedes De Kol Banostine	$210
Lady De Kol of Clark	280
John Wuethrich, Wisconsin	
Sub. for Cat. No. 21	$200
Silvervale Netherland Ormsby (Twin)	200
A. A. Butterbrodt, Wisconsin	
Wayne Ormsby Korndyke Colantha	$205
M. C. Kelley, Wisconsin	
Lady Elizabeth De Kol Beets	$230
Harry Gillingham, Wisconsin	
Jumie Dale Wa Wa	$535
Sub. for Cat. No. 39	500
O. L. Carteron, Wisconsin	
Sub. for Cat. No. 38	$500
R. K. Stevens, Wisconsin	
Queen Pontiac Melia Surprise	$325

Ohio Consignment Sale

The recent sale of registered Holsteins from accredited herds held at Austinburg, Ohio, June 6 did not bring out a high average but it was a fairly successful sale. But three of the animals offered had A. R. O. records and less than 20% were from tested dams.

The 68 entries sold for $11,670 with $410 the top price. T. E. Hutchins, Ohio, paid this for a 4-year-old daughter of Spring Farm King Pontiac from a 21.69-lb. 3-year-old dam.

The sale was managed by Secretary Barker of the state association.

The following lists those animals selling for $250 and over:

F. W. King, Ohio	
Maggie Hengerveld Pontiac Daw	$260
Lady Maplehurst Daw	295
C. W. Slater, Ohio	
Valencia Korndyke Pietertje	$275
Majella Maid Korndyke	350
Jerry Daeck, Ohio	
Spring Glen Flossie	$250
Queen Beets Segis Pontiac	260
Korndyke Betsy Pontiac	280
Majella Maid Pontiac Queen	280
Maud Colantha Girl 2d	250
Noronis Fancy Alcartra	290
S. E. Joiner, Ohio	
Majella Maid Korndyke 2d	$375
G. W. Benton, Ohio	
Hengerveld Majella	$295
Geo. A. Faber, Ohio	
Marion Cornucopia Pontiac	$300
Brook & Willey, Ohio	
Concordia Hengerveld Gerben	$300
Hengerveld Majella Pontiac	270
Princess Jessie De Kol Pontiac	310
T. E. Hutchins, Ohio	
Mamsell Hengerveld Pontiac	$410

Milking Machines and Milk Utensils Purified

Prevents Hot Weather Losses
Always Ready — No Muss — No Tainting

Just a small amount of B-K in your rinse water and soak jar and bacteria or germs are killed. Sterilize your milker, cans, pails, separator, strainers. No trouble. Safe, sure—low cost.

Remember the name—B-K—at all drug, general and implement stores in all sizes.

GENERAL LABORATORIES
Madison, Wisconsin.

B-K Bacillus Kill
"The Sentinel of Sanitation"

WING'S ALFALFA SEED

has been standard for twenty years, and is better than ever today We can supply any amount of either Kansas or Nebraska seed, the famous Dakota Thirty or Grimm. Prices reasonable.

CLOVER and GRASSES

Northern grown and of strongest vitality. We can furnish grass mixture suitable for any soils. We also have some excellent varieties of seed wheat. Write for samples and quotations.
WING SEED CO., Box 221, Mechanicsburg, O.

Buy A Virginia Farm Now Now is the time to buy a farm in Virginia. Prices are reasonable. You can grow fine crops of corn—all grain and grass crops. Types of soil especially adapted to fruit growing. Opportunities for dairying unexcelled. Virginia offers more advantages to the farmer than any other State—variety of soil, mild winters, long growing season. Why farm where you can grow only two or three crops and be far away from good markets, when you can grow a variety of crops in Virginia and be near the great consuming markets? The healthiest climate in America, free from disastrous storms. Write now for Hand Book, maps, etc. G. W. Koiner, Commissioner of Agriculture, Richmond, Va.

HAY Alfalfa and Prairie Hay
Prompt Shipment
Weights and Grades Guaranteed
SCHREINER & SCHREINER
Emporia, Kansas



BETTY OF LAKE VIEW

Breed Brown Swiss Cattle

They prove their superiority over other breeds when subjected to trying conditions on the farm, by keeping in good flesh and filling the pail while other cows grow thin and reduce their yield. You can prove this to your satisfaction.

BROWN SWISS CATTLE BREEDERS' ASS'N
IRA INMAN, Secretary, Beloit, Wis.
William B. Hale, Pres., Aqueduct Bldg., Rochester, N. Y.

JUBILEE FARM
Brown Swiss Bulls

to increase the production of your herd, out of cows on Official Test.

A limited number of heifers now offered for sale.

Box 747, Peoria, Ill.

Respectfully Submitted:

Every effort to create new markets for Holsteins is entitled to your prompt, practical and punchful-co-operation. On August 8, 1921, I shall offer forty head of THE breed at auction. All bred in the deep purple; all classy individuals; all pail-profit producers along with such high grade, healthy and "typy" individuals as you may consign to this sale. I want to make Victory Farms a market place of International importance to the Breed and must have your generous, practical help NOW. If you have nothing to sell, come and buy. Bring the folks. If you decide to participate as a seller ship tested, "clean," guaranteed stock via Reeding System to Victory Farms, Doylestown, Pa. References: Dun, Bradstreets, Middle City Bank, Philadelphia, Pa.; West End Trust Company, Philadelphia, Pa.; Solebury National Bank, New Hope, Pa. Monday, August 8, 1921, is the date. Victory Farms, Doylestown, Pa., is the place. Ship "clean" stock. Come along yourself.

VICTORY FARMS
Clement H. Congdon, Owner, Doylestown, Pa.

Registered Young Holstein-Friesian Herd For Sale

7 cows, 3 heifers, 1 bull, 20 months. Cows sired by 20-lb. son of King Korndyke Colantha Ormsby, sire of several 30-lb. cows. 3 are line bred A. & G. De Freule DeKol 2nd, a 29.68-lb. cow with proven transmitting ability. Others are from granddaughters of famous old Duchess Ormsby Piebe Burke with 33 A. R. O. daughters, some world and state records. Some due to freshen soon, some early fall and winter, several just fresh. Herd Federal Accredited, guaranteed in every respect. Age up to one 6-year-old, mostly three-year-olds. Price $2,750.

WM. SAARI, Phone 316, Finlayson, Minn.

ABSORBINE
TRADE MARK REG. U.S. PAT. OFF.

Will reduce Inflamed, Strained, Swollen Tendons, Ligaments, or Muscles. Stops the lameness and pain from a Splint, Side Bone or Bone Spavin. No blister, no hair gone and horse can be used. $2.50 a bottle at druggists or delivered. Describe your case for special instructions and interesting horse Book 2 R Free.
ABSORBINE, JR., the antiseptic liniment for mankind, reduces Strained, Torn Ligaments, Swollen Glands, Veins or Muscles; Heals Cuts, Sores, Ulcers. Allays pain. Price $1.25 a bottle at dealers or delivered. Book "Evidence" free
W. F. YOUNG, Inc., 254 Temple Street, Springfield, Mass.

BICKMORE'S GALL CURE

Used by the Family

Used extensively to relieve bed sores, itching piles, cracked hands, etc. If a white ointment is desired ask for our XYZ Skin Ointment.

The Bickmore Co.
Box 87
Old Town, Me.





America's Pioneer Dog Medicines

BOOK ON
DOG DISEASES
And How to Feed
Mailed free to any address by the Author
H. CLAY GLOVER CO., Inc.,
118 West 31st Street, New York

DAISY FLY KILLER PLACED ANYWHERE ATTRACTS AND KILLS ALL FLIES. Neat, clean, ornamental, convenient, cheap. Lasts all season. Made of metal, can't spill or tip over; will not soil or injure anything. Guaranteed effective. Sold by dealers, or 5 by EXPRESS, prepaid, $1.25.



HAROLD SOMERS, 150 De Kalb Ave., Brooklyn, N. Y.

Grandson of Sir Piet King Segis Ormsby Colantha

A six-month son of Sir Pietertje Ormsby Mercedes 38th; dam by a 30-lb. grandson of King Segis Pontiac Count, evenly marked. A show bull you would be proud to own. First check for $400 secures this bargain.

W. L. Devaney,
Shell Lake, Wisconsin.

High Grade Holsteins and Guernseys

We make a specialty of supplying Certified, Grade A. and Commercial Dairies with car lots of first class dairy cows. All cows are carefully selected and are the large, heavy producing kind. All cows are guaranteed as represented. Every animal must pass the tuberculin test before delivery to our farm and is sold subject to a 60-day re-test. One hundred head now on hand to select from. Let us know your wants.

THE RIECK FARM SALES CO. Rootstown, Ohio

SALE ANNOUNCEMENTS

Aug. 8—Holsteins. Victory Farms' Holstein Sale at Doylestown, Pa.
Oct. 10—Holsteins. Victory Farms' Holstein Sale at Doylestown, Pa.
Oct. 19—Holstcins. Chester Co., Pennsylvania, Holstein-Friesian Breeders' Guaranty Consignment Sale. C. J. Garrett and F. C. Brinton, Jr., Mgrs.
Oct. 19—Guernseys. Michigan State Sale of Registered Guernseys at Lansing, Mich. F. E. Fox, Waukesha, Wis., Sale Mgr.
Oct. 25-26—Holsteins. Lake Mills Semi-annual Consignment Sale at Lake Mills, Wis.
Oct. 27—Holsteins. Marathon Co. Holstein Breeders' Semi-annual Consignment Sale at Wausau, Wis.
Nov. 3—Holsteins. Nebraska Holstein Breeders' Ass'n. Sale at Lincoln, Neb.
Nov. 4—Holsteins. Virginia Holstein-Friesian Breeders' Club Sale at Richmond, Va.
Nov. 16—Holsteins. Waukesha Co. Holstein Breeders' Fall Classic Sale.
Jan. 2, 1922—Holsteins. Victory Farms' Holstein Sale at Doylestown. Pa.
Feb. 21-22, 1922—Holsteins. Iowa Holstein-Friesian Association's Annual Sale.
Feb. 23, 1922—Guernseys. Wisconsin State Guernsey Sale at Madison, Wis.
April 1, 1922—Oak Hill Stock Farm Dispersal Sale at Crown Point, Ind.
April 3, 1922—Holsteins. Victory Farms' Holstein Sale at Doylestown, Pa.
July 4, 1922—Holsteins. Victory Farms' Holstein Sale at Doylestown, Pa.
Oct. 2, 1922—Holsteins. Victory Farms' Holstein Sale at Doylestown, Pa.

To close estate of E. J. Countryman I will sell at

PUBLIC AUCTION — 333 ACRE FARM

TUESDAY, JULY 12th, 1:30 P. M., on the premises

Situated adjacent to the village of VOLO, Illinois, 5 miles east of McHenry and 5 miles west of Round Lake, Illinois, on the Woodstock-Waukegan cement road.

This farm is well improved and in a high state of cultivation. Inspection is invited. A beautiful place to live and a good investment.

CHARLES R. LEAKE, Trustee Dixon, Illinois

JERSEYS

Improve Production Increase Size

By using a

HOOD FARM SOPHIE TORMENTOR JERSEY BULL

Four generation Pedigrees and prices on request.

HOOD FARMS, Inc.
Lowell - - Mass.

Tell us about your herd and we will make suggestions as to the kind of a bull you need.
JIMMY DODGE, MGR.

Two Young Bulls

Two young bulls ready for service. Plymouth Lad breeding. Splendid individuals with Register of Merit sires and dams. Prices and pedigrees on application.

Sheffield Farm, Glendale, Ohio.
(U. S. Accredited Herd.)

Cloverdale JERSEY BULL FOR SALE

$125—Age 17 mos.—$125

Six of seven nearest dams average 620 lbs. butter and two grandams average 829.6 lbs. butter. R. of M. records. 12 out of 14 nearest ancestors, are R. of M. and two are National Dairy Show winners. Noble of Oaklands and Golden Interest blood lines.
E. O. ANDERSON, Shelby, Michigan.

Cedar Crest Farms

OFFER

Three young Jersey bulls, out of fifty-pound dams, few choice heifers and mature cows. Write for prices and full particulars.

J. K. Dering, Owner, Lake Villa, Ill.

Hillcrest Jerseys

Bull calf born March, 1920. Sired by Imp. grandson of Golden Fern's Noble. Priced right for quick sale. Write
ROLLIE VANDERVORT, TOMAH, WIS.

Ten Splendid Jersey Bulls

Good type, 6 to 18 months old. Heifers bred and open. Hood Farm Torono, King Sappho King, Loretta D. Bright Prince, etc. blood lines. Free from abortion. Dams are in the R. of M. or on test. Accredited herd.
Address: J. Q. Emery & Son, Edgerton, Wis.

HERE'S YOUR OPPORTUNITY

Bull calf born March 4, 1920, sired by a grandson of Majesty's Western King and out of a R. of M. daughter of Ibsen's Chief. For full pedigree and price write
E. E. HILL & SONS, Tomah, Wis.

Jersey Bull Calves

$100 to $150 Each

For immediate sale, we offer several splendid bull calves, some nearly six months old, sired by our high class Majesty bulls and out of Register of Merit dams. They are right individually.

M. D. MUNN,
Elms Jersey Farm, Forest Lake, Minn.

Montpelier Jerseys

Three young bulls ready for service. Trace three times to Oxford Lad. Fine typy individuals. Right in every way.
Montpelier Manor Farms, Laurel, Md.

POLLED JERSEYS

Breeders' names and Spillman's "Inheritance of the Poll Character in Cattle" mailed free.
CHAS. S. HATFIELD, Secy, R4, Box 5, Springfield, Ohio.

Valley Farm is Offering

Several bulls, 6 to 12 months old, from R. M. cows. Sired by Golden Maid's Viscount and Kilda's Royal Majesty, two of the best Island bred bulls living. At prices to sell. Write
FRED STUBLEY, Black Earth, Wis.

JERSEYS—DUROCS

Just one bull old enough for service and a few young calves. Hood Farm breeding.
F. R. Constance & Sons, Waupaca, Wis.

Albion Jersey Farm—R. of M. Jerseys

Herd sires, E S. Kilda's Viscount and T. N. T. Jap, Oxford breeding. A few choice bulls for sale, out of Register of Merit dams or dams on test.
R. C. GREEN & SON, Albion, Wis.

AYRSHIRES

Weymouth Farms

"Ayrshires of Quality"

All cows on Advanced Registry Test. Herd Tuberculin Tested.

We can supply you a herd sire of choicest breeding.

MARTIN A. TOWLE, Mgr.
NORTH WEYMOUTH, MASS.

Ayrshire Stock

of all ages for sale. Satisfaction guaranteed
L. W. McCONNELL, Wellington, Ohio

Delchester Farms Ayrshires

Tell us your wants and we can supply them at prices you can afford to pay.

Aged cows, bred to Glenury, an A. R. son of Finlayston.

Aged cows, bred to Rena's Baron of Highland, an outstanding son of Baron's Best of Bargenoch.

Heifers, bred to these two great sires.

Young heifers.

Bull calves.

All the above stock carries some of the best producing blood of the breed with A. R. ancestry on both sides.

Herd free from tuberculosis

DELCHESTER FARMS
Edgemont, Del. Co., Penn. - Thomas W. Clark, Supt.

Pure-bred Ayrshire Cattle For Sale

Best of breeding. Calves sired by a Grandson of Brown Kate, record 1,080 lbs. butter in year.
Wm. Nisbet & Sons, Richland Center, Wis.

Two Registered Ayrshire Bulls

ready for service. Also a few heifers and bull calves. Herd tuberculin tested. A. R. O. breeding.
Herman Ihde, Neenah, Wis.

DON'T PUT OFF

Seeing your friends and having them join in for a club of subscribers.

Ashbrook Farm Offers

Seven Heifers of this Type and Age For Sale



STRATHGLASS CREAMPOT 53407
Also the first prize bull calf at the Eastern States Exposition, by Foulton Ambassador.
This will make someone a good herd.
L. E. ORTIZ, Prop., Morris Plains, N. J.

BLACKBURN FARM

Home of Addington's Champion

Grandfathers—Nox'emall and Finlayston.
Father—Rena's Champion—17 A. R. daughters
Mother—Addington Queen 3d—Two mature records each over 19,000 lbs.
Fully Accredited Tuberculosis Free Herd.
SEWICKLEY, PENNSYLVANIA

World's Champion AYRSHIRES

200 head Fully Accredited, Tuberculosis Free for 3rd consecutive year. 100 records average 13,454 lbs. milk. Many cows weigh over 1400 lbs. For large, healthy, productive Ayrshires, address:
Penshurst Farm, Narberth, Pa.

MIDDLESEX MEADOWS FARM

OFFERS

Two outstanding AYRSHIRE BULL CALVES for sale for immediate shipment

No. 1—MIDDLESEX WHITE CHANCELLOR 25273, born September 17th, 1920.
Sire—Cavalier's Netherall Chancellor 21216, who sired the winning bull calf at this year's National Dairy Show.
Dam—White Heather of Highland 42752, who stood 2nd in the aged cow class at the same show (this year's National) and who has two good Roll of Honor records.

No. 2—MIDDLESEX MANCHESTER, born March 10th, 1921.
Sire—Auchenbrain Toreador (Imp.) 24761, record priced bull of the breed and Grand Champion at Maryland, New York, Connecticut, and New Jersey State Fairs this year.
Dam—Bida Clinton 31489, who has three A. R. records that average 11,000 lbs. of milk, 453 lbs. of fat, 4.17%; and whose two-year-old daughters will have records of over 10,000 lbs. of better than 4.00%.

Both bulls have excellent individuality, and are fit to go into any show ring and hold their own. They should dovelop into extra good herd sires. Prices reasonable—we **KNOW** you can't get as good as these two for any less money elsewhere.

A. Henry Higginson (Owner). **W. R. COUTTS, (Supt.)**

South Lincoln, Massachusetts

INCREASED PRODUCTION GUARANTEED

We guarantee any Jersey bull we sell to increase the average production of any herd

OR MONEY REFUNDED

YOU TAKE NO CHANCES. Our guarantee insures increased production and profit. Bulls for sale, ready for service.

AYREDALE STOCK FARM
F. W. Ayer, P. O. Box 713, Bangor, Maine.

N. B. Write us the size and producing ability of your herd, and we will describe and price a bull guaranteed to increase their production.
By mentioning "Hoard's Dairyman" we will know you are asking for a guaranteed bull.

If you are interested in
Economical Production of Highest Grade Milk
You should become acquainted with the ability for such production possessed by

Strathglass Farm Ayrshires

Among several noted bulls in service in the herd now numbering over 200 head are *Penshurst Mischief Maker, son of the World's Record cow for the breed and sired by a son of the cow standing second in the list for both milk and fat,* and others from the heaviest milking and best breeding families.
Sons of these bulls out of R. of M. cows now in offer may be counted on to materially assist in the accomplishment of above mentioned results.
We also have a few heifers of various ages to sell. Tabulated pedigrees and full particulars sent on request.

STRATHGLASS FARM, Hugh J. Chisholm, Owner, Port Chester, N. Y.

Meridale Jerseys

Head Your Herd With a Meridale Bull



The most practical way to increase the profit of a dairy herd is to head it with a pure-bred bull. Such herds average receipts of about $26.00 per cow per year higher than herds headed by a grade or scrub.

A good bull is worth more than his cost to the dairyman. We have a few such young bulls available. They are bred from Register of Merit ancestry, and give promise of being better than their sires. Figure what the *need* of a pure-bred bull is costing you. Write for booklet and pedigrees.

AYER & McKINNEY
Meridale Farms Meredith, New York

Monstone Farm Ayrshires

"Production — Size — Individuality"

Bull calves out of dams with A. R. records of 10,000 lbs. (and better) of 4% milk—Winners in show ring—Sired by Lessnessock Gem's Good Gift Imp.—Winner in show ring and proven prepotent sire—Weight 2,250 lbs. in breeding condition—Whose dam made 8,930 lbs. milk, 4.05% fat, in *36 weeks* (Scotch record)—Sire's dam 10,342 lbs. milk 365 days (Scotch record)—Prices $100 to $1,000. If you want class and a square deal, correspond with us. We can supply your wants at your prices. Nothing but the best. Herd Federally tested.

MONSTONE FARM, John Chalmers, Manager, IPSWICH, MASSACHUSETTS



We Have For Sale

the well bred Ayrshire bull, Bargenoch "Drexel" (18474) Imported. Bred by John Logan, Bargenoch, Scotland. Born Feb. 2nd, 1919. Color white and red. Sire, Bargenoch Magnificent (9579). Sire of Bargenoch "Royal Champion" sold at Bargenoch sale, 1919, for $7,267.00.

Dam, Bargenoch Victoria (37003). Scotch record: 9,221 lbs. milk, 4.23% fat in 43 weeks; 11,070 lbs. milk, 4.50% fat in 47 weeks.

BARCLAY FARMS, John Cochrane, Manager, ROSEMONT, PENNSYLVANIA

For Self Sucking Cow

HOARD'S DAIRYMAN:—In your issue of June 3 I notice several devices to prevent a cow from sucking herself. I send another. Take a small horse collar, buckle on as if you were to work her. Be sure it cannot slip over the head. When she attempts to suck when lying down this will prevent her. I have had suckers and all of them were down when sucking.

Garfield, Wash. A. S. C.

GUERNSEYS

GRASSLAND FARMS GUERNSEYS

Choicely bred males and females for sale. (The natural increase of the herd.)

Herd federal tested for tuberculosis. Send for sales list. Satisfaction guaranteed.

Taconic, Conn., Litchfield Co., (C. N. E. R. R.)

Guernsey Females

bred to an outstanding son of Ne Plus Ultra, one of the greatest sires of the breed. Fifty head from which to select.

MEADOWLAND FARM, Litchfield, Conn.

Falcon's Guardsman 67071

dropped Feb. 10, 1920.

Sire: FALCON'S DICTATOR, 55475, a bull carrying all that is best in Falcon's Flight breeding.

Dam: FALCON'S AMARYLLA, 78633, a splendid young A. R. cow—full sister to a former Class Leader.

GUARDSMAN is extremely handsome and ready for service. Price $250.00.

FALCON'S FLIGHT FARMS
Litchfield, Connecticut.

Hillswold Farm

Shrewbury, Mass.

Registered Guernsey bull calves for sale. Dams in Advanced Registry and tuberculin tested. Prices right, and animals guaranteed to suit. W. A. Cloues, Mgr.

The Mixter Farms

For Sale at farmers' prices,—bull calves sired by May Rose bulls and out of May Rose dams with records of 500 to 700 lbs. fat. Also a number of producing females—animals that will be a credit to any herd and prove profitable in dollars and cents.

Write us before purchasing elsewhere. Mixter Farms have bred over 3,000 pure-bred Guernseys. J. S. Clark, Supt., Hardwick, Mass.

300 Guernsey Females.

Head Your Herd

With a Son of Imp. Sailor Boy

whose daughters are now making such good records. We have a number of good ones from A. R. dams at reasonable prices. Write

John P. Crozer, Upland, Pa.

Golden Secret Guernseys

TYPE—PRODUCTION
GOOD UDDERS

Bull Calves of this Breeding For Sale

PENCOYD FARM, Bala, Penna.
T. W. & I. W. ROBERTS, Owners,

Address correspondence to
1644 Land Title Bldg., Philadelphia, Pa.

Langwater Traveler

Carries 50 per cent blood of Imp. King of the May, greatest bull of the breed.

His dam is Langwater Lustre, A. R. 806.10 lbs. fat, fifth cow in Class C. She is the second highest testing daughter of King of the May. His sire is Langwater Holliston, sire of Langwater Levity, sold for $6,000.00 and leading cow in Class EE. Traveler's daughters are averaging over 500 lbs. of fat with their first calves. His first daughter to freshen will be a class leader in FF. We offer some excellent bull calves by Traveler out of May Rose cows with fine records. Federal Accredited Herd.

CHICONA FARM GUERNSEYS
A. L. Gile, Prop., Chinook, Washington.

Iowanola Guernseys

We are offering

A Very Fine Son

born July 25, 1920, out of Imp. Kitchener's Express 43925, his dam has 592 lbs. of fat, and out of Franseca of Homa Della who has 12,855.2 lbs. of milk and 640.09 lbs. of fat in Class D. This is a very typy calf and should appeal to any one in need of a bull. Correspondence solicited.

MOUNTAIN BROS.,
Carrier 403, Des Moines, Iowa.

MR. FARMER

Kill the Scrub Bull

Now is the time to buy young bull calves from A. R. dams. Reasonable prices. Write for complete information.

BAY CLIFFS STOCK FARM
Jay B. Deutsch, Owner
Big Bay, Michigan.
Accredited Herd

Guernsey Bulls

A few real choice sons of our herd sires, out of May Rose dams with A. R. records up to 757.57 lbs. of fat.

Accredited Herd. Send for list.

E. S. Person, Minot, N. D.

Guernsey Bulls For Sale

Polly's Anchor No. 42845, born August 24, 1916, and Imp. Bluebird of Lakeside No. 45329, born June 15, 1917. Good, straight bulls, very gentle and sure breeders.

For Sale by
RADISSON FARM, ANOKA, MINN.

May Rose Bulls

Six bulls of breeding age sired by our Rex's King, whose dam made 620 lbs. fat. Prices $75 to $150. Tuberculin tested. Send for list.

MIDVALE FARM,
F. M. Byers, Moline, Ill.

Guernsey Bulls

Our last 9 official records average over 510 lbs. fat, including all ages. Our herd sire has 8 A. R. daughters, including one with 572 lbs. fat in Class GG. His three nearest dams average 822 lbs. fat. Send for pedigrees and prices on young bulls with this barking.

Folly Farm, Box 587, Libertyville, Ill.

Thorn Hill Farm Guernseys



Have several well bred young Guernsey bulls for sale at reasonable prices. All my own breeding. May Rose and Glenwoods, out of A. R. cows with records from 500 to 750 lbs. of fat. Write for sales list to

AUGUST ZIESING, Deerfield, Ill.

Do You Want A Guernsey Bull

Closely related to Pergue's Crescent A. R. with a record of 13,316.9 lbs. milk and over 582 lbs. fat in Class EE and dropping two calves within the year, entitling her to second place in her class? Some excellent young bulls closely related to Pergue's Crescent ready to head your herd. Write for descriptive circular, or come and see them.

Ernest W. Sass, Box H, Streator, La Salle County, Illinois

Tilden Farms Guernseys

FOR SALE: Several typy, May Rose bulls out of A. R. cows and sired by Hope's May Rose of Maple Hill (35903), whose dam is a class leader with 776 pounds of butterfat at 3 years. Also several choice pure-bred females and a few excellent grade cows. Herd on Federal Accredited list.

TILDEN FARMS
James H. Murphy, Mgr. Delavan, Wisconsin

Homestead Farm

Offers for sale bulls from 11 to 13 months of age from A. R. dams. Also a few young bull calves of excellent breeding, and three A. R. cows. Write for sale list or come and see them.

JAMISON BROS., Appleton, Wis.

Heifer Calves By Anton's King Confidence (43517)



This group of young GUERNSEY HEIFERS are some of the get of *Anton's King Confidence*, the senior herd sire of the *Hoard's Dairyman Herd*.

We have several clean cut and sturdy young bulls that we would like to quote you prices on.

HOARD'S DAIRYMAN FARM
Fort Atkinson, Wisconsin

GUERNSEYS FOR SALE

Pure-breds { 70 Cows; 61 Heifers and Heifer Calves; 162 Young Bulls and Bull Calves

Grades — { 116 Cows; 115 Heifers and Heifer Calves

Other Live Stock: Breeders are listing with us other dairy cattle, beef cattle, horses, sheep, and swine. Write us if you want stock. We will answer promptly.

BANKER FARMER EXCHANGE,
D. H. Otis, Director. 1822 Chadbourne Ave., Madison, Wis.

MR. GUERNSEY BREEDER

we are offering bulls of May Rose, Glenwood and Yeksa breeding out of A. R. cows. Our records range from 450 lbs. to 864 lbs. of fat; ages from 2 months up to serviceable age for $100 and up.

Can spare a few fine females.

CORIUM FARM, F. J. Rueping, Owner, Fond du Lac, Wisconsin

HONESTY PRIDE OF BIRCHFIELD 44580



Sire — Langwater Warrior 26509
Dam — Langwater Honesty 49479
10,536.9 lbs. milk, 517 lbs. fat, at 2 yrs. and 5 months

We are now offering a few splendid sons of Honesty Pride of Birchfield. From cows with A. R. records or now on test. Everyone is a straight backed, growthy, vigorous youngster. These young bulls will put type and production in your herd. Prices range from $150 to $300.

Quality Guernseys HIGHLANDS *Tuberculin Tested*

NYE H. FREEMAN, Herdsman, Linwood, New York

Another Real One

Bull dropped Oct. 12, 1920. Light fawn, beautifully marked; straight, deep body, level rump. Sire's 3 nearest dams average 732 lbs. fat. A grandson of Itchen May King. Dam is a very good individual and has 478 lbs. fat.

NORWIND FARM, Sheboygan, Wis.

GORDONDALE GUERNSEYS

3 bull calves offered for sale. They have excellent breeding and dams have or are making good A. R. records. Write for further information, they are priced to sell.

Herd under Federal Supervision
L. E. GORDON, JR.,
Nelsonville, Portage Co., Wisconsin

Wern Farm Guernseys

I am offering for sale 20 head of choice Grade Guernsey springers coming with first and second calf. Also have two bulls highly bred along May Rose lines just ready for service, that I will sell. For full particulars, write, wire, or come and see the stock.

Wern Farm, Waukesha, Wis.

Pleasant Acres Guernsey Farm Is Offering For Sale

Bull calves of May Rose breeding from 3 to 14 months old. The dams of these calves either have A. R. records or are now on A. R. test.

Clyde E. Fruit, R. 1, Waukesha, Wis

Guernsey Bulls

GET A BULL, with Langwater, Pencoyd, May Rose or Haye's Cherub breeding. Prices reasonable, quality considered. Grades in limited numbers.

Fox River Valley Guernsey Breeders' Association,
Harry Leppla, Secy. Appleton, Wis.

A May Rose Bull He Will Suit You

He is Gumption of Koshkonong Place, ready for heavy service and as straight as a line. His sire is Anton's King Cecil, one of the best May Rose bulls in the state. His dam is Gladness of K. P. (414.68 lbs. fat Class G), a daughter of Gilt Edge of K. P. (15 A. R. daughters).

Write me today about him.

A. R. HOARD, Fort Atkinson, Wisconsin

Mound City Farm Guernseys For Sale

May King's Reputation of Mound City (63800) born Dec. 3, 1919.

Sire—May King's Vrangue of Ingleside (15430). Dam—Alma Ethel, three records namely 495 class G, 621 lbs. class AA and 704 lbs. class A. Alma's King of Mound City (63801) born Dec. 23, 1919. Sire—Cinderella's King of Mound City (40476). Dam—Alma Lehigh (43704). 340 lbs. fat class G, 648 lbs. fat class A. Rose's May King of Mound City (63802). Born March 19, 1920. Sire—May King's Vrangue of Ingleside (15430). Dam—Rose of Little Platt (55717) record of 667 lbs. fat in class AA now fourth in her class. Some younger bulls of equal breeding.

Chas. A. Wilkins, Platteville, Wisconsin

2 Guernsey Bulls

No. 1—A son of Bob Rilma's Monogram, whose dam and sire's dam have records averaging 887.5 lbs. fat. His dam, a daughter of Langwater Hambro, made over 400 lbs. fat in Class G., 10 months old and well grown.

No. 2 is from a 519-lb. cow and sired by a son of Lord Waukesha from a 717-lb. 13-year-old dam. They're priced right and they must be as represented.

Write me for further information.

RALPH TRATT, Whitewater, Wis.

714 Lbs. Fat Average

For the first 13 tested daughters of May King's Vrangue. This includes cows in (Class AA) and Class A and heifers with credits figured as per A. G. C. C. standard. Bulls for sale from him out of May Rose cows with good A. R. records. Prices very reasonable.

Mineral Home Farm, Platteville, Wis.

Judges for Eastern States

Announcement is made by John C. Simpson, general manager of the Eastern States Exposition held at Springfield, Massachusetts, that the prize awards in the cattle department for the 1921 Exposition, Sept. 18-24, will total $28,000. Mr. Simpson writes: "Without doubt the interest in the live stock show is growing each year, which we think is but reflecting the situation in this territory. Our dairy and farm implement manufacturers are all keenly alive to the growing popularity of this show. We are expecting increased attendance and do not think present conditions will affect this in any way."

The judges for this year's show are announced as follows: Ayrshire, W. P. Schanck, New York; Holstein, T. E. Elder, Massachusetts; Guernsey, Geo. M. White, New York; Jersey, A. C. Burnham, Massachusetts; and Milking Shorthorns, F. H. S. Perkins, England

HOLSTEINS

Whitehurst Farms

BULLS FOR SALE FROM SEMI-OFFICIAL DAMS. Priced Right.

A. F. Randolph, Prop., Canton, Ill.

For Immediate Acceptance—

Three young bulls ready for service—Holsteins.
No. 1—Sire a 30-lb. bull. Dam a 27.5-lb. cow. Price $300.00.
No. 2—Sire 30-lb. bull. Dam 23-lb. 3-year-old. Price $250.00.
No. 3—Sire 30-lb. bull. Dam 16-lb. cow. Price $100.00.
King of the Pontiacs breeding, well grown and good individuals. Send for extended pedigree.

R. F. JOHNSON, Assumption, Ill.

Holstein Bulls

At Reasonable Prices

Breeding considered from 3 months to 18 months of age. From both tested and untested dams and sired by some of the best bulls of the age, such as

King Pietertje Ormsby Piebe 4th
King Pietertje Ormsby Piebe 2nd
Colantha Wayne Ormsby
Wolfspring Sethje Mooie Pontiac

Write for prices and descriptive list
Herd under Federal Supervision

STATE HOSPITAL AND COLONY FOR EPILEPTICS
Woodward, Iowa.

Bull of Ormsby Breeding

We offer Chief Segis Lyons Ormsby No. 280751 Born March 8, 1919, a grandson of Sir Pietertje Ormsby Mercedes 41st. His sire a 33-lb. bull; his dam a granddaughter of Sir Pietertje Ormsby Mercedes, who had more 1,000-lb. daughters than any other sire in the world. Also some splendid bull calves ready for service, from A. R. O. dams. Herd tuberculin tested. Write for prices.

Schermerhorn Farms, Mason City, Iowa.

Son of Lieutenant Rag Apple

from a daughter of Admiral Urmagel Burke a real combination, light in color, priced right, serviceable. State and Federal accredited herd.

BLUEBELL FARM, Riceville, Iowa.

HEAD YOUR HERD

With a Son of S. P. O. M. 41st

We Have Several For Sale

They aren't all high priced bulls, either. We have some good ones from A. R. O. dams that will have a chance to increase their 7-day and yearly records.

One of these youngsters will suit you; he's priced to sell, and he is bound to increase in value.

Write for information or come and see for yourself.

Gustave Pabst's Hollyhock Farms

Fred J. Southcott, Manager Dousman, Wisconsin



Yearly Records

Choice Young Bulls

from one to fourteen months old for sale. Sired by Cloverlawn Johanna Piebe whose five nearest dams average 1,070 lbs. of butter, 23,809 lbs. of milk a year. Herd numbers 140 head, forty cows with yearly records. State exactly what you want.

JOHN PULS, - HARTFORD, WISCONSIN

HOLSTEIN COWS

We offer for sale a number of cows, heifers, bulls and calves of all ages. Some sired by King Korndyke Veeman whose two nearest dams average over

WISCONSIN STAR STOCK FARM,

HEIFERS and BULLS

37 lbs. butter in 7 days and bred to King Sadie Vale Walker who is a son of the youngest 29-lb. cow in the world. Come and see them or write to

ED. M. SCHULTZ, Hartford, Wis.

LIGHT COLORED 800-lb. BULL

Dam—a 4-year-old daughter of Sir Sadie Cornucopia, finishing a yearly record of over 800 lbs. She made 731 lbs. at 3 years. Sire—Woodcrest Sir Clyde, son of Alma Clyde (33 lbs. and 970 lbs.), and sire of 16 20-lb. 2-year-old daughters and two over 30 lbs. Bull was born May, 1920, is ¾ white and Federally tested. Reasonable terms.

W. B. BARNEY & SONS Chapin, Iowa

Ready For Service

GOOD INDIVIDUAL

His dam is just finishing a record of over 700 lbs. butter from over 17,500 lbs. milk at 2 years, 6 months. His dam's dam made 1,117 lbs. butter from 24,648 lbs. milk as a junior 4-year-old. At 7 years she made 34 lbs. butter from 742 lbs. milk in 7 days and 1,030 lbs. butter from 24,000 lbs. milk in 305 days.

Sire's dam made 27.86 lbs. butter from 658 lbs. milk in 7 days; 705.9 lbs. butter from 16,820 lbs. milk in 272 days, carrying calf 215 days.

He is a double grandson of SIR JOHANNA FAYNE, who now has 25 daughters averaging over 20,000 lbs. milk in a year, 15 of them in heifer form.

Write for pedigree, photo and price

IOWANA FARMS, (Herd Under Federal Supervision) Davenport, Iowa

"SPOT"



Elf Aaggie Fayne Johanna
Milk 27949 lbs.
Butter 1001 lbs.

Breeders of Holstein Cattle

2 WORLD } RECORD COWS IN OUR HERD
4 STATE }

Holstein Bull Calves For Sale

A Few Exceptional Individuals Ready for Service

Write for Bull Sale List LISLE FARMS CO., LISLE, ILL.

Quality Holsteins With 7-Day and Yearly Records

Boscow Farms

HOLSTEINS and DUROCS

T. J. BAILEY, Manager



Bonus Lea Farm

HOLSTEINS and SPOTTED CHINAS

FLOYD D. ROTE, Manager

Herds headed by a wonderful son of *Dutchland Creamelle Korndyke Lad.*
Farms located at Belvidere, Boone Co., Ill.



BOONE BREEDS THE BEST

A Real One 6 Mo. of Age Sired

by Sir Aaggie Colantha Korndyke (owned by J. N. Stansfield) whose six nearest dams average over 31 lbs. in 7 days; he also carries a triple cross of Pontiac Korndyke. Dam an exceptional individual daughter of Colantha Creamelle Sir Aaggie, he being sired by Dutchland Creamelle Korndyke Lad, whose daughters are making such sensational records. His dam is by Colantha Johanna Lad and Aaggie Cornucopia Pauline. She has a 16-lb. 2-year record and is running well on yearly test. Everything T. B. tested. Will sacrifice at $200.00. 100% satisfaction. For information write

BOSCOW FARMS, Belvidere, Boone Co., Ill.

Cows and Heifer

A Few Good Bulls

Because I am overstocked, I am offering some very good registered females for sale. They either have A. R. O. records or are from A. R. O. dams.

Can also offer some excellent young bulls by a 33-lb. sire and from A. R. O. dams with records up to 28 lbs.

Every animal sold is guaranteed to be as represented.

Write or come and see for yourself.

J. D. McDonald West Salem, Wis.

1000---HERD---1000

Quality Holsteins

GRADES AND PURE-BREDS

Just now we have a splendid lot of grade heifers. Write for our pure-bred bull list.

Jefferson County Holstein-Friesian Breeders' Association,
A. F. Gafke, Secretary, Jefferson, Wis.

Don't order Holstein or Guernsey

PEDIGREES

before writing for our special offerings. Good only till Aug. 1st.

Wisconsin Live Stock Advertising Company
Madison, Wisconsin

I-N-V-E-S-T-I-G-A-T-E—Pure-bred Holstein bulls sired by Wisconsin 3-year-old at National Dairy Show 1920. Herd tuberculin tested. Pure-bred Duroc pigs sired by Great Wonder Sensation.

RIDGEHURST STOCK FARM,
Glen C. Ramsey Ft. Atkinson, Wis.

Anyone knows the difference between

Black and White

But it takes a good judge of cows to tell the difference between a 5,000-lb. cow and a 6,000-lb. producer. Yet there is 18% difference in the profit yielded by these two cows. If you do not have the most profitable kind you can always buy them from us at the right prices. Write for information. 400 head always on hand. Grade Holstein cows and heifer calves. Pure-bred Holstein cows, heifer calves and bulls of all ages.

RIVER MEADOW FARMS, Portlandville, N. Y.

A Youngster Rich in King Segis Blood

Born March 18, 1921

His sire is a son of KING LYONS, out of a 35-lb. daughter of KING SEGIS.

His dam is a 25.81-lb. daughter of JOHANNA KING SEGIS, a 40-lb. grandson of KING SEGIS.

For pedigree and price write:

G. G. Burlingame, Cazenovia, N. Y.

Choice At $100

of four yearling bulls. Sire, Joh Segis. 15 nearest dams average 30 lbs. His dam gave 710 lbs. milk in 7 days. Dams and Grandams—A. R. O. cows up to 24.74 lbs. Federally tested by all three tests.

HENRY J. KARPINSKI, R-7, Oswego, N. Y.

Send For Our Bull Sales List

Three bulls of serviceable age—four others will be old enough for service in a month or two—others three months old and older. Almost all of them sired by SIR ORMSBY BEAUTY PONTIAC SEGIS, the son of a 37-lb., 1112-lb. three-year-old daughter of KING SEGIS PONTIAC COUNT.

If it will be of an accommodation to the purchaser, we will accept a six months' note in payment, WITHOUT INTEREST, or will accept payment on installment plan basis.

Pinehurst Farms Co., Sheboygan Falls, Wis.

$100 to $200 Buys A Bull From A Good Record Dam

Am offering several for those prices sired by a 26-lb. bull and from A. R. O. dams with records up to 25.46 lbs.

Write at once. They'll go fast.

H. W. Crawford, R. 5, Campbellsport, Wis

FOR SALE

Twenty pure-bred Holstein cows and heifers bred to a 31.51-lb. weekly, 1,057-lb. yearly record son of King Pontiac Champion. Twenty young bulls by same sire.

John Alexander, Baraboo, Wis.

Good Holstein Calves

Bargains for the next 60 days. Grade heifers. Pure-breds either sex. Order your Duroc-Jersey pigs to be shipped at three months old. Pairs or trios not akin.

J. C. BOLGER, Waterloo, Wis.

ORMSBY BULL - Born Feb. 28, 1919

Sire, King Ormsby Pontiac De Nijlander, whose two nearest dams average over 30 lbs.

Dam, Aaltje Hengerveld Tritomia Segis. A. R. O. 17 lbs. at 3 yrs., next dam 29.68 in 7 days. Color light, fine individual. Ready for service. Price $300.

Fairview Stock Farm Whitewater, Wis., W. G. Marshall, Prop.

SONS

of Sir Echo Sylvia Johanna—

⅞ Brother to the $106,000 Bull

From high bred fine individual A. R. O. cows up to 30 lbs. Several on test now. All good, straight individuals, backed by lots of milk and butter. Some are ready for service. Priced very low. Write for catalog.

(*Herd Under Federal Supervision*)

CHESTNUT HILL FARMS,
G. A. Burdick, Mgr., Gibsonia, Pa.



The Count-Piebe Combination



KING SEGIS PONTIAC COUNT
"The Marvel of All Sires"
Whose daughters have broken more World's Records than the daughters of any other sire.

PIEBE LAURA OLLIE HOMESTEAD KING
"The Present Day Sensation"
The only bull in the world with five 20,000-lb. two-year-old daughters.

Will Triple Your Milk Check Because It Will Put Production Into Your Herd

And more than triple the price you are getting for your calves. Because it combines individuality with production, it has given us thirty cows at Arden Farms that have **each produced $1,000 worth of milk per year. Do you want that kind?**

We Offer
Sons of "Count" from Daughters of "Piebe"
Sons of "Piebe" from Daughters of "Count"

We have the finest line of young bulls we have ever raised at ARDEN FARMS, priced in accordance with present financial conditions. LIBERAL TERMS GIVEN IF DESIRED.

J. M. Hackney, 602 Merchants Bank Building, St. Paul, Minnesota

MINNESOTA HOLSTEINS



MISS KORNDYKE AKKRUMMER ORMSBY
30-lb. 4-year-old, 39.67 lbs. butter at full age.
(Owned and developed by J. B. Irwin.)

"The Home of the Ormsbys."

BARGAINS IN BULLS

A few richly bred choice young bulls ready for service,

on the bargain counter for a clearance sale.

Let us give you a good individual well bred at a very low price while they last. Tuberculin tested. Guaranteed in every respect and ready to ship. Come and see them.

Woodlake & Clover Farms,
JOHN B. IRWIN, Sta. F, Minneapolis, Minn.

Registered Cows and Heifers

We have on hand more females than we usually carry so are able to offer some good ones for sale. A number have A. R. O. records and most of them are from tested dams. Bred to a yearly record sire and themselves backed by yearly producers.

Address correspondence to Axel Hansen, formerly with John B. Irwin.

MINERAL SPRINGS STOCK FARM, - - SAVAGE, MINNESOTA
Stuart—McIntyre—Hansen, Owners.

Address correspondence to Axel Hansen, formerly with John B. Irwin.



Lola Segis Pontiac Homestead

the highest record bull in southern Minnesota, heads our herd. His sire, Piebe Laura Ollie Homestead King, has more daughters that as 2-yr.-olds have produced 20,000 lbs. milk in a year than any other. His dam, a 34-lb. 4-year-old daughter of King Segis Pontiac Count, has 3 records averaging 33 lbs. and has made over 1,000 lbs. in 1 year. We have a few serviceable bulls and younger from A. R. O. dams for sale.

Clover Lea Farm, W. W. Walker, Owner. Austin, Minnesota



Sir Walker Segis Homestead

The best show bull and son of the great bull, PIEBE LAURA OLLIE HOMESTEAD, out of a "COUNT" daughter, BEAUTY BEETS WALKER SEGIS, world's greatest heifer, with two yearly records over 25,000 lbs. milk and 1,000 lbs. butter in heifer form, and a seven-day record of 35.03 lbs. butter from 730 lbs. milk.

We offer several choice bulls, one month to a year old, out of high yearly record and A. R. O. cows, at very reasonable present day prices. Pedigrees and photos will be sent.

A. J. LASHBROOK, - - Northfield, Minnesota

Serviceable Sons of Dutchland Aaggie Tidy Prince

I have three of these youngsters for sale, all ready for service and from A. R. O. granddaughters of S. P. O. M. Their sire is from a sister to Tidy Abbekerk Prince and already has a good list of tested daughters, including one above 36 lbs.

Write today for complete information.

E. J. BROSIOUS, - - Stillwater, Minn.

Grandsons of Sir Pietertje Ormsby Mercedes

The sire is Sir Pietertje Ormsby Mercedes 22d, a son of Minnesota's first 1000-lb. cow. These bulls are all nicely marked, straight top lines. Very good individuals from good A. R. O. dams.

For pedigrees and prices, write

O. J. GROVER, - - GLYNDON, MINN.

Grandsons of

Duchess Skylark Ormsby and of S. P. O. M. 38th

Good Ones — From Yearly Record Dams. Priced to Sell.

POPLAR HOLLOW STOCK FARM,
Bertram D. Scott, Prop., Richfield Station
Minneapolis, Minn.

Registered Holsteins

For Sale—Four heifers from good sires and tested dams. Bred to our 34-lb. sire, Count and Piebe breeding. Are good individuals, priced $1,175. Herd under State supervision.

BLACK & WHITE STOCK FARM, Melrose, Minn.

Get A Calf

We have a grand bunch of youngsters on hand. Come and pick out a calf while you have a big choice. Grow him to suit you. Saves you money and we are selling them as cheaply as we can. Show calves that are backed by generations of official testing and careful breeding. Sons of DUTCHLAND CREAMELLE COLANTHA LAD No. 165049. His yearly daughters all average over 834 lbs. of butter at 26 months of age.

GRAHAMHOLM FARMS,
H. R. Searles, Mgr., Rochester, Minn.

Choice Ormsby Bulls

From good record dams. Priced from $150 to $700. A few higher. Tell us your wants, or better still, come and see us.

MANKATO HOLSTEIN FARMS
Marlow & Randall, Mankato, Minn.

Bull Calf

advertised last week is sold. Here is another good one ready for light service. Sired by a 30-lb. bull. Dam a 14-lb. 2-year-old who will be tested again next spring. Priced so reasonable that you can't afford to be without him. $150.00 for immediate sale.

V. R. Holmes, Anoka, Minn.

COME TO BISCAY

for your next purchase of pure-bred or grade Holstein cattle, mature or young stock. Large selection, also a few select male calves to offer. Located near station.

BISCAY SALES CO., BISCAY, MINN.

A LINE-BRED "41st" BULL CALF FOR SALE



SIR PIETERTJE ORMSBY BESS BURKE
Born Dec. 20, 1920

A real showy calf, straight as a line and of ORMSBY type

His dam and sire's dam are both daughters of SIR PIETERTJE ORMSBY MERCEDES 41ST, the only son of Spring Brook Bess Burke. His dam is on yearly test as a junior two-year-old and bids fair to go 800 lbs. The sire's dam made 28.93 as a 3-year-old and 26.82 as a 2-year-old.

THIS CALF WILL GROW INTO MONEY —SEND FOR PHOTOS, PEDIGREE AND FULL PARTICULARS.

E. C. Schroeder Farms

(Under Federal Supervision)

MOORHEAD, Minnesota

Foundation Herd Offered

We are offering a splendid foundation herd consisting of a choice of three out of five young, well-bred A. R. O. cows and a yearling Ormsby bull or will sell any of them separately. Two of the cows are by a 37-lb. grandson of Colantha Johanna Lad. One is by a brother to Cedar Lawn Canary Paul. Three of them are on yearly work now. They are bred to ORMSBY PRINCESS LAD, a richly bred Ormsby-Bess Burke bull that is a son of the 1920 grand champion female at the Waterloo Dairy Cattle Congress.

The Ormsby bull that we would put to head this herd has one cross of Bess Burke breeding and 4 of Sir Pietertje Ormsby Mercedes, his dam being by a son of Sir Piet and will be developed.

All of these animals are priced to sell.

CANNON FALLS HOLSTEIN FARM,
Cannon Falls, Minnesota.

"DUKE"

The only place you can buy sons of serviceable age sired by DUKE PIETERTJE KORNDYKE ORMSBY

The bull selling at the last Minnesota state sale for $33,000.00 is from the herd where he stood for three years prior to the sale. "Duke's" dam now has three records above 1,000 pounds, the last one was 1,190 pounds.

Now is the opportune time to buy one of these bulls as their sisters will be given every opportunity. Get a son now and be in line. Clean bulls from a clean herd. Prices reasonable. Write

EDW. H. ULRICH, Biscay, Minn.

REGISTERED BULLS

FROM TESTED DAMS

Sired by a 30-lb. son of Colantha Johanna Lad and a 26½-lb. son of Laura Piebe Ollie Homestead King. Well marked, straight individuals from two months to 2 years old. Priced to suit present conditions.

GEO. H. ELWELL,
Minneapolis, Minnesota.

YOUNG H.-F. BULLS

FOR SALE

From one year to a week old. Bred by 30-lb. sire and 44-lb. grandsire.

G. A. UITDENBOGERD, Rosemount, Minn.

ORIGIN FARM

HORNLESS HOLSTEINS, Registered and A. R. O. Animals, all ages, for sale. Federally Tested.

GEO. E. STEVENSON, Scranton, Penna.

Holstein Bulls At Farmers' Prices

We are not in the game to get rich but to help promote the breed by offering pure-bred bulls at the lowest prices, enough to cover raising. Write for prices and descriptive list. The Ormsby kind.

RAMSEY COUNTY HOME,
J. E. McMahon, Supt., North St. Paul, Minn.

RICHLY BRED

HOLSTEIN BULL CALVES

out of A. R. dams and sired by our two richly bred herd sires — **King Piebe Ormsby Mercedes**, a 35-lb. son of Sir Korndyke Bess and every dam in pedigree over 22 lbs. and **King Pietertje Mercedes Ormsby**, a son of Sir Pietertje Ormsby Mercedes and out of a 19-lb. senior two-year-old dam.

Herd tuberculin tested. Write for information or visit herd.

P. FROST SPAULDING FARM CO.
C. L. Spaulding, Mgr., Warren, Minn.

Fayne Star Sir Korndyke

Ready For Service. Price $400

He is by King Segis Pontiac Fayne Star, the best son of "Count," and from a wonderfully good 2-year-old granddaughter of King Korndyke Colantha Ormsby. She made over 15 lbs. as a 2-year-old and will be run again both for 7 days and a year.

Write us and ask for bull circular

Flecks Farms Faribault, Minn.

THE TRAVERSE HERD

We have what you want in

BULL CALVES

the large, fine growthy type, guaranteed right in every way. They are from high producing A. R. O. ancestors. Dams' records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.

Traverse City State Hospital, - Traverse City, Michigan

The Pontiac Herd

"Where the Champions come from"

Offer Bull Calves sired by sons of *Pontiac Korndyke, Hengerveld De Kol, Pontiac Dutchland, or Admiral Walker Pietertje.*

Do you want a Pontiac in your herd?

PONTIAC STATE HOSPITAL, Pontiac, Mich.

Fairhurst Herd

On the Accredited List

We offer young bulls, fine individuals and well grown. Sired by 33-lb. bull and from dams with records up to 30 lbs. Write for pedigree and price.

KITTLE BROS., Holland, Ohio.

BULL CALF

Sire's dam, butter, 1 yr., 848 lbs.; her daughter, 1,055 lbs. Grandsire's dam, 987 lbs. at 11 yrs.; her full sister, 1,344 lbs.; another, same dam, 1,322 lbs. Dam, Miss Pietertje Alexina 3d, sister to Miss Pietertje Alexina 2d, 1,290.91 lbs. A dandy calf, priced right. Write quick to

McKAY BROS., - - CADDOA, COL.

St. Olaf Ormsby Sensation

The Highest Record Son of

Ormsby Sensation

— Heads the St. Olaf College Herd

He is from VELMA DE KOL PIETERTJE 2D, 30 lbs. butter from 637 lbs. milk in 7 days, and now making an excellent yearly record. ST. OLAF ORMSBY SENSATION, like both his sire and dam, is a splendid individual.

Our Junior Sire Is The Highest Record Son of S. P. O. M. 37TH. His Dam, COLANTHA PIETERTJE LASS, Is The Best Daughter of S. P. O. M.

We invite you to inspect our herd at any time.

ST. OLAF COLLEGE FARMS
Northfield, Minnesota



Save the Feed for Your Cows

THE man who depends on his cows for his profits, whether they are dairy or beef cattle, naturally has to consider carefully the matter of winter feed for his stock. Every ton of hay, ensilage, or grain fed to the work horses represents an *expense* that might have been a *profit*. By saving this feed for the cows, you receive a cash return on it in the form of marketable whole milk, butter fat, or beef.

Substitute Mechanical Power for Horse Power

A Case Kerosene Tractor—10-18, 15-27 or 22-40 H. P.—by displacing a certain number of horses will enable you to direct your feed into the channels where it will do you the most good. All heavy drawbar jobs such as plowing, disking, seeding, harvesting, etc., as well as all big belt power operations such as driving a thresher, corn husker and shredder, ensilage cutter or big-capacity corn sheller, can be handled to the best advantage, we believe, with a Case Tractor—and for these reasons:

Look For The EAGLE Our Trade Mark

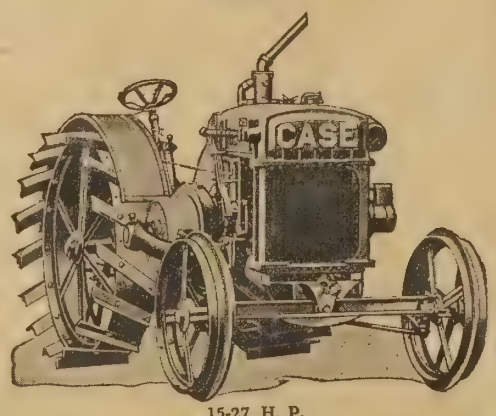
Features of Case Tractors

The four-cylinder, vertical, valve-in-head Case motor, mounted cross-wise on a twist proof frame, operates successfully on cheap kerosene and delivers from 65 to 70% of its power at the drawbar. This is due to the liberal use of roller bearings and the fact that power is transmitted to the drive wheels through a train of simple, cut steel spur gears, enclosed in dust-proof housings and running in lubricant. The Case air-washer cleanses air of all grit, which is protection against rapid wear of cylinders, pistons and piston rings. The large diameter belt pulley is mounted directly on the crank shaft, which assures full power delivery to the driven machine, and is most conveniently located for belt work.

We'd like an opportunity to tell you all about Case Tractors—either through our catalog or our nearest dealer. Write us today.

J. I. Case Threshing Machine Company
Dept. G 10 - Racine, - Wisconsin

CASE
TRADE MARKS REG. U.S. PAT. OFF. AND IN FOREIGN COUNTRIES
KEROSENE TRACTORS



15-27 H. P.



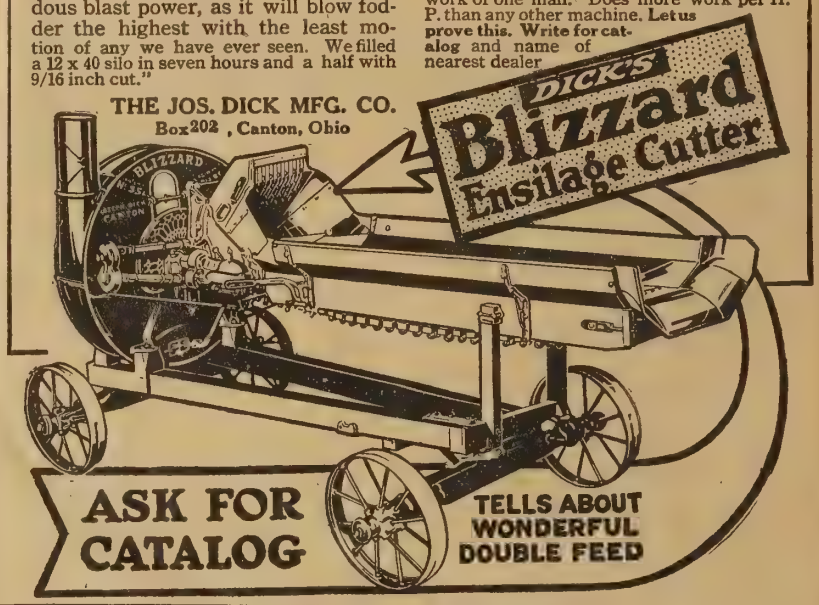
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—say Crankshaw & Cornell of Paw Paw, Michigan. The picture shows their S-31 Blizzard in action.

Their letter continues—"One great feature of this machine is its tremendous blast power, as it will blow fodder the highest with the least motion of any we have ever seen. We filled a 12 x 40 silo in seven hours and a half with 9/16 inch cut."

The Blizzard Self Feed saves all pushing or poking at the feed table—just throw on the bundles—the double feed delivers the silage to the knives for a clean, even cut. Saves the work of one man. Does more work per H. P. than any other machine. Let us prove this. Write for catalog and name of nearest dealer

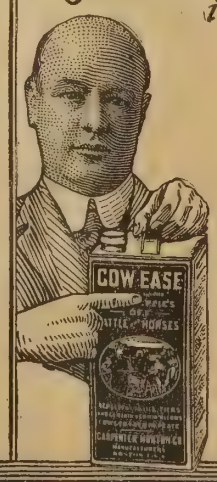
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COW-EASE is a clean, liquid preparation of the right consistency for applying with a sprayer. For 20 years I have guaranteed it to keep flies off cattle and horses and in all that time it has given absolute satisfaction to farmers the country over. It neither gums the hair nor blisters the skin. Beyond being humane and sanitary it is profitable as well, for a herd sprayed regularly with **COW-EASE** throughout the fly season will yield more and better milk.

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KEEPS FLIES OFF CATTLE AND HORSES

The Ideal Milk Cooler



This apparatus has been, and now is, the best low priced MILK COOLER AND AERATOR on the market—extra large cooling surface, simple, strong and durable, ice chamber easy of access—easy to clean and easy to operate—adapted to use with either ice or running water. It has been in use *more than twenty years and all improvements added to date.*

Ask for descriptive circulars and prices.

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Keep Tab on Your Cows

Send 5c in stamps for samples and prices of our weekly and monthly Milk Record Sheets. **Hoard's Dairyman, Fort Atkinson, Wis.**

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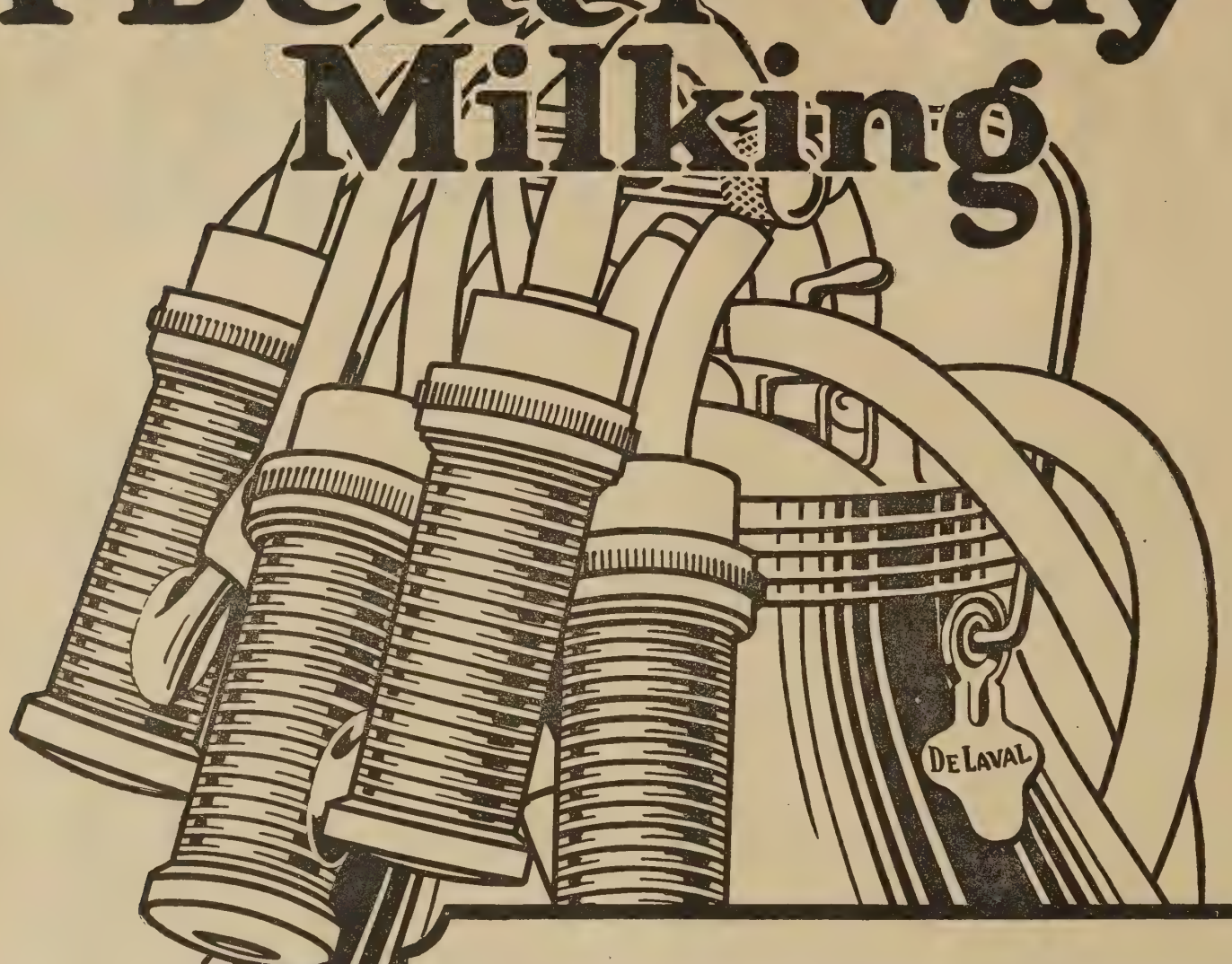
HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING



Fort Atkinson, Wisconsin Volume LXI, No. 25 July 8, 1921

A Better Way of Milking



MANY dairymen are finding that the De Laval Milker is more essential than ever in times of lower prices. It enables milk to be produced cheaper by saving time; and increases the flow of milk, because it operates in a manner most pleasing to the cow. Therefore the De Laval Milker makes more profit for its owners by producing more milk at less cost. It will do the same for you.

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HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING

Volume LXI — FORT ATKINSON, WIS., JULY 8, 1921 — Number 25

COUNTING BACTERIA WITH A MICROSCOPE

BACTERIOLOGIST AIDS IN CLEAN MILK PRODUCTION BY INVENTING NEW TEST

RUSSELL E. FROST, WISCONSIN

THE banner of dairy leadership was raised to a greater height over the state of Wisconsin with the recent announcement of the invention of the Frost Little Plate method for counting the number of bacteria in milk. Of the nine important dairy tests in use today this makes the eighth contribution of the Badgers.

The "little plates" were developed in the agricultural bacteriology laboratories of the University of Wisconsin by Dr. W. D. Frost, and are the result of a big demand for a more rapid means of determining the quality of market milk. In the past it has been impossible to count the bacteria in milk in less than 48 hours. Today, by use of Dr. Frost's method, accurate counts can be made in eight hours, less than one-sixth the original time. This speedy test makes known the keeping qualities of milk before it reaches the consumer. By the old standard method this direct control was impossible.

Field Outfit a Feature

An important feature of the new test is its use in the field. Dr. Frost has devised a kit that can be carried about wherever occasion demands. The outfit is no larger than a traveling bag, and weighs about 20 lbs. when fully packed. This field outfit has made it possible to take the laboratory from the city to the farm. Enough material for counting the bacteria in 48 samples of milk can be transported in this "travelling laboratory". Should but one count be made of each sample, 96 analyses can be made.

The method has still greater significance in the light of recent developments in the buying of milk. In the East, particularly in New York State, milk is now being paid for on the germ-free basis. The lower the number of bacteria in the milk, the higher is the price paid to the farmer. The time is coming soon, predicts Dr. Frost, when this method of buying milk for human consumption will be as general as the buying on the butterfat basis now is. When this time comes, the value of the little plate method for determining the number of bacteria in milk will be very great.

New Test Uses Old Idea

The little plate test involves the use of the microscope. This was the first means, historically, of counting the bacteria in milk. In the times a decade or two previous to 1880, many difficulties were had with this way of determining the germ content of milk. So that with the introduction of the standard plate method by Robert Koch, a German scientist, in 1880, the microscope was quite generally abandoned for milk count work. In 1911, Robert S. Breed, working at the Geneva Experiment Station in New York, invented his direct count—which revived the use of the microscope in milk analysis. For certain types of counting, Breed's method is still in good repute. It is, however, somewhat difficult to operate and has the added disadvantage of counting the dead germs as well as the living, so that it becomes quite useless in ascertaining the quality of pasteurized milk.

In 1913, Dr. W. D. Frost of the University of Wisconsin conceived the idea of combining the standard plates, the accepted form in milk work, with the use of the microscope thus shortening to a marked degree the length of time necessary for the test, and at the same time counting only those germs which were alive and active. This is the idea that he has been working on and perfecting during the last eight years until we now have the test in the complete and accepted form known as the Frost Little Plates.



DR. W. D. FROST MAKING "LITTLE PLATES", A NEW TEST DEVISED BY HIM FOR COUNTING GERMS IN MILK

The apparatus shown here is packed in the carrying case which also serves as an incubator, and is used for field work.

Koch's Standard Plate Method

Quite frequent reference has been made to the standard plate method devised by Koch in 1880. Because it was the first method used and has been the accepted method for many years, a brief description is here given, which is also of much interest in comparing the length of the two processes.

By the standard plate method, after thoroughly shaking the sample to be tested, one cubic centimeter or about 15 drops are drawn off in a sterile pipette and mixed with sterile water until a quantity is reached which contains one part of milk to 1,000 parts of water. One cubic centimeter of this truly "watered" milk is then put into a glass dish that has been previously baked to kill all germs. Such a dish is fitted with a snug cover and the whole is called a Petri dish, "Petri" being the name of the German who invented this piece of bacteriological apparatus.

About 10 cubic centimeters of melted agar, a jelly-like germ food, is next poured into the Petri dish. The contents are then thoroughly mixed and allowed to harden. After the hardening process is complete, the dish is then put in an incubator and kept at the body temperature for 48 hours. At the end of this period white spots can be observed on the plates. These spots are colonies, and each colony is supposed to represent one original germ. By counting these spots and multiplying by the dilution the number of germs in one cubic centimeter, 15 drops can be easily determined.

New Method Shorter

Dr. Frost gives this description of his method: "A drop of milk, 1-20 cc, mixed with a similar sized drop of agar and spread over a definite area on a small oblong of glass spoken of as a microscopical glass slide. This is put in a moist incubator at the body temperature until the germs embedded in the jelly grow into colonies. The time required for this is between six and eight hours. By coloring the colonies with a blue stain they can be easily counted under the miscroscope."

Field Kit is Compact

Having described the manner of making the test, a description of the field apparatus, such as might be used on the farm, becomes somewhat more intelligible. Besides the carrying case there are several pieces packed compactly together and fitted snugly into the small case.

An asbestos-covered metal box which holds about two quarts of hot water is called a "warm table". This "table" is used to keep the slides warm while the milk and agar are being spread to form the little plates. It also serves to keep the tube of liquified agar from solidifying. Its third purpose is to furnish heat to keep the case warm while it acts as an incubator for the little plates.

The "moist chamber cabinet" is a metal box provided with shelves and a door. The little plates are kept in this while they are incubating to prevent them from drying up. Water in the bottom of the cabinet keeps a moist atmosphere.

A tin cup holds the agar tubes and the agar may be melted by boiling over a small alcohol lamp included in the case. A pipette box containing sterile pipettes and a small wooden box for holding glass slides, platinum loops, and other odds and ends of use to the tester completes the outfit.

Novel Germ Incubator

The carrying case is of wood and is lined with an insulating material and when tightly closed forms an incubator on the principle of a "fireless cooker". With this arrangement, the tester can make the plates on the farm, and they will be growing while he is returning to the laboratory. Eight hours after making the plates they are ready to be counted.

Little Plates Have Many Advantages

The Frost Little Plate test has many advantages over other methods now used. In the first place it is more rapid than other methods. Its speed is a big factor in favor of this test. The little plates are easy to make. It does not require months of special training to master the technique. In fact, the operator can become very proficient in a week's time.

The little plates form a permanent record of bacterial counts. Once made they can be kept indefinitely and will not change. Should a question arise at any future time regarding the cleanliness of a certain milk at a specified time, reference can always be made to the little plates. Similar to this feature is the sediment

(Continued on page 980)

Report of the Creameries Committee of Eleven

THE Committee of Eleven, appointed at the preliminary conference of the creameries of Minnesota held in St. Paul April 23, 1921, beg leave to submit the following report:

A State Organization of Minnesota Co-operative Creameries—What It Will Be, What It Will Do, and How It Will Do It

The state organization will be a corporation organized under the Co-operative Law of Minnesota for the purpose primarily of promoting, fostering, and securing improvement in—

1. Standardization and improvement in quality, through cream grading and proper methods of manufacture.

2. Shipping and transportation of butter and dairy products through carlot shipping.

3. Service in the sale of products of Minnesota creameries through closer co-operation with present distributing agencies and wholesale market receivers and—

4. Co-operative purchase of supplies such as salt, tubs, coal, etc., in carload lots.

5. Advertising.

How State Organization Would Obtain These Purposes

The state organization would obtain the purposes stated above by establishing the following departments:

1. Shipping and transportation department.
2. Standardization and quality improvement.
3. Contract and service in sales.
4. Purchasing of supplies.
5. Advertising.

How Each Department Would Benefit Co-operative Creameries

For the purpose of assisting the creameries in shipping and transportation and in standardization, they would be united into districts or groups of such number of creameries in each as are most practicable and necessary for assembling carlot shipments and for bringing the product to the highest standard quality. A district agent or manager would be employed by the state organization in each separate district, by and with the advice and consent of the creameries in each district. Thus, the state organization would maintain a working contact with each creamery through the district manager and each would be assisted in their shipping and transportation, also in the grading of cream and the standardization of the quality or their product.

The contract and sales department of the State Association would maintain offices, at first, in New York, Philadelphia, and Chicago and through these offices the quality of the product of each creamery would be inspected, on the market, the price received would be checked with the market quotations, freight bills audited and checked and the creameries assisted in every way in obtaining the best contracts and market outlets for their products.

Thus the offices in these markets would be able to give personal attention to the contract relations of creameries with the buyers of Minnesota co-operative creamery butter.

The purchasing supply department would be a minor department, and would keep creameries advised of the prices at which creamery supplies and equipment may be obtained. Probably one person would be able to handle all work of this department.

How the Organization Would Be Financed

The organization would be financed by the sale of stock to individual creameries based upon one $25.00 share for each 100,000 pounds or major fraction of butter made annually.

The sum would afford adequate capital for the purchase of office equipment and a working fund for the state organization. It would be supplemented by and the salaries of the officers and employees and other operating expenses would be paid by a charge per pound on butter made not exceeding one-half cent, such charge to be collected and the unexpended portion at the end of the year pro-rated back to the creameries in whole or part or used for such purpose as the delegates to the annual meeting may determine.

Definite Contracts Between the State Organization and the Individual Creameries

To provide for definite and clear understanding of the relations to be established and obligations to be assumed by the state organization with each individual creamery and of each creamery with the state organization, separate definite, specific, uniform, binding agreements shall be prepared and signed as evidence of the good intentions of each and every party. This agreement shall be a basic working part of the state organization.

Management of State Organization

The management of the state organization shall be entrusted to a board of fifteen directors who will employ a general manager who shall have direct charge of the affairs of the entire association.

The Board of Directors would be nominated by election districts and elected at large at the annual meeting and all policies and important lines of work of the association directly affecting the individual creameries should be referred by the general manager to the board of directors for approval before they are put into effect.

When Would the Organization Establish Actual Sales Offices

The organization would *not* establish actual sales offices until such time as the board of directors deem the same to be desirable and, as the establishment and operation of sales agencies would involve new policies and plans, also additional finances not here provided for or covered in the signed agreements with each creamery, it would be necessary to submit the plans for such sales agencies to the members of the state organization for their consideration and such action as is necessary to be taken to establish such agencies.

How Plan Would Be Put Into Operation

In order to put this plan into immediate operation, the Committee of Eleven recommends that this body proceed to consider and adopt a program of action, and that it elect a Board of Fifteen, composed of patrons or directors of co-operative creameries, which board proceed to perfect an organization to accomplish all the purposes here agreed upon, including articles of incorporation, by-laws, contracts, and all necessary business agreements, and submit the same for ratification to the co-operative creameries of the state.

[We are indebted to Roy C. Potts of the Bureau of Markets for the outline of the committee's report.—ED.]

WHAT'S THE MATTER WITH US?

A FARMER'S views on the economic situation and some suggestions for improvement were set forth by J. W. Coverdale, secretary of the American Farm Bureau Federation, before the National Implement & Vehicle Association of the United States of America in the Auditorium Hotel, Chicago June 15, 1921. Mr. Coverdale said:

"What's the matter with us? The right answer to this question would bring fame and fortune to any man wise enough to answer it today. The farmer himself would be glad to know the answer. Likewise a correct answer would probably be worth a great deal of money to the implement man. The manufacturer, the dealer, the lawyer, the journalist, the laborer, the banker—everyone is waiting breathless to find out what is ailing the farmer. Few questions are exciting more real interest just now. Last week a man qualified to know dropped in to our legislative office in Washington and declared unqualifiedly that the American Farm Bureau Federation was now mentioned more frequently in the public prints than any other organization in the world. This is significant. What is the matter with us, anyway?

"Emphatically, the only way to do business with a farmer, speaking in the large sense, is to show a sympathetic interest in his true welfare and prosperity. The farmer thinks he knows what is the matter with industry. The trouble is that your best customer has been too hard hit to feel very enthusiastic about doing business with you. In round numbers, half the wealth of this nation is in and on its farms. Approximately one-third of our national production is agricultural. The farmer is both capitalist and laborer. His profession has tended to make of him a supreme individualist. Up to a very recent date, he has not been organized. The Farm Bureau, which began as a chamber of commerce movement in New York ten years ago, seems to fit his needs quite well. On March 4, 1920, the American Farm Bureau Federation was organized. Today we have a total membership of 1,032,114. Every state in the Union, save one, is either affiliated with us or has signified its intention to affiliate.

"There are four things necessary to increase the buying power of the farmer's dollar at this time, namely: Marketing, finance, instructive information, and legislation.

"Production was the slogan during the war, and it is the slogan today, but it should be an intelligent production carried on in a business-like way and with a full knowledge of where it can be marketed so as to return a profit to the producer. We as producers in the past have been letting organized business tell us how to produce, with the result that today we find our granaries and our pastures full and no market outlet, and yet, in spite of all these obstructions, nearly the normal acreage of crops are in the ground, thereby proving to the world that the farmer is hopeful of receiving economic justice in the reconstruction period during which we are now passing.

"The producer is fast learning to cut down his cost of production by the use of efficient machinery that will increase the working capacity per man, and whenever this can be done he purchases the necessary equipment providing his financial system of obtaining credit either through his bank

(Continued on page 964)



The Illinois and Missouri Co-operative Milk Producers' Association is a marketing company that covers the territory tributary to the St. Louis market and that expects to start actual operation on November 1 of this year. It is an outgrowth of the Southern Illinois Milk Producers' Association but is essentially different in its organization. It was incorporated under the Illinois co-operative law on May 16, with an authorized capital of $500,000 divided into 5,000 shares of $100 each. Producers will be required to sign an agreement to deliver all their milk to the marketing company for a period of five years, the milk to be pooled and each to receive the same price for his milk whether manufactured or sold as whole milk except for deductions for freight and express.

The directors of the new organization are as shown above: Front row, commencing at the left: John Foster, Raymond, Ill.; D. A. Brooks, Marine, Ill.; John Dausman, Lebanon, Ill.; Fred Henke, Fruit, Ill.; H. J. Shultz, Shipman, Ill.; J. W. Koenigsmark, Ashley, Ill.; L. F. Ochs, Okawville, Ill.; N. E. Baum, Carlyle, Ill.

Back row, commencing at the left; O. K. Allen, Coffeen, Ill.; Percy Alexander, Reno, Ill.; A. S. Ennis, Festus, Mo.; Horace E. Drennen, Hornsby, Ill.; George Cassins, Edwardsville, Ill.; W. J. Goers, Altamont, Ill.; J. F. Hemminghaus, Nashville, Ill.; O. Argent, Winfield, Mo.; Herman Imming, Aviston, Ill.

MILK PRODUCTION AND UTILIZATION

MILK PRODUCTION IN THE YEAR 1920 IS NEARLY NINETY BILLION POUNDS

THE total production of milk in the United States for 1920 is estimated at 89,658,000,000 lbs. in the annual statement compiled by the Bureau of Markets and the Bureau of Animal Industry, United States Department of Agriculture. This amount is practically the same as for 1919, the production for that year having been placed at 90,057,500,000 lbs. The production of milk was decreased from 100 gals. per capita in 1919 to 98 gals. (848 lbs.) in 1920. There was a decrease in the number of milk cows in the country during the year. According to the Bureau of Crop Estimates, there were on farms 23,619,000 milk cows on Jan. 1, 1920, and 23,321,000 on Jan. 1, 1921, a decrease of 298,000. The number of cows other than on farms was estimated as 1,400,000 for 1919, but for the year 1920 the number was prorated from census figures as 1,200,000.

Per Capita Consumption

The consumption of fluid milk fluctuated during 1920. In the first part of the season there was an abundance of milk and the consumption was larger than that of previous years. However during the period of industrial depression that marked the closing days of 1920, milk consumption rapidly decreased, though this decrease was partly offset by the milk campaigns carried on throughout the country and which greatly increased the consumption in the territory covered. The estimate of the population of the United States as used in the annual statement covering 1919 was too high, as shown by the returns of the late census. But when the quantity of milk used for household purposes in 1919 is divided by the correct population figure the consumption of milk for 1920 is shown to be the same as for 1919, i. e., 43 gals. per person.

The amount of milk used in the manufacture of oleomargarine was estimated this year from data received from the factories and shows a decrease in the proportional amount of whole milk used. The quantity of milk and skimmed milk combined, as now used, is practically equal to the quantity of whole milk formerly used. However, in the manufacture of nut margarine, whole milk is not used in the same proportion as in the regular oleomargarine.

This year original data were received from the factories relative to the quantities of milk used in the manufacture of milk chocolate and, while complete reports were not received, the quantity shown in the table was prorated from these reports and is very conservative.

The production figures for ice cream are estimates. The figures for 1920 show an increase in production of 13% over 1919 based on factory reports received by the U. S. Bureau of Markets. Calculations were made on the basis of 13.75 lbs. of milk per gallon of ice cream for 1920 and 15 lbs. for 1919. The latter figure was based on the "batch" method of manufacture only. Ice cream made by the continuous machines weighs less per gallon. The quantity made by the continuous method was large enough to warrant the use of 13.75 lbs. per gallon for the year 1920.

The total calf crop for 1919 was estimated at 80% of the number of cows. Data compiled more recently from a number of representative states indicate that the estimate was too low and that the calf crop was 90% of the total number of milk cows. The number of calves slaughtered at birth and the number vealed are estimated from data obtained from the principal market census reports, and reports of the U. S. Bureau of Markets.

In a comparison of the figures for 1920 and 1919 a decrease is noted in the quantities of milk used in the manufacture of butter, cheese, condensed milk, powdered cream, and oleomargarine. An increase is shown in the quantity used for whole milk powder, malted milk, sterilized milk, ice cream, and household purposes.

Production and Uses of Milk in the United States, 1920 and 1919

Product	Milk used per unit of product	1920 Quantity of product manufactured	1920 Total whole milk used	1920 % of total milk	1919 Quantity of product manufactured	1919 Total whole milk used	1919 % of total milk
	Lbs.	Lbs.	Lbs.		Lbs.	Lbs.	
Creamery butter	21	863,577,000	18,135,117,000	20.226	875,000,000	18,375,000,000	20.404
Farm butter	21	675,000,000	14,175,000,000	15.810	685,000,000	14,385,000,000	15.973
Cheese (all kinds)	10	362,431,000†	3,624,310,000	4.042	420,000,000	4,200,000,000	4.664
Condensed and evaporated milk	2.5	1,578,015,000	3,945,038,000	4.400	1,925,000,000	4,813,000,000	5.344
Powdered milk	8	10,334,000	82,672,000	.092	9,000,000	72,000,000	.080
Powdered cream	19	309,000	5,871,000	.077	670,000	12,000,000	.013
Malted milk	2.2	19,715,000	43,373,000	.048	18,000,000	40,000,000	.045
Sterilized milk (canned)	1	5,623,000	5,623,000	.006	4,500,000	4,500,000	.005
Oleomargarine (all kinds)	.065	370,162,925	24,256,000	.027	371,320,000	87,000,000	.097
Milk chocolate			60,000,000	.067			
Ice cream, gallons	13.75	260,000,000*	3,575,000,000	3.987	230,000,000*	3,450,000,000	3.831
Total milk used in manufacturing			43,676,260,000	48.712		46,439,000,000	50.456
	Per capita						
Household purposes	370		39,090,000,000	43.599		38,619,000,000	42.882
Fed to calves	200		4,202,000,000	4.687		3,500,000,000	3.886
Waste, loss, etc.			2,689,000,000	3.000		2,500,000,000	2.776
Grand total			89,658,000,000	100.000		90,057,500,000	100.000

*Gallons, not pounds. †Includes 6,300,000 lbs. of farm made cheese.

Cotton and Cows in Salt River Valley

M. E. BEMIS, ARIZONA

ONCE more the pendulum of Father Time's renowned clock has swung far out of the ordinary path. Last year the cotton farmers of the Salt River Valley, in spite of vigorous protests on the part of bankers, the Chamber of Commerce, and, it might be said, their own better sober judgment—sold off their dairy cows, plowed up alfalfa fields and planted cotton—cotton and still more cotton, until in almost two of every three acres was growing the fleecy staple that looked from the enchanted distance that the planter viewed the harvest, like the good long green. This was once when the pendulum swung far out of line and now it bids fair to go almost as far the other way, that is to say, the cotton fields are being forsaken for other crops, with a future market price as illusive as cotton or maybe more so. An insistent demand for dairy cows is going up from many of those who discarded them and instead of two of every three acres in cotton, only one of every four bids fair to sport the "white gold" (or was it the "White Elephant"?) this season of 1921.

The mischievous boy that surreptitiously opens the old clock and gives the pendulum an extra impulse, has the satisfaction finally of seeing it swing almost as far the other way and then after a few spasmodic swings settle down to the same old steady to and fro motion.



BALES OF COTTON AWAITING SHIPMENT IN THE SALT RIVER VALLEY

Cows were sacrificed to make way for more cotton and now the farmers have the cotton and the regrets for chasing a one-crop delusion. Diversification with the dairy cow is the slogan for success. It should be "cows and cotton", not "cows vs. cotton".



REGISTERED HOLSTEIN-FRIESIANS OWNED BY J. R. BRADSHAW, SALT RIVER VALLEY

It is altogether likely that after this little jolt we may expect things to settle down to a steady course. The cotton farmer has seen the folly of planting his entire acreage to a single crop and not willingly will he return to a one crop system. Cotton as a money crop has decided advantages and even now with markets uncertain, no one can truthfully say that cotton raised under proper conditions is not as profitable as any other crop, particularly as it does not appear that the Long Staple cotton will not remain relatively as high as the Short Staple or other crops.

Cotton, to be profitable, must be grown on land that is best adapted. This is not altogether the desired soil type, although certain types of soil are better adapted, but it is more especially the condition of the soil as determined by the crops which have been previously grown upon it. It so happens that some of the best crops of cotton have been grown upon farms where the soil had been built up by growing alfalfa and feeding it to dairy cattle, either pasturing or feeding hay, and returning the manure back to the land.

Dairying as a business with cotton grown on one-fifth to one-fourth of the land as a money crop is an ideal plan and one that bids fair to be worked successfully.

There is a strong sentiment now among farmers to get back into the dairy business. That some measure should be taken to insure building upon a firm foundation, is necessary and the necessity of this step is fully understood by those most interested.

H. C. Heard, county agricultural agent, in a recent statement said:

"The exodus of the dairy industry of the Salt River Valley and the subsequent urgent need of the replacement call to mind the dangers of reestablishing on other than a conservative, carefully planned basis. It is vital that mistakes of the past must not be repeated and that our new dairy industry must be rebuilt as rapidly as possible around high produc-

(Continued on page 976)

An Iowa Milk Week

H. J. METCALF, IOWA STATE COLLEGE

OSKALOOSA, Iowa, has recently held a milk campaign, the results of which are now being made public by Miss Florence Imlay, Iowa State College, who with the local authorities at Oskaloosa and the assistance of Miss Louise Holbrook of the U. S. Dairy Division, carried the campaign out to a most successful conclusion.

The campaign was a four-day affair and the object was to bring to the attention of the parents and school children of the city the wonderful results which might be obtained by the persistent use of milk as a daily food.

Three meetings were held each day, one in the forenoon, one in the afternoon, and one in the evening. Large crowds attended all of these meetings and it is estimated that fully 10,000 or more persons were reached through these gatherings.

The work of combating malnutrition in the children of Iowa was started by Iowa State College several years ago, when Miss Imlay inaugurated a three months' campaign in the state, tending to show the value of milk as a food for the growing child. The campaign attracted much attention and was the means of inciting an interest in the use of milk and milk products which has steadily grown until today practically every county in the state has one or more agencies working on this project.

In the Oskaloosa campaign, just closed, a number of agencies contributed to the success of the venture. The Red Cross health department, city officials, nurses, farm bureau, county agent, and the state college milk specialists were all pressed into service with the result that hundreds of school children and parents were "sold" on the idea of using more milk in the daily diet as a means of combating malnutrition.

As an evidence of the foregoing statement milk dealers in Oskaloosa say that the consumption of milk, as shown by their sales since the campaign, has increased from 9% to 25%.

Some of the publicity methods used in attracting attention to the work in the city and surrounding territory were as follows:

Poster contest open to school children, with prizes.

Health sermons by ministers of local churches.

Talks by milk utilization specialists daily.

Displays in local store windows by high school girls and home economics students of Penn College.

Co-operation of local dairies.

One of the most attractive illustrations of the use of milk as a food, and which drew attention most forcibly to the campaign, was the display in one of the local store windows where four healthy and vigorous youngsters were served a "balanced ration" by the home economics students of Penn College. A menu in three courses was served the children, consisting of cream of tomato soup with crackers, a bread and milk course with custard side dish, a baked apple with cream, and baked custard for dessert.



AN ATTRACTIVE MILK WINDOW

Children were the attraction of the display in a local store at Oskaloosa during "Milk Week".

Not only were the children shown partaking of this well balanced meal, but a model kitchen was shown in the window, much to the interest of those who came to see and learn.

The employes of a starch factory and garment factory were talked to by the milk specialists and it was found that there was an intense interest in the greater use of milk as a food.

The Producers' Co-operative Dairy, one of the first institutions of its kind in Iowa, and a model in point of neatness and modern equipment, threw open its doors to the public at the conclusion of the four-day session and served ice cream and buttermilk to the public free of charge. Hundreds of persons availed themselves of this invitation to see a modern plant, the first of its kind in Iowa to co-operate in the handling and marketing of dairy products.

This plant is now handling 130,000 pounds of milk each month and has a butter making capacity of 24,000 pounds in the same period. Five thousand gallons of ice cream can be made every thirty days. The high standard of dairy products being sent out by the dairy is a source of great satisfaction to the men back of the venture. The equipment is modern; a cream separator of 3,000 tons capacity has just been added.

Miss Imlay, who had charge of the campaign at Oskaloosa, says that there is a great demand in many localities in Iowa for similar campaigns and it is the intention of the Agricultural Extension Department of the College, co-operating with local authorities in various communities in the state, to put on this work wherever there is a local demand for it.

Dairymen's League News

H. H. LYON, NEW YORK

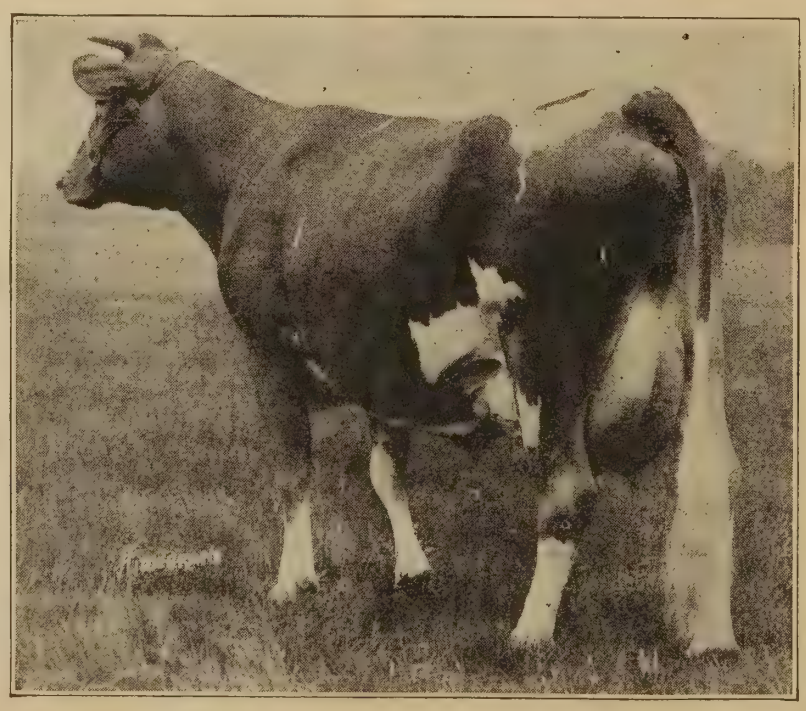
IT is the custom in many counties in Dairymen's League territory to hold county League meetings at quite regular intervals. Chenango County claims to take the lead in League affairs and sometimes does. It is the first county to hold a meeting at the League headquarters in Utica, this season, being held just after the middle of June.

In opening our session, the president, Mr. Kershaw, spoke of the difficulties that have been met since last October first, and of the little technicalities that arise daily. Some of these matters are mistakes in names or names written in full in one place and with initials in another. Dealers raise objections in such cases and similar ones. One thing emphasized was that there will be no "dead horses" to pay for. The three cents deducted includes, I am told, for a small reserve, and no debts of any kind are incurred. While considerably under forty thousand farmers are in the pool for May, the association is handling over five million dollars.

If it were not for pooling we would not now have any organization for selling milk. We would make no prices to anyone and our milk would sell at about a dollar a hundred. The League, said Mr. Hovey, has made its members two million dollars in the month of May.

Mr. Hovey, who is general manager of the co-operative organization, finds that 435 million pounds of milk are reported, which he thinks is 75 to 80 per cent of the milk handled. About 58 per cent of this is now pooled. Of the milk pooled, 37 per cent goes as fluid in class one; 19 per cent is in class two; 13 per cent in class three; 16 per cent is in butter; and 15 per cent in cheese.

Mr. Eastman of the League News argued that we must have the public with us. Once the railroads had a "public be damned" spirit and it resulted disastrously to them. Labor seemed to take that attitude and is losing sympathy. The League must not take any such attitude. The city finds fault with the country and the country finds fault with the city. We better discontinue this and simply get the truth told about farming. Milk at a high class hotel costs 60 cents a quart while the farmer gets six cents. Our organization needs to help correct such conditions and correct the impression that the farmer gets any considerable share of the sixty cents.



PREMIER RECORD GUERNSEY OF MINNESOTA

In March Ma Chere Procris, Guernsey cow owned by Shorewood Farm, Minnesota, completed her third A. R. record making 17,921 lbs. milk and 832.0 lbs. fat which entitles her to leading place in the breed in Minnesota. She was bred by Mr. S. M. Shoemaker of Maryland and purchased as a two-year-old by Shorewood Farm. She has two other records to her credit, of 489 lbs. fat in Class G and 684 lbs. fat in Class E. In 1919 she was first prize and senior champion at the Minnesota State Fair and first prize 4-year-old at the National Dairy Show the same year.

Bradley Fuller said the pool contract was not made strong on account of the 95 per cent of loyal pool members, but for the fellow, for example, who, after signing, turns his dairy over to someone else and so avoids pooling. He will be invited to Oneida County to explain why he did it. This contract of four pages was the result of four months of hard work by many minds, legal and other. It is found as it goes into effect that every paragraph is needed.

Ten years ago, said Mr. Milliman, not a farmer in this room would have signed a pooling contract. Today 73 per cent of our active members have signed it and the contracts are coming in at the rate of a hundred a day. Fifty-five thousand, four hundred twenty-nine have signed and there are less than 20,000 more to get to make it 100 per cent. What to do finally with the unsigned man is a problem, but Mr. Milliman is sure that we have not yet come to the point where we should impose any fines.

After a two-session meeting in the hall, the company adjourned to the League building to inspect the offices. The presence of this one hundred League members in Utica, their contact with the heads of departments, and the actual inspection of the machinery and the methods at headquarters will carry a closer knowledge of League conditions at the office to our members in the county than any other method could. It looks like a good plan for other counties to follow.

Eggs that are gathered often, kept clean and cool, and are candled and graded bring better prices at the market than the "just eggs" kind.

New York Dairy Notes

H. H. LYONS, NEW YORK

INSPECTION is again troubling us a little. We have been getting along fairly well for several years. Possibly some of the inspection of our stables has been a little loose for five years. The quality of the milk in our shipping territory has been good and it is to be doubted if too much attention should be given to the stables where a good quality of milk is had. Now there is a surplus of milk and in the surplus season inspectors are reaping their harvest. This may be a mere coincidence but one is liable to doubt it. It is not intelligent inspection that we object to but incompetent inspection. The inspector from the city is still a poorly informed man. He knows the rule but he doesn't know milk nor plants nor stables. He emphasizes the wrong points often. He is not a farmer, therefore does not know the essentials of good stables for milk. He is not a creamery or station man and does not know the details that need attention there. He misses the point all around by being obliged to follow rules blindly.

⚜

Managers of plants are averaging much less arbitrary than formerly. Many of them are very agreeable gentlemen. Ten years or so ago, perhaps twenty years also, they were in cases somewhat like the heads of the company employing them. We all remember if in the dairy business then that some of these concerns doing business were decidedly arbitrary and much inclined to squeeze the dairymen. Our organization broke up a large part of that. The Dairymen's League has much to its credit (that means the farmers composing it) besides helping to make a price for milk.

⚜

Short weights, low tests and returned milk at the platform are apt to be the complaints. I am satisfied that the men on the platform may occasionally be too exacting. At the same time I am certain that a farmer may not be as exacting with himself as he should be. Both parties are human and liable to be biased, and may even be too quick spoken in relation to matters of disagreement. With fifty or sixty thousand pounds of milk to handle in a few hours some one must act quickly. One man removes the covers and inspects the milk. Two others dump it, sample it for the Babcock test, invert covers and cans in the washer and see that the washer operates properly. One other weighs and records, while still another takes the cans from the further end of the washer and returns them to the wagons. From time to time this varies and every man there may at times dump some milk, take samples, etc. I have watched this process by the hour. I have noticed what I thought was more care not to slop and waste milk while some one was on the watch. That would be very human. Even with care I think that while hurrying there is pretty close to a wastage of one per cent.

In the case of two hundred patrons with few if any of the cans numbered it would seem very easy to put a sample in the wrong sample bottle, or for the weigher to read the weights wrongly or place them against the wrong numbers. I have never known the wrong sample bottle to be used but think it possible. I have known the wrong weight to be credited a man but I think these seldom happen. Mistakes are possible but their occurrence seem to be surprisingly infrequent. Again I have seen the outlet cock left open for an instant as a new batch of milk goes in. These four men seldom let such a thing occur, for some one of them is almost certain to see it. Here again I am inclined to the opinion that there will be fewer mistakes if some one happens around occasionally. This is human nature again. It is pretty exacting work and a man has to think quickly and keep at it. Occasional mistakes it seems to me are almost sure to occur. I think it the part of wisdom to occasionally employ a man to "happen around" and watch proceedings a little.

⚜

The farmer should school himself to make his own accurate weights and should keep a record of them. It would be wise if he occasionally made his own tests or had them made. Then he should check these up frequently. It takes a little time but it is likely to pay. I made three samples at the plant for one dissatisfied patron just recently and got a test three points higher than he had been given the month previous. When I went to the office to check up I found that mine was within a half point of the new test given there. I do not think that the former test was wrong but that the real fat content of the milk had changed in a month. Some farmers, however, would hardly accept that view. It is a good plan to keep some of these matters checked up before the complaint is made. The local organization can do this best unless the farmer himself does it.

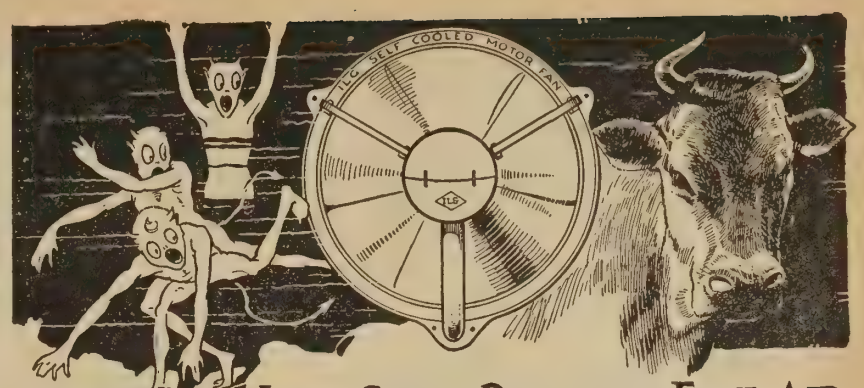
⚜

In pre-League days it was quite the custom for the milk dealer to squeeze the farmer. It is now said that the farmers' organization has the power to squeeze. I am not quite certain about it. If it has that power there are those who think it right to do it. This is something that our League folks are trying to avoid. What is needed is to get a fair price for producers, but not to demand anything unreasonable. This is realized and is the aim. Most farmers and their representatives realize this and that will make it easier to accomplish.

We still have reason to watch the Nestle's. They fight the League and refuse to buy through it. They offer prices that are in advance of the pool price if not paid through the pool. That means more money to the farmer if he stays out. No doubt some farmers are influenced by it, yet the Nestle's concern is apparently playing a losing game. There are reports commencing to circulate that the concern may soon come under new management so far as this country is concerned. If so, some new policies may be expected.

Pure-breds in Minnesota

The census of 1920 credits the state of Minnesota with a total of 32,668 pure-bred dairy cattle, of which number 21,436 are females. The various breeds are credited with the following number: 399 Ayrshire, 483 Brown Swiss, 4,468 Guernsey, 22,830 Holstein, 2,508 Jersey, and 1,980 other breeds.



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YOU can't grow good beef on poisoned cows! You can't get good and abundant milk from the cattle that have to breathe the sickening fumes of manure and excretions!

Yet, that's what you expect when you permit your cows to inhale the rotten, poisonous odors that arise from dung in the improperly ventilated cowbarn—the foul tainted air that seriously effects the food value of hay and grain and robs you of a maximum milk yield.

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Write direct for literature. Or ask your hardware or electrical dealer to demonstrate the I L G Farm Barn Power Ventilator.

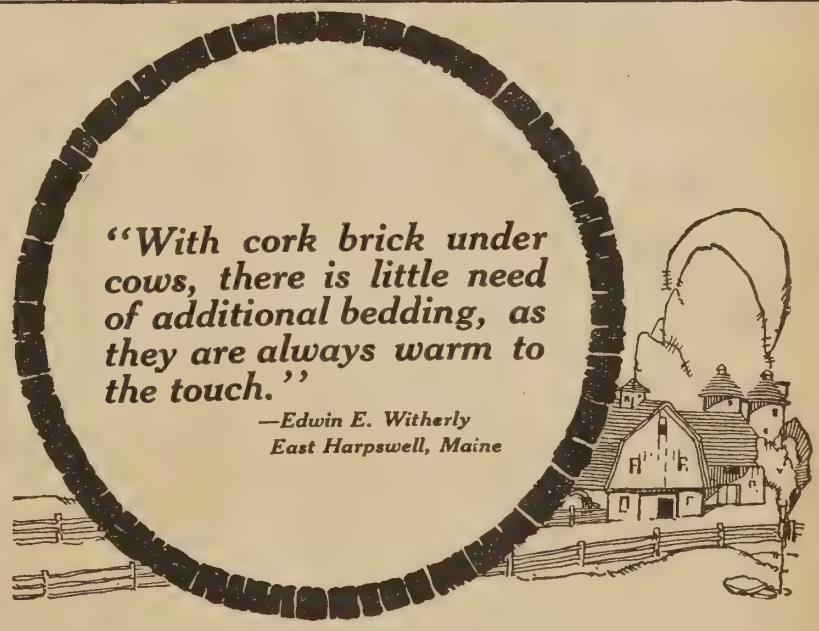
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EDITORIAL COMMENT



FILLED MILK LEGISLATION

At a conference of the representatives of the Wisconsin dairy and farm organizations held on June 20th, at the Wisconsin College of Agriculture, resolutions were adopted requesting national filled milk legislation; approving a draft for a bill providing for licensing and taxing manufacturers and dealers in filled milk; and asking that the Ways and Means Committee of Congress, or its chairman, report the bill.

In our visit to Washington, in behalf of filled milk legislation, we were informed that several congressmen desired to introduce bills and that two bills were already before congress. This circumstance and that the bills before Congress need amending led the representatives of the dairy and farm organizations to request the Ways and Means Committee, or its chairman, Mr. Fordney, to introduce a bill.

We believe this is the proper course to pursue, and we urge all dairy organizations to support this plan.

BUTTER RULING

It has been reported to us upon good authority that the Internal Revenue Commissioner, Mr. Blair, takes an entirely different view of the neutralizer butter ruling than his predecessor, Mr. Williams. It is expected that he will modify or rescind the ruling pertaining to neutralization of sour and decomposed or rancid cream.

We have not been able to approve of Commissioner Williams' ruling that the neutralization of sour and decomposed or rancid cream produced adulterated butter. We do not believe rancid or decomposed cream should be manufactured into butter. It is unfit for human food. The ruling is a misapplication of the adulterated butter law.

We are wholly in sympathy with those in Minnesota who desire to stop the use of unfit cream for the making of butter, but we believe this evil must be reached in another way than by the neutralizer route.

LOCAL CREAMERIES TO ORGANIZE

The proposed creamery organization of Minnesota meets our approval. It is a step that the creameries of all states must take if they are to protect themselves from unfair competition, manufacture a uniform grade of butter and market it in the most efficient way, and otherwise place themselves in position to render their patrons the proper service. The local creamery has been under a handicap because it has not been in position to cope with the centralizer in the selling of its product. The proposed plan of organization provides for districting the creameries so that their business may be carried on as a unit.

The butter of these creameries will be standardized and marketed co-operatively. This will insure them a larger return for their product and a material saving in marketing expense, both in transportation and commissions. The purchasers of butter desire to buy a uniform grade of butter and from sources which can supply them whatever quantities they need. For such butter and in unlimited quantities they will pay a higher price than for butter of better quality coming from many sources. This has been shown in the prices which centralizers have received for their butter which scored less, but being uniform in quality and in carlots made it a more desirable product for the butter merchant to handle.

The only way the local creamery can protect itself and obtain for its butter the highest market price is through co-operation with other local creameries. Elsewhere in this issue we give the report of the committee of eleven, selected for the purpose of proposing a plan. This plan may need some modification to make its operation fair and just to every member, but with the right spirit and object back of it this will not be difficult to do. The main object is to get the local creameries working together for the purpose of standardizing their product and to carry on their affairs in a more profitable manner.

PRODUCTION AND MARKETING

The average yearly production of the cows of Wisconsin is estimated at 4,925 lbs. milk containing about 190 lbs. fat. Close students of their business have herds that average 300 lbs. of fat per year and some as high as 400 lbs. In 1920, the average cow returned $123.50 for fat, and the cow which produced 300 lbs. fat returned $195 or $71.50 more than the 190-lb. cow. A secretary of a successful milk producers' association estimates that in 1920 farmers received, on the average, ten cents more per hundred for their milk, due to their organization. In other words, $4.92 per cow, based upon the average production of Wisconsin cows. This is a good showing and well worth the effort of organizing so that their milk could be sold co-operatively. But as important as it is to improve generally our methods of marketing farm crops we must not lose sight of the larger opportunity to increase the returns of the farm.

Through an improved method of marketing, an association obtained for its members $4.92 per cow per year. That was good. Through an improved cow, one that produced 300 lbs. of fat in a year, a return of $71.50 more was obtained than from the average cow. Better selling brought $4.92, but a better cow brought $71.50 or 14 times as much.

The farmer's opportunity for increasing his profits lies to a much larger degree in production than in marketing. Production will always be the big job of the farmer, but the sensible farmer will give due consideration to both marketing and production.

THE FARM BUREAU

The farm bureau is misunderstood by some farmers. They seem to think it is some form of organization separate and apart from themselves. One farmer has said: "When the farm bureau is fully organized and running properly we farmers will not have to do any thinking for ourselves or be concerned about our work; that will all be done for us by the farm bureau." It is evident this man does not comprehend the purpose and object of the farm bureau or he would not rap it in this way.

The farm bureau is an organization of farmers and no one else has any power in directing its efforts. It is not organized for the purpose of doing the thinking for any farmer or any one of its members. It has never had any such ridiculous ideas; if it ever does get any such conception of its duty it will not take long before it will realize its mistake. The men in active charge of the farms, if they are to be successful, must do their own thinking. This can never be delegated to anyone else and we should be thankful that it cannot.

We like individuality. We favor plans which will give the individual every opportunity to develop his talents. Any form of organization which submerges or tends to submerge the individual is positively harmful. The farmer has always prided himself on the fact that his occupation gives him every chance to exercise his individuality, to do his own thinking, and to follow his own ideas in doing his work. He has tried to do too much by himself and as a result has found himself unable to cope with organized effort. He too frequently gets the short end of a deal.

It is commendable that the farmer desires to do his own thinking; to plow his crops, to manage his live stock and everything that pertains to his farm operations. The wise farmer, of course, is alert to learning of new things that will help him to be a better farmer. He must keep his mind open. All this he must do. He must also be ready to co-operate with his neighbor in doing things impossible for the individual to do alone. There is little hope for the farmer who does not appreciate the large opportunity of working with his neighbor. The community must have its social functions, its co-operative enterprises, its laws, etc. None of these can be accomplished by one person. It requires many. The farmer can build a road from his home to the public highway, but to build a public highway to town is too large a task for the individual farmer.

The farm bureau is not organized to do the thinking for any farmer or his work, but rather to assist all the farmers in the discharge of their public duties, to help lay sensible plans for carrying on work that can only be done co-operatively, and to place agriculture upon the same basis as other enterprises are conducted. These things, and many others, cannot be accomplished by the farmer working individually. There must be a directing agency and those that have seen the necessity for such a force have organized the farmers that they may direct their co-operative and public affairs effectively. They have called this organization the farm bureau.

MORE EFFICIENT DISTRIBUTION

This period of wide variation in prices of commodities has shown clearly that our methods of distribution are too costly. Leaders in agricultural thought have for years recognized this and have urged plans for making the distribution of all commodities less expensive. It has been pointed out that by a faulty marketing system a car of corn was shipped and reshipped, and after traveling several hundreds of miles and handled by several commission firms, it was sold to a farmer living not many miles from where it was grown. This perhaps is an exceptional case but many similar instances could be cited to show the necessity of a better system of marketing.

Recently a car of butter was sent to a commission firm in a large market and this firm turned it over to another commission merchant and made a profit of $100. No service was rendered for the profit made on this car of butter, but the commission charged on the car increased the cost of butter to the consumer and the producer received a smaller percentage of the consumer's dollar.

There must be agencies in every city for handling farm products, but it is unnecessary to have several commission firms make a profit on the same car of butter. Through better organization of the creamery interests this could and should be avoided.

It is encouraging to note that dairy and farm organizations are attempting to improve our system of marketing farm crops. May their work eliminate the useless middleman and provide for all farm products a more direct route from the producer to the consumer.

POWER OF ORGANIZATION

The efforts put forth by the Illinois agricultural interests to pass the Lantz bill, a measure to eliminate some of the evil practices of boards of trade, seem to have borne some fruit. In a report of the Illinois Agricultural Association we find the following statement:

"In recent issues of the Chicago newspapers, the Chicago Board of Trade announces that it is to have a 'house cleaning'. In the announcement is practically an admission by the Board itself that the evil practices charged by farmers exist and that they should be corrected. Four committees have been appointed to prepare 'drastic amendments to the rules' on private wires, manipulation, false market news, and indemnities. It is promised that there will be rules to provide against manipulation of the market upward and downward. In this connection it might be just a bit appropriate to mention that Board of Trade speakers solemnly affirmed before the legislature only a few weeks

ago that such a thing as manipulation was impossible! The Board also promised rules against overtrading, spectacular trading, matching orders, and a number of other practices which it tacitly admits were not in the best of business ethics.

"Indemnities are to be abolished, it is affirmed. The Board promises strict censorship of market news and declares that the circulation of false or misleading reports is to be vigorously punished. Private wires may or may not suffer a change as the committee to regulate them is divided in policy. In short, the Chicago Board of Trade practically admits most of the evils charged to it by I. A. A. members."

The house cleaning proposed by the members of the Chicago Board of Trade shows the power of united effort and why farmers should have strong organizations.

Oats for Silage

Will oats cut in the milk stage make good ensilage for July and August feeding? We use corn ensilage for winter feeding and are thinking of trying oats for a summer ensilage. Will oats make good ensilage?

Blue Ridge Summit, Pa. S. F.

Oats cut in the milk stage will make a good silage but care must be exercised to see that the straw has not become so dry that it will not pack well. It would be preferable to combine some clover with the oats in order to assist in the proper packing of the ensiled material. Grain, however, is used to a considerable extent for ensilage purposes in the western country and has proven very satisfactory. The greatest danger is that it will have reached too great maturity before cutting is started.

Rutabagas Grow on New Land

I will have cleared about an acre and a half of new land by the last of June and would like to know whether or not it will be too late to plant the seed. They tell me rutabagas make excellent succulent feed for cows. What is the best way to prepare the seed bed? This was hard wood land and the soil is clay loam. Shall I drill or broadcast the seed and how much to the acre?

Laona, Wis. G. H. M.

Although somewhat late for planting rutabagas, we know of many cases where exceedingly good crops have been harvested from late planting. This is particularly true should occasional and timely rains come during June and July. As a late crop for newly broke land, rutabagas can not be beat. For Northern Wisconsin, where corn is not always an assured crop, rutabagas can be grown most profitably and successfully for succulent feeding to dairy cows.

From 300 to 400 bushels to the acre can easily be grown. Under favorable conditions from 600 to 800 bushels have been grown in various sections of the state. Rutabagas make most excellent succulent feed for dairy cows, particularly in the early fall before opening the silo. Rutabagas should be sliced into pieces from one and one-half to two inches in size before fed; otherwise there may be danger of the animal choking. They are best fed after milking with a sprinkling of wheat bran or ground feed. From 20 to 30 pounds fed daily to a cow gives most excellent results.

Where newly cleared land is plowed just before seeding, it is best to disc it thoroughly and then use a spike tooth harrow to smoothen the surface as much as possible. Be sure to remove roots, stones, and other foreign matter wherever convenient. Seed broadcast at the rate of about two pounds to the acre. It is very important to secure a good stand. Where drilled, from one to one and one-half pounds to the acre will do. Drill in rows where land is fitted best, at two and a half feet distance between rows, and thin one plant to every ten or twelve inches apart in the row.

Wis. College of Agriculture. J. F. WOJTA.

Certified Milk

"There is no way on earth of getting dirt out of milk equal to keeping it out."

This is the slogan that Barney Sheridan has popularized in the sale of certified milk in the city of Fond du Lac, Wisconsin. He tells his customers that milk is a food and not a medicine; that there is no "process" that is equal to keeping everything clean. He frankly says that the employment of methods that assure an absolutely clean product must, of necessity, entail additional expense and consequently an additional charge.

It is by the production of clean milk at Luxerin that Mr. Sheridan has been enabled to create a greater demand than his 40 Guernsey cows are able to produce. He says that more than 1,300 babies have been raised on milk from his farm and that there has never been a baby lost that was fed exclusively from his herd from birth.

A recent attractive circular contains an illustration of the beautiful farmstead at Luxerin, together with appropriate photographs of babies and of the Guernseys that produce the milk. One significant statement that is played up in the circular is, "Milk is the most important food given to man." Another statement says: "Surveys show there are three times as many children under-nourished among well-to-do families, due to lack of proper understanding of the food value of milk, as there are by reason of poverty." It tells not only the particular story of clean milk but also contains the special values of Guernsey milk, which Mr. Sheridan presents in the following form: "Take a quart of Guernsey milk, add to it a pint of water and you will find you have the equivalent of one and one-half quarts of ordinary market milk—in addition to which there is a special flavor and color in Guernsey milk contained in no other milk."

Pure Alsike Clover Seeds

HOARD'S DAIRYMAN:—Too much emphasis cannot be given to the warning of the Wisconsin Department of Agriculture concerning the prevalence of Canada thistles in alsike clover. While the law permits the sale of crop seeds containing not more than one noxious weed seed to three thousand crop seeds if properly labeled, this still allows a serious infestation.

Alsike is usually sown alone at the rate of eight pounds per acre. The seeds are very small and there are approximately 688,000 seeds to a pound. At the eight-pound rate, 5,504,000 seeds would be sown on an acre. If the seed contained one Canada thistle seed to 4,000 clover seeds they would be sown at the rate of approximately 1,375 Canada thistle seeds to an acre. If all the seeds grew the farmer who purchased and sowed such seed would have work to keep him busy for several years especially if the thistles gained a foothold or, rather, roothold before being discovered. Infestation at the rate of 1 to 4,000 is at the rate of .025 of 1 per cent. What would happen if 1% of the seed was Canada thistle seeds? The clover seed might still be 99% pure.

It is almost impossible to separate Canada thistle seeds from alsike clover seeds even with the most improved cleaning machinery. Farmers who raise alsike seed on Canada thistle infested land ought to be extremely cautious about selling such seed to their neighbors or anyone else except a wholesale seed dealer who can dispose of it where it will do little or no damage. South of Mason and Dixon's line Canada thistles are out of their natural environment and do not thrive. Hence, clover seed infested with their seeds can be used there with no danger of permanent injury to crops or fields.

Better yet, no farmer should raise alsike clover for seed on a field which is infested with Canada thistles. If there are no clean fields on the farm and alsike is the best paying cash crop that can be raised, then some method should be adopted to remove the thistles before the clover is sown on the field. Plow the field as early as possible in the fall, keep it cultivated so the leaves of the thistles never show, this cultivation to be kept up until the ground freezes. The major portion of any plant's food comes from the soil but must pass through the leaves and changed by the action of the sunlight before the plant can use it for building up its tissues. Every time leaves appear above ground plant food is manufactured for the root of the thistle. Keeping plant food from being produced starves the underground parts. The field should be plowed again in the spring and thoroughly worked before seeding to grain, clover, and grass. If the work has been well done it is not probable that many Canada thistles will appear in the grain. However, if the thistles are very bad it would be better not to put grain and grass on the field but to plant it to corn taking great care that no thistles are allowed to grow in the corn.

In any case if thistles are growing in an alsike clover field and the clover is left for seed, some attempt should be made to cut off the thistles before they go to seed. Nearly all, if not all, the modern mowers are so constructed that the cutter bar can be raised high enough to pass over the clover but cut off the thistle tops. Even if this process results in some loss caused by the passage of the team and mower over the field it will usually be more than offset by the higher price obtained for the clean seed. Alsike seed free from thistle seed commands a premium at the present time. A recent occurrence will illustrate the point. The seed inspector visited the pl nt of a prominent Wisconsin seed house and found there several sacks of alsike clover seed of beautiful color and excellent quality except that it contained Canada thistle seeds. Pure alsike of the same grade was quoted at twenty-five cents a pound. This particular lot was purchased from the farmer at nine cents a pound. The seedsman was cleaning the seed over a gravity machine, a very slow process, and expected the cleaned seed to sell at wholesale at about 18 cents a pound. Even then he would probably have to label it as containing a "trace" of Canada thistle seeds because he could not be absolutely certain of getting the thistle seeds completely out of it.

It seems clear that the claim made by many seedsmen that with certain kinds of seeds the only way to get the seed free from noxious weed seeds is to grow it on fields free from noxious weeds has some foundation in fact. The farmer who will sell his product at the highest price is the one whose fields are free from noxious weeds.

Each year seed dealers are becoming more cautious about handling farm seeds infested with the seeds of noxious weeds and are refusing to pay high prices for it and the producer who fails to recognize the fact and to govern himself accordingly will certainly be the loser.

Wis. College of Agriculture. A. L. STONE.

Pasteurized Milk for Babies

Am operating a farm specializing in registered dairy cattle and in pedigreed hogs. To date the dairy department has not made a satisfactory financial showing and we have under consideration changing the policy. It has been suggested that the dairy department specialize in the production of pasteurized milk for infants. Will appreciate a report from you as to your observation on the success of ventures of this kind. When writing, will appreciate your stating the nature and cost of the necessary pasteurizing equipment and the selling methods that should be followed in disposing of the milk; will also appreciate an expression of your judgment relative to the practicability of such a venture.

Minneapolis, Minn. S. K.

If it is desired to specialize in the production of milk for babies, it will doubtless be advantageous to investigate the possibilities of producing certified milk. There is no special reason for the establishment of a pasteurizing device where it is the purpose to develop a special trade of this character, as practically all milk sold in cities is now pasteurized and merely the question of pasteurization would not be a sufficient selling argument.

The requirements for the production of certified milk in the city in which the milk is to be sold can be ascertained by taking up this matter with the city health officer. The production of certified milk, as such, however, is not always a profitable venture, owing to the exacting requirements and the expense of complying with them. Of course, if one can develop a special trade that will pay the price for this product, then there is no question but what it will prove out in the final analysis. We apprehend that on this farm some of these requirements are already being complied with and possibly a change will not add so greatly to the production expense.

It is doubtful whether there is a sufficient volume of milk being produced on this farm to warrant the installation of the necessary pasteurizing outfit, which will include a heating device, a holding tank, and the necessary refrigeration or cooling machine. In other words, it is quite likely that with a small volume of business the overhead would be more than sufficient to offset the uncertain additional price secured for the product.

It would seem to us that if the dairy department is not making money, the present method of operation would bear close investigation; that is, either there is too high an overhead cost in the production of milk or else the dairy cows are not of the right capacity or are not being properly fed and cared for. It is unjust for us to pass any criticism at this distance because we cannot be conversant with all the facts, but it would seem that a careful and unbiased investigation would disclose wherein the present operation of the dairy department is weak and where it can be strengthened. There is no question but that the man who develops a special market will receive a larger reward for his services, but we must also remember that cost of production is a factor that is, to a large extent, in the control of the producer of milk.

Hoard's Dairyman

Fort Atkinson, Wisconsin

Founded 1885 by W. D. HOARD

W. D. HOARD & SONS CO., Publishers
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Subscription Rates

Subscription in United States and Mexico $1.00 per year; 3 years, $2.00; Canada, $1.50 per year.

FOREIGN SUBSCRIPTIONS may be sent through news dealers and book sellers in all foreign countries.

All foreign countries in the Postal Union $2.50 a year; not in the Postal Union $3.00, including postage.

Correspondents must not expect us to acknowledge the receipt of letters containing remittance for subscription. The receipt of Hoard's Dairyman is sufficient notification that money has been received. The label on the paper will show date to which subscription is paid. In case of renewals, if date on label is not changed within two weeks after remittance is sent, inform us at once.

We solicit advertisements of meritorious articles needed by the farmer. We try to keep our advertising columns clean and wholesome, that they may merit the patronage and confidence of our readers. Unwholesome, immoral, and quack medical advertising are excluded. A sincere effort is made to exclude frauds, irresponsible and unscrupulous firms. We will always take it as a favor to be notified whenever any advertiser's dealings with a subscriber are in bad faith or evidence a lack of business honor. Advertisers generally recognize the readers of Hoard's Dairyman as an up-to-date class of farmers, who farm with business-like methods, and we hold our columns for the patronage of only those with whom our readers can deal with profit and satisfaction.

ADVERTISING COPY must be received eight days previous to the date of publication. Advertising to be classified or changes in advertising must reach us twelve days previous to date of publication.

Entered at Fort Atkinson, Wis., as second class matter.

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Coming Events

Sept. 26-Oct. 2nd—Dairy Cattle Congress at Waterloo, Iowa.

Oct. 8-15—National Dairy Show at Minnesota State Fair Grounds. Manager, W. E. Skinner, 910 So. Michigan Ave, Chicago.

Oct. 31 to November 5. Association of Ice Cream Supply Men, Buffalo, N. Y. Roberts Everett, 1328 Broadway, New York City, Secretary.

Food Value of High and Low Testing Milk

HOARD'S DAIRYMAN:—I am a producer of Guernsey milk and so your recent reply to an inquiry concerning the food value of milk of different tests interested me particularly. I quite agree that the consumer is hard to convince with this kind of reasoning and that perhaps the first appeal should be to the healthfulness, the palatability, and the attractiveness of Guernsey milk. None the less, he should be further advised as to the greater food value of the higher testing milk.

After your discussion I was interested in preparing a series of tables showing the food value of milk of different tests according to the methods suggested. I have used 3.8 per cent milk in establishing the basic price, as this is about the grade of milk usually sold to consumers in the city. I have found that, under the fat plus six-tenths method, that a quart of 5 per cent milk is worth 12¾ cents when a quart of 3.8 per cent milk sells for 10 cents. On the basis of total nutrients, the quart of 5 per cent milk is worth 12 cents when the 3.8 per cent milk sells for 10 cents.

The accompanying tables give the comparative prices of milk of different tests when computed on the basis of a standard price for 3.8 per cent milk, using both the fat plus six-tenths method and the total nutrients methods. These tables may be of interest to other readers:

Table I—Comparative Values Per Quart of Milk of Different Tests Based on a Standard Price for Milk Testing 3.8%. This Method of Comparison Uses the Well Known Cheese Factory Rule that Six-tenths % Plus the Fat Test of the Milk is the Best System of Paying for Milk According to Its Cheese Value. To Get Comparisons on the Basis of 100 Lbs. of Milk, Multiply the Prices Here Given by 46.33.

3%	3.5%	*3.8%*	4%	4.2%	4.4%	4.6%	4.8%	5%
Cts.	Cts.	*Cts.*	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
4.1	4.7	*5*	5.2	5.5	5.7	5.9	6.1	6.4
4.9	5.6	*6*	6.3	6.5	6.8	7.1	7.4	7.6
5.7	6.5	*7*	7.3	7.6	8.0	8.3	8.6	8.9
6.5	7.5	*8*	8.4	8.7	9.1	9.5	9.8	10.2
7.4	8.4	*9*	9.4	9.8	10.2	10.6	11.0	11.5
8.2	9.3	*10*	10.5	10.9	11.4	11.8	12.3	12.7
9.0	10.3	*11*	11.5	12.0	12.5	13.0	13.5	14.0
9.8	11.2	*12*	12.5	13.1	13.6	14.2	14.7	15.3
10.6	12.1	*13*	13.6	14.2	14.8	15.4	16.0	16.6
11.5	13.1	*14*	14.6	15.3	15.9	16.6	17.2	17.8
12.3	14.0	*15*	15.7	16.4	17.0	17.7	18.4	19.1
13.1	14.9	*16*	16.7	17.5	18.2	18.9	19.6	20.4

Table II—Comparative Values Per Quart of Milk of Different Tests Based on a Standard Price for Milk Testing 3.8%. This Comparison is Based on the "Total Digestible Nutrients" Computed on a Basis Similar to That Used in "Feeds and Feeding" in Which Fat is Figured at 2½ Times the Value of the Other Nutrients. The "Total Digestible Nutrients" in 100 Lbs. of Different Tests are as Follows: 15.5 Lbs. in 3% Milk, 17.01 Lbs. in 3.5%, 17.97 Lbs. in 3.8%, 18.62 Lbs. in 4%, 19.26 Lbs. in 4.2%, 19.90 Lbs. in 4.4%, 20.51 Lbs. in 4.6%, 21.09 Lbs. in 4.8% and 21.67 Lbs. in 5%.

3%	3.5%	*3.8%*	4%	4.2%	4.4%	4.6%	4.8%	5%
Cts.	Cts.	*Cts.*	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
4.3	4.7	*5*	5.2	5.4	5.5	5.7	5.9	6.0
5.2	5.7	*6*	6.2	6.4	6.6	6.9	7.0	7.2
6.0	6.6	*7*	7.3	7.5	7.8	8.0	8.2	8.4
6.9	7.6	*8*	8.3	8.6	8.9	9.1	9.4	9.7
7.8	8.5	*9*	9.3	9.7	10.0	10.3	10.6	10.9
8.6	9.5	*10*	10.4	10.7	11.1	11.4	11.7	12.1
9.5	10.4	*11*	11.4	11.8	12.2	12.6	12.9	13.3
10.3	11.4	*12*	12.4	12.9	13.3	13.7	14.1	14.5
11.2	12.3	*13*	13.5	13.9	14.4	14.8	15.3	15.7
12.1	13.3	*14*	14.5	15.0	15.5	16.0	16.4	16.9
12.9	14.2	*15*	15.5	16.1	16.6	17.1	17.6	18.1
13.8	15.2	*16*	16.6	17.2	17.7	18.3	18.8	19.3

Wisconsin. JOHN S. CHARLES.

Minnesota Testing Fee Lowered

M. H. Fohrman, retiring superintendent of official testing in Minnesota, announced that July 1 a reduction in testing rates took place. One-day tests will be made for $8.75 per month, two-day tests for $13, seven-day tests for $31.25, and extra days $3.75. Saving made by a cut in the salaries of supervisors is passed on for the benefit of dairymen.

Mr. Fohrman has resigned his position at University Farm to accept an appointment with the Dairy Division of the United States Department of Agriculture. His headquarters will be at Washington. He will be succeeded at University Farm by E. O. Hanson, the former incumbent of the position but more recently with a Minneapolis commercial concern. The change was made July 1.

Thirty-eight supervisors worked during May in Minnesota and 1,058 tests were completed. One hundred seventy-four cows in 63 herds on yearly test produced more than four pounds of fat in two days. This meant that nearly two out of every three herds doing test work had at least one animal good enough to produce at the rate of two pounds of fat per day or better. Forty-seven cows produced more than five pounds of fat in two days on yearly test, and seven exceeded six pounds. More than one-fifth of the yearly cows produced four pounds of fat or better in two days.—Minnesota College of Agriculture.

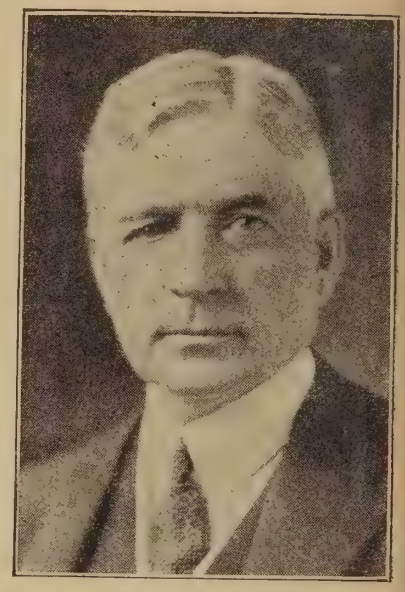
A Montana View

The dairy industry is a great national institution fundamentally essential, economically sound, and morally up-lifting. It is only fitting that each year a great national show should be assembled to commemorate the achievements of a great humanitarian effort. It is a great clearing house of service.

One of the first and best features of the show is the ingathering of the best representatives of the various breeds of dairy cattle. The cow is recognized as the backbone of the dairy industry and always must be the foundation on which the industry is built. Many a man has been inspired to greater efforts in advancing the breed of his choice because of the knowledge and friendship he has gained from a visit to the National. The fact that the leading breeders of the nation continue to send their animals to the show each year is evidence that they must get a growing satisfaction from the fact that they are rendering a genuine and lasting service to humanity in having a small part in the upbuilding of a great productive enterprise.

The young man can find a great fund of information which will aid him in fixing his aim on a life work. He will find a source of real inspiration and encouragement in observing what his elders have done. It will aid him in renewing his efforts to carry on the work so well begun, with greater hope to excel.

The show is to be held on the Minnesota Fair Grounds this year, October 8th to 15th. We are glad to have it just so much closer to our state, as many more people from Montana and other northwest states will be able to attend.—G. L. MARTIN, Montana.



FRANK O. LOWDEN

Frank O. Lowden of Oregon, Illinois, recently elected president of the Holstein-Friesian Association of America, was born at Sunrise City, Minnesota, January 26th, 1861.

He graduated from Iowa University in 1885 and the Union College of Law, Chicago, in 1887. He practiced law in Chicago until 1906, teaching law at Northwestern University part of this time. He was elected to Congress November 6th, 1906, to fill the unexpired term of R. R. Hitt. He was re-elected to the Sixtieth and Sixty-first Congresses, serving from 1907 to 1911. He was a Lieutenant Colonel in the First Illinois Infantry in 1898. In 1917 he was elected governor of Illinois, serving until 1921.

Sinnissippi Farms, owned by Mr. Lowden, are located at Oregon, Illinois, and his home is upon these farms.

Washington Farmers Honored

Three farmers were this year awarded Certificates of Recognition by the State College of Washington for outstanding achievements in some line of agriculture. This is the first year the college has given formal recognition to agricultural leaders.

The three men are: F. M. Rothrock, breeder of Shorthorn cattle and leader in the live stock industry in the Northwest.

A. A. Kelly, horticulturist, who has done much as a member of the legislature for the fruit industry of the state through his work for nursery inspection.

Alexander Todd, member of the firm of William Todd & Sons, breeders of Holstein cattle. Many noted animals have been bred on the Todd farm, among them the two 30,000-lb. cows, Cascade Johanna Illustrites and Cascade Fleta Johanna, the former of which also holds the world's record for one-day milk production with 161.4 lbs.

Other cows of note from this farm are Cascade Marie, with a record of 28,724.5 lbs. of milk and 886 lbs. fat; Cascade Blossom, with a 305-day record of 24,043 lbs. milk and 764.8 lbs. fat, the milk record standing as a world's record; Cascade Pietertje, 22,062.7 lbs. of milk and 731.6 lbs. fat, as a junior two-year-old; and Cascade Pauline Mercedes, now owned by the Long Lake Stock Company of Minnesota, and making a wonderful record as a senior three-year-old.

Washington. E. G. WOODWARD.



THREE MEN GIVEN CERTIFICATES OF RECOGNITION BY THE STATE COLLEGE OF WASHINGTON FOR ACHIEVEMENTS IN AGRICULTURE

Reading from left to right: F. M. Rothrock, A. A. Kelly, Alexander Todd.



Hawthorn Dairy Maid, champion five-year-old Swiss cow with a record of 17,905.2 lbs. milk, 733.74 lbs. fat, and her three daughters. The oldest daughter as a three-year-old has produced 11,278.4 lbs. of 4.2% milk in 9 months.

A Brown Swiss Herd's Record

CHESTER G. STARR, ILLINOIS

THE Hawthorn Farm of Illinois, of which Mr. Daniel Insull is the owner, has recently completed three years' records in the cow testing association of Lake County. Forty-two cows are included in the record. Of these, one is a grade Brown Swiss, the other forty-one are all pure-bred.

As an average of the three years, the entire herd averaged per cow 7459 pounds of milk with an average fat test of 4.16 per cent or 310.3 pounds of butterfat. These records running over a period of three years and for a herd of over forty individuals are well worth considering. How many herds of like size over as long a period can equal this record?

It may be said that the herd was not pushed for very high individual records. Just good care and feeding were used. In studying the individual records of the cows the uniformity of records is rather high and also the absence of any forced records noticeable. Only two cows during the three years averaged over ten thousand pounds of milk. Eight cows averaged over nine thousand and sixteen averaged over eight thousand pounds of milk per year. Eleven cows made 350 pounds or more of butterfat. Twenty-six cows of the herd produced 300 pounds or more. Only two cows fell as low as 200 pounds.

The Brown Swiss cow may not give enough milk to fill the Atlantic ocean but on long time, persistent records she can be counted on as a strong contender in the producing race.



Mary of City View has produced 18,579.6 pounds of milk with 659.72 pounds butterfat, officially tested, in 365 days and carried a calf 8 months of her period.



Hawthorn Neva K. is now on official test as a two-year-old. In ten months she has produced 12,429.9 pounds of milk with a test average of 4.2%.

A Good Time to Buy Good Stock

HOARD'S DAIRYMAN:—I have never seen a better time to buy good stock at reasonable prices than this year of 1921. Recent sales have indicated that while prices are comparatively low, especially for first class dairy animals, still the very good ones bring good prices. This proves that quality is always appreciated even during a low priced period.

When we consider the few really excellent animals, and realize that it requires long years of breeding and selection to develop a superior herd, we must admit that the prices of the superior animals are low. A young man now with a small outlay of money can select some very choice animals at a very reasonable figure, and he would certainly do well to secure them.

When prices were high for dairy products there was little incentive to cull the herd. The chief ambition of most producers was to increase their volume, and less attention was paid to the profit and loss side of the individuals of the herd. Now we have arrived at a time for culling, at a time for the best, and certainly at a time when we must give good care and attention to our best. Consumption of dairy products is largely increasing. The value of dairy products as a food is being recognized in the average home. This will develop a good stable market, and with the present emergency tariff we certainly can expect this. Milk and butter substitutes are being consumed in much smaller quantities than a year ago, while some states are regulating these substitutes so that their consumption will undoubtedly be curtailed.

In the future it will be necessary for the dairyman to devote more attention to the individuals of his herd and to their care and management. Better housing and modern machinery of all kinds will be brought into use. We can compete with foreign production providing we use a better milk producer in the form of a better cow. Feed this cow economically and wisely, and use modern equipment and labor saving devices in our work; this is the way we have always been able to compete with foreign competition.

It would pay many of our dairymen to get rid of some of their inferior stock and select a few good ones. The whole world is short of the extra quality, and there is always room and good prices for anyone who can produce a superior article, whether it be a domestic animal or an article of manufacture.

Nebraska. A. L. HAECKER.

Motor Cultivation of Crops

J. L. JUSTICE, INDIANA

A FEW short years ago when it was announced that farmers could cultivate their corn with tractors in place of horses many were skeptical in regard to doing it successfully. While some have done excellent work with their motor cultivators, and will continue to do so, there still continue to be many who refuse to concede that satisfactory work can be done with a motor cultivator.

I always liked the idea of motor cultivation before ever we used one here on the farm or before I saw one. I went to see the first one work on a neighboring farm, and as it was cultivating in nice corn a foot or more high it was freely stated by observers that it could not do good work in real small or real large corn. When I saw them running along successfully and doing work that would have been a credit to a good many horse drawn cultivators in both small and large corn I was satisfied that motor cultivation was a thing that had fully arrived and was due to become popular if the cost of operation could be kept on a par with horses or made cheaper than horse cultivation.

Our tractor is of the two-wheel type in which the implement that is being operated by it forms the rear of the tractor. When the plows are removed the cultivator attaches directly to the tractor, becoming a part of it in a compact motor cultivator as shown in the accompanying illustration. This is a two-row cultivator. This is one of the features that makes motor cultivation as economical as it is. It is doubtful whether one-row motor cultivation will soon become an economy, nor is it necessary except in places of stumpy or stony ground or anywhere that a two-row cultivator will not work to advantage.

The successful use of a two-row cultivator, whether horse or motor drawn, depends on the proper preparation of the soil and the care in planting. Disappointment follows when one tries to cultivate in trashy or cloddy ground. The greatest trouble is experienced in stalk ground that has been poorly plowed, with stalks left on top or sticking up between the furrow slices. A single-row cultivator is much easier handled under such circumstances. The ideal ground to use the two-row cultivator on is the smooth, well pulverized seedbed. When you have made a good seedbed the way is well paved toward successful motor cultivation. I have seen the two-row cultivator condemned one year and praised the next, and this difference of opinion was caused by a difference in the making of seedbeds, a condition which the owners freely admitted.

The chief attention required in planting is to keep the rows as straight as possible and to make the cross-check as uniform as possible by watching the tension of the planter chain.

There is one feature we have found to be a distinct advantage over horse cultivation, that is the slow steady speed that can be attained when cultivating the small corn the first time over. The speed can be modified by a simple pressure of the fingers on the speed indicator right in reach of the operator, and there is no wavering or jerking of the cultivator as sometimes takes place when horses are used. There is that steady pull on the cultivator whether the shovels be set deep or shallow.

It is but natural to suppose that a great deal of corn will be knocked down on the ends, but there is no more knocked down than is done with horses with a two-row cultivator There are three other motor cultivating outfits right here in the neighborhood and I cannot see but that all raise as much corn on the ends as do the rest of the neighbors. I have seen some farmers ruin most of the corn on the ends, so the amount of corn destroyed with the motor cultivator depends more on the skill and care of the operator and less on the type of cultivator.



This motor cultivator has given satisfactory service and has proven to be efficient in cultivating row crops where properly planted.

O' the Farm That's Mine!

O' the farm that's mine! O' the farm that's mine!
The whinny of the horses, the lowing of the kine;
The cheeping of the chickens and the cooing of the doves
As they return again to the nest that each one loves;
When the spring is just beginning, and we're getting into line,
For the happy time of planting on the farm that's mine.

On the farm that's mine, beside the tinkling brook,
Where the fishes idly linger in ev'ry shady nook;
And the birds are always singing in the treetops on the bank,
Where the vi'lets nestle softly and the moss is deep and dank;
And the children scamper gaily o'er the meadow green and wide,
As they gather sweetest flowers growing free on ev'ry side,
And their cheeks are red and rosy (for they lack no vitamines),
And they glory in the summer on the farm that's mine.

O' the farm that's mine, O' the farm that's mine!
Where sun and rain, and rain and sun cause everything to shine;
The freshness of the atmosphere and ev'ry fruit and flower.
And something new and wonderful enhances every hour;
For the city's din and pleasures, for its follies I'll not pine,
While I'm living in the country on the farm that's mine.

—Vivian S. Watson.

More Good Plowing Per Day at Less Cost



The John Deere No. 40 Tractor Plow, built especially for use with the Fordson Tractor, gives Fordson owners real plowing economy. It does unusually good work. And its unusually light draft means less expense for fuel and tractor upkeep — more acres of good plowing per day at lower cost per acre. Thousands of No. 40 plows in actual use with Fordsons are proving their ability to do the best of work at lower operating expense.

JOHN DEERE No 40
The PLOW with the SELF-ADJUSTING HITCH

Equipped with standard John Deere bottoms—they scour and do the work the way the farmer wants it done. There is a type for every soil.

Pulls extremely light because of the good scouring qualities and high-grade construction of its John Deere bottoms; its rolling landside; its light weight; its rigid frame; its snug, smooth-running bearings, and its self-adjusting hitch.

Watch the No. 40 at work in the field, and you will readily appreciate how light draft it is.

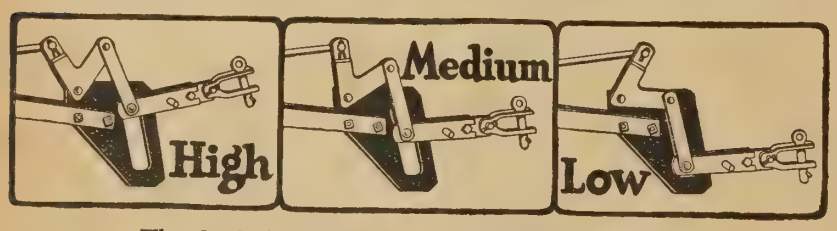
The self-adjusting hitch is an important and exclusive feature. When depth of plowing is varied, this hitch moves automatically up or down to the proper line of draft. Always—without any attention from the tractor operator—**the hitch is correct.** Bottoms run true and level at all depths, doing good work and pulling light all the time.

The rolling landside on this plow is a great draft-reducer. Revolving on a greased, smooth-running bearing, the rolling landside entirely eliminates sled-like friction because it carries both furrow wall and furrow bottom friction in a rolling motion.

Flexible link clevis insures even plowing in uneven ground—keeps the up-and-down action of the tractor from affecting the work of the plow.

New-Process John Deere steel in beams, braces and axles—steel that is extremely hard, tough and strong—provides an unusual combination of light weight and great strength. **Beams are guaranteed not to bend or break.** Frame connections are hot-riveted—no "give" anywhere.

Be sure to see this fuel-saving, thorough-working plow built especially for the Fordson. Send today for a free booklet describing it. A postcard will bring it to you. Address John Deere, Moline, Illinois, and ask for Booklet NF-714.



When depth of plowing is varied the self-adjusting hitch on the No. 40 moves automatically up or down to proper line of draft —a big advantage in maintaining good work and light draft.

JOHN DEERE

THE TRADE MARK OF QUALITY MADE FAMOUS BY GOOD IMPLEMENTS

1921 Will Reward SUMMER FEEDERS

"What sort of magic feed is *grass* that it should be considered a perfect feed for dairy cows? The answer is that grass is practically hay with water in it, and what farmer that even pretends to keep cows would think of feeding his stock on moist hay all winter? Yet that is all the feed the poor cow usually gets throughout the summer."—*A. C. Palmer in Hoard's Dairyman.*

International Special Dairy Feed



The first flush of milk resulting from green pasture is passing. From now on cows not receiving additional feed must draw on their bodily reserve to maintain milk flows.

A small ration of International Special Dairy Feed, in addition to grass will work wonders. Maintains milk flows and sends cows to the barn in top condition in the fall. The price is right.

Write us if your dealer cannot supply you.

INTERNATIONAL SUGAR FEED CO.

Minneapolis, Minn. Mills at Minneapolis and Memphis

LIVE AGENTS WANTED

What's the Matter with Us?

(Continued from page 956)

or otherwise is such that the arrangement can be made.

"The farmer is fast learning that economical transportation will do much to increase the chances of a profit on his farm. Therefore, he is interested today, more than ever before, in the farm-to-market roads rather than highways built for pleasure.

"The farmer is finding that he must follow his products a little closer to the consumer. Therefore, he is interested in rail and water transportation especially when he finds that the price of his wheat is based upon the Liverpool market, and if the ocean waterways could be opened into the Great Lakes so that sea-going vessels could land in the various harbors of the Great Lakes, it would enable the placing of wheat on the Liverpool market at from 10 to 12 cents per bushel less than it is now being handled.

"Somehow the impression has gone out that the American Farm Bureau Federation intends to go into the mercantile business in the buying and selling of farm necessities co-operatively. Such is not the case. The American Farm Bureau Federation as an organization cannot engage in commercial activities. It feels, however, that the one big job for the farmer is to sell his products in a businesslike way, and if he does that he will be able to buy satisfactorily.

"We believe in the building up of community centers. We need service stations in those community centers that will provide the necessities of comfortable living. Every merchant, therefore, is a service station and the success of his business depends upon the service he renders the people of his community. Then, just so long as that service is efficient and the people of the community are happy and contented, he need fear no competition. However, when ever dissatisfaction appears in the community and there is talk of co-operative stores being set up, then it is time for that merchant to sort of take an invoice of the situation and analyze his business, because it is very apparent that that service station is not filling the needs of the community.

"It takes capital to be a farmer under present conditions. We need a financial system built on a thorough understanding of the farmer's needs. A commercial men's bank is of small use to us. We do not do business on ninety days. Our turnover is annual, and when we raise live stock, runs from one year to five.

"A careful study of the situation, through several months by the American Farm Bureau Federation through its various committees, results in the advice to all country banks to become members of the Federal Reserve System. However, to be of any value to the farmer there must be an extension of the time of credit. According to the Federal Reserve Bank Bulletin, the average time of maturity for the month of March, 1921, was 12.38 days and for February was 9.53 days. You men know how much benefit such a term of discount would be to the farmer who wanted to feed a carload of steers, and it is not at all surprising that the statement of the Federal Reserve Bank of volume of bills discounted during March, 1921, shows in all the districts $85,580,480 total agricultural and live stock paper out of a total discount of $7,345,054,449, or 1.1 per cent. It is no doubt true that there was a large proportion of farmers' paper included in member banks' collateral notes, but with this low average period we are

Western Canada Offers Health and Wealth

and has brought contentment and happiness to thousands of home seekers and their families who have started on her FREE homesteads or bought land at attractive prices. They have established their own homes and secured prosperity and independence. In the great grain-growing sections of the prairie provinces there is still to be had **on easy terms**

Fertile Land at $15 to $30 an Acre

—land similar to that which through many years **has yielded from 20 to 45 bushels of wheat to the acre**—oats, barley and flax also in great abundance, while **raising horses, cattle, sheep and hogs** is equally profitable. Hundreds of farmers in Western Canada have raised crops in a single season worth more than the whole cost of their land. Healthful climate, good neighbors, churches, schools, rural telephone, excellent markets and shipping facilities. The climate and soil offer inducements for almost every branch of agriculture. The advantages for

Dairying, Mixed Farming and Stock Raising

make a tremendous appeal to industrious settlers wishing to improve their circumstances. **For certificate entitling you to reduced railway rates,** illustrated literature, maps, description of farm opportunities in Manitoba, Saskatchewan, Alberta and British Columbia, etc., write

GEORGE A. HALL,
123 Second St.,
Milwaukee, Wis.

Authorized Agent, Dept. of Immigration and Colonization, Dominion of Canada

160 ACRE FARMS IN WESTERN CANADA FREE

INWARD SHEAR
CLIMAX ENSILAGE CUTTER

Saves money—power—men. Use the cutter with the inward shear, that cuts close to the shaft instead of out at the points. Use the cutter that cuts and elevates with less power than any other.

Thin Straight-Edged Knives

Climax knives hold their edge longest, are easiest to adjust, easy to remove, easy to grind. One operation adjusts them all. These thin knives cut cleaner and cut with less power. The Climax powerful fan elevates into the highest silo.

Free Catalog and name of nearest dealer sent on request—fully illustrated—gives details and specifications of all sizes of Climax Ensilage Cutter. Stocks carried in different centers for quick shipment.

CLIMAX CORPORATION, Batavia, N. Y.
42 Swan St.



FREE Catalog



MOORE BROS. PERFECTION Cow Tail Holder

Patented March 1920

Put on in a second. Impossible for cow to switch. "Control the tail and you control your temper." Milk in comfort and produce cleaner milk. Sold by dealers everywhere or sent direct by parcel post, prepaid. 35 cents each or 3 for $1.00.

THE MOORE BROS., 16 Green St., Albany N. Y.



PAT. 7-2-07 2-9-10-13

ANTI-COW-KICKER

Save your temper, your cows, your milk. Does not excite the cow, nor disturb the flow of milk. Indispensible for breaking heifers, cows with sore teats, or vicious kickers. Cannot wear out. Put on or off in 15 seconds. Guaranteed to be an absolutely perfect anti-kicker, or put on loosely as hobble for cow, horse or mule. Price $1.15 Postage extra. Weight 2 lbs. Send for it **today**, when you need it you won't have time.

DAIRY EQUIPMENT CO.
Dept. H. Topeka, Kansas

further confirmed in the impression that the agricultural paper handled by the Federal Reserve Bank is insignificant in proportion to that of industry. To serve agriculture properly, the Federal Reserve must extend its agricultural rediscount period on grain crops to nine months, and on live stock paper to two years. Some way must be devised so that this can be done without seriously congealing credit. With this amendment the farmers of this country would at once receive tremendous benefit.

"Legislation from the standpoint of the farmer does not mean class legislation or politics. However, there are some things relative to building up America's greatest industry—that of agriculture—in the enactment of measures that will put agriculture on a business basis. Our legislative office in Washington, under the direct supervision of President Howard, an Iowa farmer, and our executive committee of twelve, is rendering fine service for the farmer, especially since the agricultural blocks of the Senate and House were organized. We do not lobby. We present facts. We get the will of our people and lay it before Congress.

"The farmer does not want to drag other lines of industry into the ditch beside him. He wants you thoroughly to understand his problems and stand shoulder to shoulder with him until the wheels of industry again begin to revolve at full speed and prosperity and happiness come to our whole country. Anything which organized agriculture proposes is based on the idea of 'doing to others as you would have them do unto you'. Our whole co-operative marketing program is based on a sound, thorough analysis of business conditions. Our legislative program is builded from the thoughts of the sane, safe agricultural interests of the country. Our organization is builded with the same thought in mind, and if these conditions can be righted it will mean not only more products on the farm, but better equipment, better homes, better schools, and better churches, and, above all, a better class of citizenship when the farmer and the commercial interests once learn to understand each other."

Eastern Guernsey Notes

HOARD'S DAIRYMAN:—Over 200 breeders of Guernseys of Cayuga and Tompkins Counties, New York, with their families, met for a picnic and "talk-fest" about yellow cattle last week.

C. G. Meeker of Auburn invited his fellow breeders to meet at his farm home near Owasco. The latter were glad of an opportunity to inspect the Meeker herd which ranks high in Guernsey circles. Earl Crockett, chairman of the Cayuga County Guernsey Club, presided. This county stands second in the United States in Guernseys, Waukesha County, Wisconsin, claiming first place.

Professor H. C. Royce, a Guernsey breeder and a member of the department of Animal Husbandry at Cornell College of Agriculture, was one of the speakers. Professor Royce was one of the men who helped Professor Babcock perfect the now well known Babcock test. In his opinion but few new things have been brought out in late years relative to breeding. Most of the results to be expected were known 30 years ago. He believes Guernsey breeders should not tie too closely to any special strains unless assured they are really the best.

"Pure-bred cattle are valuable only in so far as they will breed true," he said, "and I suggest using only those that will do so. I am a firm believer in advertising, but you want to advertise where there is need of the stuff you have to sell."

Professor Royce was one of several dairymen of Tompkins County to volunteer to donate valuable bull calves to such dairymen as would use them in their herds as sires in place of scrub sires, so much faith has he in the increased benefits to be derived from better breeding principles.

On June 30th the Onondaga County Guernsey breeders held their annual picnic at the Seneca River Guernsey farm owned by J. H. Kelly. Cayuga County breeders united with them in discussing mutual problems.

Dryden, N. Y. E. F.

Name your farm and place a well painted sign up over the gate. Then use the name on every occasion. That's one of the best ways of creating a reputation for your produce.

Willys LIGHT

*Power and Light with the Quiet Knight

$525

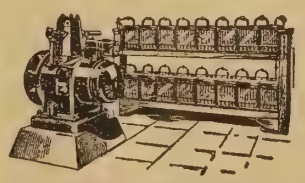
There never was such a remarkable reduction in price as this. Here is a practical power and light plant which is admittedly superior in every sense.

—And yet so reasonably priced that every home in North America can now have the convenience of electricity.

Precedent has been swept aside in meeting what we consider our obligation to the American farmer—giving him the benefits of our tremendous purchasing power, sound engineering and manufacturing economies in this electric plant highest in quality yet lowest in price.

Willys Light is an established success. One exclusive superiority alone, the Willys-Knight sleeve-valve engine, is of itself a sufficient reason for buying *only* Willys Light. In addition it has fifty distinct advantages.

Thousands of homes where electric current is not available will take advantage of this opportunity *now*. See your Willys Light dealer—there is one near you.



*The Willys-Knight sleeve-valve engine

The famous air-cooled Willys-Knight Engine burns kerosene, cranks itself, stops automatically, and "improves with use".

Every Home Can Now Have Electricity

Willys LIGHT JUNIOR

$295

Here is the "eighth wonder" of the farm power and light world—Willys Light Junior.

It is large enough for lights and small power uses, and more important—it is low enough in cost for every purse and person.

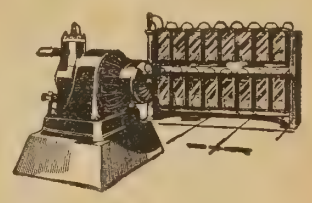
Neat, compact, made with the high quality which characterizes *all* Willys Light products—its very name is a pledge of satisfaction with nation-wide service behind it. It has the wonderful Auto-Lite engine generator, and long-lived dependable battery.

Could there be any greater evidence of our intention to place our entire resources and production capacity at the disposal of every farm home?

Farms that were formerly denied electricity will glisten with safe, clean light at the snap of a switch.

Ask your Willys Light dealer about Willys Light Junior, or write for booklet.

Willys Light Junior has the wonderful Auto-Lite engine generator, a battery of ample capacity and is of standard voltage.



Wonderful Dealer Opportunities Available

Address Department 502

WILLYS LIGHT DIVISION—ELECTRIC AUTO-LITE CORPORATION, TOLEDO, OHIO

FARMER'S FRIEND EGG CARRIER



Carries Eggs Safely

Holds 12 Dozen—Strong and Durable. When eggs are delivered, filler can be folded and placed in bottom of carrier which can then be used to carry home groceries or other purchases. Excellent for shipping incubator eggs.

Big Mail Order Dairy and Milk Dealers' Catalogue Free.

THE CREAMERY PACKAGE MFG. COMPANY,
68 W. Kinzie St., Chicago

WING'S ALFALFA SEED

has been standard for twenty years, and is better than ever today. We can supply any amount of either Kansas or Nebraska seed, the famous Dakota Thirty or Grimm. Prices reasonable.

CLOVER and GRASSES

Northern grown and of strongest vitality. We can furnish grass mixture suitable for any soils. We also have some excellent varieties of seed wheat. Write for samples and quotations.

WING SEED CO., Box 221, Mechanicsburg, O.

HAY Alfalfa and Prairie Hay

Prompt Shipment

Weights and Grades Guaranteed

SCHREINER & SCHREINER

Emporia, Kansas

Washington, D. C., Weekly News

[SPECIAL TO HOARD'S DAIRYMAN]

WASHINGTON, JUNE 27—Hearings on the cold storage bill were closed at the end of an all-day session of the House Committee on Agriculture last Friday, the committee sitting until seven p. m. to hear all the representatives of the cold storage interests. In the forenoon representatives of the dairy industry were given ample time to put their case in opposition to several of the provisions of the bill.

Dr. George L. McKay, of the American Association of Creamery Butter Manufacturers, was the first witness. He gave the committee much detailed information as to the effects of cold storage on butter, the principal point he made being that it was not the time in storage which was the controling factor in the quality of the butter when it came out of storage. Professor Christ Larsen of the Illinois Agricultural Association followed Dr. McKay. He did not favor marketing butter products and thus reducing the prices of the product to the public. If this is insisted on, he said, the cost of the marketing and the loss from lowered prices will fall on the producers. He opposed government inspection and certification unless safeguards could be provided as to the kind and experience of the inspectors who might operate the inspection machinery.

M. D. Munn of the National Dairy Council told the committee that whatever hardships this bill, or whatever bill they passed, worked would fall back on the producers of butter, now suffering from inability to get cost of production. He admitted the demand for marking food products for what they are, but suggested that dating alone was sufficient to identify butter. Butter, he said, is always sold on grade, and any further labeling marks would only serve to depress prices without compensating advantages. John J. Farrell of the National Dairy Products Committee opposed placing butter within the operation of the cold storage law at all. He analyzed the law as to its economic as well as health objects, and showed that in his judgment he thought butter was never hoarded and was sold now on its merits and without commercial dishonesty.

A. M. Loomis, secretary of the National Dairy Union, was the last witness for the dairy industry. He analyzed the law to show that it was apparently intended to provide for four objects: standardization of cold storage warehousing, prevention of hoarding, necessary government reports, and labeling. As to the first three objects of the bill, he was in favor except as to details, suggesting that a temperature of 40 degrees instead of 45 degrees should be named as standard, and that while he had never had the evidence that butter was hoarded in cold storage to depress the next season's markets, yet it might be good public policy to prevent this by law, and so he favored a twelve-month limitation, but wanted the time limit to date from the moment the butter was packed, not after sixty days of "kiting". He objected to making public records and authority to publish reports of ownership of butter in storage, or of other products, or of loans on such stocks, saying that this information, if required in reports, should be confidential, and to be disclosed only upon the request of Congress. As to labeling, he pointed out that if butter must be branded "Cold Storage" it handicapped all storage butter, no matter how high its quality, in its competition with oleomargarine, as margarine is made as the market demands, and would never become subject to a cold storage law, with the thirty or sixty days grace provided in the pending bill. He said that the public has the right to demand that all food be sold for exactly what it is, but that stamping the date of packing on a package of butter certainly told all the facts necessary unless a system of government inspection and certification were adopted. He personally favored this latter system, while realizing the difficulties in the way of securing its full and complete establishment.

The cold storage people in the afternoon asked for a law covering all food products except those cooked or otherwise cured. They asked for the dropping of the voluntary inspection system, suggested and added to the bill by Chairman Haugen. They wanted lard, lard substitutes, and vegetable oils excluded from the bill. Ten or fifteen other amendments were suggested. The committee heard all witnesses who were here, and then deferred further action until the hearings are printed and ready for the members of the committee.

⚜

All dairymen are interested in good roads. The Dowell Phipps bill was called up and passed on Monday, under suspension of the rules, by a vote of 206 to 77. The Townsend bill is expected to be called up in the Senate any day now, and is quite sure to pass. This will put the two bills in conference. The grave danger is that because of the fight between advocates of each bill, and a third opinion which holds that no money should be spent by the government for road building, there will be no legislation at this time.

⚜

The Packer control bill has gone to conference between the House and Senate, the conferees being Senators Norris, Kenyon, and Kendrick for the Senate, and Congressmen Haugen, Ward, McLaughlin, Jacoway, and Rainey for the House. The House conferees are expected to stand out firmly for the elimination of the Senate amendments, the principal one of which, that requiring uniform accounting, is regarded by the friends of control legislation as the strongest feature of the bill.

⚜

Secretary of Agriculture Wallace now has five positions of importance to fill in his department, another having been added this week by the resignation of George Livingstone, chief of the Bureau of Markets.

⚜

"Filled Milk" legislation will come up in Congress again early in July, the date not yet set. Two other matters have the right of way in the committee on agriculture: the spring wheat grading bill and the sugar claims resolution.

⚜

"Hides go on the free list" is the latest dictum from the Ways and Means Committee. They also say that shows are to go on the free list. This makes the dose easier to take. As a matter of fact when it is necessary to import hides to supply this country's need of leather, and in the face of a shrinkage in numbers of beef cattle which will make a seller's market probable within another year, the tariff on hides has lost most of the arguments that once existed for it.

⚜

The lumber schedule seems to be compromised, but it is said that a fight is to be had on this item in the Republican caucus. The caucus is for free rough lumber, but ten per cent duty on dressed lumber. A strong fight is being made by Illinois, Minnesota, Wisconsin, and Dakota interests against any lumber tariff.

Dairy Manufactures Valued at a Billion Dollars

A summary of the general results of the 1920 census of manufactures for the butter, cheese, and condensed milk industry has been issued by the Bureau of the Census, Department of Commerce, showing for the United States as a whole, the quantities and cost of the principal materials used and the quantities and value of the various products manufactured in factories during the year 1919.

Returns were received from 7,857 establishments in 1919, the products of which were valued at $1,079,557,000. At the census of 1914, 7,982 establishments reported products valued at $370,819,000. While there was a decrease of 125 in the number of establishments, the total value of products increased $708,738,000, or 191.1 per cent, from 1914 to 1919.

Butter and Cheese—The production of butter in 1919 amounted to 938,505,382 lbs., valued at $533,331,000, as compared with 786,013,489 lbs., valued at $223,179,000 in 1914, representing an increase of 19.4 per cent in quantity and 139 per cent in value. The production of cheese in 1919 amounted to 475,330,820 lbs., valued at $137,281,000, and in 1914 to 377,506,109 lbs., valued at $50,932,000, the increase being 25.9 per cent in quantity and 169.5 per cent in value.

Condensed and Evaporated Milk—The production of condensed and evaporated milk increased from 884,646,761 lbs,. valued at $59,375,000 in 1914, to 2,096,973,252 lbs., valued at $293,569,000 in 1919, the increases in quantity and value being 137 per cent and 394.4 per cent, respectively. The manufacture of powdered milk increased from 21,987,911 lbs., valued at $2,082,000 in 1914, to 106,691,388 lbs., valued at $17,273,000 in 1919, while for the same period the production of sugar of milk increased from 4,051,320 lbs. valued at $401,000 to 10,401,116 lbs. valued at $2,633,000. The production of both powdered milk and sugar of milk was first reported separately at the census of 1914. The accompanying summary gives comparative statistics for the milk and cream used and for the principal products manufactured in this industry as reported at the censuses of 1914 and 1919. The figures for 1919 are preliminary and are subject to such change and correction as may be necessary upon further examination of the original reports.

Butter, Cheese, and Condensed Milk—Comparative Summary: 1919 and 1914

		1919	1914
Number of establishments		7,857	7,982
Principal materials			
Milk	Pounds	10,244,874,792	8,431,632,860
	cost	$333,357,000	$114,315,000
Cream	pounds	2,551,748,117	2,383,828,265
	cost	$437,267,000	$160,917,000
Total value		$1,079,557,000	$370,810,000
Products			
Butter	pounds	938,505,382	786,013,489
	value	$533,331,000	$223,179,000
Cheese	pounds	475,330,820	377,506,109
	value	$137,281,000	$50,932,000
Condensed and evaporated milk	pounds	2,096,973,252	884,646,761
	value	$293,569,000	$59,375,000
Powdered milk	pounds	106,691,388	21,987,911
	value	$17,273,000	$2,082,000
Sugar of milk	pounds	10,401,116	4,051,320
	value	$2,633,000	$401,000
All other products	value	$95,470,000	$34,850,000

Includes for 1919, 189 establishments engaged primarily in other industries, while manufactured butter, cheese, and similar commodities as subsidiary products; and for 1914, 342 establishments of this class.

Jersey Day at Provo, Utah

Jersey week wound up in Utah by a big celebration at Provo, the recognized Jersey center of the Intermountain Country.

Breeders from all over the state were visitors on this occasion.

The day was started off with a parade a little better than half a mile long, and made up of some of the finest dairy stock, if not the very finest, ever seen in this state.

At about 10 o'clock the judges started work on about 200 head of pure-bred cattle most of which were of extra good quality. When the aged cow class was led in the ring the judge exclaimed: "This is the greatest exhibit of high class dairy cows ever seen in the ring at one time in the history of Utah." Forty-six fine dairy cows lined up in this ring in the aged cow class, which was ten more than the record show at the state fair.

The show was a success in every respect. A list of the exhibitors follow: Wasatch Farms, Ray Hinchcliff, Elmer Rouse, George L. McKenzie, James Malstrom, C. Y. Cannon, W. A. Nuttall L. M. Price, State Mental Hospital, A. O. Smoot, Parley A. Olsen, Geo. R. Meservy, Wells L. Brimhall, Ole E. Olsen, Jr., A. H. John, Scott Taylor, and F. L. Finlayson.

The ribbons were well distributed and the exhibitors seemed to be well pleased. Professor John T. Caine, Illinois, was the official judge, assisted by his brother Geo. B. Caine.

A student judging contest was conducted and prizes awarded to the competing teams.

Resolutions were passed thanking the American Jersey Cattle Club for the help it rendered in putting "Jersey day" over.

Specially written songs were rendered by the "Jersey day" quartette and made a "hit".

During the entire day the guests were furnished Jersey milk free with the compliments of the Jersey breeders of Provo. A Jersey booth was dressed up by the ladies of one of the wards of Provo and they sold milk, ice cream, sandwiches, etc., proceeds of which went towards erecting a church building within this ward.

Utah. A. O. SMOOT.



The Herd That Has Never Been Milked by Hand

IN the development and perfection of the Burrell Milker our Overlook Farm herd has played an indispensable part. This herd has been milked continuously with the Burrell Milker since 1904—seventeen years. It averages about fourteen cows, and contains no cow that has ever been milked by hand. In fact, every cow in the herd is at least of the *second* generation of machine-milked cows. The heifer shown in the insert is of the *third* generation that has never been milked by hand. She freshened last summer.

There is another cow in the Overlook herd whose record speaks well for the practicability of the Burrell Milker and its effect upon production. This cow, which of course has never been milked by hand, has not been dry for the past ten years. In 1917, she gave 2094.2 lbs. of milk in April, 2205.4 lbs. in May, and 1969.6 lbs. in June, and while giving this large flow of milk was milked only twice a day.

There are several other interesting facts about the Overlook herd. Production is maintained at a creditably high average. One man cares for and milks the whole herd of about fourteen cows, and handles the milk as well. Bacteria counts show that Overlook milk averages about 3000 per c.c; sometimes much lower, but seldom, if ever, above 10,000 per c.c. These spendid bacteria counts are made under very average conditions. There is no steam for sterilization, the hot water used for washing utensils being heated on the kitchen stove. This record of low bacteria counts is the result of properly using a sterilizing solution and following accepted principles of washing and drying utensils.

The milk from the Overlook herd, milked with the Burrell Milker, is bottled and sold in Little Falls as Grade A raw milk, and is acknowledged by local physicians as the one safe milk for infant feeding—well within the certified grade.

Write today for our booklet and complete information. Use the coupon below.

D. H. BURRELL & CO. INC.

Little Falls **New York**

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Gentlemen: I have_____ (number) milking cows. I am not now milking by machine because_____

I want you to send me your booklet and complete information about the Burrell Milker and tell me why *"It Milks the Cows Clean."* 10

Name_____ P. O._____ State_____



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This apparatus has been, and now is, the best low priced MILK COOLER AND AERATOR on the market—extra large cooling surface, simple, strong and durable, ice chamber easy of access—easy to clean and easy to operate—adapted to use with either ice or running water. It has been in use *more than twenty years and all improvements added to date.*

Ask for descriptive circulars and prices.

OAKES & BURGER CO.

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Cow Testing Associations

RECORDS, PRICES OF FEEDS, FAT, AND MILK

Following is the summary of reports received during the week and up to the time of going to press of this issue:

State	Association	Tester	Month	No. of cows tested	No. of cows producing over 40 lbs. fat	Fat production of high cow	Owner
Wis.	Rockfield	Wm. F. Liesener	May	317	78	73.1	Paul J. Bast
"	Sabin	Buford R. Smith	April	348	45	66.1	Will McAfee
"	Wood Co. No. 3	A. C. Schroeder	May	407	113	72.1	Geo. Baltus
Kans.	Bourbon Co-op.	T. A. Trull	"	372	26	68.6	Frank Akin
Ohio	Geauga Co.	Everett Laird	"	277	40	109.93	Newcomb Bros.
Iowa	W. Branch Tri. Co.	R. B. Houser	"	226	42	78.4	R. W. Brown
Wash.	Stillaquamish	M. C. Hong	"	538	218	76.5	Janssen's Stock Farm
Penn.	Southern York Co.	W. M. Klinedist	"	386	70	95.8	Davis Bros.
Idaho	Canyon County	M. L. Gorow	"	225	36	78.2	Delle & Son
"	Ada County	A. C. Reck	"	178	42	80.3	C. Lillegard
Wis.	Arkansaw	E. W. Holfo	"	430	87	74.4	Wild Bros.
"	Northfield	J. J. Taylor	"	373	42	72.6	C. Amundson
Minn.	Lake Pepin	H. S. Jensen	"	350	34	60.8	C. Harrison
"	Plainview—Elgin	C. C. Geddes	June	345	36	66.6	G. Christian
Ohio	Athens Co.	W. R. Portz	"	347	72	68.0	J. Gift

Association Notes

Wood County, No. 3, Wisconsin:—The 407 cows tested averaged 934 lbs. of milk with 31.95 lbs. butterfat. Six herds in the association averaged over 40 lbs. of fat. Three averaged over 45. Three registered Holstein cows, one heifer, and five grade Holstein cows were purchased. Due to the low price of cheese, farmers are not feeding grain to any extent. Pastures are not very good. Small grains and corn look very promising. Due to the low price of registered cattle, farmers are willing to dispose of their grades. Many are fine individuals. A carload can easily be picked up.

Stillaquamish, Washington:—Two pure-bred bulls were purchased and one milking machine was installed. During May market milk testing 3.6 per cent sold for $2.47 per cwt. The creamery paid 30c per pound for fat. Milk retailed for 10c per quart and butter for 32c per pound.

Southern York County, Pennsylvania:—One pure-bred Holstein bull calf was purchased to replace a grade. Seven unprofitable cows were sold and six men began to feed a balanced ration according to milk production. During May, market milk testing 4 per cent sold for $2.00—$2.30 per cwt. Milk retailed for 11c per quart. Corn sold for $20 per ton; oats, $30; cottonseed meal, $36—$42; oil meal, $40—$42; wheat bran, $36; brewers grains, $60—$70; gluten feed, $48.

Canyon County, Idaho:—This association is on the honor list for there is not a scrub bull at the head of any association herd.

Athens Co., Ohio:—Three unprofitable cows were disposed of in June. Twenty out of 22 members are feeding balanced rations. Twenty tons of feed were purchased co-operatively. Market milk sold for $4.30 per cwt. The condensery paid 32 cents per pound for fat and 80 cents per 100 lbs. skimmilk; the creamery paid 32 cents. Milk retailed for 13 cents per quart, butter, 40 cents per pound, and cheese 35 cents. Ground corn sold for $1.35 per cwt.; cottonseed meal, $2.20; bran, $1.40; middlings, $1.65.

Northfield, Wisconsin:—All separators were tested last month; five were not skimming efficiently. All but three members are using pure-bred bulls. Members have agreed to hold a meeting at the end of every month to talk over the progress of the association, compare methods of feeding, management, etc.

Mississippi Forms Association

That "queen" dairy cow is fast winning a recognized place on the throne beside "King" cotton in Mississippi is being clearly demonstrated in many ways throughout the state. One of the latest and most conclusive proofs of this fact occurred at Macon, Miss., recently.

Some of the representative dairymen of Noxubee County, realizing the importance of improving their herds and putting the dairy business of the county on a permanent and constructive basis, became interested in working up a cow testing association. Sixteen very much interested dairymen assembled in the lobby of a cotton broker's office for the purpose of organizing the cow testing association. The work of organization was soon begun with E. B. Boyd, "the cotton broker" and one of the sixteen signers of the agreement, acting as chairman of the meeting. This would have been considered "backsliding" for a cotton broker just a while ago. However, Mr. Boyd seemed to appreciate the distinction just as much as he could have a similar honor in a cotton meeting when "king" cotton reigned supreme.

The constitution and by-laws were adopted and seven directors elected, which body elected a president and secretary-treasurer from their number. T. S. Boggess was elected to the former position and Bruce Lunberg was elected to fill the latter. To Mr. Boggess is due much credit for the association being organized. Mr. Lunberg is a grandson of H. B. Gurler of Macon and now has charge of the dairy herd consisting of 120 cows owned by H. B. Gurler & Company. The association is made up of sixteen thorough bred dairy farmers and more than 700 grade and pure-bred Jersey cows.

Mississippi. L. A. HIGGINS.

A "Canner Cow" Makes Good

Last spring my neighbor sold a canner for three and one-half cents a pound to the shipper, but instead of sending this cow to Chicago the shipper sold her to a member of the Brooklyn, Wis., Cow Testing Association. This canner is now producing over 40 lbs. of butterfat per month.

By testing you know what every cow in your herd is doing, whether they are paying for their keep or if you are paying them for the pleasure of feeding, milking, and caring for them during the year. It has been said that it pays well, which is very true. But to fed well is not to simply fill the manger full of hay and straw, shock corn, etc., or any one or two things that happen to be handy. Last fall I was feeding my cows ground oats and barley, hay, and silage. I thought they were doing fairly well, but when the tester came to my place and had finished his day's work, I asked him if there was any feed that could be added to increase the

production. He advised me to add a sufficient amount of oil meal to balance the ration. I followed his suggestion and got splendid results, my herd averaging over 40 lbs. of butterfat for two consecutive months, making them the highest herd in the association. My advice to all dairymen is to push the cow testing association work with all possible speed.

Wisconsin. G. A. RASMUSSEN.

Discouragement Leads to Progress

When the tester of the Alto, Wisconsin, Cow Testing Association came to my place in 1916 I found out that I had a poor herd, mostly scrubs. That is, I had none going into the quality cow book making 40 lbs. of butterfat or more. My cows were of a mixed breed, but I was using a pure-bred Jersey sire. I started selling the boarders and raising the heifers from my best producing cows. This was a long, tedious job, and at one time I was getting so disappointed that I was going to sell the whole business and buy some pure-bred Holstein cows. I found that this would cost so much I decided to keep on as I was.

Last year my herd began to make some showing. I had a few in the 40-lb. class, and this winter my cows are doing fine, although I am not satisfied yet. In January I had eight cows making 40 lbs. or more of butterfat, and in February I had nine out of my sixteen. Another thing has been quite a study to me and that is the feeding, giving them a balanced ration and to know each cow and to know if she can stand a little more fat or protein as the case may be. If it had not been for the cow testing association I would not have the quality of cows I have today. The small cost of testing has certainly been a good investment for me.

Wisconsin. JOHN H. BRUINS.

High School Testing Association

HOARD'S DAIRYMAN:—The Logan County, Colorado, High School Testing Association is the only one of its character that is doing this type of project work for students in schools operating under the Smith—Hughes Act. The association was started here in the effort to find project material for a city boy who was not in a position to finance or carry on a project of his own. The association now has 10 herds containing 113 cows. One student has charge of each herd and he computes the usual monthly record.

We have been able to arouse interest in 7-day tests and have actually made the test for one dairyman. This has been the means of inducing two more dairymen to try out the official testing this fall. We have also assisted in locating pure-bred bulls and cows and have co-operated with the Domestic Science Department in making a dairy exhibit in one of the local stores.

I feel that the work of the association has been the means of bringing the college, dairymen, students, and their instructors in closer contact with one another. The work offers an opportunity for students to study the dairy business from the practical side as well as compare the business methods of successful and careless dairymen. I have also noted that the dairymen are taking a greater interest in the feeding and management of their herds and are really competing with each other that they may have the high herd or high cow for the month.

I believe the high schools that are offering Smith—Hughes work can help the dairy industry in their communities and at the same time educate students that are interested in dairy work so that later they will be of real value to some dairyman as a herdsman or milker.

Sterling Colo. H. A. S.

Pacific International Building

On April 4th construction was begun on the addition to the Pacific International Live Stock Exposition plant at Portland to provide housing sufficient to take care of as large an exhibit as was made at the 1920 show.

The building will be made to have a capacity for 750 beef cattle; 850 dairy cattle; 400 horses; 1,000 hogs; 1,000 sheep; 250 goats—with ample space for a poultry show and for boys' and girls' club exhibits. A machinery hall and a dairy products building will also be erected by the 1921 show November 5th to 12th. There will be a little over ten acres of space under one roof, making the building one of the most complete of its kind.

At the 1921 show a total of more than $75,000 will be offered in cash prizes. Advices already reaching Manager O. M. Plummer indicate that this year's show will be stronger than ever before.



Up hill all day on second!

DID you ever stop to think that the normal, everyday work a tractor has to do is just as hard on the tractor engine as a steady up-hill climb would be for your motor?

The tractor engine is built to stand it—provided it gets the right oil—the special oil that's made for tractors.

Texaco Tractoil, and a very reasonable amount of attention to mechanical details, will keep your tractor fit—ready for the work at all times. Proper lubrication is most important.

Use Texaco Tractoil for your tractor engine—and Texaco Thuban Compound for the *enclosed* gears, Texaco Crater Compound for *exposed* gears, and Texaco Grease for the grease cups. A Texaco product for every tractor purpose.

Buy Texaco Tractoil in 33 or 55-gallon steel drums, wooden barrels and half-barrels, or in 5-gallon sealed cans. Buy it from your nearest dealer—ask him the grade you need "B", "C" or "D".

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APOLLO-KEYSTONE Copper Steel Galvanized Sheets are the most durable rust-resistant sheets manufactured. Unequaled for Culverts, Silos, Tanks, Flumes, Roofing, Etc. Sold by weight by leading dealers. Look for the Keystone added below regular trade mark. Keystone Copper Steel is also superior for Roofing Tin Plates. Send for "Better Buildings" booklet.

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Thomas Page Milling Company, Topeka, Kansas

DAIRY MARKET NEWS

June Milk Prices

(From Report by U. S. Bureau of Markets)

Table I represents a comparison of the net prices received during June by producers in 3,085 local markets, for fluid milk (test 3.5%) f. o. b. local shipping point or distributor's plant.

Table 1—June Producers' Prices by Geographic Sections

Sections	Range of prices per cwt.	Comparison of average prices 1921 June	1921 May	1920 June
New England	$1.50—$4.03	$3.14	$3.19	$3.71
Middle Atlantic	1.83— 3.11	2.24	2.59	3.11
E. North Central	1.50— 2.87	2.13	2.20	3.00
W. North Central	1.00— 3.30	1.86	2.31	3.02
South Atlantic	1.37— 4.05	2.87	3.06	4.25
E. South Central	1.35— 2.90	2.02	2.16	3.11
W. South Central	1.75— 3.78	3.05	3.04	3.82
Mountain	1.57— 2.91	2.23	2.30	3.04
Pacific	1.90— 3.39	3.07	3.07	3.42
United States	1.00— 4.05	2.11	2.55	3.21

Table II shows for certain representative city markets the prices of standard grade milk (Grade B, Test 3.5%) received by producers f. o. b. city and paid by consumers during the month of June.

Table II—June Producers' Prices F. O. B. City and Consumers' Prices

	Producer received per cwt.	Consumer pays per qt.
Birmingham, Ala.	$2.59	$.18
Phoenix, Ariz.		.16
Little Rock, Ark.	2.90—3.83	.15
San Francisco, Calif.	3.60	.14—.15
San Diego, Calif.	3.67	.17
Denver, Colo.	2.10	.11
New Haven, Conn.	3.44	.14
Washington, D. C.	3.25—3.37	.13—.14
Jacksonville, Fla.	4.44	.20
Atlanta, Ga.	1.82—2.44	.20
Chicago, Ill.	2.58	.14
Indianapolis, Ind.	1.75	.12
Des Moines, Ia.	2.45	.12
Topeka, Kans.	2.00	.12
Louisville, Ky.	1.77—1.94	.11
New Orleans, La.	3.74	.16
Baltimore, Md.	3.00	.12
Boston, Mass.	3.66	.15
Detroit, Mich.	2.31	.13
St. Paul, Minn.	2.05	.10
Kansas City, Mo.	2.64	.13
St. Louis, Mo.	2.46—2.55	.13
Butte, Mont.	2.27	
Lincoln, Nebr.	1.58	.10
Carson City, Nev.	2.91	.10
Trenton, N. J.	2.67	.11
New York, N. Y.	2.80	.14
Raleigh, N. Car.	3.82	.18
Fargo, N. Dak.	1.98	
Cleveland, Ohio	2.75—2.80	.13
Cincinnati, Ohio	2.60	.13
Oklahoma City, Okla.	2.10	.12
Portland, Ore.	2.25	.12
Pittsburgh, Pa.	2.45—2.79	.14
Philadelphia, Pa.	2.64—2.85	.11
Providence, R. I.	3.66	
Sioux Falls, S. Dak.	2.25	.10
Memphis, Tenn.	2.90—3.48	.17
Dallas, Tex.	2.45	
Salt Lake City, Utah	2.68	.12½
Burlington, Vt.	1.50—2.25	.12
Richmond, Va.	4.24—4.34	.14
Spokane, Wash.	2.55	.13
Wheeling, W. Va.	2.85	.16
Milwaukee, Wis.	1.91	.09

The prices quoted for producers are for milk testing 3.5 per cent and delivered f. o. b. city, from which must be deducted the various transportation costs in order to get the actual price paid the producer at his railway station. In certain cities the prices given apply only to that portion which is considered as the producer's average production, the surplus being handled either by the producers' association or the dealers at somewhat lower prices. Detailed information as to the selling arrangements between producers and dealers in various markets may be secured by writing Division of Dairy Products, Bureau of Markets, Washington, D. C.

The prices given in Table II have been compiled on the comparative basis of milk testing 3.5% fat, different cities varying from 3% to 4% as the basic fat requirement on which prices are fixed. Certain markets pay on a straight price per pound fat, but most of them set a price per hundred pounds milk of a certain test and then add to or deduct from this price a certain number of cents for each one-tenth per cent in test above or below the basic test. The most usual allowance is from 3 to 5 cents for each one-tenth per cent, or "point" as usually called.

The prices paid by consumers given in Table II are for average testing milk delivered in quart bottles. It is the grade of milk most generally sold in these cities and in nearly all cases is for pasteurized milk.

To reduce the prices per hundredweight, given in these tables, to either a gallon or a quart basis, divide by 11.63 or 46.33 respectively.

Prices at Country Shipping Stations

Prices paid during June per hundred pounds for standard grade milk (Grade B, 3.5%) at the dealers' country receiving stations or at producers' railway shipping points, as also prices f. o. b. city, are given in Table III.

Table III—June Producers' Prices Per Cwt. F. O. B. City and at Country Stations

Cities	F. O. B. city	At country stations*
Bridgeport, Conn.		
Hartford, Conn.	$3.65—3.69	
New Haven, Conn.	3.44	$3.09
Washington, D. C.	3.25—3.37	2.27
Chicago, Ill.	2.58	2.05
Baltimore, Md.	3.00	1.83
St. Louis, Mo.	1.94—2.55	1.38
Newark, N. J.		
Trenton, N. J.	2.67	2.10
Buffalo, N. Y.	2.65	2.22
New York, N. Y.	2.80	2.15
Cleveland, Ohio	2.75—2.80	2.25
Cincinnati, Ohio	2.60	1.50
Pittsburg, Pa.	2.45—2.79	2.00
Philadelphia, Pa.	2.64—2.85	2.00
Harrisburg, Pa.		
Wilkes—Barre, Pa.	2.57	2.15

*Prices reported for all of the above cities represent those agreed upon by dealers and an active producers' marketing association. For the freight zones to which these prices apply, see Hoard's Dairyman for April 15, 1921.

Retail Prices

Table IV gives for a few cities the retail prices of special milk, certified milk, cultured buttermilk, cottage cheese, and cream testing 18 to 20 per cent butterfat.

Table IV—June Retail Prices to Consumers

Cities	Special milk per qt.	Certified milk per qt.	Buttermilk per qt.	Cottage cheese per lb.	Light cream per ½ pt.
	Cts.	Cts.	Cts.	Cts.	Cts.
Austin	15		10		15
Boston	15–25	27	20		
Buffalo	13	26	9	14–15	19
Baltimore			12		20
Chicago	22	25	10–12	18	17
Cleveland	20	32	15	15	20
Colo. Spgs.	15–20		7	12	11
Dallas	15	25	9	25	
Des Moines	14	25	6	15	12–15
Jacksonville	25		10	30	15
Louisville		24	11		11
Los Angeles	16	25–28	10		16
Miama	25		15		25
Minneapolis		23	15	10	12
New York	17	28		10	27
New Orleans	20	30	14		18
Philadelphia	13–14	28	11		14
Pittsburg					17
Richmond	16				
San Francisco		25	15	20	16
Spokane		18.5	13		14
Salt Lake City	15		7	20	15
San Diego	17		9		15
St. Louis	18	25	14–18	12–15	17
Wash., D. C.	14	28	12–20	12	15–17
Long Beach	16	28	10	20	16

Steady to Firm Tone Reported on Cheese

(Report by U. S. Bureau of Markets)

A steady to firm feeling ruled in cheese markets during the week ending June 25, but no really active trading was reported. Prices on Wisconsin cheese boards on June 20 showed very slight advances on some styles, although sales later in the week indicated that these advances were not always followed.

One noticeable feature during the week was a more active interest in buying for storage, but this was not attended by much actual buying as the tendency to shop around for lowest prices still persists.

The weather is bound to be of more or less influence on cheese markets from now on. Hot weather defects are already noticeable in current arrivals, and will probably cause fancy cheese to hold at firm prices. Production is falling off materially in some parts of Wisconsin and if hot weather continues the shrinkage in make will run high.

The average wholesale prices on American cheese (style Twins) for the week ending June 25, 1921, and the corresponding week a year ago were as follows:

	Week ending June 25 1921	1920
	Cts.	Cts.
New York	15.7	28.1
Chicago	14.7	25.7
Boston	16.2	27.7
San Francisco	16.9	29.7
Wisconsin	13.8	25.2

The receipts of cheese at these markets were 5,246,141 lbs. as compared with 5,504,014 lbs. a year ago and 4,987,793 lbs. a week ago.

Butter Market Remains Steady

(Report by U. S. Bureau of Markets)

Butter trading during the week ending June 25 was on a quiet, steady basis, typical of a June market. Nothing much out of the ordinary transaction of business occurred. The tone was firm at the opening with an easier trend later, followed by a firmer market again at the close of the week. There was a price advance on Monday and on some of the markets again on Tuesday and Friday.

The hot weather will probably have a considerable influence on the markets as the make is expected to drop and offerings in all probability will be heavier on the undergrades and lighter on the fancy stock next week. Receipts have already shown a reduction but not enough to have much effect.

An excellent demand has existed all week for medium grades which all markets speak of as being scarce. Even poor undergrades were well taken and prices range 6c to 8c higher on these lots than was the case when the market was at its weakest point some time ago. Consumptive demand continues excellent and probably accounts for the good demand for medium and undergrades as many of the finer marks are high in price because of demand for storage. Storing of centralized in cars has been heavy but the demand is easier this week.

The report of the American Creamery Butter Manufacurers' Association covering the production of 82 plants for the week ending June 18 shows an increase of 5.3% over the output of the same week last year and an increase of 4.5% compared with the previous week. It is likely, however, that this will be the peak report as a considerable shrinkage is in prospect in many sections.

Eastern markets were all firmer on Friday and remained steady on Saturday, while Chicago regained the ½c decline registered on Friday. Receivers having butter to offer were inclined either to store or get their asking prices on stock which they control. The hot weather and continued firmness may bring some belated storage buying into the early July market.

The average wholesale prices on 92-score butter at five of the principal markets for the week ending June 25, 1921, and the corresponding week a year ago were as follows:

	Week ending June 25 1921	1920
	Cts.	Cts.
New York	34.0	58.5
Chicago	33.0	56.0
Philadelphia	34.7	59.0
Boston	35.0	59.3
San Francisco	33.5	56.5

The receipts of butter at these markets were 18,112,640 lbs. as compared with 16,676,090 lbs. a year ago and 18,737,420 lbs. a week ago.

CHICAGO, June 30—Butter—Creamery, extras, 34c; extra firsts, 33¼c; dairy, firsts, 28@33c; seconds, 24@27c.

Eggs—Ordinary, 22@23c; firsts, 25½@26c.

Cheese—Twins, 14½@15c; Young Americas, 14¾@15½c.

MILWAUKEE, June 30—Butter—Creamery, tubs, 33c; prints, 35c; extra firsts, 31@32c; firsts, 27@29c; No. 1 packing stock, 15@16c; off goods, 10@12c.

Eggs—Miscellaneous receipts, country candled, cases included, 25@25½c; cases returned, 24@24½c; seconds, 18@19c; checks, 16@17c.

Cheese—Twins, 14@14½c; Daisies, 14½@14¾c; Young Americas, 14½@14¾c; Longhorns, 14¾@15c; Bricks, 15@16c; Limburger, 20@22c; Swiss loaf, 47@48c; block, 23@24c.

NEW YORK, June 30—Cheese—Firm; state milk, common to specials, 11½@16c; skims, common to specials, 8@11c.

Butter—Firmer; receipts, 22,196 pkgs.; creamery, extras, 35½c; state dairy, tubs, 24@35c.

Eggs—Weak; receipts, 20,615; nearby white fancy, 39@40c; nearby mixed fancy, 25@36c; fresh firsts, 27½@34c; Pacific Coast, 28@40c.

Carload Prices of Hay and Feed at Important Markets June 25

(In dollars per ton)

(Report by U. S. Bureau of Markets)

Commodity	Boston	New York*	Philadelphia	Baltimore	Atlanta	New Orleans	Memphis*	Cincinnati*	Pittsburgh*	Chicago*	Minneapolis*	Omaha*	Kansas City*	San Francisco*	Los Angeles*
HAY															
Timothy and clover:															
No. 1 Timothy		28.00	23.00		26.00	31.00	25.00	30.00	20.50	22.00	18 00		†19.00		
No. 1 Clover, mixed		22.50		18.00	25.00			16.50	14.00	17 00	15 00		†15.00		
No. 1 Clover				15 00				16.00	14 00	16.00	14 50		†14.00		
Alfalfa:															
No. 1 Alfalfa					28 00	28 00	20.00	18.00		†23.00	19 00	18.00	†18.00	16.00	18.00
Standard Alfalfa					26.00	26.00	18.00	17 00		†20.00	†17 00	15.00	15.00	14.00	
No. 2 Alfalfa					24.00	24.00	16.00	13.00		†17.00	14 00	11.00	†12.50	13.00	
FEED—Bagged															
Wheat Bran:															
Spring	23 50	23 50	22 75	24.00	23.50			19.00	21.50	17.00	14 00				
Soft Winter	24 50	24 00	23 50	26.00	23.50		17.50	20.00	22.50					34.00	
Hard Winter			23.00		23.50	24 00		19.00	21.50	17 00		12.00	12.00		26.50
Wheat Middlings:															
Spring (Standard)	23 50	23 50	23.00	24 00	27.00	30 00		21.50	21.50	17.00	14 00				
Soft Winter			29.00	26 00	29.00			25.00	27.00					38 00	
Hard Winter			24 00		27 00			21.50	28.00						
Rye Middlings	22 00		20.80					18.00	18.50		12 00	12.00			
High protein meals:															
Linseed	36.00	37.00	33.50					37.00	36.00	30 50	27.00	33 00	32 00		
Cottonseed (41 per ct)	40.50		39 50						37 00				34 50	32.00	
Cottonseed (36 per ct)	38.50	38.00	37.50				36 00	29.50	34 75	36.00					30.00
No. 1 Alfalfa me'l (med)				28 00			29.00	24.50	27.00		23.50		19.50	19 00	21.00	23.00
Gluten feed	35.28	35.00	31 21	35 00				30 80	31.93	27.50					
Hominy feed (white)	31.00	32 00	30.75	29.50		28.00		27 00		24.00		18 00			
Ground barley															
Beet pulp	29 00	28.50	27.70	26 00		37.00		25.00	25 80					30.00	30.00

*Hay quotations represent average of cash sales at these markets. †Nominal.

Straw:—There was not much change in the general situation in the straw market but a few price changes were reported for the several markets where prices were quoted as follows: Wheat straw: Philadelphia $17.50, Pittsburgh $13, Cincinnati $12, Chicago $10, Minneapolis $9, Kansas City $9. Oat straw—Philadelphia $18, Pittsburgh $12.50, Cincinnati $12, Chicago $11, Minneapolis $10, Omaha $9. Rye straw—New York $23, Philadelphia $25, Pittsburgh $14.50, Cincinnati $17, Chicago $13, Minneapolis $10.50.

First Idaho Educational Scoring

Good interest was shown by the creameries of the state in the May scoring of the Idaho Educational Butter and Cheese Scoring Contest. Nine creameries competed but only two cheese factories. The quality of butter was fair, five creameries scoring above 90 and four slightly below. Let us see now who will make the greatest improvement during the summer. Honor belongs to him who, instead of being discouraged by a low score, will analyze results and be spurred on to try all the harder to convince his patrons of the necessity of better cream and gradually improve his product to the highest quality.

In most instances the cause of poor quality butter is poor cream. Why not let the patrons know about the contest? Urge them to install cooling tanks and to keep their cream as sweet as possible and success is bound to follow.

The composition score on the average indicates good workmanship on the part of the buttermaker. A little more salt in some instances would bring out the flavor to better advantage. A few samples showed mottled, due probably to insufficient working. The body of the butter was fair.

Mr. Chris Johnson, butter expert of the Western Division of Federal Dairy Extension, and H. A. Bendixen, of the University of Idaho, acted as judges. The five highest commercial scores were placed by the judges as follows: Pend d'Oreille Creamery Co., 93.; Hazelwood Co., 92.; Jerome Co-operative Creamery, 91.; Idaho Creamery Co., 90.5; and Avalon Creamery, 90.

The two cheese factories scored as follows: Wendell Co-operative Co., 89.5 and Paul Butter & Cheese Co., 89.0.

Idaho. H. A. BENDIXEN.

Of course it isn't true in your community, but in one rural section of Iowa it was found that out of 137 children examined, only 5 were up to snuff physically. Guess they hadn't had their quart of milk a day.

University of Wisconsin Ayrshire Makes a Great Record

HOARD'S DAIRYMAN:—The University of Wisconsin herd of Ayrshires has among its members two state champions and others that have either made creditable records or give promise of doing so. The first member of the herd to make a state record was University Bonshaw's Flora 37252. She still holds the state record for milk at two years. It is about her stablemate, University Cavalier's Hopeful 52265, that this article is written.

Freshening April 8, 1920, as a junior three-year-old, Hopeful was started on yearly work. During the month of May she milked 1,613 pounds of 3.16 per cent milk, which was nothing extremely remarkable. The next three months her milk yield decreased, but the test increased so that she gave better than 50 pounds of fat each month. When September came she dropped to 1,157 pounds of milk and 42 pounds of fat; which would seem more or less natural. However, when the weather became cooler she began to show the qualities that stamped her as a real producer. By December her test had mounted to 4.19 per cent and at the same time she continued to give 40 pounds of milk per day. The fat for this month was 51.51 pounds, only 2.21 pounds less than the production for June, her best month. April 11, 1921, she finished her year's work with 15,002 pounds milk and 589.41 pounds butterfat, apparently in fine shape and ready to start another year's work with a little fitting.

These records are not officially reported as yet, but regardless of a slight change she is the state champion in her class for both milk and butterfat, and also fourth place in the world for both divisions. Unless there is a report that has not been seen by the writer, there is but one Wisconsin Ayrshire cow of any age within the state that has beaten either her milk or her butterfat record.

The dam of Hopeful is University Moonstone Hope with a very creditable record of 13,583 pounds milk and 602 pounds butter. The sire of Hopeful is Cavalier's Record Prince by Bargenoch Gay Cavalier, and from the Seitz cow, Silver Pet of Spring City, the Wisconsin champion senior four-year-old. Thus it will be seen that the University cow comes rightly by her ability to produce, and by her wonderful constitution and dairy form as well. Hopeful is really a very beautiful little animal. Her udder is very good, the milk veins unusually large for a cow of her age, and her top line is good. She is just the type of cow that can go right on producing year after year. The picture in no way does her justice, because it was taken when her year's work was nearly finished. Even at that the stamp of old Bargenoch Gay Cavalier, Mr. Seitz's former great herd sire, is on her. It will be remembered that he was grand champion in both the Scottish and American shows.

Professor Hulce reports that during the year Hopeful was milked and cared for by four different short course men who were getting experience in managing dairy cattle. Perhaps if she had been cared for by one of these men for the entire year, her records might even have been increased. At any rate she finished with a great record, and everyone is waiting to see what she will do next year.

Wisconsin. B. N. PEACOCK.



UNIVERSITY CAVALIER HOPEFUL, WISCONSIN'S CHAMPION JUNIOR THREE-YEAR-OLD AYRSHIRE
OWNED BY UNIVERSITY OF WISCONSIN



H. P. DAVIS

Professor Davis has been chosen chairman of the Dairy Husbandry Department of the Nebraska College of Agriculture. He takes charge of his new position August first.

For the past two years Professor Davis has been vice-director of the Idaho Experiment Station and head of the Dairy Department. Prior to this he was with the Dairy Division.

Professor Davis is thoroughly prepared to discharge the duties of his new position, and he has our best wishes for success.

Wisconsin Ayrshires Breeders Meet

Mr. Stephen Bull's Aldebaran Farms at Racine, Wis., furnished an ideal setting for the Wisconsin Ayrshire breeders' annual meeting on June 25 as the 70 or more Ayrshire breeders, their families, and friends who were present will testify.

Those who arrived at all early spent their time before lunch to good advantage inspecting the herd—one of the best in the middle west.

Following an excellent luncheon, the meeting was called to take care of the usual routine, business, elect officers, etc. Officers elected are: President, B. B Simmons; vice-president, Adam Seitz; secretary-treasurer, Wm. Nisbet; executive committee: Stephen Bull, E. Tschudy, I. Jones.

Mr. Bull, the retiring secretary, brought out one fact not entirely complimentary to some of the Ayrshire breeders of the state. Although many new members have joined the association during the past year, about forty of the sixty-four older members failed to renew their memberships, which would apparently indicate a lack of progressiveness where it is most needed.

Following the business meeting, Mr. H. W. Gossard, of Illinois, one of the largest Ayrshire breeders of the country, made a splendid talk, giving the Wisconsin breeders some advice that could profitably be followed. He urged them to talk Ayrshires more, but to talk to some one else rather than among themselves. Sell the other fellow and get him started selling the Ayrshire idea. The Ayrshire cow is a good one and if every breeder would do as much to advance her cause as does the cow herself, Wisconsin Ayrshires would soon be away ahead of their present position.

F. R. Steel, general manager of the Gossard Breeding Estates, urged that more local work be done among calf club members and the like, and advised the state association to direct its advertising more towards farmers and dairymen than toward established breeders.

Following the program was the drawing for the registered bull calf donated by Mr. Bull, and for which each guest had registered. Mr. E. Roth held the lucky number.

New York Dairy Notes

HOARD'S DAIRYMAN:—The Tompkins County farm agent and two dairy experts from Cornell were called to West Danby by dairymen delivering milk there, to inspect the milk plant in order to determine why their bacteria count was so high. Friction had arisen between the farmers and the buyer, as the latter's bacteria count did not look fair to the farmers who sold their milk at a price based on the count.

Examination of the plant showed lax management which had been causing much of the trouble. Much of the equipment was found to be in unsatisfactory shape. The college men took samples from 81 different lots of milk, finding the test averaging about 100,000 or less. The company purchasing the milk had been reporting tests running as high, when tested at their New Jersey plant, as 30,000,000.

The college was recently called to a town on the northern boundary to settle a similar difficulty for the farmers who are learning what a wonderful help and support to them the college can be and is.

⚜

Plans are being made for the huge 12-ton cheese to be made at Lowville for display at the New York state fair. The start of its manufacture will be made a considerable ceremony with Lieutenant-Governor Wood, Commissioners Henry K. Williams and George E. Hogue participating. The cheese will be the biggest one ever made and will be the star feature of the dairy exhibit.

⚜

J. D. Brew of the dairy department at Cornell is touring some counties of the state conducting an educational campaign in which dairymen are shown how to keep the bacteria count of milk down to a low level. He is testing the milk handled at the various milk stations to determine the bacteria content of the liquid. He has done much to teach users of milking machines how to care for the machines so as to produce milk of utmost cleanliness.

⚜

At a recent meeting of the board of directors of the New York State Holstein Cattle Breeders' Association it was decided to protest the increase in cattle freight rates. In April the railroads shifted cattle from the fifth to the fourth class increasing the rate about 20%. Mr. E. R. Zimmer is to confer with the railroad officials relative to re-establishing the old rates.

An extensive sale policy was also decided upon, with a two-day sale October 5 and 6 at Endicott. It will be the first semi-annual sale of the association. Entries of animals will be limited to 150 to be consigned by members. Quotas will be assigned each county on the basis of membership and number of cows, insuring just representation from each county.

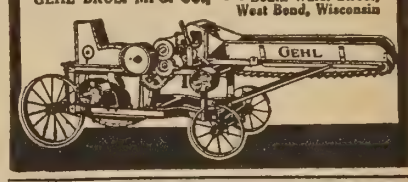
The matter of a sale next January at the annual meeting was discussed and a committee named to investigate Utica as a possible place. The matter of sending pure-bred Holsteins to France for restoration of devastated regions was discussed.

Dryden, N. Y. E. F.

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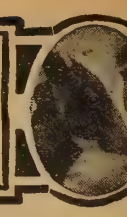


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HOARDS DAIRYMAN JUNIORS



A DEPARTMENT FOR THE DAIRY FARM BOY

The Race Through the Corn Field

[Continued]

"Don't blame me if dad raises a rough house about your trying to be a lawyer," said Jerry, half jubilantly at the prospect of the impending trouble which he considered Jimmy had drawn himself into, as the two were unhitching their steaming horses in the barnyard lot.

"You're not man enough to assume any blame," retorted Jimmy hotly. "I'll take the law into my own hands and you'll see that I'll win the case, too," he boasted.

"Well, you were beaten in one race, anyway, wasn't he, Pete?" Jerry snickered, "and I guess you and me had better keep out of this. Dad'll give him all the race he's looking for this time," and he eyed his brother curiously, wondering how he could be so bold in the face of the apparent wrath which he thought he saw written on the weather beaten face of his father. "He'll probably find out that he'll need other lawyers besides himself," he continued to tantalize in semi-audible tones.

"Lot of fuss I've stirred up," Jimmy began again, "just because I've got my own life to live and because I've decided to live it in a certain way. It's my own business," he said with determination," and I'd like to see any one argue me out on the proposition." He was growing defiant at the thought of having his ambitions curbed. "What's the use in living if a fellow can't do some of the things he wants to," he added indignantly.

But Jimmy was a born diplomat. He would place all of his cards in the open at any cost and he planned on doing the same this time. So it was with his usual optimism that he took his place at the family dinner table with his nine brothers and sisters. An unusual silence prevailed and most of the younger Greenes were casting sly, timid glances toward the head of the table. They had scented the trouble and with Jerry they were waiting for it to begin.

But it didn't begin as soon as they had anticipated. The meal continued in silence excepting for the smacking lips and gulping noises made by the younger members as they greedily devoured the substantial food that kept them in good health. Finally they turned their attention in Jimmy's direction, but he, like his father, did not deign to notice them, until at last little Tommy who by this time had quite completely satisfied his hunger, innocently remarked: "What's the trouble, Jimmy? Jerry can't beat you every time in the race." Tommy had heard the argument in the barnyard lot while the boys were unhitching their horses and so, childlike, he felt that he knew what it was all about. At the mention of the race several of the others snickered outright for they were beginning to look upon Jimmy as out of their class now that he was going to college. "I should think that he could have won against old Pete with them two colts," sister Jenny chimed in. "They were raised according to college instructions given by Jim himself," she added sarcastically, "which goes to prove that all them professors say isn't so true after all," was her final comment.

And even this taunt failed to bear the looked for fruit. Jimmy remained stolidly silent but for the look of amusement that covered his ruddy sun-burned face, and the smile which he gave to little Tommy as the latter slipped from his chair and started toward him, a habit which he had developed at the time he had learned to walk. He was very fond of his big brother and never quite so happy as when he could be with him. The fondness evidenced by the oldest and youngest of the family for each other always brought to the homely face of mother Greene a smile of satisfied contentment which now, as was her custom, she poured in the direction of her husband.

Apparently this was too much for him. He realized that he was expected to say something and he bit savagely into the full loaf slice of bread that at that moment he had hoisted to his mouth. And between chews he managed to sputter, "Jim, is this fool idea true that Jerry said or was he only fooling?"



EVEN IF THE CORN FIELD IS FREE FROM WEEDS, IT MAY BE A GOOD PLAN TO CULTIVATE IN ORDER TO BREAK UP A SURFACE CRUST ON THE SOIL

At the mention of his name, Jimmy quickly looked up while the faintest glow of embarrassment left its red in the full of each cheek. He was the picture of health for the influence of the three weeks' outside was beginning to put him back into hardened physical condition. With his characteristic toss of the head, he shot back, "Sure it is! You didn't think that I was fooling about a matter as serious as this is, did you?"

"Well, it's what I would call a mighty shabby trick on your family," was his father's first comment, and he glowered fiercely at his son. "Here we've all been banking on you coming home and taking hold like you should do. By the time you are through your mother and I will be ready to take a rest and here you are upsetting everything with this fool notion you've got into your head. I think that we deserve more consideration than this, and then, here's Jerry, too, who has been bearing the big load for the past two years and doing it cheerfully, too, because he was so anxious to have you get your education and then come home to form the partnership that you had agreed to do with him. It's all wrong and, besides, where did you get that idea from? Who told you that you would be a success in the law business? We've got enough of them fellows as it is and if they'd go to work in a real honest way, the world would be better off. Look at that Lawyer Jackson down town. I'll bet he's a sitting round doing nothing right now waiting for a little business to come his way. I want to tell you, son, that them professions don't give you a living so all fired easy as you think they do. You've got to get right down and scratch!"

That statement gave Jimmy his opening. "That's what you've got to do in anything if you want to make a success," was his first rebuttal. "You've worked hard all your life, dad, and you've been successful, too, at least you own your farm and you've raised a large family of us. I call that success and if I'm any judge, you certainly have scratched as you call it. So I don't see that there is very much to your argument."

"Yes and a fine family, I would say, "interjected the mother proudly. "Patrick, they are a splendid lot," and she reviewed her offspring with more than customary egotism. "Jimmy would make a great lawyer, Patrick, and perhaps we should allow him to decide that for himself, and seein' how Jerry here will surely be a farmer, maybe it would be best to have at least one lawyer among them," she explained in almost childlike simplicity.

"There's nothing more to decide, ma," Jimmy chimed in again. "That's already been done and I suppose that's what this fuss is all about. It doesn't make any difference what any of you say. The whole matter has been threshed out after careful consideration for every one concerned and it's settled, ma, there'll be one lawyer in the Greene family. It needn't make one atom of difference to your plans, dad. Jerry will study agriculture and he'll make a capital, up-to-date farmer. He and Bob will just turn things upside down in this community."

"I'm surprised that Bob hain't changed his mind, too," broke in Mrs. Greene a second time "and I'm just thinking that Mrs. Ramsay will be just a little jealous when you graduate from the law college, Jim, and her son only gets a diploma from the agricultural college," and she sat back in her chair quite puffed up, showering nods of approval upon her eldest.

"I like your attitude, ma," Jimmy approved in return. "But you don't want to think for a minute that law is any better than farming and, as dad said awhile back, you've got to scratch to make good in that profession, but I'm willing to do that. No, it isn't because I think that it will be easy for me to become a good lawyer that made me make the change. It's because I feel that I am fitted for that work and that I can be more successful in it than I can on the farm. And as for Bob, ma," he continued, "he gets more splendid every day. He's the solid chap he was and he's stronger for the farm today than he ever was and so you needn't look for him to follow my example. I told him that some day he would be the federal secretary of agriculture and that perhaps I might get to be a senator if I could keep pace with him."

"Well, you're not going to get to be a cheap lawyer on any of my money," broke in the father again, with a roar. If you change your course, young man, you'll do it on what money you can make. I'm not going to spend hard earned cash for that kind of foolishness. First thing you'll be out of that into something else!"

But this didn't serve to dampen Jimmy's youthful ardor in the least. "It hasn't cost you very much yet, dad, and I can at least thank the agricultural college for the work they gave me to do to earn some money. That's the only way that I was able to stay in school. You did give me a check once, though, for one hundred dollars and that's all the help I have had in these two years so you needn't figure that any threat like that will stop me from carrying out my present plans. I'll just continue to work my way through and, of course," he slyly added as he winked at his mother, "if you ever feel that you are making more than you are entitled to on this farm yours truly can help to spend some of it in the law school."

Jerry had had time up to now to consider the entire situation, and boylike he began to feel the pangs of remorse for his brother. "Let him have his way, dad," was his first comment. "He's getting to be quite a lawyer already and I think he'll beat you in the race, but," and here he turned squarely to meet Jimmy's smile, "you can't beat me in the farm race when old Pete's on my side! None of your college ideas 'round him. I really didn't know how good the old fellow still is, dad," he chuckled, "'til I tried him out this morning. Sure, dad, let him have his way," he coaxed. "He's always had and he might as well this time. You and I will form the partnership, just like Bob and his dad will do. I'll not go back on you and I'll swear that I'll take the responsibility off your shoulders and that will be just as good as moving to town. You can take things as easy as you want to and then when one of the other kids gets grown up you can drop out of the partnership if you like. Jimmy thinks that he's so smart, let's give him the chance to hang himself or see what he can do. But we ought to have it understood that if he makes a failure out of law, he can't come butting into our business, and he should also know that we will conduct our business so successfully and peaceably that he won't be able to collect any fees from us."

The latter statement brought a faint smile to the father's face, and he replied by saying: "That's what

I've made up my mind to. If he can make a go out of the law, that's his business, but if he starves to death on it, that'll be his business, too. But I hope for your sake, Jim, you'll make good and if it will please your mother so much to have you a lawyer, I also hope that she will not have to be disappointed. What we want is either a big lawyer or none at all.

"You've got the idea, dad," Jerry grinned at his brother, "and say, dad, I think that this partnership business of ours ought to be formed right away, now that Jimmy is out of it. Let's see how bad we can make him feel," he added as the two left the house together. When at a safe distance, he suggested, "Say, dad, I've got a new idea. I'm not going to spend four years down there at college. I'd like the education all right, but now that we have had to change our plans some, I think it is up to me to change mine, and this is what I have decided to do. I'll just take the fifteen weeks' short course in agriculture. That comes at a time when there isn't so much work to do and then it only lasts two winters. Hank Brown, you know him, the fellow that finished a year ago, says that he got a good deal of practical stuff from that course. What do you think of the idea?"

"The idea's good, Jerry, but I'd like to see you get as much schooling as Jim."

"Don't you worry about that, dad, one smart one in the family is enough and I guess ma thinks that Jimmy is the one to educate, any way."

"Well, for the time being, son, we'll plan on this then, and when the fall work is done, you go and take your fifteen weeks' of the short course and between me and the other boys I guess the chores will be taken care of. And about the partnership business, we'll talk that over after your mother and I have settled what will be the best way to work the thing out."

"I'll bet Jimmy thinks you've got it in for him now," Jerry smiled, "and I guess you were pretty hot at us both for racing the horses the way we did, eh, dad?"

"Oh, I don't suppose any harm was done," he returned, "and maybe it did Jim some good to know that he can't win out on every thing he tries to do. That old Pete is good yet, son, and with the same care he's always had on this farm, I wouldn't be surprised to see him in the harness for another ten years. Wonder what the lawyer is doing," he said just a bit sarcastically, as he drew forth his watch, adding, "it is time to get back to the corn."



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LEHIGH CEMENT



ON THE WIGMAN FARM AT HOLT, MICH. TWO SURATO BOYS AND THEIR PRIZE GUERNSEYS

Fruitland, Idaho, Jersey Calf Club

Is thirteen unlucky? This goes to prove that it is not. There are thirteen very enthusiastic embryonic Jersey breeders comprising the Fruitland Registered Jersey Calf Club. They were organized last fall largely through the efforts of Miss Scribner, county club agent, and Frank M. Gardner, cashier of the Fruitland State Bank, Fruitland, Idaho.

Mr. Gardner's bank financed the purchase of the greater portion of the 112 registered Jerseys at the co-operative sales held in May and December, 1920, and offered to loan money to the members of the calf club for the purchase of registered Jersey heifers. Mr. Gardner is an enthusiastic booster for Jerseys and has been of great service to the breed by his support and service.

The local leader, Ralph Makinson, a Jersey breeder is assisting the members in their problems and directing their studies. The advisory board consists of Frank M. Gardner, banker; Geo. Eldridge, Jersey breeder (owner of Adelaide Sultan 123005); and L. P. Dorothy, Jersey breeder (herd on semi-official test).

This club is particularly fortunate in having received from the Meridale Farms, being one of the three calf clubs in the United States to be awarded this honor, a gift of a bull of splendid conformation and backed up by excellent records. This bull is Oxford's Sayda's Heir, whose dam, Oxford Carteret, produced 613 pounds butter class AA in 347 days as a three-year-old. This bull is claimed to be the oldest living R. of M. sire, being 19 years old. To say that the calf club members are proud of this bull is putting it very mildly and they have each written a personal letter expressing their gratitude to their benefactors.

The writer recently attended one of their meetings and can truthfully say it is doubtful if any club in the world has a membership of brighter, more interested, and businesslike members. This club is a credit to the Jersey breed, to Payette County, and to Idaho. The greatest need is for more like it.

F. R. CAMMACK.

Junior Letters

Hoard's Dairyman Juniors:—I have a grade Jersey heifer which I bought of my father for $15. He said she was worth more but he let me have her cheaper. She will be six months old the second of May. I named her Betsy. She weighed 210 lbs. when she was five months old. She gets silage and one-half pound of ground oats and barley mixed with a little oil meal and about 14 pounds of skim-milk a day, all the timothy and clover hay she wants, all the water she wants, and salt. I made her a rope halter. She leads fairly well. I am raising her for the boys' and girls' club we have in our town.

We have 54 spring pigs and two more sows to farrow. We have now 9 calves including my calf. We are milking 24 cows. We sold all our red cows but one.

I must close wishing all kinds of good luck to the juniors.

Minnesota. Stanley Hillier.

Hoard's Dairyman Juniors:—I live on bank of the Mohawk River. I am 12 years old and in the 5th grade at school. There are only sixteen pupils in our school. Our teacher's name is Mrs. Hulett who lives in Scotia.

We have 13 cows, 1 bull, 3 heifers, and 3 calves we are raising. Our cows have all been fresh. We have four horses. We are planting our corn this week. We have planted about ten acres of oats and about ten of corn.

I will close wishing the juniors good luck and hope some of them will write to me. My address is Pattersonville, N. Y.

Roger M. Wilcox.



The rate for advertising in this department is 10 cents per word. Count address. Remit in advance. Copy must reach us 8 days ahead of date of issue. Farm labor advertising 7c per word.

STOCK FOR SALE

Holstein heifer and bull calves. Pure-bred, registered and high grade. Splendid individuals and breedings. Delivered to you, $25 and up. Your inquiry will be given our best attention. BROWNCROFT FARMS, McGraw, N. Y. 5*

I have usually 100 head of registered and high grade Holsteins on hand for sale. Also registered and imported Percheron and Belgian horses. RALPH HUDSON, Milton Junction, Wis. 12*

For Sale—At Elmwood Stock Farm, high grade Holstein cows, fresh and springers, by the carload. JOHN MURPHY, Mukwonago, Wis. 3*

"The Willows" offers fifty high grade Holstein cows for sale. S. D. SHAMBEAU, Waupaca, Wis 12*

Serviceable grandsons of Lola Segis Pontiac Homestead for sale, he a 34-lb., 1,000 lb. son of Piebe Laura Ollie Homestead King. Their dams are daughters of Joe Oak De Kol Fobes. Well grown, good individuals. Your choice, $150. R. W. MEAD, Stillwater, Minnesota. 10*

Baby Bulls—Registered Holstein-Friesian by high class sires and heavy producing dams. Price is right. C. S. MULKS & SON, Whitewater, Wisconsin. 3-*

We ship our 7 weeks old Holstein calves subject to inspection c. o. d. for $28.00. Express charges paid. Special price on lots. SPREADING OAK FARM, Whitewater, Wis. 17-tf.

Holstein grade heifer calves, two to four weeks old from tuberculin tested herds. Crated $22. Pure-bred bulls from tested sires $75 and up. Shipped C. O. D. WAUKESHA COUNTY HOLSTEIN BREEDERS' ASS'N., Waukesha, Wisconsin. 20*

Holstein Bull—Ready for service, 2 dams average 106 lbs. milk in one day, 40.67 lbs. butter in 7 days. $125 terms. Also two heifer calves. ROY HARRIMAN, Appleton, Wisconsin. 23-4

For Sale—Registered Holstein bull, Sir Hoy Korndyke, one year old last April. Dam, Lady Dora Korndyke. Price $100. CLIFFORD TOBEY, Worth, Illinois. 24-2

For Sale—Red Holstein bull calf, born March 15, three-fourths white. Dam, 25.75; sire's two nearest dams 36 lbs. Price $125. Shipped on approval. ORRIE STEELE, Evansville, Wis.

Holstein bulls, all ages, from tested dams. Federal Accredited herd. Prices reasonable. ARTHUR C. DAILY, Springfield, Mo. 25-*

For Sale by Edgar Holstein Breeders' Association. Several carloads of high grade cows and heifers. Federally tested, cow testing association records. C. W. SYMONS, Sec., Edgar, Wis. 25-2

Registered Holstein bull calves. World's record milk producing stock at farmers' prices. FREDMAR FARMS, 3550 Lindell Ave., St. Louis, Mo. 25-tf.

Bulls for sale by "37th" 1127-lb. sire. From tested and untested dams. PESTER BROS., Whitewater, Wisconsin. 23-6

Guernsey heifer calves. Can ship you 10 at once about 4 weeks old. Calves out of my own herd, so know what I am shipping. $30 each crated. F. O. B. Waukesha. WERN FARMS, Waukesha, Wis. 18*

For bargains on May Rose bulls with type and production, write KUHTZ BROS., Waukesha, Wis. 21*

Guernsey calves six weeks old, $20. F. O. B. Knapp. THOMAS HAGERTY, Knapp, Wisconsin. 2*

Guernsey bulls, also a few females. Send for reduced price list. MATH MICHELS & SONS, Fond du Lac, Wisconsin. 21-*

Guernsey bulls from high record cows at very low prices. Send for list. H. W. GRISWOLD, West Salem, Wisconsin. 23-4

Serviceable and younger Guernsey bulls. Glenwood's Champion (25 A. R. daughters) and Beauty Eagle (846 lbs. fat) breeding. Bargain prices. LA BELLE KNOLL FARM, Oconomowoc, Wisconsin. 23-tf

For Sale—My herd bull, May Rose breeding. His dam and two grandams averaged 687 pounds fat at four years old. He is light fawn with white marking, clear nose, star on forehead and truly a real high class bull. Age 2 years. Herd passed federal test. Also two of his sons 4 and 5 months old, excellent calves from good dams. Price $40.00 and $50.00 each. Registered and extended pedigree furnished. LEVI RESSLER, JR., Nappanee, Ind.

Big bargain for quick sale—line bred yearling May Rose bull 600-lb. average. GLYN SARGEANT GUERNSEY HERD, Long Prairie, Minn.

For Sale—Some handsome, registered Jersey bulls, 3 to 24 months old, out of high producing cows. For price and pedigree write CLARENCE RAGSDALE, 709 Monroe Ave., Moberly, Mo. 24-2

Beautiful Pure-bred Jersey heifers, thirty months, freshen September, $125.00 each. BELROSE FARMS, Richford, N. Y. 24-2

Line-bred Financial King Jerseys. Both sexes. "SCHULTZ," Baileys, Colo. 25-2

Registered Ayrshires—Eleven cows, four yearlings, bull; $3000 takes all. Address BOX 797, care Hoard's Dairyman. 24-4

STOCK BUYER

Registered dairy cattle bought and sold. EDWARD A. WALTER, 111 Monroe St., Chicago. 18*

Will buy for you, dairy cattle of any breed, grades or pure-bred. DAVID W. WILLIAMS, Lake Forest, Illinois. 6*

We buy and sell dairy cattle of all kinds. Car lots of registered and high grade Holsteins a specialty. F. B. GREEN & SONS, Evansville, Wis. 18-*

STOCK WANTED

Wanted—20 young pure-bred Holstein cows on shares. Are doing seven-day and yearly work. Let us know what you have to offer. WACHSMUTH BROS., Oconomowoc, Wisconsin. 24-3

Wanted—Car Guernsey cows, grades or pure-breds, tuberculosis free. D. S. CROSHAW, Wrightstown, New Jersey.

SHEEP

For Sale—About 200 sheep. Some are two years old, some last years' lambs and some this years' lambs. All to be sold as am going out of business. OTTO EKSTROM, General Delivery, Hibbing, Minnesota. 25-3

PONIES

For Sale—Nice children's pony, runabout and harness. $100 for the outfit. O. COBURN, Whitewater, Wisconsin. 25-2

DOGS

Fox hound pups, Williams strain. W. E BRIGHAM, Hebron, Ill 24-2

MACHINERY

For Sale Cheap—A small lot of standard make Swedish Cream Separators, 400 pounds capacity, $29.00, 500 pounds capacity, $34.00, 700 pounds capacity, $39.00. These are all new machines, wonderful bargains. THOMAS TAFFEE, Box 355, Lansing, Mich. 18*

One Waterloo Boy 12-20 tractor good as new. One Grand Detour Jr. 3-bottom plow, new. Two 16-inch pulverizers new. H. C. KARSTEN, Huntley, Illinois. 10*

Several new U. S. Cream Separators. Price right. THOMAS DORGAN, Springfield, Illinois. 23-3

For Sale—One 6-cylinder and one 12—25 Avery Tractor. Both new. Must have money we have invested in them. Card brings description and prices. Address BOX 617, Marengo, Ill. 24-2

Corn Harvester cuts and piles on harvester or windrows. Man and horse cuts and shocks equal Corn Binder. Sold in every state. Only $28 with fodder tieing attachment. Testimonials and catalog free showing picture of Harvester. PROCESS HARVESTER CO., Salina, Kansas. 24-spl

For Sale—Burton-Page 2 cow hand milker, used one week, $50.00. E. G. SCRIPTURE, Ironton, Ohio. 25-3

For Sale—One unit Sharples Milker, new style, never used—$60. D. S. CROSHAW, Wrightstown, New Jersey.

For Sale—Three double unit Perfection Milkers, one Empire Vacuum pump, tank, stall cocks, for $300. Price on separate articles upon request. W. E. HEY, 207 Cherokee Ave., Sayler Park, Cincinnati, Ohio.

Two used Universal double unit milkers in good condition for $75 apiece. WM. F. BENOY, Brewster House, Freeport, Ill.

AGENTS WANTED

Yes Sir, we have a special opportunity for you during spare time, an opportunity to do some good work in your neighborhood, for the betterment of dairy farming, that will pay you in cash for the effort you put forth. Write for our "Special Opportunity Getting Together" folder. Address HOARD'S DAIRYMAN, Fort Atkinson, Wis. 2-tf

TOBACCO

Homespun Smoking and chewing tobacco: 10 lbs. $2.50; 20 lbs. $4.00. FARMERS' UNION, Mayfield, Kentucky. 22-4

HAY

Alfalfa and prairie hay for sale. Prompt shipments. Personally inspected loading. Wire or write GUNN HAY CO., Lexington, Nebr. Reference Lexington State Bank. 11*

FEEDS

Dried Beet Pulp—the wonderful dairy feed. New reduced prices. Ask your dealer or write THE LARROWE MILLING COMPANY, Detroit, Michigan or Los Angeles, California. 12*

FEED BAGS

Ship your bags to LARIMER BAG CO., Washington, D. C. 11-spl

We buy second-hand bags, pay one-half freight on 200 or more. LINCOLN BAG CO., Springfield, Illinois. 10-spl

LIGHTNING RODS

Lightning Rods—Exclusive agency and quick sales to live dealers selling "Diddie-Blitzen Rods." Our copper tests 99.96 per cent pure. Write for agency. Prices are right. L. A. DIDDIE CO., Marshfield, Wis. 9*

SALESMAN WANTED

Wanted—Young men with experience in animal husbandry, who have sufficient experience in dairying to judge relative value of dairy rations. To such men a proposition to sell a manufactured dairy ration to dairymen through dealers is offered. Only men who are able, through experience, to convince themselves of the value of the feed through actual experiment are desired as our product has merit and we wish to sell it only by being able to show actual results. Applicants should state age, whether married or single, education, practical experience so that we may be able to act quickly. Our proposition will be submitted promptly to those of ability. Address BOX 800, care Hoard's Dairyman. 25-3

PRINTING

Hoard's Dairyman Art Department designs your letter head free. Just tell us your breeds of stock. Book of 5,000 Farm, Ranch and Cottage names 25 cents. Ask for samples of letter heads, envelopes, shipping tags, cards, milk tickets, etc. Poor stationery is more of a damage than a help. Be sure and give correct post office address, including state. Address HOARD'S DAIRYMAN, Art Dept., Fort Atkinson, Wisconsin. 8-tf

SILOS

Washington Fir—12x24 and 14x26. ALBERT C. WOLLIN, Johnson Creek, Wis. 23-spl

POULTRY

Live Broilers now wanted. Highest prices paid for poultry, veal, pigeons, lambs, etc. Quick returns, fair treatment. C. E. MC NEILL & CO., 325 West So. Water St., Chicago, Ill. 17-*

Baby chicks $10.00—100 up postpaid. Catalog free. UNIVERSAL BABY CHICK CO., Peoria, Ill. 24-4

EXCHANGE

Will trade 160 acres unimproved land, best part of Estancia Valley, for good registered Holstein cows, heifers or calves. Value $10.00 per acre. WILLIAMS RANCH, Santa Fe, New Mexico. 24-3

TANNING

Let us tan your hide. Cow and horse hides for fur coats and robes. Cow and steer hides into harness or sole leather. Catalog on request. THE CROSBY FRISIAN FUR CO., Rochester, New York. 10-17

FARMS FOR SALE

I have a few choice improved and partly improved farms in the famous potato and dairy region of upper Michigan, 40 to 160 acres. Low prices and easy terms. JOHN MAJOR, P. O. Box 198, Marinette, Wisconsin. 16-13

Hardwood cut-over land, silt loam, clay sub-soil. Neither sandy nor gravelly; close to town; good roads; good schools; in the heart of the dairy country. You deal directly with the owners. No agents and no commissions. Easy terms. Also improved farms. Write for map and Booklet No. 4. NORTH WESTERN LUMBER CO., Land Department, Stanley, Wisconsin. 1*

Farms for sale. We own and control several choice Livestock farms in famous Prairie belt of Mississippi. Write us what you want. HANSON & COCKRELL, Macon, Mississippi. 19-*

Clover, alfalfa, sugar beet, prairie. Owner's price, easy terms. Submit trades. GASEL, Thief River Falls, Minn. 19-7

Farm For Sale—160 acres on Red Cedar lake, Barron County, Wisconsin. Buildings new and modern. Big bargain for the right party. W. A. HANCE, Freeport, Illinois. 22-*

For Sale—2,000 acres fine hardwood timberland, birch, white ash, maple, white pine, spruce. Sawyer County, Wisconsin. Logging would pay handsome profit. Land delightfully situated for stock ranch. Two trout streams, six springs. W. A. HANCE, Freeport, Illinois. 22-*

Farms near New York City. Dairy, grain, potato, fruit, poultry. 752 pictures sent free. SLOCUM FARM AGENCY, 141-T Broadway, N. Y. C. 23-4

Farms for Less Money—In the Shenandoah Valley of Virginia. Blue-grass, stock, grain, dairy and orchard farms of 10 to 1,000 acres. Perfect climate, solid roads, best of schools, cheap labor. 750-acre dairy farm highly improved near large city. Yearly sales equal price of farm, stock and equipment. 110 acres, 1 mile large railroad town and high school, 2 good dwellings of 7 rooms each, large barn, plenty of fruit and timber. Must be sold. Owner dead. Price $5,000. Write for farm bargains that will make you money and good homes. W. T. BIRMINGHAM, Winchester, Virginia. 23-8

Dairy Farm For Sale or Rent—On concrete boulevard and arm of Chesapeake Bay two miles from Annapolis, Maryland, seat of U. S. Naval Academy. One hour by automobile on state boulevard to Washington or Baltimore. Recently-built modern buildings—all city improvements, concrete and tile barn, James equipped. 100 acres excellent clay loam soil. Good pastures, ample water. Dairy products always scarce and high in this market. Fine field for some live dairyman. Address BOX 14, Route 2, Annapolis, Maryland. 23-3

New York State Farm—112 acres near milk markets. Improved road. Productive land, crops well advanced. Pleasant house, furnace, gas lights, running water. Basement barn, silo, other barns. 20 high grade Holsteins, team, hens, crops, gas engine, silo filler, all tools. $10,000. Cash $4,000. Write for catalogue. HUGH R. JONES COMPANY, Inc., Utica, N. Y. 24-2

Irrigated Alfalfa Lands—Growing alfalfa, grains, sugar beets, spuds. Richest soil. Unfailing water supply. Great valley developing. On railroad. Very healthful. Good markets. Fine opportunity for farmers of reasonable means in dairying, cattle, sheep. Have four 80-acre farms in crops, fair improvements. Must sell. Price $100 to $125 per acre. Same lands in older communities sell at double this price. Terms reasonable. No trades. Write owner. EARL WARREN, Riverton, Wyo. 24-8

Auction July 21st. My 110 acres. Level, black. Modern barn 36x72, other improvements. Highly productive. Woodstock 4, Chicago 50 miles. WM. T. BLACK, R-2, Woodstock, Ill. 24-2

New York Farm Agency, Westfield, N. Y. has the bargains. Maps, lists, information free. 20-spl.

Alfalfa, corn, grain and live stock farms. Best in famous prarie belt for the money. Write me what you want. H. H. HANSEN, Macon, Miss. 21-spl

New York alfalfa belt farms, $30.00 per acre up. Send for list. GEO. R. CROSS, 86 Seneca St., Oneida, N. Y. 25-*

Homes Acres Dairy—For sale 240 acres fine Seward County Nebraska land, buildings cost about $20,000. Equipped for dairying. Price $65,000. $45,000 back on farm, six per cent ten years. Send for photo of buildings. Three crops alfalfa. Over sixty years, want to retire. Car alfalfa seed to sell, also car timothy seed. LUCIAN C. JOHNSTON, Seward, Nebraska. 25-2

For Sale—80-acre farm, 80 rods beautiful lake frontage, 50 acres under plow, balance timber and pasture; no rocks or stumps; good seven room house, barn, garage, wood house, pump house, all fenced, one mile from good town on stone road; R. F. D., telephone, high school. Price for quick sale, $7,500. $2,500 cash, good terms on balance. W. J. RYAN, Butternut, Wis.

113-acre farm only $1,750, horse, cow, hogs, crops, flock poultry, tools, implements, etc., included; your opportunity get going farm in splendid section; 2 miles R .R. advantages; productive loamy fields; 10-cow spring-watered pasture; lots wood, abundance timber; 25 apple trees, cherries; good 6-room house, bountiful maple shade; substantial 40-ft. barn, poultry house; other interests force quick sale, $1,750 gets all, easy terms. Details page 33 Illustrated Catalog 1100 Bargains. Free. STROUT FARM AGENCY, 150 DL Nassau St., New York City, N. Y.

For Sale—117-acre farm near Dousman, Wisconsin. Excellent buildings, full line machinery, cows and horses. Very easy terms, excellent opportunity. D. UTTER, Lake Beulah, Wisconsin.

300 acres, 30 head registered Jersey cattle. Fine location, healthful climate. Jacksonville market. Price $19,500. J. W. BUCHANAN, Folkston, Ga.

For Sale—450-acre level dairy farm, in fork of two rivers, near Binghamton, N. Y. 50 acres timber. 12 room house. Two silo basement barn accommodates 100 cows. All buildings good condition and painted. Running water everywhere. Including 5 good horses, 90 head young stock, all machinery and tools $40,000. One-fourth cash. C. J. PLANCK, 401 Press Building, Binghamton, New York.

FARMS FOR RENT

For Rent on Shares. One of the best stock farms in Ohio, consisting of nearly 500 acres. Prefer man with some money to buy half interest in real registered Holstein herd on the place, but not absolutely necessary. Can send milk to town, or would put up cheese factory. Farm will carry 150 head of cattle. Farm is a mile from 3 R. R. SILVER CREST STOCK FARM, Somerdale, Ohio. 24-*

Will sell my dairy herd and lease my land for a period of five years. 60 cows, good grades; 40 young stock. 170 acres of best soil in County, well improved. Irrigated from famous government project, the Roosevelt Dam. Most wonderful climate in America. Two crops corn per annum. Green feed year around. Wonderful productivity. Age and health demands I retire. I have done well. A younger man with family of milkers can do better. $3000.00 cash required, balance easy terms. Best of references offered and demanded. Address, "A. S.", care Maricopa Creamery Company, Phoenix, Ariz. 24-2

WANTED TO RENT

Farm Wanted—Two experienced dairymen want an equipped dairy farm with 25 or more cows, Holstein perfered with modern equipment on share basis. Middle aged and life time experience. Can furnish reference. R. L. ZILLIOX, 2922 S. E. 14th St., Des Moines, Iowa.

FARMS WANTED

Want Southern Wisconsin highly improved farm from 80 to 200 acres with stock. WALTER MILLER, Brumder Bldg., Milwaukee.

Wanted to hear from owner of a farm or good land for sale for Fall delivery. L. JONES, Box 941, Olney, Illinois.



Advertising in this department is 7c per word. Remit in advance.

HELP WANTED

I am desirous of communicating with a young man to work my general farm. He must be clean, neat, of good habits, lover of cattle, a prideful worker, and take pride in the handling of a team of Belgians, acknowledged the finest in the country. In return good wages, a good clean Protestant home. Farm within limits of small, live town, 20 miles from Milwaukee. One block from house to depot and lake. This is not a summer job. Man I want will be his own boss. State wages expected, references, age and full particulars in first letter. Address BOX 792, care Hoard's Dairyman. 23-3

Wanted—Good family that can care for and milk 40 cows and care for modern milk house. Good living conditions. WILLIAMS RANCH, Santa Fe, New Mexico. 24-2

Wanted—Milk wagon driver. No tobacco. GEO. R. PETTY, Route 10, Oklahoma, Okla. 24-2

Wanted—Herdsman, single man, for registered Holsteins, experienced in A. R. O. work. Give references and wages expected. Address BOX 799, care Hoard's Dairyman. 24-2

Hundreds U. S. Government positions open to men, women, girls. $135 to $195 month. Steady work. Common education sufficient. Write immediately for free list positions open. FRANKLIN INSTITUTE, Dept. N 115, Rochester, N. Y. 24-5

$35 week. Women wanted. Become dress designers. Learn while earning. Sample lessons free. FRANKLIN INSTITUTE, Dept. N 553, Rochester, N. Y. 25-4

Wanted—Woman for general house work. No children. Three in family. State wages. Good home. MRS. MAGGIE CRAW, R-1, Berlin, Wis.

Wanted—At once, single man for general and dairy farm. Registered Holsteins. Good dry hand milker. Good wages, board, room and washing. State wages desired, experience and references in first letter. JOHN NEWMAN, Culver, Ind.

Wanted—Single man for general dairy work where about 36 cows are milked. Must be good milker and gentle with cattle. Man who has had experience in feeding and milk house work preferred. State wages wanted. Can start at once. FRANK M. KELLY, East Dubuque, Ill.

Wanted at once—A good, steady, reliable man to work on farm by the month or the year. Must be willing to milk if asked to do so. Must know how to do all kinds of farm work and take the lead if boss is gone. Single man wanted. Steady job to the right man. State wages wanted in first letter. C. H. HICKS, Marshalltown, Iowa.

Wanted at once—A good, reliable man to work in milk station. Must be a hustler and know how to make butter and cottage cheese. Must know how to drive a Ford truck. Don't answer this ad unless you mean business and know how to do this work. Steady job to the right party. State wages wanted in first letter. C. H. HICKS, Marshalltown, Iowa.

Wanted—Six reliable, experienced dairymen, hand and machine milkers, feeding, milking; cleanliness required. Only experienced, well recommended dairymen need answer. Salary $50 per month with excellent board, good surroundings, opportunity for advancement. William Sallbach in charge of herd. Address COMMANDER T. DE F. HARRIS, Naval Academy Dairy, Gambrills, Md.

Wanted—By September 1st or sooner, clean, willing, quick man, married or single, if married, small family, as care taker, milker. Must be a worker. Permanent job for the right man. Modern equipment. Name wages with board and room or house furnished. Address WILT, Kearneysville, W. Va. 25-2

POSITIONS WANTED

Experienced farmer, Cornell graduate, married, wants large general crop and dairy farm to operate on salary and percentage basis. Buildings and equipment modern. Best references. Eastern location preferred. Address BOX 804, care Hoard's Dairyman.

Wanted—Position as working herdsman. Expert training. Details on request. Married. BOX 65, Richford, N. Y.

Position wanted as cow tester, herdsman or dairyman. Write BOX 801 care Hoard's Dairyman.

Experienced dairyman and hog man wants position as working manager. Must be modern up-to-date plant where good cows and pure-bred hogs are kept. References furnished. Address BOX 802, care Hoard's Dairyman. 25-2

Position wanted as hog herdsman. Single, can handle and fit a show herd. Good caretaker. Give all details and wages. Address BOX 803, care Hoard's Dairyman.

Position wanted as farm manager or herdsman by married man. Experienced, Guernsey herd preferred. First class references. State wages and particulars. Address BOX 805, care Hoard's Dairyman.

I will be open to accept a position as herdsman September 1 or sooner. Feeding for records and show ring understood. Undeniable references. Married, 31, one child 5. State all particulars first letter. Eastern states preferred. Address BOX 806, care Hoard's Dairyman.

First-class dairy farmer wants to operate fully equipped farm and dairy business on permanent money making arrangement. Address BOX 807, care Hoard's Dairyman.

Oregon Holstein Club Picnic

The breeders of the Oregon, Wisconsin, Holstein-Friesian Club gave their first annual community picnic on the farm of Arthur Sholts on June 17th. The Oregon Club is a local unit of the Dane County Association, and was organized last February. The growth of the club has been very rapid and it is a promising organization.

The business men of Oregon closed their places of business for the afternoon and a large number went out to the picnic to acquaint themselves with what the Holstein men in their locality were doing. A ball game was staged between the farmers and the business men, and this proved to be quite an attraction.

Wisconsin. R. H. SCHUSTER.

Ohio Guernsey Meeting and Sale

The annual meeting of the Ohio Guernsey Breeders' Association was held June 6 on the grounds of the Ohio State University. The large attendance marked this gathering as one of the best in the history of the organization. The many important achievements of the association during the past year met with the approval and increased support of Ohio Guernsey breeders. The work of Field Secretary James E. Harper was commended. Reports of the officers for the past year were approved. President C. Davis was re-elected for another year. Other officers for 1921-22 were elected as follows: N. H. Hill, vice-president; Fred W. Floding, treasurer; directors, W. E. Wright, C. M. McConnell, and Emmett Steiner.

A banquet was held Monday evening at which President Davis acted as toastmaster. He introduced Mr. Harper who spoke on the activities of the organization, calling particular attention to the value of the monthly Guernsey News Bulletin. Karl B. Musser, field representative of the American Guernsey Cattle Club, was the next speaker. Mr. Musser told in a very pleasing way of the national Guernsey outlook and called the attention of the Ohio breeders to the prominent place which the association holds because of the many progressive steps originating through its efforts. Mr. Musser was followed by Dr. R. R. Laughlin who has done some exceptional practical and scientific work in the treatment of sterility and abortion. Dr. Laughlin discussed his work in a manner which was beneficial to all and gave a talk indicating that careful investigation will probably result in the ultimate discovery of methods by which breeders will be able to better control the losses caused by either of these conditions. Several other speakers informally discussed problems of interest to the Ohio breeders.

The second annual sale of the Ohio Guernsey Breeders' Association was held at the State Fair Grounds on June 7 and was a marked success. The 1921 offering took the form of a guaranteed consignment sale in which every animal was guaranteed a breeder and sold under the privilege of a 60-day tuberculin retest.

Forty-one heifers and eight bulls averaging 14 months of age were sold for an average of $170. This price is not in the least spectacular but highly satisfactory considering the age of the animals and present day business conditions. The cattle were well fitted and in excellent condition and gave new breeders an opportunity to purchase foundation animals of real merit.

Golden Secret's Robin, a daughter of Langwater Golden Secret, topped the sale at $360. She was consigned by E. C. Peck and purchased by Fred W. Floding. Sweet Springs had the highest average for a consignment of three heifers which brought an average price of $255. Circle W. Farm bought Langwater Madge for $250. Madge was consigned by John Itschi and is out of a half sister to Katherine's Trixie, former leader in Class F. Twin heifers of remarkable individuality consigned by J. S. Yoder were purchased at the end of a lively bidding contest by L. G. Neely of St. Marys, Ohio.

Waupaca Guernsey Picnic

The annual picnic of Waupaca County, Wisconsin, at the home of W. H. Taggart & Sons June 16 was attended by over 400 Guernsey enthusiasts. James H. Murphy, Manager of the Tilden Farms, Wisconsin, was the chief speaker of the day. His subject was The Guernsey Cow and Hard Times. He brought a very optimistc and encouraging message to his audience. T. H. Campion of the Wisconsin College of Agriculture spoke on Community Breed Clubs which is a subject of great importance in large counties where it is hard for a single county organization to keep in intimate touch with all the breeders. Dr. Healy who has charge of federal tuberculin testing in Wisconsin and Dr. Eliason, state veterinarian, were both present to compliment the Guernsey Breeders of Waupaca County on their active interest in tuberculosis eradication. They emphasized the fact that Waupaca County has more herds under federal supervision than any other in Wisconsin. A. O. Collentine, Dairy Extension Specialist of the Wisconsin College of Agriculture, had charge of the judging contest.

Col. J. R. Love sold the registered bull calves selected for the sale in connection with the picnic.

Wisconsin. JAMES H. DANCE.

Among sad facts the tongue can state
One sad one is, "He's underweight."
And that is why we sing and say,
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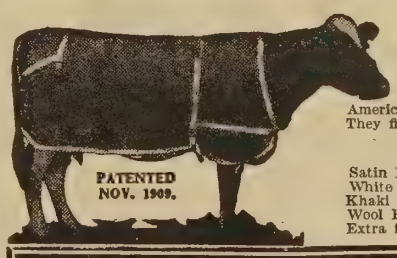
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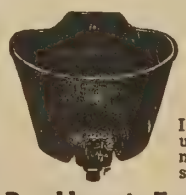
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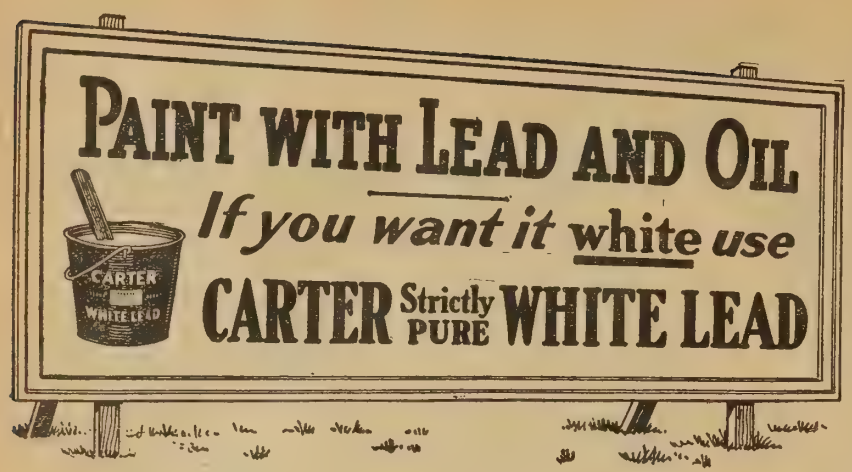
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SALE ANNOUNCEMENTS

Aug. 8—Holsteins. Victory Farms' Holstein Sale at Doylestown, Pa.
Oct. 10—Holsteins. Victory Farms' Holstein Sale at Doylestown, Pa.
Oct. 19—Holsteins. Chester Co., Pennsylvania, Holstein-Friesian Breeders' Guaranty Consignment Sale. C. J. Garrett and F. C. Brinton, Jr., Mgrs.
Oct. 19—Guernseys. Michigan State Sale of Registered Guernseys at Lansing, Mich. F. E. Fox, Waukesha, Wis., Sale Mgr.
Oct. 25-26—Holsteins. Lake Mills Semi-annual Consignment Sale at Lake Mills, Wis.
Oct. 27—Holsteins. Marathon Co. Holstein Breeders' Semi-annual Consignment Sale at Wausau, Wis.
Nov. 3—Holsteins. Nebraska Holstein Breeders' Ass'n. Sale at Lincoln, Neb.
Nov. 4—Holsteins. Virginia Holstein-Friesian Breeders' Club Sale at Richmond, Va.
Nov. 16—Holsteins. Waukesha Co. Holstein Breeders' Fall Classic Sale.
Jan. 2, 1922—Holsteins. Victory Farms' Holstein Sale at Doylestown, Pa.
Feb. 21-22, 1922—Holsteins. Iowa Holstein-Friesian Association's Annual Sale.
Feb. 23, 1922—Guernseys. Wisconsin State Guernsey Sale at Madison, Wis.
April 1, 1922—Oak Hill Stock Farm Dispersal Sale at Crown Point, Ind.
April 3, 1922—Holsteins. Victory Farms' Holstein Sale at Doylestown, Pa.
July 4, 1922—Holsteins. Victory Farms' Holstein Sale at Doylestown, Pa.
Oct. 2, 1922—Holsteins. Victory Farms' Holstein Sale at Doylestown, Pa.

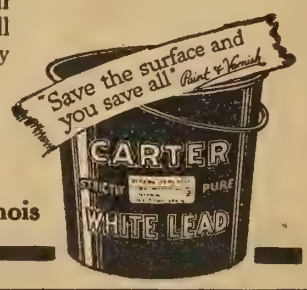
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Cotton and Cows in Salt River Valley

(Continued from page 957)

ing fields, good management, and economic marketing."

The Phoenix Chamber of Commerce, which numbers among its members some of the most prominent farmers of the county, including Mr. Fred Tait, president of the county farm bureau, has an active committee working on the matter of reorganizing the dairy industry. This committee recently compiled the following data relative to the general situation:

"In 1914 there were under the Salt River Valley project 86,930 acres of alfalfa which were cut for hay and 11,360 acres used for pasturage. There were 9,550 acres of cotton and 24,202 head of dairy cattle, worth an average of $67 a head. Milk brought an average of 32½ cents a pound for butterfat at the farmer's gate. The following year milk prices dropped to 29 cents, cotton acreage dropped to less than 2,000 acres, alfalfa for hay remained about the same and the acreage of pasture just about doubled and the number of cows increased to 31,360, worth an average of $83 each.

"The number of cows steadily increased to more than 50,000 head in 1917, worth $79 each, and the average for milk was 52 cents. Alfalfa pasture increased to 53,000 acres, but the acreage of alfalfa for hay dropped to about 68,000, and cotton jumped to 23,444. In the month of September of that year the creameries of the valley paid the farmers for butterfat in milk and butter $172,375. This was independent of the revenue of dairymen who made butter or retailed milk and also independent of the several cheese factories that then made cheese. The production of butterfat for 1916 and 1917 has been estimated to have been about three and a half million pounds each year. These were the banner dairy years.

"In 1918 the acreage of cotton has increased to 50,000 acres, alfalfa for hay had dropped to 63,000 acres, and alfalfa pasture dropped back to 44,000. Dairy cattle decreased to 36,800, worth $56 a head. Butterfat in sweet milk was worth 62 cents, but cotton looked like easy money and lots of it, and by 1920 the acreage of this crop had increased to 142,000. Dairy cattle had dwindled in numbers to 11,246. Less than 4,000 acres of alfalfa pasture remained and the acreage of alfalfa for hay was only slightly over 25,000 acres. The average price of milk paid to farmers for butterfat in sweet milk was 80 cents."

This season the amount of alfalfa hay and other forage will be greater than can be consumed unless more live stock is brought in to consume it. The county agent, Phoenix Chamber of Commerce, and the state experiment station will all co-operate with the farmers to aid them in getting the best of cows.

Farmers are being urged to organize co-operative associations. Prof. R. N. Davis, Dairy Extension Specialist on this subject, says: "Because of the present condition of the dairy industry in Arizona there is possibly not a state in the Union in which it is possible for co-operation to be of as much value to the dairy industry as that of Arizona. Because of the exodus of dairy cattle from the state, dairying is now in its infancy in this state. Dairying will again be the principal agricultural industry in the state if re-established on a sane basis. The quality of the average cow which was being milked in the Salt River Valley possibly contributed more to the downfall of the industry than any other factor. If dairying is to be a complete success in any section, only

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good, high producing healthy cows can be used. These cows can best be secured by co-operation among the dairymen, by purchasing their cows co-operatively from the dairy sections of the country. Small dairymen and those just beginners in the dairy business frequently find the best sires apparently too expensive. As a result such breeders must either be satisfied with mediocre sires, pay a heavy service fee for a good one, or co-operate in purchasing a sire.

"By organization and co-operation the dairymen may re-establish the dairy industry in the Salt River Valley on a permanent basis and they will then have their association ready to organize cow testing associations and co-operative marketing associations and will be in position to purchase feed and other supplies co-operatively."

A co-operative marketing law modeled after the California law was recently passed in the Arizona legislature and may be of some help to dairymen in organizing.

State Dairy Commissioner Clarence Dana is thoroughly in sympathy with the dairymen and will work with all phases for the improvement of conditions and the betterment of the industry. In his annual report he says:

"I can see before this office a task in assisting the farmer in getting a better grade of cows and to maintain them under better sanitary conditions than that of the past, and to educate him in the proper mixing of feeds, that a larger production of clean, pure milk may be had and produced from less acreage and fewer cows. Realizing this is a large undertaking I have solicited and will receive the the hearty support and co-operation of the state university, the county extension workers, the health officers, and the dairymen themselves. The problems of the dairymen will be taken up collectively and individually, as presented. Markets will be sought so as to assist in getting the best cows in the lowest figures. Bulletins will be issued, lectures given, and any other assistance individually or otherwise, that this office can offer with the limited means and help at hand, will be given. A campaign will be made in the way of educating the general public relative to the value of milk as a food, especially in the homes where there are growing children."

Although the number of dairy cows is now about the same as in 1910, the industry as a whole is on a considerably more substantial basis. At that time very few farmers had stables, milking in open corrals. There were no silos and very few herds of registered cattle. Today there are many farms well equipped with stables, milk houses and silos, although a considerable number of these are not used as dairy farms at present.

There are several herds and a good many individuals of high class registered dairy cattle. Henry Renand, the veteran breeder of the Valley, has maintained his herd throughout the cotton "craze". Other dairymen have kept their herds, and planted cotton as a money crop. It is noticeable that these dairymen are not worried at all about the price of cotton. They have a few bales stored away. The cows paid for making the crop and they don't owe the banks or anyone else. When the time comes to sell, the cotton will be "velvet", as it should be; and in the meantime, why worry?

Future farming is bound to be modeled somewhat after the plan that has proved successful with these dairymen who have stuck to the game and raised a little cotton on the side as a money crop. With all interests working for better cows, better methods, and better markets, together with the beginning of the rejuvenation, already off to a good start, the dairyman's outlook in the Salt River Valley is rosy although the horizon of the general farmer is somewhat clouded.

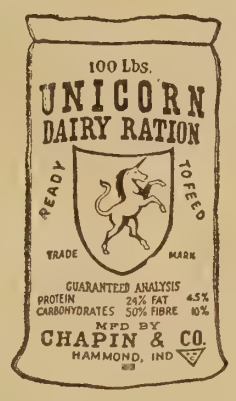
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Feed Unicorn *NOW*. Grain fed now will bring big returns next winter; both in extra milk and saving of feed, due to the better condition of your cows.

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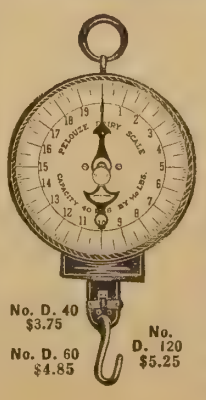
HOARD'S DAIRYMAN:—Pennsylvania live stock was valued at $174,000,000 on January 1, according to the bureau of statistics of the state department of agriculture. Milk cows, whose total value was estimated at more than $67,000,000, form the backbone of the farming industry of the states. Horses come second with a valuation of $55,141,507.

Women Form Pig Raising Club

Augustaville, a farming hamlet in Northumberland County, Pennsylvania, claims the honor of having the state's first women's pig club. Berkshires will be bred, and twenty women have purchased pigs. J. M. Fry, county agent, officially weighed twenty pairs of these pigs. At butchering time the high scoring porker will be given a blue ribbon. Mrs. Ira Penn is president of the club and Mrs. H. N. Wilkinson, secretary.

Pennsylvania. E. M. L. B.





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Dairy Scales

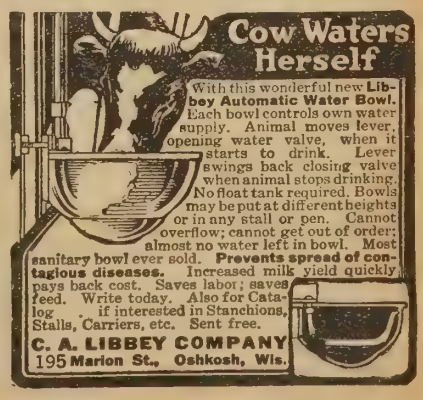
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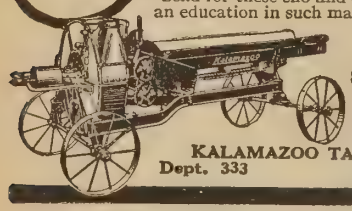
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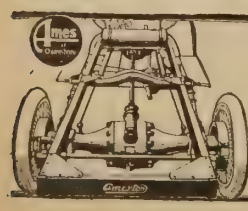
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Jersey Jubilee in Payette, Idaho

HOARD'S DAIRYMAN:—Although the breeding of pure-bred Jersey cattle is only in its infancy it is rapidly assuming an important place among the industries of the Payette Valley, Idaho. The county now has two hundred head of pure-bred Jersey cattle, one hundred of which were shipped in during the past year, and the interest is daily increasing.

During the recent nation-wide Jersey jubilee, the Idaho state association of Jersey breeders spent one day inspecting herds in the Payette Valley. Three hundred people participated, many of them from outlying counties. The expedition, consisting of some thirty cows, visited the herds of J. H. Joiner, E. P. Dorathy, C. H. Sargent, Arthur Elridge, and F. C. Conantson. Mr. Conantson numbers among his splendid herd a beautiful heifer, Bonnie Rochette, valued at $1,000. On the Sam High place the most notable animal was the association bull, "Count", of which Mr. High is the caretaker.

After the inspection of the herds, a meeting of the association was held and directors for the coming year were elected as follows: For Payette County, C. H. Sargent; for Canyon County, L. S. Dille; for Washington County, Bert Pease; for Ada County, G. E. Gearheart; and directors at large, G. S. Haynes of Ada County. As soon as Twin Falls Co. is admitted into the association she will elect her own representative to the board.

The association went on record as favoring the union of Idaho with Washington, Oregon, Utah, and California in the matter of engaging the services of a Jersey specialist. The directors met immediately after the general meeting and re-elected C. H. Sargent president, G. E. Gearheart, vice-president; and Bert Pease secretary and treasurer.

During the noon hour the women of the Fruitland Farm Bureau served a free dinner to all, after which an interesting program was enjoyed. Professor F. R. Cammack introduced the speaker of the day, C. Y. Cannon, Professor of Animal Husbandry of the Brigham University of Utah. The matter on which Mr. Cannon laid most stress was the testing of cows. "If your cow is worth breeding and keeping," said the speaker, "surely you want to have the proof of her excellence in black and white." Mr. Cannon declared that the proper testing of cows is the only way to bring the herds up to a high standard, and to maintain it. The speaker was followed in turn by C. H. Sargent, G. S. Haynes, Arthur Elridge, E. P. Dorathy, Bert Pease, Mr. Rush of the State Cow Testing Association, and Miss Ina Scrivener, Payette County Boys' and Girls' Club Leader.

To one who, ten years ago, knew the Payette Valley farmer and his few scrub cows, these wonderful herds that are to be seen today are splendid tribute to what has already been accomplished and a brilliant promise of what may yet be done, as the industry is still in its infancy.

The boys and girls of the farms are doing no small part for they are entering with enthusiasm and trained knowledge into the work of improving the live stock of Idaho. That this has not escaped the notice of those in authority is proved by the fact that while all other state fair premiums have been reduced from 25 to a 100 per cent, the junior fair premiums have in every case been increased.

That the parents of the youngsters are enthusiastic over the junior club movement is very evident. At the Jersey Jubilee in Payette County one might hear mothers bragging of the excellence of the calf weaned by her boy or girl, of the prizes it has won, or is going to win at the state fair. Idaho has the largest junior calf club enrollment in the West. And the seniors are right in line with the juniors. Of the fourteen gold medal bulls in the United States, eight are in the West, six in Oregon, one in Washington, and one in Idaho. Next year Idaho does not propose to be so far behind the gold medal line. More and more are the men of Idaho realizing what pure blooded stock is going to mean to the breeders of dairy cows.

Idaho. (MRS.) P. H. BROWN.

Lincoln Co., Mo., Boosts Jerseys

Several of the leading farmers in Lincoln County, Missouri, being interested in encouraging the people to start in the dairy business, came to their county agent, E. L. Peter, to help them start something. Since the calf club movement is getting so contagious they naturally turned their attention to a calf club. This county is exceptionally well adapted to dairying but up until the past year beef cattle raising has been the main live stock industry. However, due to the heavy losses on feeding cattle the last year or so, the farmers are turning to the dairy cow as a profit maker.

A committee was appointed from the farm bureau with Mr. Mudd as chairman. This committee decided that it was best to start with grade calves and later organize a club with registered calves. They had very little difficulty in signing up thirty of the most alert boys in the county for this club. The fieldman of the Southwest Jersey Cattle Breeders' Association then located a fine lot of choice heifers about a year old.

The calves were distributed on June 4th and the boys and girls are very enthusiastic over their new acquisition. On June 7th they held a meeting and organized themselves into a club with Gilmer Dyer president and Glennon Murphy secretary. They are planning to hold monthly meetings.

The local banks furnished the money to the children to buy the calves and everybody in town seems to be interested in seeing this made a success. Such clubs as this will do much good for dairying in general and Jerseys in particular and will build character in the children at the same time.

F. W. ATKESON, Fieldman.

Oregon Jerseys to be Certified

Members of the Executive Committee of the Oregon Jersey Cattle Club have adopted a resolution providing for inspection and certification of herds to be sold at auction. This makes it possible for members of the Oregon Jersey Cattle Club to obtain a guarantee from the O. J. C. C. as to quality and healthfulness of their herd. Upon application the herd is examined by a veterinarian employed by the Executive Committees. The veterinarian furnishes the Committee with an affidavit stating that he has inspected the cattle. In case they are found free from communicable disease the Committee issues a certificate of endorsement, providing they deem the quality justifiable.

The purpose of the Committee in certifying herds to be sold at auction is to protect buyers from purchasing diseased animals or animals of inferior quality. This will be a great protection to the buyers of Jersey cattle in Oregon, and together with the law enacted by our last legislature, making by-bidding unlawful and providing for a penalty, will assure clean, honorable sales. Oregon also has a pure-bred sire law which, combined with these other two protections, surely will stabilize Oregon's dairy industry.—IVAN H. LOUGHARY, Sec.

VETERINARY

Advice is given free in this department. Inquires must be signed by the writer, and should pertain to veterinary Matters only. Where an immediate reply and prescription are desired by mail, the inquiry must be accompanied by a fee of one dollar. In every instance it will be necessary to give a full description of the symptoms present.

Impacted Paunch

We often used to hear of "fardle-bound" and "dry murrain" as deadly diseases affecting cattle, but these terms have become obsolete since science has arrived at a better understanding of the conditions present. "Fardle-bound" meant impaction, clogging, or stoppage of the third stomach (manyplies or omasum) while dry feed and "dry murrain" referred to that condition or impaction of the paunch (rumen). But the contents of the third stomach always are comparatively dry, for it is the function of the "leaves" of this compartment of the stomach to rub (triturate) and compress the feed entering it. The paunch is a storage place for roughage which is returned to the mouth over and over again to be remasticated. This food, when ready for digestion, goes directly to the third stomach by way of the esophageal canal and its liquids when squeezed out enter the fourth or true digestive stomach (abomasum). Here gastric juice, hydrochloric and lactic acids, pepsin, and rennin change the food into acid chyme to become chyle in the small intestines where absorption largely occurs.

The work of the compartments of the stomach is largely dependent upon involuntary muscular action termed *peristalsis*. It is this peristaltic action which keeps the feed moving in the stomach compartments and intestines and it also has much to do with chewing of the cud and belching of gas (eructation) which occurs simultaneously. When peristalsis ceases, partially or entirely, rumination is impaired or subsides and all the functions of each of the compartments are affected according to the degree in which peristaltic action is lacking.

Impaction of the third stomach only occurs as a separate condition when its leaves have been transfixed by a wire or other sharp object. It occurs sympathetically with impaction of the paunch or rumen. All compartments are simultaneously affected and a gastro-intestinal catarrhal condition is said to be present.

Undue pressure from large quantities of coarse, dry, bulky roughage tend to cause impaction as does chill, shock, sudden change of feed, lack of drinking water, ice cold water, disease of the liver, etc. Impaction of the rumen, the major condition existing in such attacks, is indicated by doughy distention of the paunch in the left flank, giving the side and backbone a "humped up" appearance, and causing persistent or intermittent grunting, slight fever, shrink in milk, stopping of cud chewing, and usually complete or partial suppression of appetite. Feces may pass in small quantities occasionally. Urine is not suppressed. Slight fever is present. The attack tends to run a course of several days and sometimes causes craziness before death.

The old system of giving immense and repeated doses of Epsom salt in this disease has been abandoned by educated veterinarians. They now give drugs to stimulate peristaltic action and secretions of the stomach and bowels. Feed is absolutely withheld but flaxseed tea containing a teaspoonful of salt to the quart is allowed at will. Rectal injections of warm water and glycerine may help, as may massage and kneading of the paunch. Medicinal treatment consists in the administration of such drugs as strychnin and nux vomica, arecolin, eserine, or barium chlorid, and internal antiseptics such as salol or triple sulpho-carbolate tablets. The veterinarian gives appropriate doses of these drugs according to the conditions present in each case. He also administers copious doses of castor oil, raw linseed, cottonseed, or medicinal mineral oil when the treated cow again starts belching or shows signs of cud chewing.

Failure to Breed

I have a heifer that is two years old which does not come in heat. What shall I do?
Phoenixville, Pa. L. C. F.

It would be best to have a veterinarian decide by examination what is causing failure to come in heat. He may possibly be able by treatment of the ovaries to induce a period of heat, provided the heifer was not born barren. Meanwhile flush out the vagina daily with a gallon of bloodwarm boiled water containing 2 tablespoonfuls of table salt. This may help, but there is no certain way of inducing periods of heat. Read the articles on sterility which appeared in this department of the paper some time ago.

Warts on Udder

Please give me a remedy for seed warts on a cow's udder.
Chillicothe, Tex. A. M. G.

Warts that have narrow necks may be snipped off, with scissors, a few at a time. If this is done, apply a little pine tar the following day. Excessive bleeding may be stopped by bathing with very hot or very cold water; then paint the wound with tincture of iodin. Masses of small warts may be removed, in time, by immersing the affected teats for 10 minutes or more twice daily in water containing all the bicarbonate of soda it will dissolve when hot; or in a 10 per cent solution of washing soda. The strength of the last mentioned solution should be decreased one-half after the first day of use. A thick paste composed of table salt, sulphur, and cold-pressed castor oil is also effective and many people use castor oil alone, but it is slow in effect, compared with the other mixture mentioned.

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Write for information regarding them.
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Two young bulls ready for service. Plymouth Lad breeding. Splendid individuals with Register of Merit sires and dams. Prices and pedigrees on application.
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Three young Jersey bulls, out of fifty-pound dams, few choice heifers and mature cows. Write for prices and full particulars.
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Hillcrest Jerseys
Bull calf born March, 1920. Sired by Imp. grandson of Golden Fern's Noble. Priced right for quick sale. Write
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Ten Splendid Jersey Bulls
Good type, 6 to 18 months old. Heifers bred and open. Hood Farm Torono, King Sappho King, Loretta D. Bright Prince, etc. blood lines. Free from abortion. Dams are in the R. of M. or on test. Accredited herd.
Address: J. Q. Emery & Son, Edgerton, Wis.

HERE'S YOUR OPPORTUNITY
Bull calf born March 4, 1920, sired by a grandson of Majesty's Western King and out of a R. of M. daughter of Ibsen's Chief. For full pedigree and price write
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Jersey Bull Calves
$100 to $150 Each
For immediate sale, we offer several splendid bull calves, some nearly six months old, sired by our high class Majesty bulls and out of Register of Merit dams. They are right individually.
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Breeders' names and Spillman's "Inheritance of the Poll Character in Cattle" mailed free.
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Several bulls, 6 to 12 months old, from R. M. cows. Sired by Golden Maid's Viscount and Kilda's Royal Majesty, two of the best Island bred bulls living. At prices to sell. Write
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We guarantee any Jersey bull we sell to increase the average production of any herd
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Here is a Bargain For a New Beginner
FOUR HEIFER CALVES AND A BULL, registered, transferred and crated for $375.
The heifers are fawn color, in fine condition; and from good producing dams. Heifer No. 1 was dropped December 25, 1919, No. 2 September 17, 1920, No. 3 October 17, 1920 and No. 4 March 20, 1921. Bull calf was dropped September 10, 1920, is a fine individual, will make a good show bull, his dam has a R. of M. record of 457 lbs. butter class AA, he is sired by Majesty's Ixia's Gamboge whose dam has a record of 639 lbs. butter.
W. M. KNIGHT, Oak Grove Jersey Farm, *(U. S. Accredited Herd.)* Eagle, Waukesha Co., Wis.

Counting Bacteria With a Microscope

(Continued from page 955)

test now quite widely used by American dairymen. The little cotton disc showing the dirt found in the milk can be kept as a matter of record.

Another advantage of the Frost test over other rapid methods is that it counts only the living germs in the milk. The dead bacteria are of little consequence, their activity is past—but it is the many living organisms that are constantly multiplying and causing changes in the milk. This last named advantage makes it possible to detect the healthfulness of pasteurized as well as raw milk.

Take Little Equipment

Compared to the standard plates, the little plates are not only six or more times as rapid, but they also take much less apparatus. Particularly is this true of the glassware. In order to make duplicate counts on 10 samples of milk by the new method, 10 pipettes, 10 slides, and one cubic centimeter of agar is all that is necessary. Whereas with the standard method to make the same number of counts 40 pipettes, 30 dilution bottles, 40 Petri dishes, and 400 cubic centimeters of agar are required.

Frost's Method Accurate

Many comparative tests have been run between the little plates and the other bacteriological methods commonly employed, especially with the standard plates referred to above. The standard plates have been in use for many years, and it is now largely custom that keeps them in good favor. Dr. Frost's method has weathered the comparisons very successfully. In fact, the results have been so satisfactory that the test has been included in the latest list of approved methods of milk analyses compiled by the American Public Health Association.

In several of the comparative tests, the little plates gave higher counts than did the standard plates. But this would appear to be in favor of the little plates and a more nearly correct index of the germ content of the samples tested, since the composition of the agar and milk mixture used in the little plates more closely approaches the composition of pure milk than do the constituents of the standard plates.

"Spreaders" Do Not Interfere

A technicality which is not appreciated so much by the farmer or the milk dealer as by the laboratory worker, and a thing that again gives the little plates preference over the standard plates, is the fact that much less trouble is experienced with "spreaders" on the little plates than on the standard. "Spreaders" are colonies which spread out over all or part of the plate, disturbing the growth of other colonies and making an accurate count of the colonies impossible.

A summary of this new method for counting bacteria in milk shows that: (1) Its accuracy equals that of the old method. (2) It requires only 8 instead of 48 hours. (3) It gives a permanent record, and (4) it economizes on culture media and glassware.

Identifying Hardy Alfalfa

So important is the matter of securing dependable alfalfa seed that L. F. Graber, secretary of the Wisconsin Alfalfa Growers' Association, has tested over six hundred samples of seed collected from various parts of the state in a total of 1280 demonstration plots. In 1920, 360 plots were sown and demonstrations are being carried on in eight different localities in the southern part of the state.

A method of distinguishing between genuine and non-genuine Grimm, Baltic, and Cossock varieties has been discovered. It is based on the action of the various strains of alfalfa following the last cutting in the fall, the genuine hardy variety showing fall dormancy, strictly different from the common strains of alfalfa. This fall dormancy sets in at a comparatively early date, while the common varieties continue to grow throughout the fall, especially when there is plenty of rainfall. It is possible, therefore, during the first season of growth to distinguish hardy from non-hardy varieties and determine the genuineness of the seed sown.

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You should become acquainted with the ability for such production possessed by

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Among several noted bulls in service in the herd now numbering over 200 head are *Penshurst Mischief Maker, son of the World's Record cow for the breed and sired by a son of the cow standing second in the list for both milk and fat,* and others from the heaviest milking and best breeding families.
Sons of these bulls out of R. of M. cows now in offer may be counted on to materially assist in the accomplishment of above mentioned results.
We also have a few heifers of various ages to sell. Tabulated pedigrees and full particulars sent on request.
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"Production — Size — Individuality"

Bull calves out of dams with A. R. records of 10,000 lbs. (and better) of 4% milk—Winners in show ring—Sired by Lessnessock Gem's Good Gift Imp.—Winner in show ring and proven prepotent sire—Weight 2,250 lbs. in breeding condition—Whose dam made 8,930 lbs. milk, 4.05% fat, in *36 weeks* (Scotch record)—Sire's dam 10,342 lbs. milk 365 days (Scotch record)—Prices $100 to $1,000. If you want class and a square deal, correspond with us. We can supply your wants at your prices. Nothing but the best. Herd Federally tested.
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the well bred Ayrshire bull, Bargenoch "Drexel" (18474) Imported. Bred by John Logan, Bargenoch, Scotland. Born Feb. 2nd, 1919. Color white and red. Sire, Bargenoch Magnificent (9579). Sire of Bargenoch "Royal Champion" sold at Bargenoch sale, 1919, for $7,267.00.

Dam, Bargenoch Victoria (37003). Scotch record: 9,221 lbs. milk, 4.23% fat in 43 weeks; 11,070 lbs. milk, 4.50% fat in 47 weeks.

BARCLAY FARMS, John Cochrane, Manager, ROSEMONT, PENNSYLVANIA

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Stock of all ages for sale.
Write for prices.
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RIVER MEADOW FARMS, Portlandville, N. Y

A Youngster Rich in King Segis Blood
Born March 18, 1921

His sire is a son of KING LYONS, out of a 35-lb. daughter of KING SEGIS.
His dam is a 25.81-lb. daughter of JOHANNA KING SEGIS, a 40-lb. grandson of KING SEGIS.
For pedigree and price write:
G. G. Burlingame, Cazenovia, N. Y

Choice At $100

of four yearling bulls. Sire, Joh Segis. 15 nearest dams average 30 lbs. His dam gave 710 lbs. milk in 7 days. Dams and Grandams—A. R. O. cows up to 24.74 lbs. Federally tested by all three tests.
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Every effort to create new markets for Holsteins is entitled to your prompt, practical and punchful-co-operation. On August 8, 1921, I shall offer forty head of THE breed at auction. All bred in the deep purple, all classy individuals; all pail-profit producers along with such high grade, healthy and "typy" individuals as you may consign to this sale. I want to make Victory Farms a market place of International importance to the Breed and must have your generous, practical help NOW. If you have nothing to sell, come and buy. Bring the folks. If you decide to participate as a seller ship tested, "clean," guaranteed stock via Reeding System to Victory Farms, Doylestown, Pa. References: Dun, Bradstreets, Middle City Bank, Philadelphia, Pa.; West End Trust Company, Philadelphia, Pa.; Solebury National Bank, New Hope, Pa. Monday, August 8, 1921, is the date. Victory Farms, Doylestown, Pa., is the place. Ship "clean" stock. Come along yourself.
VICTORY FARMS
Clement H. Congdon, Owner, Doylestown, Pa.

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From high bred fine individual A. R. O. cows up to 30 lbs. Several on test now. All good, straight individuals, backed by lots of milk and butter. Some are ready for service. Priced very low. Write for catalog.
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On the Accredited List

We offer young bulls, fine individuals and well grown. Sired by 33-lb. bull and from dams with records up to 30 lbs. Write for pedigree and price.
KITTLE BROS., Holland, Ohio.

BULL CALF

Sire's dam, butter, 1 yr., 848 lbs.; her daughter, 1,055 lbs. Grandsire's dam, 987 lbs. at 11 yrs.; her full sister, 1,344 lbs.; another, same dam, 1,322 lbs. Dam, Miss Pietertje Alexina 3d, sister to Miss Pietertje Alexina 2d, 1,290.91 lbs. A dandy calf, priced right. Write quick to
McKAY BROS., - - CADDOA, COL.

Agriculture has made great advances in modern times, but the advice of Pliny the Elder, who lived 20 centuries ago, is still good for gardeners: "Dig deep, manure well, work often."

GUERNSEYS

1000 — HEAD — 1000
QUALITY

Holsteins or Guernseys, registered and grades, to choose from. I would like to get in touch with parties wanting either breed.
BYRON GATES, Ft. Atkinson, Wis.

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He Will Suit You

He is Gumption of Koshkonong Place, ready for heavy service and as straight as a line. His sire is Anton's King Cecil, one of the best May Rose bulls in the state. His dam is Gladness of K. P. (414.68 lbs. fat Class G), a daughter of Gilt Edge of K. P. (15 A. R. daughters).

Write me today about him.

A. R. HOARD, Fort Atkinson, Wisconsin

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FOR SALE: Several typy, May Rose bulls out of A. R. cows and sired by Hope's May Rose of Maple Hill (35903), whose dam is a class leader with 776 pounds of butterfat at 3 years. Also several choice pure-bred females and a few excellent grade cows. Herd on Federal Accredited list.

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James H. Murphy, Mgr. Delavan, Wisconsin

714 Lbs. Fat Average

For the first 13 tested daughters of May King's Vrangue. This includes cows in (Class AA) and Class A and heifers with credits figured as per A. G. C. C. standard. Bulls for sale from him out of May Rose cows with good A. R. records. Prices very reasonable.
Mineral Home Farm, Platteville, Wis.

8 Registered Heifers For Sale

5 of them are from 18 to 20 months old and in calf to a good son of Langwater Cavalier. Of these, 3 are granddaughters of Langwater Hambro and of Bob Rilma's Monogram. They are well grown and good individuals.
The other 3 are from 5 to 8 months old.

Write or come and see them.
Ralph Trait, Whitewater, Wis.

Another Real One

Bull dropped Oct. 12, 1920. Light fawn, beautifully marked; straight, deep body, level rump. Sire's 3 nearest dams average 732 lbs. fat. A grandson of Itchen May King. Dam is a very good individual and has 478 lbs. fat.
NORWIND FARM, Sheboygan, Wis.

GORDONDALE GUERNSEYS

3 bull calves offered for sale. They have excellent breeding and dams have or are making good A. R. records. Write for further information, they are priced to sell.

Herd under Federal Supervision
L. E. GORDON, JR.,
Nelsonville, Portage Co., Wisconsin

Wern Farm Guernseys

I am offering for sale 20 head of choice Grade Guernsey springers coming with first and second calf. Also have two bulls highly bred along May Rose lines just ready for service, that I will sell. For full particulars, write, wire, or come and see the stock.

Wern Farm, Waukesha, Wis.

Pleasant Acres Guernsey Farm
Is Offering For Sale

Bull calves of May Rose breeding from 3 to 14 months old. The dams of these calves either have A. R. records or are now on A. R. test.
Clyde E. Fruit, R. 1, Waukesha, Wis

Fond du Lac County Guernseys

100 choice bull calves, by best sires of the breed out of dams with records up to 850 fat.
20 choice heifers, 6 months to 1 year old.
Grade cows and heifers. Send for sale list.

B. F. SHERIDAN, Secy.,
Fond du Lac, Wisconsin.

Guernsey Bulls

GET A BULL, with Langwater, Pencoyd, May Rose or Haye's Cherub breeding. Prices reasonable, quality considered. Grades in limited numbers.
Fox River Valley Guernsey Breeders' Association,
Harry Leppla, Secy. Appleton, Wis.

Homestead Farm

Offers for sale bulls from 11 to 13 months of age from A. R. dams. Also a few young bull calves of excellent breeding, and three A. R. cows. Write for sale list or come and see them.
JAMISON BROS., Appleton, Wis.

LONE TREE FARM
GREEN LAKE, WIS.

Has in its Herd 15 A. R. Guernseys and 11 R. of M. Jerseys
And Carries About 16 Cows on Test.

To inquiries for BULL CALVES we give full, honest particulars and stand behind every animal sold.
Jersey Sire—A Son of Pogis 99th. Guernsey Sire, Langwater Islander.

MR. GUERNSEY BREEDER

we are offering bulls of May Rose, Glenwood and Yeksa breeding out of A. R. cows. Our records range from 450 lbs. to 864 lbs. of fat; ages from 2 months up to serviceable age for $100 and up.

Can spare a few fine females.

CORIUM FARM, F. J. Rueping, Owner, Fond du Lac, Wisconsin

Heifer Calves By Anton's King Confidence (43517)



This group of young GUERNSEY HEIFERS are some of the get of *Anton's King Confidence*, the senior herd sire of the *Hoard's Dairyman Herd.*

We have several clean cut and sturdy young bulls that we would like to quote you prices on.

HOARD'S DAIRYMAN FARM
Fort Atkinson, Wisconsin

In many herds in various dairy sections CHILMARK BRED GUERNSEYS have made a splendid reputation and materially helped the owners.

CHILMARK FARM

There are several reasons why Chilmark Guernseys are so satisfactory to both the small beginner and to the successful breeder.

Watch this space for the reasons

Come to the New York State Guernsey Breeders' Sale September 17th at

CHILMARK FARM, - - Ossining-on-the-Hudson

HONESTY PRIDE OF BIRCHFIELD 44580



Sire — Langwater Warrior 26509
Dam — Langwater Honesty 49479
10,536.9 lbs. milk, 517 lbs. fat, at 2 yrs. and 5 months

We are now offering a few splendid sons of Honesty Pride of Birchfield. From cows with A. R. records or now on test. Everyone is a straight backed, growthy, vigorous youngster. These young bulls will put type and production in your herd. Prices range from $150 to $300.

Quality Guernseys **HIGHLANDS** *Tuberculin Tested*

NYE H. FREEMAN, Herdsman, Linwood, New York

Langwater Traveler

Carries 50 per cent blood of Imp. King of the May, greatest bull of the breed.

His dam is Langwater Lustre, A. R. 806.10 lbs. fat, fifth cow in Class C. She is the second highest testing daughter of King of the May. His sire is Langwater Holliston, sire of Langwater Levity, sold for $6,000.00 and leading cow in Class EE. Traveler's daughters are averaging over 500 lbs. of fat with their first calves. His first daughter to freshen will be a class leader in FF. We offer some excellent bull calves by Traveler out of May Rose cows with fine records. Federal Accredited Herd.

CHICONA FARM GUERNSEYS
A. L. Gile, Prop., Chinook, Washington.

Guernsey Bulls
For Sale

Polly's Anchor No. 42845, born August 24, 1916, and Imp. Bluebird of Lakeside No. 45329, born June 15, 1917. Good, straight bulls, very gentle and sure breeders.

For Sale by
RADISSON FARM, ANOKA, MINN.

Iowanola Guernseys

We are offering

A Very Fine Son

born July 25, 1920, out of Imp. Kitchener's Express 43925, his dam has 592 lbs. of fat, and out of Franseca of Homa Della who has 12,855.2 lbs. of milk and 640.09 lbs. of fat in Class D. This is a very typy calf and should appeal to any one in need of a bull. Correspondence solicited.

MOUNTAIN BROS.,
Carrier 403, Des Moines, Iowa.

Guernsey Bulls

Our last 9 official records average over 510 lbs. fat, including all ages. Our herd sire has 8 A. R. daughters, including one with 572 lbs. fat in Class GG. His three nearest dams average 822 lbs. fat. Send for pedigrees and prices on young bulls with this barking.

Folly Farm, Box 587, Libertyville, Ill.

Thorn Hill Farm Guernseys



Have several well bred young Guernsey bulls for sale at reasonable prices. All my own breeding. May Rose and Glenwoods, out of A. R. cows with records from 500 to 750 lbs. of fat. Write for sales list to

AUGUST ZIESING, Deerfield, Ill.

Do You Want A Guernsey Bull

Closely related to Pergue's Crescent A. R. with a record of 13,316.9 lbs. milk and over 582 lbs. fat in Class EE and dropping two calves within the year, entitling her to second place in her class? Some excellent young bulls closely related to Pergue's Crescent ready to head your herd. Write for descriptive circular, or come and see them.
Ernest W. Sass, Box H, Streator, La Salle County, Illinois

Head Your Herd
With a Son of Imp. Sailor Boy

whose daughters are now making such good records. We have a number of good ones from A. R. dams at reasonable prices. Write

John P. Crozer, Upland, Pa.

Guernsey Bulls

A few real choice sons of our herd sires, out of May Rose dams with A. R. records up to 757.57 lbs. of fat.

Accredited Herd. Send for list.
E. S. Person, Minot, N. D.

A Guernsey Show Bull

Falcon's Galore, 65543, Dropped June 7, 1920

Sire: FALCON'S PROUD WARRIOR, 47559, an outstanding son, both in breeding and individuality, of the noted Langwater Warrior.
Dam: LUPA LENFESTEY, 25372, a splendid Advanced Register cow by Langwater Strongheart, a very great sire of high production.
GALORE is unusually promising and should head a splendid herd. Write quick if you want him at $500.00.

FALCON'S FLIGHT FARMS
Litchfield, Connecticut.

GRASSLAND FARMS GUERNSEYS

Choicely bred males and females for sale. (The natural increase of the herd.)

Herd federal tested for tuberculosis. Send for sales list. Satisfaction guaranteed.
Taconic, Conn., Litchfield Co., (C. N. E. R. R.)

Guernsey Females

bred to an outstanding son of Ne Plus Ultra, one of the greatest sires of the breed. Fifty head from which to select.
MEADOWLAND FARM, Litchfield, Conn.

Hillswold Farm
Shrewbury, Mass.

Registered Guernsey bull calves for sale. Dams in Advanced Registry and tuberculin tested. Prices right, and animals guaranteed to suit. W. A. Cloues, Mgr.

Sons of

Langwater Fisherman
Serviceable Age and Younger

They are from A. R. daughters of Yeoman's King of the May and of Langwater Demonstrator, with records from 500 to 700 lbs. fat. Strongly bred May Rose calves carrying 15% to 20% of the blood of May Rose 2nd.
Priced from $150 to $500. Guaranteed to be as represented.
We will answer your inquiry promptly.

MIXTER FARMS,
J. S. Clark, Supt., Hardwick, Mass.
300 Guernsey Females

High Grade Holsteins and Guernseys

We make a specialty of supplying Certified, Grade A. and Commercial Dairies with car lots of first class dairy cows. All cows are carefully selected and are the large, heavy producing kind. All cows are guaranteed as represented. Every animal must pass the tuberculin test before delivery to our farm and is sold subject to a 60-day re-test. One hundred head now on hand to select from. Let us know your wants.

THE RIECK FARM SALES CO. Rootstown, Ohio

Ready For Service

GOOD INDIVIDUAL

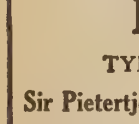
His dam is just finishing a record of over 700 lbs. butter from over 17,500 lbs. milk at 2 years, 6 months. His dam's dam made 1,117 lbs. butter from 24,648 lbs. milk as a junior 4-year-old. At 7 years she made 34 lbs. butter from 742 lbs. milk in 7 days and 1,030 lbs. butter from 24,000 lbs. milk in 305 days.

Sire's dam made 27.86 lbs. butter from 658 lbs. milk in 7 days; 705.9 lbs. butter from 16,820 lbs. milk in 272 days, carrying calf 215 days.

He is a double grandson of SIR JOHANNA FAYNE, who now has 25 daughters averaging over 20,000 lbs. milk in a year, 15 of them in heifer form.

Write for pedigree, photo and price

IOWANA FARMS, (Herd Under Federal Supervision) **Davenport, Iowa**



LIGHT COLORED 800-lb. BULL

Dam—a 4-year-old daughter of Sir Sadie Cornucopia, finishing a yearly record of over 800 lbs. She made 731 lbs. at 3 years. Sire—Woodcrest Sir Clyde, son of Alma Clyde (33 lbs. and 970 lbs.), and sire of 16 20-lb. 2-year-old daughters and two over 30 lbs. Bull was born May, 1920, is ¾ white and Federally tested. Reasonable terms.

W. B. BARNEY & SONS Chapin, Iowa

Son of Lieutenant Rag Apple

from a daughter of Admiral Urmagel Burke a real combination, light in color, priced right, serviceable. State and Federal accredited herd.

BLUEBELL FARM, Riceville, Iowa.

ORMSBY BULL

TYPICAL SON OF

Sir Pietertje Ormsby Mercedes 38th

One month old, well marked, deep body, straight top line. Dam has an A. R. O. record of 20.47. First check for $450.00 secures him.

W. L. Devaney,
Shell Lake, Wisconsin.

A Few Good Granddaughters OF King Segis Pontiac

and from A. R. O. Dams.

Guaranteed right. You Get Your Papers When You Buy.

Rock Valley Stock Farm
Fort Atkinson, Wisconsin

DON'T PUT OFF

Seeing your friends and having them join in for a club of subscribers.

The Pontiac Herd

"Where the Champions come from"

Offer Bull Calves sired by sons of *Pontiac Korndyke, Hengerveld De Kol, Pontiac Dutchland, or Admiral Walker Pietertje.*

Do you want a Pontiac in your herd?

PONTIAC STATE HOSPITAL, Pontiac, Mich.

Holstein Bulls

At Reasonable Prices

Breeding considered from 3 months to 18 months of age. From both tested and untested dams and sired by some of the best bulls of the age, such as

King Pietertje Ormsby Piebe 4th
King Pietertje Ormsby Piebe 2nd
Colantha Wayne Ormsby
Wolfspring Sethje Mooie Pontiac

Write for prices and descriptive list
Herd under Federal Supervision

STATE HOSPITAL AND COLONY FOR EPILEPTICS
Woodward, Iowa.

Bull of Ormsby Breeding

We offer Pietertje Ormsby Lyons, No. 274364, born February 26, 1919. A grandson of Sir Pietertje Ormsby Mercedes 13th. His sire a 33-lb. bull whose four nearest dams are all 30-lb. cows. His dam is a granddaughter of Sir Pietertje Ormsby Mercedes; half sister to a 1,000-lb. cow. Also a few young bulls ready for service. Write for prices.

SCHERMERHORN FARMS, Mason City, Iowa.

M. & P. HEALTHY HOLSTEINS

Federal Tested

Brentwood King Sylvia

a grandson of

May Echo Sylvia

now heads this herd of more than a hundred superior females, 50 cows have A. R. O. records up to 30 lbs.

Markham & Puffer
Avon, N. Y.

THE TRAVERSE HERD

We have what you want in

BULL CALVES

the large, fine growthy type, guaranteed right in every way. They are from high producing A. R. O. ancestors. Dams' records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.

Traverse City State Hospital, - Traverse City, Michigan

Sons of Sir Ormsby Pontiac Segis

whose sire, Sir Ormsby Hengerveld Korndyke, is the only living son of Pietertje Maid Ormsby. His dam, Lola Pontiac Segis, is the best individual daughter of King Segis Pontiac Count. She has 3 records over 30 lbs. and averaging 33 lbs., with a 1,012-lb. yearly record.

The young bulls are of serviceable age, from A. R. O. dams and offered at farmers' prices.

LILLIBERK FARMS, J. F. Berkheimer, Owner, Homer, Michigan

HEAD YOUR HERD

With a Son of S. P. O. M. 41st

We Have Several For Sale

They aren't all high priced bulls, either. We have some good ones from A. R. O. dams that will have a chance to increase their 7-day and yearly records.

One of these youngsters will suit you; he's priced to sell, and he is bound to increase in value.

Write for information or come and see for yourself.

Gustave Pabst's Hollyhock Farms

Fred J. Southcott, Manager Dousman, Wisconsin



Yearly Records

Choice Young Bulls

from one to fourteen months old for sale. Sired by Cloverlawn Johanna Piebe whose five nearest dams average 1,070 lbs. of butter, 23,809 lbs. of milk a year. Herd numbers 140 head, forty cows with yearly records. State exactly what you want.

JOHN PULS, - HARTFORD, WISCONSIN

20,000 HEAD HOLSTEINS

From which to select Foundation Stock.

AT PRESENT: Excellent offerings in yearling heifers, bred heifers and cows, both grades and pure-breds. Choice pure-bred bulls of all ages.

WRITE YOUR WANTS—SEND FOR INFORMATION.

Waukesha County Holstein-Friesian Breeders' Ass'n
Waukesha, Wisconsin.

HOLSTEINS FOR SALE

SPECIAL—Prize winning yearling Holstein bull. 30-lb. sire; 19.53-lb. dam. Splendid individual.

PURE-BREDS	101 Cows	GRADES	93 Heifer Calves
	134 Heifers		127 Heifers
	19 Heifer Calves		418 Cows
	290 Young Bulls		

Some good carloads at reasonable prices. Listed for sale through Wisconsin banks. Other Live Stock: Breeders are listing with us other dairy cattle, beef cattle, horses, sheep, and swine. Write us if you want stock. We will answer promptly.

BANKER FARMER EXCHANGE
D. H. Otis, Director, 1822 Chadbourne Ave., Madison, Wis.

HOLSTEIN COWS

We offer for sale a number of cows, heifers, bulls and calves of all ages. Some sired by King Korndyke Veeman whose two nearest dams average over

WISCONSIN STAR STOCK FARM,

HEIFERS and BULLS

37 lbs. butter in 7 days and bred to King Sadie Vale Walker who is a son of the youngest 29-lb. cow in the world. Come and see them or write to

ED. M. SCHULTZ, Hartford, Wis.

Cows and Heifer

A Few Good Bulls

Because I am overstocked, I am offering some very good registered females for sale. They either have A. R. O. records or are from A. R. O. dams.

Can also offer some excellent young bulls by a 33-lb. sire and from A. R. O. dams with records up to 28 lbs.

Every animal sold is guaranteed to be as represented.

Write or come and see for yourself.

J. D. McDonald West Salem, Wis.

1000---HERD---1000 Quality Holsteins

GRADES AND PURE-BREDS

Just now we have a splendid lot of grade heifers. Write for our pure-bred bull list.

Jefferson County Holstein-Friesian Breeders' Association,
A. F. Gafke, Secretary, Jefferson, Wis.

Don't order Holstein or Guernsey

PEDIGREES

before writing for our special offerings. Good only till Aug. 1st

Wisconsin Live Stock Advertising Company
Madison, Wisconsin

I-N-V-E-S-T-I-G-A-T-E—Pure-bred Holstein bulls sired by Wisconsin 3-year-old at National Dairy Show 1920. Herd tuberculin tested. Pure-bred Duroc pigs sired by Great Wonder Sensation.

RIDGEHURST STOCK FARM,
Glen C. Ramsey - Ft. Atkinson, Wis.

ORMSBY BULL - Born Feb. 28, 1919

Sire, King Ormsby Pontiac De Nijlander, whose two nearest dams average over 30 lbs.

Dam, Aaltje Hengerveld Tritomia Segis. A. R. O. 17 lbs. at 3 yrs., next dam 29.68 in 7 days. Color light, fine individual. Ready for service. Price $300.

Fairview Stock Farm Whitewater, Wis., W. C. Marshall, Prop.

Send For Our Bull Sales List

Three bulls of serviceable age—four others will be old enough for service in a month or two—others three months old and older. Almost all of them sired by SIR ORMSBY BEAUTY PONTIAC SEGIS, the son of a 37-lb., 1112-lb. three-year-old daughter of KING SEGIS PONTIAC COUNT.

If it will be of an accommodation to the purchaser, we will accept a six months' note in payment, WITHOUT INTEREST, or will accept payment on installment plan basis.

Pinehurst Farms Co., Sheboygan Falls, Wis.

$100 to $200 Buys A Bull From A Good Record Dam

Am offering several for those prices sired by a 26-lb. bull and from A. R. O. dams with records up to 25.46 lbs.

Write at once. They'll go fast.

H. W. Crawford, R. 5, Campbellsport, Wis.

FOR SALE

Twenty pure-bred Holstein cows and heifers bred to a 31.51-lb. weekly, 1,057-lb. yearly record son of King Pontiac Champion. Twenty young bulls by same sire.

John Alexander, Baraboo, Wis.

Good Holstein Calves

Bargains for the next 60 days. Grade heifers. Pure-breds either sex. Order your Duroc-Jersey pigs to be shipped at three months old. Pairs or trios not akin.

J. C. BOLGER, Waterloo, Wis.

St. Olaf Ormsby Sensation

The Highest Record Son of

Ormsby Sensation

— Heads the St. Olaf College Herd

He is from VELMA DE KOL PIETERTJE 2D, 30 lbs. butter from 637 lbs. milk in 7 days, and now making an excellent yearly record. ST. OLAF ORMSBY SENSATION, like both his sire and dam, is a splendid individual.

Our Junior Sire Is The Highest Record Son of S. P. O. M. 37TH. His Dam, COLANTHA PIETERTJE LASS, Is The Best Daughter of S. P. O. M.

We invite you to inspect our herd at any time.

ST. OLAF COLLEGE FARMS

Northfield, *(Accredited Herd No. 10957)* **Minnesota**



KING SEGIS PONTIAC COUNT
"The Marvel of All Sires"
Whose daughters have broken more World's Records than the daughters of any other sire.

The Count-Piebe Combination



PIEBE LAURA OLLIE HOMESTEAD KING
"The Present Day Sensation"
The only bull in the world with five 20,000-lb. two-year-old daughters.

Will Triple Your Milk Check Because It Will Put Production Into Your Herd

And more than triple the price you are getting for your calves. Because it combines individuality with production, it has given us thirty cows at Arden Farms that have **each produced $1,000 worth of milk per year. Do you want that kind?**

We Offer
Sons of "Count" from Daughters of "Piebe"
Sons of "Piebe" from Daughters of "Count"

We have the finest line of young bulls we have ever raised at ARDEN FARMS, priced in accordance with present financial conditions. LIBERAL TERMS GIVEN IF DESIRED.

J. M. Hackney, 602 Merchants Bank Building, St. Paul, Minnesota

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MINNESOTA HOLSTEINS



MISS KORNDYKE AKKRUMMER ORMSBY
30-lb. 4-year-old, 39.67 lbs. butter at full age.
(Owned and developed by J. B. Irwin.)

"The Home of the Ormsbys."

BARGAINS IN BULLS

A few richly bred choice young bulls ready for service,

on the bargain counter for a clearance sale.

Let us give you a good individual well bred at a very low price while they last. Tuberculin tested. Guaranteed in every respect and ready to ship. Come and see them.

Woodlake & Clover Farms,
JOHN B. IRWIN, Sta. F, Minneapolis, Minn.

Registered Cows and Heifers

We have on hand more females than we usually carry so are able to offer some good ones for sale. A number have A. R. O. records and most of them are from tested dams. Bred to a yearly record sire and themselves backed by yearly producers.

Address correspondence to Axel Hansen, formerly with John B. Irwin.

MINERAL SPRINGS STOCK FARM, - - SAVAGE, MINNESOTA
Stuart—McIntyre—Hansen, Owners.

Address correspondence to Axel Hansen, formerly with John B. Irwin.



Lola Segis Pontiac Homestead

the highest record bull in southern Minnesota, heads our herd. His sire, Piebe Laura Ollie Homestead King, has more daughters that as 2-yr.-olds have produced 20,000 lbs. milk in a year than any other. His dam, a 34-lb. 4-year-old daughter of King Segis Pontiac Count, has 3 records averaging 33 lbs. and has made over 1,000 lbs. in 1 year. We have a few serviceable bulls and younger from A. R. O. dams for sale.

Clover Lea Farm, W. W. Walker, Owner. Austin, Minnesota



Sir Walker Segis Homestead

The best show bull and son of the great bull, PIEBE LAURA OLLIE HOMESTEAD, out of a "COUNT" daughter, BEAUTY BEETS WALKER SEGIS, world's greatest heifer, with two yearly records over 25,000 lbs. milk and 1,000 lbs. butter in heifer form, and a seven-day record of 35.03 lbs. butter from 730 lbs. milk.

We offer several choice bulls, one month to a year old, out of high yearly record and A. R. O. cows, at very reasonable present day prices. Pedigrees and photos will be sent.

A. J. LASHBROOK, - - Northfield, Minnesota

Here's Another Serviceable Son of King Segis Pontiac Fayne Star

Born March 17, 1920, a splendid individual nearly white.
His dam a 16-lb. 2-year-old with a good 305-day 2-year-old record, one good enough to win a share of association prize money for 1919-1920. She by a grandson of Homestead Junior De Kol.

Fayne Star Sir Wayne is a Bargain at $400

Flecks Farms **Faribault, Minn.**

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6 Good Cows For Sale

THE MINNESOTA KIND

They are all by a 36-lb. sire, are bred to a son of King Korndyke Colantha Ormsby, and are due to freshen this fall and winter. They are from 3 to 5 years old and absolutely straight and right. Lack of barn room forces us to sell.
Write or come and see them.

E. J. Brosious, - Stillwater, Minn.

A LINE-BRED "41st" BULL CALF FOR SALE



SIR PIETERTJE ORMSBY BESS BURKE
Born Dec. 20, 1920

A real showy calf, straight as a line and of ORMSBY type

His dam and sire's dam are both daughters of SIR PIETERTJE ORMSBY MERCEDES 41ST, the only son of Spring Brook Bess Burke. His dam is on yearly test as a junior two-year-old and bids fair to go 800 lbs. The sire's dam made 28.93 as a 3-year-old and 26.82 as a 2-year-old.

THIS CALF WILL GROW INTO MONEY —SEND FOR PHOTOS, PEDIGREE AND FULL PARTICULARS.

E. C. Schroeder Farms

(Under Federal Supervision)

MOORHEAD, Minnesota

Registered Young Holstein-Friesian Herd For Sale

7 cows, 3 heifers, 1 bull, 20 months. Cows sired by 20-lb. son of King Korndyke Colantha Ormsby, sire of several 30-lb. cows. 3 are line bred A. & G. De Freule DeKol 2nd, a 29.68-lb. cow with proven transmitting ability. Others are from granddaughters of famous old Duchess Ormsby Piebe Burke with 33 A. R. O. daughters, some world and state records. Some due to freshen soon, some early fall and winter, several just fresh. Herd Federal Accredited, guaranteed in every respect. Age up to one 6-year-old, mostly three-year-olds. Price $2,750.

WM. SAARI, Phone 316, Finlayson, Minn.

"DUKE"

The only place you can buy sons of serviceable age sired by DUKE PIETERTJE KORNDYKE ORMSBY

The bull selling at the last Minnesota state sale for $33,000.00 is from the herd where he stood for three years prior to the sale. "Duke's" dam now has three records above 1,000 pounds, the last one was 1,190 pounds.
Now is the opportune time to buy one of these bulls as their sisters will be given every opportunity. Get a son now and be in line. Clean bulls from a clean herd. Prices reasonable. Write

EDW. H. ULRICH, Biscay, Minn.

REGISTERED BULLS

FROM TESTED DAMS

Sired by a 30-lb. son of Colantha Johanna Lad and a 26½-lb. son of Laura Piebe Ollie Homestead King. Well marked, straight individuals from two months to 2 years old. Priced to suit present conditions.

GEO. H. ELWELL,
Minneapolis, Minnesota.

Get A Calf

We have a grand bunch of youngsters on hand. Come and pick out a calf while you have a big choice. Grow him to suit you. Saves you money and we are selling them as cheaply as we can. Show calves that are backed by generations of official testing and careful breeding. Sons of DUTCHLAND CREAMELLE COLANTHA LAD No. 165049. His yearly daughters all average over 834 lbs. of butter at 26 months of age.

GRAHAMHOLM FARMS,
H. R. Searles, Mgr., Rochester, Minn.

Choice Ormsby Bulls

From good record dams. Priced from $150 to $700. A few higher. Tell us your wants, or better still, come and see us.

MANKATO HOLSTEIN FARMS
Marlow & Randall, Mankato, Minn.

Grandsons of Sir Pietertje Ormsby Mercedes

The sire is Sir Pietertje Ormsby Mercedes 22d, a son of Minnesota's first 1000-lb. cow. These bulls are all nicely marked, straight top lines. Very good individuals from good A. R. O. dams.

For pedigrees and prices, write

O. J. GROVER, - GLYNDON, MINN.

Registered Holsteins

For Sale—Four heifers from good sires and tested dams. Bred to our 34-lb. sire, Count and Piebe breeding. Are good individuals, priced $1,175. Herd under State supervision.

BLACK & WHITE STOCK FARM, Melrose, Minn.



Success Insurance

"A Son of Count"

Suppose someone offered to insure your future success as a breeder and charge you only a small premium. Would you pass up such an opportunity? Not many of you would.

Oak Dale is offering some breeder the chance of a lifetime to buy herd insurance. The offer comes in the shape of a young Bull, a son of King Segis Pontiac Count, the greatest sire of all times.

"Count" has more daughters with over 700 lbs. milk than any other living sire. He is the only sire that ever lived with three daughters with over 700 lbs. milk under full age. He has more daughters with records above 1,000 lbs. butter than any other living sire. His daughters have won more first prizes in the past five years than the daughters of any other sire in a lifetime.

Buffalo Lois Beets, the dam, seven days 22 lbs. butter, is by a son of Paul Beets De Kol. One of this great bull's grandsons is the sire of the present world champion four-year-old. Buffalo Lois Beets bears the same relation to Paul Beets De Kol as does the sire of this world champion 46-lb. four-year-old.

This young bull traces twice to Pontiac Korndyke, Hengerveld De Kol, King Segis and King of the Pontiacs; once to Paul Beets De Kol and Sarcastic Lad. Thus, in the first five generations he has represented six of the greatest bulls the breed has ever known.

Is this herd insurance or not? Figure it out for yourself. The price of this bull is so reasonable that anyone can afford to pay it.

Write for complete information or come and see him, if you can. The farm is on the Oak Dale Trail at Blooming Prairie, Minnesota.

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out of A. R. dams and sired by our two richly bred herd sires — **King Piebe Ormsby Mercedes**, a 35-lb. son of Sir Korndyke Bess and every dam in pedigree over 22 lbs. and **King Pietertje Mercedes Ormsby**, a son of Sir Pietertje Ormsby Mercedes and out of a 19-lb. senior two-year-old dam.
Herd tuberculin tested. Write for information or visit herd.

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advertised last week is sold. Here is another good one ready for light service. Sired by a 30-lb. bull. Dam a 14-lb. 2-year-old who will be tested again next spring. Priced so reasonable that you can't afford to be without him. $150.00 for immediate sale.

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Make this Chart your Guide

for Correct Automobile Lubrication

Chart of Recommendations

(Abbreviated Edition)

How to Read the Chart:

THE correct grades of Gargoyle Mobiloils for engine lubrication of both passenger and commercial cars are specified in the Chart below.

A means Gargoyle Mobiloil "A"
B means Gargoyle Mobiloil "B"
E means Gargoyle Mobiloil "E"
Arc means Gargoyle Mobiloil Arctic

Where different grades are recommended for summer and winter use, the winter recommendations should be followed during the entire period when freezing temperatures may be experienced.

The recommendations for prominent makes of engines used in many cars are listed separately for convenience.

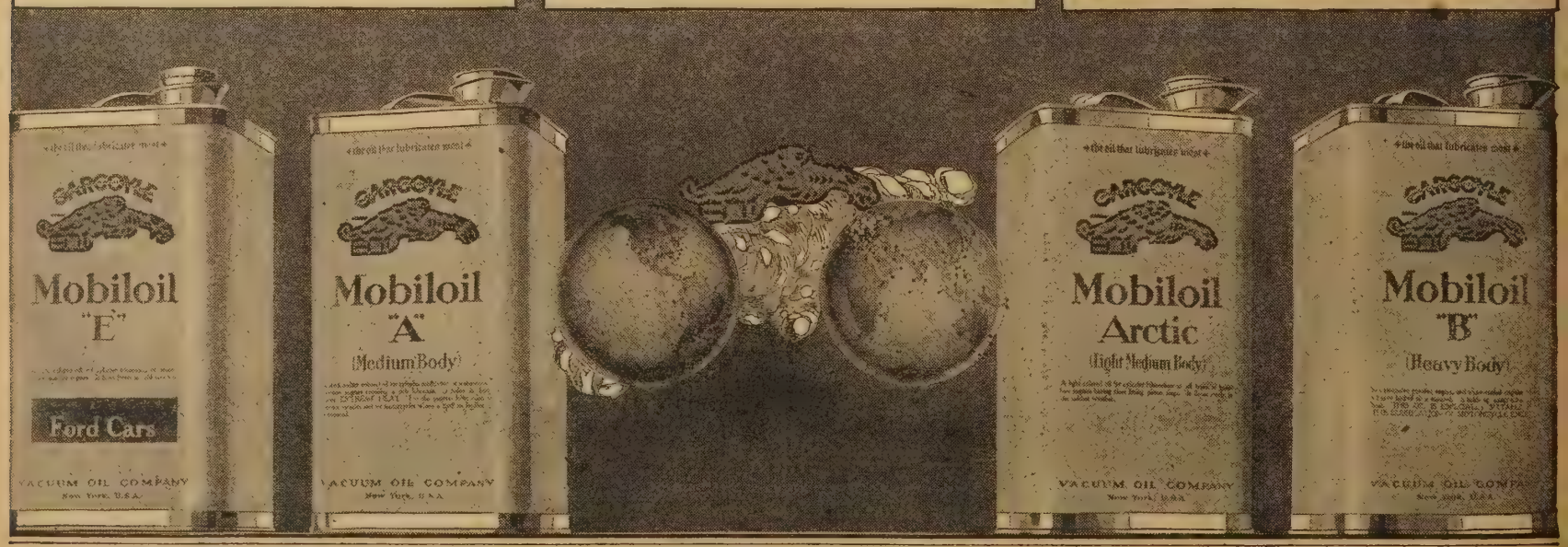
The Chart of Recommendations is compiled by the Vacuum Oil Company's Board of Automotive Engineers, and represents our professional advice on correct automobile lubrication.

NAMES OF AUTOMOBILES AND MOTOR TRUCKS	1921		1920		1919		1918		1917	
	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
Acason (1 and 1½ ton)	A	Arc.	A	Arc	A	Arc.	A	Arc.	...	...
" (2 ton)	...	...	...	...	A	A	A	Arc.	A	Arc.
" All Other Models	A	A	A	A	A	Arc.	A	Arc.	A	Arc.
Ace (Newark, O.) (1½ ton)	A	Arc.	A	Arc.	...	...	...	...	...	...
" " All Other Mods.	A	A	A	A	A	...	...	...	...	...
Allen	A	Arc.	A	Arc.	A	Arc.	A	Arc	A	Arc.
American Six	A	Arc.	A	Arc.	A	Arc.	A	Arc	Arc.	Arc.
Anderson	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Apperson (8 cyl.)	A	A	A	A	A	A	A	A	A	A
" All Other Models	...	...	...	...	...	A	A	Arc.	Arc.	Arc.
Armleder (1 ton)	A	A	A	A	...	...	...	...	...	...
" All Other Models	A	A	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Atterbury (Mod. 8-E)	A	A	A	A	A	A	...	...	...	...
" All Other Models	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Auburn (6 cyl.)	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (6-38)	...	...	...	...	...	...	...	...	A	Arc.
"(6-39-B) (Teetor	...	...	...	...	...	...	A	Arc	...	...
Autocar	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Bessemer	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Bethlehem (2½ ton)	...	...	...	...	...	...	A	Arc.	A	Arc.
" All Other Models	A	A	A	A	A	Arc.	Arc.	Arc.	Arc.	Arc.
Biddle	...	...	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Bour Davis	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Brewster	B	A	B	A	B	A	B	A	B	A
Briscoe	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Brockway (¾ ton)	A	Arc.	...	...	...	...	...	...	...	...
" (5 ton)	A	A	A	A	A	A	...	...	...	...
" All Other Models	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Buick	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Cadillac	A	A	A	A	A	A	A	A	A	A
Case	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc	A	Arc.
Chalmers	A	A	A	A	A	A	A	A	A	A
Chandler Six	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc	Arc.	Arc.
Chevrolet (8 cylinder)	...	...	...	...	A	A	A	A	A	A
" (Model 490)	Arc.	Arc	Arc.	Arc.	Arc.	Arc.	Arc.	Arc	Arc.	Arc.
" All Other Models	A	Arc.	A	Arc.	A	Arc.	A	Arc.	...	...
Cleveland	A	Arc	A	Arc.	...	...	...	...	...	...
Clydesdale (5 ton)	A	A	A	A	A	A	...	...	...	...
" All Other Models	A	A	Arc.	Arc.	Arc.	Arc.	Arc.	Arc	Arc.	Arc.
Cole	A	A	A	A	A	A	A	A	A	A
Columbia (Detroit)	Arc.	Arc	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Comet	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc	A	Arc.
" (Commercial)	...	...	...	...	A	Arc.	...	...	...	...
Concord	A	A	A	A	A	Arc.	A	Arc.	A	Arc.
Corbitt (5 ton)	A	A	A	A	A	Arc.	Arc.	Arc.	...	...
" All Other Models	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Crow-Elkhart	A	Arc.	A	Arc.	A	Arc.	A	Arc	A	Arc.
Cunningham	A	A	A	A	A	A	A	A	A	A
Daniels	A	A	A	A	A	A	A	A	A	A
Dart (1 ton)	...	...	A	Arc.	Arc.	Arc.	A	Arc.	...	...
" (1½ ton)	A	Arc.	...	...	...	...	...	...	...	...
" All Other Models	A	A	A	A	A	A	A	A	A	Arc.
Davis	Arc	Arc	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Denby (Model U)	...	...	...	...	...	...	...	...	A	Arc.
" All Other Models	Arc.	Arc	Arc.	Arc.	Arc.	Arc.	Arc.	Arc	Arc.	Arc.
Dixie Flyer	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Dodge Brothers	Arc.	Arc	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Dort	A	Arc	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Elcar (4 cyl.)	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
" (6 cyl.)	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc	...	...
Elgin	A	Arc	A	Arc	...	...	A	Arc	A	Arc
Erie (Erie, Pa.)	A	A	A	A	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Essex	A	Arc.	A	Arc	A	Arc.	...	...	...	...
Federal (Model S-X)	...	...	...	...	...	...	A	A	A	A
" (Special)	...	...	...	...	...	...	Arc	Arc	...	...
" All Other Models	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	A	Arc.	Arc.
Fiat	...	...	...	...	...	...	B	A	B	A
Ford	E	E	E	E	E	E	E	E	E	E
Four Wheel Drive	A	A	A	A	A	A	A	A	A	A
Franklin	A	A	A	A	A	A	A	A	A	A
Gardner	A	Arc	A	Arc.	...	...	...	...	...	...
Garford (2 ton)	A	A	A	A	A	Arc.	A	Arc.	A	Arc.
Garford (3½, 5, 6 ton)	A	A	A	A	A	A	A	A	A	A
" All Other Models	A	Arc.	A	Arc	A	Arc	A	Arc.	A	Arc.
G. M. C. Trucks	Arc	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc	Arc	Arc.
Gramm-Bernstein (2½, 3½, 5 ton)	A	A	A	A	A	Arc	A	Arc.	A	Arc.
" " All Other Mods.	Arc.	Arc.	Arc.	Arc.	A	Arc	A	Arc	A	Arc.
Grant (6 cyl.)	A	Arc	A	Arc.	A	Arc.	A	Arc.	A	Arc.
" (Com'l) (Mod. 12)	...	...	...	...	A	Arc.	...	...	...	...
" " All Other Mods.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	...	...	...	...
Gray Dort	...	...	A	Arc	A	Arc.	A	Arc	A	Arc.
Hahn	Arc.	Arc.	Arc.	Arc	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Hal-Fur	A	A	A	A	A	A	...	...	...	...
Harroun	...	...	A	Arc	A	Arc.	A	Arc.	A	Arc.
Haynes (6 cyl.)	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
" (12 cyl.)	A	A	A	A	A	A	A	A	A	A
H. C. S.	A	A	A	A	...	...	...	...	...	...
Holmes	A	A	B	A	...	...	...	...	...	...
Hudson Super Six	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Hupmobile	A	Arc.	A	Arc	A	Arc.	A	Arc.	A	Arc.
I. H. C.	...	...	...	...	...	...	A	A	A	A
Indiana (1 ton)	...	...	...	...	A	Arc.	A	Arc.	A	Arc.
" (1¼ ton)	A	Arc.	A	Arc.	...	...	...	...	...	...
" (2 ton)	A	A	A	A	A	A	A	A	A	A
" (5 ton)	A	A	A	A	A	Arc.	A	Arc.	A	A
" All Other Models	A	A	A	A	A	A	A	Arc.	A	Arc.
International	A	Arc.	A	Arc.	A	Arc	A	Arc	A	Arc.
Jackson (4 cyl.)	A	Arc.	Arc.	Arc.	...	...	...	...	Arc.	Arc.
Jackson [All Other Mods.	Arc.	Arc.	Arc	Arc.	...	...	A	A	A	A
Jones	...	...	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc.
Jordan	Arc.	Arc	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Kelly-Springfield	A	A	A	A	A	A	A	A	A	A
Kenworthy (4 cyl.)	A	A	A	A	...	...	...	...	...	...
" (6 cyl.)	Arc.	Arc.	Arc.	Arc.	...	...	...	...	...	...
King (8 cyl.)	...	...	A	A	A	A	A	A	A	A
Kissel Kar (12 cyl.)	...	...	...	...	...	...	A	A	A	A
" " All Other Models	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Kline Kar	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Koehler (Models M & MT)	A	A	A	A	A	A	...	...	...	...
" All Other Models	A	Arc	A	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
LaFayette (Indianapolis)	A	A	A	A	...	...	...	...	...	...
Lange	A	A	A	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Lexington (Cont'l Eng.)	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Liberty	Arc.	Arc	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Lincoln	A	A	...	...	...	...	...	...	...	...
L. M. C.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	...	...	...	...
Locomobile	A	E	A	E	A	E	A	E	E	E
Maccar (5½ ton)	A	A	A	A	A	A	A	A	Arc.	Arc.
" All Other Models	Arc.	Arc	Arc.	Arc.	Arc.	Arc.	Arc.	Arc	Arc.	Arc.
Mack	A	Arc.	A	Arc.	A	A	A	A	A	A
Madison (6 cyl.)	...	...	...	...	A	Arc.	A	Arc.	A	Arc.
" (8 cyl.)	...	...	...	...	...	...	...	...	A	A
Maibohm	A	Arc	A	Arc.	A	Arc	A	Arc.	A	Arc.
Marmon	A	A	A	A	A	A	A	A	A	A
Maxwell	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
McFarlan	A	A	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Mercer	A	A	A	A	A	A	A	A	A	A
Mitchell	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
M. H. M.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc	Arc.	Arc.
Monroe (Model M-3)	...	...	...	...	...	...	A	Arc.	A	Arc.
" All Other Models	A	A	A	A	A	A	A	A	A	A
Monitor	A	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	...	...
Moon	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Nash	Arc.	Arc.	A	Arc.	A	Arc.	A	Arc.	...	...
" (Model 671)	...	...	...	...	...	...	A	A	...	...
" (Com'l) (Quad)	A	A	A	A	A	A	A	A	...	...
" (1 ton and 2 ton)	A	Arc.	A	Arc.	A	Arc.	A	Arc	...	...
National (6 cyl.)	A	A	A	A	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (12 cyl.)	...	...	...	...	A	A	A	A	A	A
Nelson	A	A	A	A	A	A	A	A	A	A
Netco	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Noble	A	A	A	A	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Noma	Arc.	Arc	Arc.	Arc.	Arc.	Arc	...	...	...	...
Oakland	A	A	A	A	A	A	A	Arc.	Arc.	Arc.
Old Hickory	Arc.	Arc	Arc.	Arc.	Arc.	Arc	A	Arc	A	Arc.
Oldsmobile (4 cyl.)	A	Arc.	A	Arc.	A	Arc.	...	...	...	...
" (6 cyl.)	A	A	A	A	A	A	A	A	Arc.	Arc.
" (8 cyl.)	A	A	A	A	A	A	A	A	A	A
Overland	A	Arc	A	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Owen Magnetic (Mod. M25)	...	...	...	...	...	...	Arc.	Arc.	Arc.	Arc.
" All Other Models	A	A	A	A	A	A	A	Arc	A	Arc.
Packard	A	A	A	A	A	A	A	A	A	A
Paige (6 cyl.)	A	Arc.	A	Arc	A	Arc	A	Arc.	A	Arc.
" (Continental Eng.)	Arc.	Arc	Arc.	Arc.	Arc.	Arc	Arc.	Arc.	Arc.	Arc.
" All Other Models	A	A	A	A	...	...	...	...	...	...
Paterson	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Peerless (8 cyl.)	A	A	A	A	A	A	A	A	A	A
" All Other Models	...	...	...	...	...	...	Arc.	Arc.	Arc.	Arc.
Phianna	A	A	A	A	A	A	A	A	A	A
Pierce-Arrow	A	A	A	A	A	A	A	A	A	A
" (Com'l) (5 ton)	A	A	A	A	A	A	Arc.	Arc.	Arc.	Arc.
" All Other Models	A	A	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Porter	A	Arc.	A	Arc.	A	Arc.	...	...	...	...
Premier	A	A	A	A	A	A	A	A	A	A
Rainier (1½ ton)	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	...	...	...	...
" (3½ ton)	A	A	...	...	...	...	...	...	...	...
" All Other Models	Arc.	Arc.	Arc.	Arc.	A	Arc.	A	Arc.	A	Arc.
R & V Knight	B	A	B	A	...	...	...	...	...	...
Renault (French)	A	A	...	...	...	...	...	...	...	...
Reo	A	Arc.	A	Arc.	A	Arc.	A	Arc	A	Arc.
Republic (1 and 1½ ton)	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc	Arc.	Arc.
" All Other Models	Arc.	Arc.	Arc.	Arc.	A	Arc.	A	Arc.	A	Arc.
ReVere	A	A	A	A	A	A	A	Arc	...	...
Roamer (Model R. A.)	...	...	...	...	...	...	...	...	A	Arc.
" (Model 4-75)	A	A	...	...	...	...	...	...	...	...
" All Other Models	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	...	...	Arc.	Arc.
Rock Falls	A	Arc.	A	Arc.	A	Arc	...	...	...	...
Rolls Royce (British)	...	...	...	...	...	...	...	...	A	A
Saxon	A	Arc.	A	Arc.	E	E	E	E	E	E
Sayers-Six	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Schacht (5 ton)	A	A	A	A	A	A	A	A	...	...
" All Other Models	A	A	A	A	A	A	A	Arc.	A	Arc.
Scripps-Booth (4 cyl.)	...	...	...	...	...	...	Arc.	Arc.	A	Arc.
" " All Other Models	A	A	A	A	A	A	A	A	A	A
Selden (¾ ton)	...	...	...	...	...	...	...	...	A	Arc.
" (5 ton)	A	A	A	A	Arc.	Arc.	Arc.	Arc.	...	...
" All Other Models	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Seneca	A	Arc.	A	Arc.	A	Arc.	Arc.	Arc.	...	...
Service (220)	A	Arc.	A	Arc.	A	Arc.	A	Arc.	...	...
" (120, 130, 140, 170)	...	...	...	...	...	...	...	...	A	Arc.
" All Other Models	A	A	A	A	A	A	A	A	A	A
Simplex Crane	...	...	...	...	...	...	A	A	A	A
Standard (8 cyl.)	A	A	A	A	A	A	A	A	A	A
Stearns-Knight	B	A	B	A	B	A	A	A	A	A
Stephens	A	A	A	A	A	A	A	Arc.	Arc.	Arc.
Stevens Duryea	A	Arc.	...	...	...	...	...	...	...	...
Stewart (Buffalo, (Com.) (¾ ton)	...	...	A	Arc.	A	Arc	A	Arc.	A	Arc.
" (1 ton)	...	...	Arc.	Arc.	A	Arc.	A	Arc.	A	Arc.
" (Models 7x & 10x)	A	A	A	A	...	...	...	...	...	...
" All Other Models	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	A	Arc.
Stoughton (1 ton & 1½ ton)	A	Arc.	A	Arc.	...	...	...	...	...	...
" All Other Models	A	A	A	A	...	...	...	...	...	...
Studebaker	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Stutz	A	A	A	A	A	A	A	A	A	A
Sullivan	A	A	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Templar	A	A	A	A	A	A	...	...	...	...
Traffic	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	...	...
United (Mich.) (2½, 4, 5, 6 ton)	A	A	A	A	A	A	A	A	A	A
" (3½ ton)	A	A	A	A	A	A	A	Arc.	Arc.	Arc.
" All Other Models	A	A	A	A	A	Arc.	A	Arc.	Arc.	Arc.
Velie (Model 34)	A	Arc.	A	Arc.	...	...	...	...	...	...
" (Com'l) (¾ ton)	...	...	...	...	A	Arc.	A	Arc.	...	...
" All Other Models	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	...	...
Vim (Mod. 22, 23 & 24)	A	A	A	A	A	A	...	...	...	...
" (Model 25)	A	A	A	A	Arc.	Arc.	...	...	...	...
" All Other Models	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Westcott	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
White Hickory	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
White (16 valve)	...	...	...	...	A	A	A	A	A	A
" (3 and 5 ton)	A	A	A	A	A	A	...	...	...	...
" All Other Models	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Willys-Knight	B	A	B	A	B	A	A	A	A	A
Willys Six	...	...	...	...	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Wilson	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Winther Six	A	Arc.	A	Arc.	...	...	...	...	...	...
" (Com'l) (¾ ton)	A	Arc.	...	...	...	...	...	...	...	...
" All Other Models	A	A	A	A	A	A	A	A	A	A
Winton	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.

Prominent Makes of Engines

Beaver (Mod. J-JA-JB-JC	A	A	A	A	A	A	A	A	...	...
" All Other Models	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Buda (Mod. ATU-BTU-CTU-DTU-ETU-FTU-HU-HTU-IU-ITU-XU-XTU-YU-YTU)	A	A	A	A	A	A	A	A	A	A
" All Other Models	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Continental (Model B2)	A	A	A	A	A	A	...	...	...	...
" (Model T)	...	...	...	...	A	Arc.	A	Arc.	A	Arc.
" All Other Models	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Falls	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
G.B. & S. (Model AA)	A	A	A	A	A	A	...	...	...	...
" All Other Models	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Herschell-Spillman (Models JU-S-V & VA)	...	...	...	...	A	A	A	A	A	A
" All Other Models	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Hinkley	A	A	A	A	A	A	...	...	...	...
Northway (Mod. 108)	...	...	...	...	...	...	...	...	Arc.	Arc.
" All Other Models	A	A	A	A	A	A	A	A	A	A
Waukesha (Models CU-DU-EU & FU)	A	A	A	A	A	A	...	...	...	...
" All Other Models	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Weidely	A	A	A	A	A	A	A	A	A	A
Wisconsin (Mod. Q & QU)	...	...	...	...	A	Arc.	A	Arc.	A	Arc.
" All Other Models	A	A	A	A	A	A	A	A	A	A

These recommendations represent the professional advice of the Vacuum Oil Company as determined by its Board of Automotive Engineers.



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HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING



Fort Atkinson, Wisconsin Volume LXI, No. 26 July 15, 1921

GOODYEAR



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TRACTORS AND SILOS

F. L. CLARK, IOWA

"THE tractor is having a direct influence in increasing silo-building on farms," said an Iowa dairy farmer the other day, who has this year added a tractor to his farm equipment and at silo-filling time made use of it to run the cutter. Formerly he had used a steam engine.

"The tractor way is so much simpler, less expensive, and convenient than waiting your turn at a hired steam outfit," he said, "that it is a real inducement to add a silo as soon as you have a tractor if you haven't one before. Silo filling is not a job that farmers can very well put off until the steam engine outfit is ready to give a day. When corn is ready for ensilage it has to be tended to. A tractor on the farm means no delay such as used to be experienced when a steam outfit had to be requisitioned.

"Then, too, the tractor lessens the cost of filling the silo. The fuel cost is less and less help is required. The steam engine needs men to fire it and haul water for it."

That the tractor has become almost universally the power silo filler one only needed to drive along the roads of Iowa during the latter part of September last year to discover.

At the same time the photograph used in the accompanying illustration was taken, a half dozen other tractors in the Kinsley neighborhood were performing the same job and there were about as many different makes of tractors as there were silos. This would lead to the deduction that a tractor is a power unit at silo filling time, whether it is big or little, cheap or expensive or what not.



SILO FILLING ON FARM OF KINSLEY BROS., IOWA

Use of Milk Increases

Forty-four gallons of milk is used by each person in the United States annually, according to estimates made by the Dairy Division of the United States Department of Agriculture. This estimate refers to whole milk and does not include that which is consumed in the form of ice cream, cheese, and butter. The amount is about twice as much as that used in 1890 when the per capita consumption was approximately 22 gallons. The dairy specialists point out that the increase in the use of milk in the last 30 years is as great as that in the preceding 280 years.

The present-day consumption of milk in the United States, they say, is equal to about one pint per day, or as much as two small glasses. That is not a great amount when it is known that it includes not only the milk that is used for drinking, but also that used in cooking. This is a small amount compared to the per capita consumption in some European countries. In Sweden and Switzerland, for example, nearly 70 gallons are used by each person annually.

Ancient German Tribes Lived on Milk

A high value has always been placed on cows in many European countries, and history records a campaign conducted by Julius Caesar in central Europe where he found German tribes living almost exclusively on milk. In order to provide pastures for their cows they forcibly resisted the settlement of any people near them.

In relating the growth of the dairy industry in this country, the department specialists say that in pioneer days each family kept its own cow. The denser the population became the more important it was to have a well regulated and ample commercial supply of milk. Gradually the number of cows increased, and in time a dairy business grew up in various sections. The development of modern methods in the distribution of milk, with economic and sanitary handling, has been closely accompanied by the larger use of this food, they say.

Much of the milk now used in cities comes many miles, and recently improved methods have made it possible to ship it for long distances in refrigerator cars. At the National Dairy Show in Chicago in 1919, milk shipped from the Pacific Coast took first prize in the market milk competition with the highest score ever given to milk in recent years.

Cities have always used a smaller amount of milk in proportion to the number of people than general farming communities, the statistics show. For example, Philadelphia reached the rate of 23 gallons per capita in 1905, which was 15 years later than the country at large reached a consumption of 22 gallons. There are, however, many agricultural and non-agricultural rural districts where cows are not kept and where modern methods of milk distribution are not equal to most cities. The people in such places have to depend on canned milk of various kinds, and this, the dairymen say, is an exceedingly valuable means of supplying a need which 20 or 30 years ago could not have been supplied at all.—U. S. Department of Agriculture.

Some farmers immunize their spring pigs and some just let the cholera get 'em.

HOARD'S DAIRYMAN

A WEEKLY JOURNAL DEVOTED TO DAIRY FARMING

Volume LXI — FORT ATKINSON, WIS., JULY 15, 1921 — Number 26

DOLLING UP THE DAIRY COW

WM. R. PAGE, IOWA

WHY is it that live stock of all kinds is so much admired at big shows and sales?

Most of you will say, "That is easy. Why shouldn't people admire animals of such superlative quality?" You are only half right. It is true that show stock is usually of a higher grade than the common run of animals to be seen over the countryside, yet, if these same animals were later seen in their working clothes, but few people would be able to recognize them and, if seen before being fitted for show, they would probably laugh at the idea of the same animal even being considered as a show prospect. Fitting is important for just that reason. It makes it possible to show off an animal's good points to advantage and helps to cover up the poor points. The first impression that a judge gets when an animal is being led into the ring is often the main factor in settling his opinion. A good animal poorly fitted may not receive sufficient attention from a judge to give it a place over a somewhat poorer animal that may be very well fitted. Nor can the judge be given all the blame, for he must judge them as they appear that day. Few judges are good prophets. They are not expected to be. The best fitted individual has the advantage.

There is much criticism concerning the harmful effects brought to stock by the methods that are usually practiced in fitting dairy or other animals for show or sale. And there is no disputing the facts. However, much of the harm is incurred by extreme practices that some showmen entertain just for the sake of the last hair in appearances. Injury may result from rushing the prospects too fast from the first, because of the lack of time to otherwise secure the desired results. And finally it may happen through purely gross ignorance on the part of the fitter.

As an example of what can be done with an animal on the show circuit we have the Jersey cow, Beechland's Champion Lilly. She freshened on Feb. 16, 1916, and in 365 days gave 11,627.4 lbs. of milk and 628 lbs. of fat. During this time she was on the show circuit six months and won a considerable share of the ribbons offered in her class. She dropped a vigorous bull calf on April 4, the following year, and, when put on test for that year, she gave 14,355.6 lbs. milk and 829.26 lbs. fat, finishing her test in first class physical condition. Showing surely did no great harm to that cow, either from a production or a breeding standpoint. If good common sense methods are employed one need not worry for the welfare of his show stock.

Selection of your show prospects is the first step in the business of preparing a herd for the fairs. It is self evident that a knowledge of your breed's standard is essential to a judicious selection of the individual. In addition the stock selected should be as uniform as possible. A uniform herd stamps the exhibitor as a true breeder and speaks especially well for his herd sire. It is next to impossible to make a strong impression on the public with a motley herd of animals, no two of which are alike, even though they may be good individuals. Uniformity is especially desirable in the herd and get of sire classes. If you must choose between two animals for the above classes, one of which is the same type as the rest of the class but somewhat inferior in quality compared to the other which is of a different type, it is nearly always safe to pick the poorer individual which has the desired type.

The time to select your show prospects may be a year ahead of the date of showing. This is particularly true when selecting cows for the aged classes where freshness and bloom are so important in competition with fast company. The cow is chosen early and bred to freshen just about the time of showing. This enables her to show at her best but of course when making a full show circuit it is manifestly impossible to keep a cow in that condition for all the shows. Then the most important show should be chosen as the time to have the cow at her best. The fitting proper should begin from three months to six weeks ahead of the show. The first date is the safer, but conditions may not warrant spending so much time on your cattle and very good results can be obtained in six weeks' time for ordinary competition.

The cows should be put in the barn and kept there most of the time. They should be allowed to go outside for exercise only. This should be given in the cooler parts of the day or at night. They should be kept free from the hot sun for it tends to harden the skin and to remove the luster from the hair. While they are in the barn, supply them with a liberal amount of bedding and keep the barn in semi-darkness if flies are bad. If the coats of the animals are rough and shaggy or seem slow to shed it will be necessary to clip them. At any rate clip all the long hair from the under parts and from the milk veins in order to show them to the best advantage. The head and ears should be clipped to give an impression of quality. The tail is always trimmed from the switch to the tail setting. It may be necessary to clip some parts more than once during the fiting period to keep your prospect looking at its best.

The question of blanketing the show animals is a much debated one and successful showmen do not agree on their use themselves. Heavy blanketing during the early part of the fitting period will soften the hide and give gloss to the hair. When the desired softness is obtained lighter blankets are used merely to keep off the flies and to keep the hide clean. Those who do not use blankets claim less dangers from colds; and the softness of the skin is secured by extra brushing and rubbing of the hide. For quick results blanketing is the surer method but conditions must determine their use or non-use.

The feet should be trimmed so that the individual will stand squarely and evenly upon them. This is quite essential in securing stylishness in the animal, both while standing and while at the walks. The hoofs may be rasped to smoothness and just before showing they should be rubbed with a rag and a trace of sweet oil to give them a dull luster.

The feed for show cattle should be as nearly as possible like that which you will be able to secure while at the shows. If but one show is to be undertaken that is not so important for it is usually possible to coax along the cattle for a few days on any good feed even though it is different from that fed at home. A good grain ration, to be fed three times daily, is oats, 100 lbs.; wheat bran, 200 lbs.; corn, 100 lbs.; linseed oil meal, 100 lbs., and salt 1 per cent. The linseed oil meal is helpful in giving a gloss to the hair and in keeping the animal in good tone. Mixed hay is allowed freely and some roots or green feeds may be given as a relish, but not too freely. Watch the general condition of the animal by observing the appetite, eye, hair, skin, and bowels. If one should go off her feed, give immediate attention by changing the ration to suit the needs of the individual.

Grooming and training the animals for their appearance in the show ring should be thoroughly done. For the first couple weeks a good stiff brushing should be given twice daily. After that softer brushes should be used assisted by rubbing down with a woolen rag and, as a finish, vigorous rubbing of the hide with the palm of the hand. Nothing gives a better gloss to the hair than plenty of elbow grease and the open palm. Wash the cattle thoroughly when they are first put into the barn by using lukewarm water and plenty of tar soap. This should be repeated every day until the skin is thoroughly clean and after that the hair may be sponged off with a suds made of tincture of green soap and warm water. After sponging, rub the hair dry and apply, very sparingly, on a woolen rag, a mixture of sweet oil and alcohol, half and half. Now rub down well with the palm of the hand and the coat will soon have a brilliant gloss.

The stock should be led out every day and taught to pose in approved fashion. Some will show to the best advantage when posed in one way while others will show best in another. Study your animals to secure the best effects. It is well to give strangers an opportunity to handle them at this time for it will teach the cattle not to be so excited when the judge commences to work on them in the ring. This training will help to supply the much needed exercise that the cattle should have. Also turn them outside for a few hours every day when the weather is favorable.

Nothing adds so much of beauty to a good dairy animal as a shapely pair of horns brightly polished. The outer rough portion may be removed by the use of a rounded wood rasp. This is followed by the use of a steel scraper or a piece of broken glass, which does

(Continued on page 997)



HOLSTEIN COW, ARCADIA SEGIS ATIA 2ND, SOLD FOR $4,250 TO M. MONTGOMERY, SOUTH CAROLINA, AT THE 1921 NATIONAL HOLSTEIN SALE

PRACTICAL DAIRY MANAGEMENT

A. W. ABBOTT, MAINE

IT has been said that to raise a really perfect cow a breeder should not expect results for 20 years hence. But to raise good cows the care given the dam is absolutely necessary. The method given below is one practiced by the writer and, with figures in dollars and cents to bear him out, we feel sure this method will be of value to some that are starting with dairy cows and others who desire a change of their present method of handling their cattle.

Five years ago, on an ordinary farm in Eastern New England, the purchase of fifteen grade cows marked the beginning. With timothy hay and high priced grains a start was made toward producing milk, but the figures showed at the end of the first year that such a method was far from the correct one in profitable dairying.

The next year the raising of green feeds and corn silage helped materially and, with the sale of all boarder cows, the balance in the cash book at the year's end showed great improvement over the one preceding. Not until the fourth and fifth years, however, when the establishment of the present system was well grounded, could we show a nice yearly profit in raising cattle for milk production.

Home Grown Feeds

The raising of all feeds that can be economically cared for by the eastern dairy farmer and utilized at a profit by the cow, was the beginning. The following system was then adopted:

We find from the first to the tenth of September the ideal time for sowing winter rye and vetch. The vetch makes ideal green feed for the dairy cow, being ready in our climate for feed by the last of May. Through its root system, which is heavily coated with nitrogen nodules, we get valuable fertilizing elements for the soil, thereby gaining a food and a fertilizer in the one crop. The rye serves as a nurse crop for the vetch and is selected in combination because of its hardiness and a price which is less than any of the fall grains. To the dairyman who is planning to rejuvenate his worn-out pasture our advice would be to try a fall sowing of the above crops and gain a spring feed which for the dairy cow has few equals.

Very early in spring or as soon as you can get your land ready, sow two acres of peas and oats for twenty-five head of milk cows. This amount will allow some for cutting into the summer silo.

The latter part of May or first of June sow alfalfa and the clovers. Alfalfa will survive on our eastern dairy farms if some essentials and care in the beginning are carefully followed. For a successful crop of alfalfa the variety, time of sowing, use of lime, and inoculating the seed spells success or defeat in growing this legume crop. Grimm has proven the most hardy variety with the writer and the use of at least 2,500 pounds of lime per acre is necessary for results. Alfalfa will not survive the winters in our climate on low land, therefore high and well drained soil *must be selected.* Inoculation is simple and consists merely of soaking the seed in alfalfa culture before sowing.

Clover is likewise one of our best soil enrichers, so that when we plant this wonderful feed we benefit to the fullest degree our herd and our land.

Lime is as essential with clover as with alfalfa and must be supplied during soil preparation for the clover crop. With clover, as with vetch, a nurse crop is needed in order to insure a good catch the first year, and help choke out the weeds.

Red clover, alsike, and mammoth are the three most popular clovers. Red clover gives practically two yields and alsike is fine in that it is adapted to damp soils and makes for permanent hay. Just now the writer is experimenting with an annual sweet clover which gives promise of excelling any of the above varieties. It grows much thicker, appears hardier for our climate, and furnishes nearly twice as much forage per acre as the other clovers mentioned. More accurate results will be ready later as to the feeding value and money values of this crop.

Hungarian grasses and millet belong on the list of home-grown feeds for the practical feeder. They are very easy to raise, being adapted to almost any kind of soil, can be sown late, and can be utilized both green or for hay. Have also used this crop in the summer silo to advantage.

Six to eight acres of ensilage corn completes the list of roughages adaptable to our conditions for 25 head of cattle. First select a variety that will ear out well. New York Flint is an ideal variety in that under average growing seasons it produces ears by September 15th well filled out, and in number, two to each stalk. No dairyman should consider his corn field complete or successful without some protein feed in combination. My results prove that soy beans are most excellent grown with the corn. Soy beans are hardy and large yielders, are not choked out by the corn, and add to the feed value of the combination considerably because protein at the rate of 12% is contained in the beans. Like all legume crops the soy bean root system contains nitrogen nodules and these plowed into the soil after harvest time add nitrogen to a soil that has been somewhat depleted by the corn.

Care and Management of the Cow

In the care and management of the dairy cow select a system adapted to your own conditions, reinforced by proven ideas regarding feeding and breeding of dairy cattle. To the beginner let me suggest a few fundamentals that success has proven to me must be carefully adhered to.

No dairy cow ever filled a large milk pail brimming full twice a day or kept herself in "fine order" without the observance of regularity by her attendant or feeder.

With me, water kept before the herd at all times is the better way. Regular and frequent waterings will do; but a cow that has access to water both day and night will excel the cow not having continual access to water to the tune of one pound to three pounds of milk per day.

Feeding the dairy cow should be considered very carefully. She must be fed at practically the same hour each day, whether the number of feedings be two, three, or more. Regularity in milking will guarantee the owner from one pound to three pounds of milk a day more than can be obtained from the cow milked "as our conscience calls". Keep your dairy herd well groomed and do it at the same time each day, lest it will not be done at all.

In the care of the dairy herd the number of feedings necessary per day is a much debated question and results obtained are somewhat variable. You hear of the "way down East" farmer who still feeds his cows seven times a day, but this is both expensive and impractical. I have personally experimented and kept figures on milk production and feedings cost for two and three feedings a day with following results:

Three feedings per day showed an increase in amount of hay fed and in labor expense, with not much gain in milk production.

Two feedings per day shows saving in hay somewhat, practically as much milk, and the labor of extra feeding saved. The above system applies to the dairyman running a practical herd of 25 cows under average farm conditions.

The management of the dairy cow throughout the entire year is of great importance, but the period just before calving is doubly so. It is during the dry period, which should be from six to eight weeks before calving, that real flesh can and should be put on the cow. A carefully selected grain ration should be fed during this time, such as 200 lbs. bran, 100 lbs. ground oats, 100 lbs. oil meal, and 100 lbs. hominy.

Just previous to calving this ration can be made more laxative by increasing the bran and omitting the hominy, which is desirable.

Feeding the Individual Cow

After calving the practical feeder has the task of finding out the possibilities of his animal. I venture the fact that not more than one cow in twenty, yes even greater than that, ever proves her possibilities to her owner. And it is because she is not allowed to or is not forced to show her real worth. Feeding for milk production is a real science and comes only by experience and careful study of each individual fed. Some points worthy of consideration, however, are here recorded from the writer's experience in feeding dairy cattle:

1. Be regular, both in feeding and milking.

2. After calving do not be over anxious to feed heavy at once. Rather work the cow along slowly by increasing her ration a little at a time.

3. Increase the grain ration just so long as the milk sheet shows an increase in pounds of milk each day.

4. When the cow has reached her limit for the grain ration fed, do not increase the number of pounds any longer; increase the protein in the ration and feed same amount of ration to the cow as previous.

5. Ensilage is a vital necessity to furnish winter forage for the cows. Plan now for your spring planting and have a full silo next winter.

6. Roots, ground beets, or beet pulp for the high producing cow that is fed plenty of grain are essential as they cool the digestive system which is being worked to its fullest capacity.

7. Be faithful, gentle, and human to your cows and you will soon discover possibilities in each individual that you never dreamed were possible.

A milk ration for results, based on the present market prices, is as follows: 500 lbs. bran, 300 lbs. ground oats, 200 lbs. gluten, 200 lbs. hominy, 300 lbs. cottonseed, 100 lbs. linseed meal, and 14 lbs. salt.

Breeding Pure-bred Stock

The advanced and far-sighted dairyman of today is looking forward to the breeding of pure-bred stock as the ultimate goal of his dairy proposition. The method of stock improvement is the only real means of getting rid of a cow that gives but 3,000 pounds of milk a year and replace her by a cow that gives 6,000 pounds each year, and so on. Right here is where real profit begins. Again, a man in breeding pure-breds is able to place his stock on the market at a figure that cannot be compared with the amount an average grade cow will bring, while the cost of raising registered cattle is but a trifle more per head than that of raising the grade or scrub. There is also the feeling of satisfaction that enters into the daily work when a man who loves good cattle and is willing to devote time in caring for them is breeding pure-breds.

As soon as you select one or more cows of a certain strain to serve you as foundation stock, select a bull of this strain and get the best bred bull you can afford to buy. The purchase of a cheap bull is the worst kind of folly to the breeder who is looking into the future. Do not pick out as a herd sire an animal whose pedigree shows no resemblance to that of your females.

A shrewd and successful breeder is one who looks after the details; and, when all is said and done, it is the details that form the foundation for the entire breeding work. It is rightly said: "See to it that the fundamentals are correct and then everything is correct."

Breeding work is not a get-rich-quick adventure, but it is a sound, sane, and logical business. To succeed will take years of faithful guiding and study. A successful breeder must have patience, knowledge, a love for animal life, and an untiring disposition, and can only expect results as he devotes these requirements to his enterprise.



FIRST ANNUAL FIELD DAY OF MAINE LIVE STOCK BREEDERS' ASSOCIATION HELD ON ABBOTT FARM

A Successful Co-operative Creamery

THE sceptic says that it can't be done; co-operation is not a success, for farmers cannot adjust themselves so they will work together to their mutual advantage.

The farmers' co-operative creamery of Pelican Rapids, Minnesota, has refuted the statement "that it can't be done", for in less than ten years they have developed one of the best co-operative creameries in the United States and have increased the production of dairy products in that community. They have not only interested themselves in the handling of milk and cream produced by farmers in that section, but they have provided facilities for handling their poultry and eggs.

In the year 1911 there was a private creamery at Pelican Rapids and previous to that a creamery built by farmers and business men which was a promoters' creamery and, being premature, did not receive proper support from the farmers and consequently failed. The people who invested in it lost money. The failure of this creamery caused many to be sceptical of the present organization when it was started but the private creamery did not give satisfaction and it led those who believe in the co-operative creamery to again attempt to establish such an institution at Pelican Rapids.

Several meetings were held by the farmers the latter part of 1911 and on February 8, 1912, an organization was perfected and it was voted to build a new creamery; this building to be 70x30 ft., one story, and to cost about $4,000. It was uphill work and much harder to raise the $4,000 at that time than it was to raise $70,000 in 1920 for the new creamery which is illustrated on this page. In May, 1912, Mr. M. Sorensen was engaged as manager of the first creamery. It looked rather dubious to start this creamery as the sixth place for receiving cream, but they succeeded, and on July 17, 1912, the first butter was made, and in six months 96,000 lbs. of butter were made which sold for $26,000.

This creamery being properly managed and giving good returns to the farmers, led a number of them to purchase dairy cattle the following October. It also led the farmers to start a cow testing association for they desired to establish herds of cows that would be profitable milk producers. The work of testing has continued and there is a marked improvement in the quality of the herds in that section.

In 1918 the creamery management became interested in eggs and handled them for their patrons. This paid so well that the following year poultry was handled. In the meantime the production of butter had grown to such an extent that the old building was inadequate and so at the annual meeting of 1919 it was unanimously voted to erect a new building, and in two weeks $60,000 was raised for that purpose. It was decided to build large enough so that future business could be easily taken care of and in December, 1920, the new creamery was constructed. It is equipped so that over 1,000,000 lbs. of butter can be made yearly and a carload of eggs handled per week, besides cheese and also a freezing room for dressed poultry. It is their intention, however, to handle poultry in the old creamery. In 1920, 552,000 lbs. of butter were made and 150,000 dozens of eggs and about $28,000 worth of live and dressed poultry handled.



FARMERS' CO-OPERATIVE CREAMERY, PELICAN RAPIDS, MINNESOTA

There are no local markets to speak of. Pelican Rapids is located at the end of the branch line of the Great Northern and has about 1,150 inhabitants, hence the markets for their products are through regular channels.

The success of this creamery is attributed to the good co-operative spirit prevailing among its patrons and to the capable management of Mr. M. Sorensen.

The present board of directors consists of P. K. Peterson, Herb. Halloway, Julius Holen, J. E. Maasjo, W. W. Sherman, A. P. Restad, and Carl E. Johnson. The same men were practically in control at the beginning of the organization and it is reported not a single quarrel has occurred within the association in the eight years it has been in existence.

The creamery is patronized by about 500 dairy farmers. Many are small, but all are taking an active interest in the development of their creamery and nearly everyone has a share in this institution. Their products are all graded and paid for according to grade; this shows that it is possible to grade dairy products and pay for them according to their market value.

Just recently a meeting was held by the patrons of this creamery and they report that several herds have been submitted to the officials of the Minnesota Live Stock Sanitary Board to be placed on the Accredited Tuberculosis-Free herd list.

The accomplishments of this creamery show what can be done when there exists among the patrons the true spirit of co-operation and when they are led by a capable and energetic manager.

What Does It Cost To Grow Alfalfa?

JAMES LACEY, WISCONSIN

IS alfalfa an expensive crop to grow in soils which are deficient in limestone? Does it pay to lime acid soils for the purpose of producing alfalfa? Under ordinary conditions, will the returns from an acre of alfalfa justify the expense and labor incident to its successful production?

These are questions which must be met by county agents and extension workers during the spring seeding season each year. If men who are interested in alfalfa production, but who are afraid to attempt it because of expense entailed, can be shown that the cost of production per acre or per ton is sufficiently low to allow a handsome profit per acre per year, it is a safe bet that the doubtful ones can be very easily converted to the ranks of alfalfa enthusiasts.



A 30-INCH GROWTH OF GRIMM ALFALFA, THE RESULT OF STARTING RIGHT

Figures will not lie. However, definite figures on cost of production are very difficult to obtain. Seasonal conditions exert a strong influence on production costs. Type of soil and location of the farm are other factors which have considerable bearing on the expense of alfalfa growing. But since we must draw the line somewhere, we can come very close to production figures by taking an average farm which is properly managed and which is growing alfalfa successfully despite numerous handicaps which are bound to arise.

Mr. G. B. Horner, a man who has had signal success in growing alfalfa in Green Lake County, Wisconsin, has been kind enough to furnish the cost of production figures on a twenty-acre field of alfalfa which he is planting this year. I might say, in passing, that the soil on which the alfalfa is being grown on the Horner farm was extremely sour—four tons of ground limestone per acre were needed to correct the acidity—and that the farm itself is located eight miles from the nearest source of agricultural lime. Nevertheless this field was limed with the required amount obtained at a point eight miles away. The lime was delivered by truck, dumped on the field, and spread a few weeks later.

In a recent letter from Mr. Horner he states: "Assuming ordinary conditions, viz., land plowed in fall, limed in the fall, fitted in the spring and the alfalfa sown—with a nurse crop of barley or oats—costs would work about as follows:

Plowing—1 acre (2 bottom gang, 1 man, 4 horses, 6 acres per day)	$ .80
Limestone, 4 tons at $3	12.00
Cultivating (spring)	.40
Spring tooth (spring)	.40
Drag (spring)	.35
Seeding (spring)	.40
Spreading limestone (fall)	.90
Seed 15 lbs. Grimm at 60c	9.00
Oats 2½ bu. at 40c	1.00
Total	$25.25

"This gives a total cost of $25.25 per acre without figuring the interest charge. Now, if we assume that the average field of alfalfa lasts for three years, the cost per acre, per year will be one-third of $25.25, or $8.42. Interest charges on $250 per acre land at 6% will amount to $15.00 and this added to the $8.42 makes a total cost of $23.42 per acre, per year. Ton cost on the basis of 3 tons per acre would seem to be about $7.81."

Mr. Horner continues: "In this estimate (which is really only an estimate because of the many other factors which may enter into the problem) a plow outfit, two bottom gang, one man and four horses, is assumed to cost $4.80 per day, and to plow six acres of land. A cultivating outfit is supposed to cost the same, and to handle twelve acres per day, and a spring tooth harrow outfit to cost and handle the same amount. A common field drag will cost the same per day, but will handle a slightly larger area while the figures on the seeding outfit, consisting of one drill and three horses, should be the same as those for the dragging operation. The spreading outfit, one lime sower, two men and two horses, costs six dollars per day, and will handle twenty-six tons daily.

"You will note that no value is allowed for the nurse crop, which of course will produce some grain. On the other hand, an average of three tons per acre of hay is assumed for each year over a three-year period, so the returns from the nurse crop will take care of the interest for the additional year."

On the Horner farm last year a ten-acre field of alfalfa, which was planted in 1919, yielded an average of four and one-half tons of hay per acre. This hay could very readily have been sold on the farm at $25 per ton. This exceptional yield was also grown on a field which was of strong acidity, and required four tons of limestone per acre for neutralization.

The instance cited above is only one of several in Green Lake County in which the production of alfalfa has proved to be a profitable practice on soils which are naturally acid in character. Growers of this excellent crop seem to feel that the cost per acre for growing is not as great in comparison to the returns as is the cost of producing other farm crops. Oh, yes, there are alfalfa failures, but then other farm crops do not always produce bumper yields. And then, when a good field of Grimm alfalfa does become firmly established, Oh, man!

CORNELL FIELD DAYS

H. H. LYON, NEW YORK

WHEN Cornell inaugurated Farmers' Week some ten or a dozen years ago, it was an experiment, but it worked. Again when Field Days were instituted at the College last year that was another experiment, but that worked also. Seven thousand were counted on the three days of last June's events. This year a better start was made on the first morning than was the case last year.

Auto tours at frequent intervals, commencing in the morning, to inspect the 13,000 acres of the University farm, were important features. An itinerary with ten stops was well planned in advance. At ten o'clock special features commenced in almost all lines and continued until nearly five.

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The College farm has now sixty acres of corn, 60 of oats, considerable wheat, and 135 acres in hay crop. The cut of hay is expected to be 500 tons. The soil is a rather heavy loam to a stiff clay. Various rotations are followed depending on soil and needs of the farm. A rather long rotation has been followed, sometimes consisting of corn, corn, oats, wheat, and clover. In other cases a two-year rotation of corn and clover has been followed. In this no manure or other direct fertilizer was used, the second growth clover being depended upon to supply nitrogen and humus. Lime was used. This is a somewhat novel method and I doubt if it is likely to be advocated. It is simply possible where conditions demand it. A long-er rotation and the use of stable manure is now followed since a supply of manure is available.

The timothy plant breeding plots are of special interest to New York State farmers. Some varieties of timothy indicate possibilities so far in advance of others as to be almost beyond comparison. Parts of the state are interested in potatoes and 160 supposed varieties are being tested out. It is found that many varieties are simply duplications. There are found to be eleven types. An experiment has been carried out to determine the effect of suckers on the corn plant. Well, the removal of suckers results in lower yields and a poor crop. Sometimes nature knows her own job and we may in time find out why she does many seemingly foolish things. An item of comfort for the "tired" farmer with a garden is found in an experiment in which tomatoes yield four times as well if left to themselves as when staked up in the most approved fashion.

Cornell Holsteins are the progeny of one cow bought in 1887 by Professor Roberts. Good breeding has followed and particular attention to the selection of a dairy sire. A particularly good herd is the result and one cow, Glista Ernestine, has attracted world attention. She is twelve years old and is the only cow that has as many as seven records of seven days each of over thirty pounds. There are only three cows, say the authorities, that have as many as five records exceeding 30 lbs. This cow's highest record was 35.97 lbs. and the average of the seven is 33.16 lbs.

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It would hardly be a visit to Cornell without a lecture by Dr. G. F. Warren. This time his topic was "The Price Outlook". The general price level is significant. Since 1791 it has been possible to plot curves which show this level. At that date it stood about 115. It went higher and by 1815, following our war of 1812, it shot up the highest known except for a time last year. From 1820 to 1860 its variation from 100 was not great but by 1865 it reached 210. The low points were particularly 1860 and 1896, the latter coming down to 60. In 1920 there was a showing of 270 for a brief period. Following the Civil war there was a drop in three months' time from 215 to 160, but in 12 months after the World War it went from 276 to 153. This last was the most violent ever known in our history. Already there is a slight recovery, but it has been a real panic. It will be fortunate if we meet no real crises during the next five months. These figures all refer to wholesale prices and retail prices might show even more startling conditions. The wholesale prices refer to about 250 commodities. In addition to the panic noted here there has been an agricultural panic on top of this.

The general price level on all commodities dropped to 153. This included agricultural commodities with the others. Agricultural commodities alone dropped to 107. It will be seen that all commodities except agricultural, if we separate them, would stand considerably above 153. That is what Dr. Warren means by an agricultural panic on top of the general panic.

A dollar is worth what it will buy except for the purpose of paying debts, says the professor. A bushel of corn, turned into money and used to buy commodities on the market, will purchase only 70 per cent as much as in 1909-14; horses 44 per cent; wool 59 per cent; butter 103 per cent. The average of agricultural productions brought 70 per cent as much as the pre-war level. It was only 66 per cent as much in May, therefore there is an encouraging outlook.

Speaking of freight rates the doctor advised that they should have advanced some time before they were and then about four months before they advanced they should have been lowered. We have been tardy in making all such changes. Now they will be reduced. It will be unwise to reduce the general level of prices to the pre-war level, but there is great need of an equitable adjustment of prices. Factory wages remain at 212, which is too high. Milk is at 103 which is too low. In general, agricultural prices are too low as compared with the things the farmer has to buy. His purchasing power has greatly decreased. He is not buying as liberally in the West as in the East because the western farmer's ability to buy is less than that of the eastern farmer. In either case it is not a buyers' strike, but just lack of ability to purchase the commodity wanted. Those things such as coal and some building materials will decline although the producers say they will not do so.

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The speech-making during Field Days at the college was not in large supply. It was a time of looking at crops and talking with the professors and others. Hon. Fred Rasmussen of Pennsylvania spoke one afternoon. He holds that it is the business of agriculture to produce food and clothing, but in order to do this there must be profit in it comparable to others.

Marketing is as essential as production and to accomplish the best in this line requires ample statistics as to plantings, holdings, production, etc. Business has these pretty well in hand but farmers need them that are most up-to-date. Market reports should be had by telegraph and telephone. Warehouses controlled by farmers are essential. We must not dump all on the market at one time and that frequently at the wrong time. Standardize and sell what is wanted and when called for. Then it will be necessary to establish credit facilities in order to carry surplus stock along until needed. Of the six points made by the speaker that of co-operation came last but may have been emphasized most. Ten years ago no farmer would have thought of surrendering his right to determining his own time and manner of selling. He is now coming to place all he produces in the hands of his organization and authorize it to make his sales. He is a part of the organization and each man wields an influence. Combined effort now is essential. For that there must be leadership of a high order. It is also now a time for economy, not only in spending but in the line of production.

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Haying is well under way at the college farm, and the same condition on other farms tends to keep the public from attendance at the college, therefore the crowd is not so large as some thought it might be. It was an interested group, go where you would, and I must say that not the least interest was at the ball games.

Moving pictures were put on for a half hour each day. These may have been in a measure instructional, yet primarily for entertainment it would seem. If so, they were splendid examples of what moving pictures can do to entertain. One day the picture hour was given over to views in the Adirondacks where game of many varieties is being kept. Kind treatment makes them pets, even the bear and the deer, while the mink made himself much at home. Black foxes became tame and the raccoon searches the pockets of his keeper for bits of food hidden there.

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The supervision of official testing of pure-bred cows has been with the animal husbandry department at the college for a considerable time. The records have been remarkably free from suspicion. There was a suspicion at the college in the case of the Cabanna tests that all was not right yet the method of fraud as now generally believed was not suspected. The suspicion was on the use of drugs. In a sense the atmosphere is clearer, but the clearing up of this particular case may be difficult. Cole said he did and he said he didn't. If he says it either way next time it will make small difference with the public.

Cow testing association work is now supervised from the college and is in charge of Mr. Tailby. He has some job to look after the whole state, particularly as to the supply of men for the various associations. The agitation that comes from the work of associations undoubtedly makes people think.



THREE GUERNSEYS FROM THREE STATES WHICH HAVE LATELY COMPLETED RECORDS OF UNUSUAL MERIT; FROM LEFT TO RIGHT, NELLA JAY OF PENCOYD, OWNED BY PENCOYD FARM, PENNSYLVANIA; DORA OF ALLEN FARMS, OWNED BY J. O. WINSTON, NEW YORK; SILVER GEM OF CEDAR HOME, OWNED BY W. D. JAMES, WISCONSIN

On January 30, 1921, another world's record for the Guernsey breed was completed, the honor going to Nella Jay of Pencoyd, with 16,325.6 pounds of milk and 810.63 pounds of butterfat in Class F. On December 8, 1912, Langwater Hope was declared the world's champion Guernsey heifer in Class F. So wonderful was her work, her record being 773.59 pounds of butterfat, that it took nearly eight years to produce a heifer that could defeat her. To Katherine's Trixie goes the credit of accomplishing this. On November 7, 1920, that heifer became the champion with 791.48 pounds of butterfat. Under test at the same time as Katherine's Trixie was Nella Jay of Pencoyd. The race between these two heifers was an exciting one, the latter finally winning out by 19.15 pounds of butterfat, and becoming the present world's champion Class F Guernsey heifer. This is the first time that a Guernsey heifer of that age has exceeded 800 pounds of butterfat.

Nella Jay of Pencoyd is out of a one time world's champion heifer and the fourth highest cow of the breed today, Nella Jay 4th. Her sire is Langwater Pencoyd, a double grandson of Imp. King of the May. Nella Jay of Pencoyd not only runs true to type in breeding, but she runs true to type in form, and looks every inch a champion producer.

Dora of Allen Farms has qualified for a place among the Class B leaders of the Advanced Register by producing 13,434.4 pounds of milk and 775.41 pounds of butterfat. She is the ninth daughter of King of Chilmark to qualify for the Advanced Register and the sixth daughter to qualify for a place among the class leaders. She replaces her half sister, Ina's Grace, in tenth place in Class B with a margin of only .37 pounds of butterfat.

Silver Gem of Cedar Home, the first cow to complete an Advanced Register record in the new herd recently assembled by W. D. James, has qualified for third place in Class BB of the Guernsey Advanced Register by producing in one year 14,410.2 pounds of milk and 677.10 pounds of butterfat

Dairying as a Vocation at Camp Grant

O. K. ZOLL, ILLINOIS

THE United States army school is now well on its second year, and while it is still in the experimental stage, those who are most intimately in touch with the results obtained and with the possibilities of the future of the school are most sanguine of the permanency of the venture.

While the opportunities offered in the army school for training in any one of a number of vocations and for procuring a comprehensive knowledge of social, economic, and civic relationships have been presented by means of billboards and space advertising in newspapers and magazines, there are many people who are not aware of the scope of the work being done. The enlisted strength of the army is nearly two hundred thousand and 25 per cent of these men were enrolled in the army schools.

A state university enrolling 3,000 students is considered a large institution, yet the enrollment in the army school is equal to that of ten great universities. Should the present policy be continued it is certain that the number of students would be greatly increased next year, for over 70% of the new recruits state that they came into the army for educational advantages.

One of the most attractive vocations offered at Camp Grant Illinois, is that of dairying. Bordering the camp on the east is the camp farm of 700 acres. It is divided into two unequal parts by a concrete highway running directly north to Rockford, some five miles distant. The two dairy barns belong to the set of buildings on the east side of the road; they occupy a natural elevation that insures thorough drainage. The barns were on the farm at the time of purchase by the government, but have been remodelled and equipped with all necessary appliances for a model dairy. The stanchions are of steel, and the floors of concrete, brick, and cork. Water is supplied through automatic drinking cups. Especial attention has been given to light and ventilation. The manure is removed by a carrier and is spread on the fields daily.

At present there are twenty-five milking cows representing three breeds; viz. 8 pure-bred and 9 grade Holsteins, 4 pure-bred Jerseys, and 4 pure-bred Guernseys. For each breed there is a pure-bred bull. The beef cattle are represented by 3 Shorthorn cows and a bull.

The extension of the course of study now offered contemplates using the 9 grade Holstein cows as a part of the equipment of an 80-acre farm which two soldier students will operate on a thoroughly practical basis during their final year of study.

The course for the first year is of a very practical nature. It consists of a series of jobs, each continuing for about a week and the five job-weeks rotating throughout the year. During the first week the student cleans the stables and the cows; at the beginning of the second week he starts milking and continues the work of the first week; the third week he begins feeding and continues milking; the fourth week finds him in the bottling house where he cools the milk, sterilizes the bottles with live steam, bottles the milk and gets it ready for shipment; the fifth week is given to keeping records of the feed consumption and milk production of each cow, quantity of milk shipped, receipts from sale of milk, and such other data as a dairyman should have at his command.

The development of courses of study beyond the first year will depend upon the needs of the men who elect dairying as a vocation. It is the hope of the dean of the agricultural school to provide courses of study that will equip a man enlisted for three years so that he will be capable of holding a position of responsibility on a dairy farm or with the manufacturers and distributors of dairy products.



THE DAIRY HERD AT CAMP GRANT

Soiling Fifty Years Ago

HOARD'S DAIRYMAN:—Your recent article on soiling crops inspires me to tell of my experience in that line 50 years ago, when silos were unheard of. We then kept 18 cows, 1 bull, and 3 horses on 13 acres from the first of June until fall. Our first feed was about 1½ acres of rye or wheat, then oats, and then clover which was cut twice. We grew wheat for our own use and this land was plowed after harvest and planted to corn about July 4th. The corn gave us good growth for fall feeds.

Our feeding schedule started directly after milking when the cows were turned into an acre and a half lot where they had plenty of shade and water. At dinner they were put in the barn and fed again and were again turned out for the afternoon. They were again fed in the barn at supper time. We cut three feeds at a time each morning. One of us did the mowing by hand and the other put the feed on the wagon which took us about two hours. In mowing wheat or rye when green, there would always come a fair growth afterwards to plow down and by topdressing with manure one is quite sure of a pretty good crop. By the use of a horse drawn mower and hay loader the work could be considerably lessened today. It would be work, however, but what does not mean work for the farmer who really farms it?

Mantua, Ohio. W. A. L.



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EDITORIAL COMMENT



THE Pennsylvania legislature enacted a law at its last session which forbids the use of pictures of dairy cows, the names of dairy cattle, or butter names in advertisements of oleomargarine. Since the introduction of oleomargarine dairy terms have been used for the purpose of securing the attention and good will of consumers. Oleomargarine has had a most difficult time to stand upon its own feet and sell to the consumer upon its own merits. It has sought the cow and her product as an aid and the consumer has been deceived because of this practice. We commend the legislature of Pennsylvania and recommend that other states enact similar laws.

THE producers of raw materials are first to suffer in the decline of prices, then follows the manufacturers and wholesalers, and last the retailers. This explains why the wholesale price of cheese has been as low as 12 cents a pound but still retails at from 30 to 35 cents. This is too wide a spread and is preventing a larger consumption of this splendid food. It is just a bit tantalizing to find the farmer's product selling below pre-war prices with the retail price at near war prices.

If grocers can find no way of reducing their prices for cheese perhaps a consumers' retail cooperative association could be started; this might help them to find a way to reduce the price of cheese to the consumer.

SEVERAL samples of sweet cream butter, after being in cold storage for more than a year, averaged in score 93.47 and above the highest scoring butter quoted in New York. These samples represented 1,000,000 lbs. of navy butter packed under the supervision of the Dairy Division.

For several years the Dairy Division has been a strong advocate of sweet cream butter and one of the main reasons for favoring sweet cream butter is its splendid keeping qualities. It is not unusual to have sweet cream butter score higher after it is held in cold storage for a few months than when it was made. For storage purposes sweet cream butter is far superior to butter made from ripened cream.

We also believe for immediate use the market would, to the advantage of the dairy industry, consume a larger quantity. The sweet cream butter market may well be closely considered by creameries in position to manufacture it.

THE ADJUSTMENT PERIOD

According to reports of the Department of Labor, farm products have declined 52 per cent from the peak price in May, 1920, and are 17 per cent above the 1913 price level. Food has declined 54 per cent, but is still 33 per cent above the 1913 level. Clothing has declined 40 per cent and is still 81 per cent above the 1913 level. Building material has declined 40½ per cent, but is still 102% above the 1913 level. All commodities considered together have declined 44½ per cent, but are 51 per cent above the 1913 level.

These figures show that the farmer's products have been liquidated more than others, due to the fact that as a producer of raw material he is not in position to protect his product as are those engaged in manufacturing or distribution. The figures show that we are making progress in our readjustment, but it will take some time yet before the proper relationship is established between all commodities.

No one likes this period or the out-of-proportion relationship in the prices of various commodities but we do not know how this readjustment period could have been avoided. If the farmers had been better organized so that they could have marketed a larger percentage of their products co-operatively, they could have undoubtedly prevented their products from being liquidated to the extent that they have been, just as the wholesaler and retailer have been protecting themselves, but no combination of forces will prevent the liquidating of all commodities. Proper organization for marketing the farmers' products co-operatively would have extended the period and would have prevented the sudden and severe decline in their commodities. This period had to take place, so let us go through it as cheerfully and optimistically as we can, buying what we need to carry on our business in the proper way.

ONE VALUE OF ORGANIZATION

An organization of milk producers not only gives opportunity for its members to market their products to best advantage but it has many other factors of importance to their welfare. It is of advantage to the milk producers to come in contact with a reflex action of the market; it teaches them better methods of handling their milk, and they learn through the complaints and losses which are produced by the improper handling of their product.

The June Twin City Milk Producers' Bulletin states in substance: "Our Sanitation Department is making about 6,000 sediment and acidity tests each month. Wonderful improvement has been made in the production of sanitary milk and there is less trouble with milk souring." The necessity of thoroughly cooling the milk both night and morning in order that it may reach the market in good condition is pointed out by the producers' association.

If these producers were not marketing their own product they would not give as close attention to complaints about sediment in their milk or the condition of its acidity. Frequently have producers held that distributors complained of the quality of milk in times of surplus. It is undoubtedly true that the distributor is more particular about his milk when he has an abundance than during a period of shortage. On the other hand, there is no question but that many milk producers are careless and indifferent in the handling of their milk and they need to understand that tremendous losses are sustained every year from such carelessness.

This bulletin also states that "The amount of milk lost each year in souring, in the Twin Cities, would put a good cooling tank on the farm of every member of the organization." Milk producers cannot afford to sustain such loss by producing milk which sours in the hands of the consumer. Such milk does not encourage larger consumption of milk, as the consumer does not take kindly to sour milk. It is therefore of large advantage to the milk producers to sell their milk collectively for it not only places them in position for securing full market price for it but it gives them an opportunity to educate themselves as to the proper way to produce market milk and the penalties suffered if they do not. It is to the advantage of the members to have the information which comes to them direct from the market.

MILK PRICES

The Interstate Milk Producers' Association has found that in marketing milk for its members certain well defined laws in determining prices can not be set aside or overcome. The Milk Producers' Review in commenting upon the prices for which it sold the members' milk for the month of May, says: "The dairy farmer was paid all that was possible for his product in view of supply and demand and in conformity with fair competition." Many farmers feel that through organization it would be possible for them to fix arbitrarily the price for which to sell their products. The fact that the consumer must be considered must never be overlooked. If any particular product becomes too high, the consumer will stop buying it or will limit his purchase. It only requires a small quantity of any product to depress its market price materialy. The consumer holds the whip-hand in the regulation of prices, notwithstanding food is a necessity. In other words, the price which the consumer pays for commodities depends to a very large extent upon his income.

There is another factor to consider in determining the prices of foods. Before the war it was estimated that we wasted one-half of the food produced. Food has been our cheapest commodity and we have shamefully wasted it. As it becomes higher in price the consumer will not be so wasteful and as a result there will be a sufficient surplus under our present agricultural development to bring the price of food down to a level that the consumer is willing and can meet. In this way, the prices of food products are made. The advantage of organizing is that the producer will be able to market his products more efficiently and will secure the price that the consumer is willing to pay for them.

THE HOLSTEIN COW NEEDS WISER FRIENDS

In our report of the proceedings of the annual meeting of the Holstein-Friesian Association of America we did not hesitate to express our opinion of the method used in handling the proxy votes and the bad effect such work has upon the advancement of a great breed of cattle. Over 7,000 proxies were in the hands of four men, F. M. Peasley, A. L. Brockway, C. N. Newman, and J. S. Brill, and the use that they made of these proxies has put the association in a very bad position.

These four men who held over 7,000 proxies voted to table the J. M. Hackney resolution which we publish again that the reader may know its contents. It is as follows:

"The Holstein-Friesian Association of America has because of the black and white cow become the strongest and largest organization of its kind in the world. We recognize the foresight and courage of the founders of this great organization, many of whom are living and with us today. The influence of this great organization is world wide. Through good management in the handling of the black and white cow it has become practically the dairy industry of the United States. We are passing through a period of readjustment due to the world war. Wisdom must be our watchword. Any mistake we make now will take a long time to overcome. Under the guidance, wisdom, and management of President Aitken, our present officials, and board of directors, we have made a remarkable progress. We regret the unfortunate situation known as the Cole-Cabana controversy and the litigation in connection therewith. We commend the vigorous action of those officers and directors who have fought to preserve the integrity of our records and we urge that this most important matter be carried to a successful conclusion, realizing that the preservation and integrity of the records made by the black and white cow are the basis of the industry."

To us there are but two conclusions which can be drawn from the action of these four men voting to table this resolution. First, their personal bitterness was so great against President Aitken, or the officers, or the board, or all of them, that they would not approve the resolution; or, second, that they objected to carrying the Cole-Cabana case to a "successful conclusion". If their personal prejudices prevented them from voting for this resolution, which recognized that remarkable progress of their association had been made under President Aitken and the present officials, they have shown themselves to be too small to be entrusted with anyone's proxy. If their voting was to keep the Cole-Cabana case from being carried to a "successful conclusion" then they show that they are unworthy of handling anyone's proxy.

Would the breeders whose votes were used for this purpose continue to have fastened upon their association the Cole-Cabana scandal? Their proxy representatives cried out at Syracuse: "The board of directors was illegally elected." This is camouflage, for the sixteen directors of the associa-

tion, whether legally or illegally elected, are fully capable of rendering justice to any member in the association who seeks and desires justice.

It matters not so far as the public opinion is concerned, whether the Cole-Cabana affair is ever brought to "a successful conclusion", but for the honor of the Holstein cow and her association it must be "carried to a successful conclusion".

Square Silo

Will you please be kind enough to give me information in regard to a square silo. I want to build a silo 24 feet square with four compartments, making four silos of 12 feet square, each boarded on the inside and outside. I never saw a square silo and don't understand why they are all round.

St. Louis, Mo. B. C.

We would not advise the building of a square silo because the round silo can be built more cheaply as it will take less lumber per cubic foot capacity and because lighter material may be used in construction. In addition to the cheapness in cost, the square silo does not give as good satisfaction in the preservation of silage. This is due to the fact that there is a greater surface of wall for a given content of silage, but more particularly to the fact that the silage does not settle as evenly in such a silo. This is particularly true of the corners where considerable spoilage will take place.

Stover Silage Experience

HOARD'S DAIRYMAN:—I have seen several letters in regard to moldy silage and the making of stover silage. We have had both normal corn silage and corn stover silage the past year and have had no trouble with mold with either crop. We use a combined silo filler and husker which has attached to it a rotary pump with a regulating valve so that it will deliver any amount of water up to a one-inch stream. In making our stover silage, we connected to a three-quarter-inch pipe in the stable and had a hose that delivered the water to the top of the distributor pipe. In this way we lost no water and when it came in contact with the force of the blower it wet all the stalks and was evenly distributed throughout the cut material.

With this machine we husked the corn, cut the stalks, and wet the silage all at one operation. We paid less for help than we would have paid had the corn been husked in the field. We fed the stover silage to young stock that ate it with relish and it went much farther than the dry stalks. These cattle came out in the spring in good shape. We also run a small stream of water when making the normal corn silage from the ears and stalks which helps it to pack much better.

By having our outfit we get more silage, it keeps perfectly, and we never had sweeter silage.

Sparta, Mich. C. B.

Most Economical Barn

I desire to build a dairy barn large enough to house about 18 cows. Which would be most economical, a round or rectangular barn? I want to construct it as near fire proof as will be possible with limited means. Which would be cheaper, concrete for walls or tile blocks?

Eldorado, Ill. E. M. G.

Despite the contention that a round barn will house more cubic feet at less expense than a rectangular barn, comparatively few dairymen have been sufficiently impressed with this idea to cause them to attempt this system of building. While we know of many men who have found the round barn highly satisfactory, yet, taken all in all, we apprehend that under the usual conditions the rectangular barn, 34 to 36 feet wide and of sufficient length to accommodate the herd, will be found most convenient and most economical.

It is scarcely practical on most farms to attempt to build a barn wholly of monolithic or solid concrete. This is due to the difficulty of securing adequate forms for such a purpose, or the engagement of contractors who are skilled in this type of work. The next best recourse is the use of hollow tile or possibly concrete blocks if these latter are available. In a general way, solid concrete will be found suitable for the walls of the stable basement but not for the super-structure.

We would suggest that before building every farmer should get in touch with several of the barn equipment companies who advertise in our columns. These concerns employ special architects who will be able to give very considerable assistance. They will be pleased to give general information free of charge but if special plans and specifications are desired, and we believe they are always desirable, they will make a moderate charge for these. An inquiry addressed to one of these concerns places a person under no obligation to buy their particular type of equipment.

Division of Labor on Dairy Farm

I am operating two adjoining farms of 300 acres as one farm. On one of these I keep 40 cows and on the other 7 horses and the young stock. The buildings are 2,500 feet apart. The men on the horse and young stock farm must come down at milking time and help with the work. This causes a good deal of dissatisfaction and interferes with the general farm work. The men at the 40-cow farm frequently help on general farm work. The two farms are worked as one with about 220 acres tillable and 80 acres of meadow and woodland. There are at present three men on each farm.

Will readers of Hoard's Dairyman who have had experience suggest a plan to work this farm so that one set of men attend to the dairy and the other to the barn work? How many men are necessary to milk and care for 40 cows? Some western idea may help to solve the problems of a farmer who wants peace and harmony on the farm together with the greatest efficiency.

Pennsylvania Dairy Farmer.

Readers of Hoard's Dairyman are requested to answer this appeal for advice.

In the West it is customary to have one man milk, feed, and take entire care of 20 to 30 cows a day. It would not seem too exacting, on the average dairy farm, to expect two men to take care of 40 cows and do all the barn work, as well as probably help out occasionally in the general farm work when the barn work is at a minimum.

Making Casein

Can I extract the casein of milk in soluble condition? Is there any book on this subject, or else are there any books on milk powder which may give some points on soluble casein?

Pittsburg, Pa. H. D. S.

By extracting the casein of milk in *soluble* condition I presume you mean in that condition in which it is present in normal milk so that when it is again mixed with a sufficient amount of water it will return into a liquid similar to milk.

The casein in normal milk is present in what is called a colloid condition. It is not actually in solution nor is it precipitated visibly. It is present in a condition which lies between a solution and a solid and in this condition it is held in suspension in the milk and forms, with the other components of milk, a complete emulsion. Nor is the milk casein present in normal milk in pure form. It is in chemical combination with several of the mineral constituents of the milk, chiefly the calcium and the magnesium.

If it is not desired to remove these mineral constituents from the casein; that is, if it isn't desired to produce chemically pure casein, it is possible to separate the casein from the milk by filtering the milk through a filter consisting of unglazed earthenware. Or, the casein could be separated by dializing the milk causing the soluble constituents of the milk to escape and leave nothing but the calcium casein and water.

Neither of the above two processes is commercially practical. Both would be exceedingly slow and antiseptics would have to be added to the milk to prevent it from undergoing fermentation during the process, and neither process would yield casein that is free from such mineral constituents of milk as calcium and magnesium, which mineral constituents are not desired when casein is intended for industrial purposes.

A practical way to remove the casein from milk in pure condition and to have the ultimate product in soluble form, is to add an acid, such as lactic acid, acetic acid, sulphuric acid, or hydrochloric acid to the milk for the purpose of precipitating the casein. This produces what is called free casein. The free casein is insoluble in water, but it is pure. The calcium and magnesium with which it was associated in milk combine with the acid and therefore liberate the casein.

The detailed procedure of making the free casein or curd is as follows: Run the skimmilk into a wooden vat. Heat with live steam to about 130° F. Then add the acid. If sulphuric acid is used, dilute one pint of crude sulphuric acid with seven pints of water and add to each 1000 lbs. of skimmilk. Distribute this acid over the entire vat when adding, stir the skimmilk thoroughly until curdled, then drain off the whey, using a strainer covered with cheese cloth so as to retain any fine particles and prevent their loss. Now rinse the curd with cold water. This can be conveniently done by turning a hose on it. Press this washed curd and grind it, using a peg mill similar to the cheese curd mill. This curd represents the free casein and is ready to be converted into soluble casein, or if desired, it may be dried before making it soluble.

This free casein is insoluble in water but can be converted into soluble casein by treating the wet curd or the partly dried casein with an alkali, such as caustic soda, caustic potash, ammonia, lime water or baryta water, or in an alkali salt such as sodium carbonate or potassium carbonate, and evaporating the solution at moderate temperature, or drying the casein solution by any one of the processes used for making milk powder, such as the film (roller) process or the spray drying process as explained in detail in "Condensed Milk and Milk Powder".

The casein can also be precipitated and recovered from the milk by certain ferments such as rennet. But this rennet casein is not a pure casein. Its precipitation is not the result of a chemical separation of the mineral constituents of casein, it is a fission product, from which it is difficult to remove the mineral salts. The rennet casein, or paracasein as it is generally called, is not soluble in water unless previously treated with an alkali.

One of the undesirable impurities in casein intended for industrial purposes is its butterfat content. While casein is never made from whole milk, but always from skimmilk or buttermilk, there is always some butterfat present in these milks. Commercial skimmilk generally contains about .1 to .2 per cent butterfat. Casein made from skimmilk testing .2 per cent fat may contain from 2 to 4 per cent of fat. If it is desired to have a fat-free casein, the curd precipitated from the skimmilk by acid is freed from its fat by extraction with fat solvents or by dissolving the curd in alkalies and then reprecipitating it by acid and washing the reprecipitated curd. Several repetitions of this solution and precipitation are required to rid the casein completely of the fat. Another method recommended for producing fat-free casein is to mix the skimmilk with alkali (to 100 gallons of skimmilk add 2 to 4 lbs. of caustic soda), warm the mixture to about 110° F. and run through a centrifugal separator until all fat is removed. Next precipitate the casein with diluted sulphuric acid and proceed in the usual way. This last method is patented.

It should be understood that the soluble casein is rarely prepared in dairies. The casein companies that purchase casein for industrial purposes prefer to secure this casein in the insoluble form and before any alkali is added to it. The rendering soluble of the casein by chemicals is a part of their work in the manufacture of the various industrial casein products.

One of the most valuable books on casein is that entitled "Casein, Its Preparation and Technical Utilization", by Robert Scherer, translated from the German by Charles Salter. This book is published by D. Van Nostrand Co., New York City.

Illinois. O. F. HUNZIKER.

Hogs on Shares

A bought five pure-bred Poland sows upon B's offer to take them to his place and raise the pigs, giving A one-half of the pigs and the sows back. No time was set as to when A was to get the pigs. B was to get market price for all over the original weight of the sows if they were fattened for market. A was to keep records, attend to the advertising, and assist B in every way possible to dispose of the pigs. B has a feeling that it was not a fair bargain. Both A and B wish to deal fairly in the matter.

Will you kindly state what both A and B should have and when?

Charles City, Ia. E. M. S.

The usual arrangement where hogs are placed on shares is for the owner to deliver them when safe in pig. The man who takes them will raise the young pigs to weaning time, when the increase is divided and the original hogs or their equivalent are returned to the owner. If a sow has been lost, one of the sow pigs is substituted before the division is made. The owner receives back his original sows (or a number equivalent to them) and one-half of the pigs at weaning time.

In case the pigs or sows are kept beyond the weaning time, the feeder should have some additional allowance for this in the shape of reimbursement for the feed given and the labor expended on the owner's half share of the pigs.

This arrangement for hogs on shares will be varied, of course, to meet the particular circumstances that may arise, but doubtless an agreement based on that given above will prove most satisfactory.

Hoard's Dairyman

Fort Atkinson, Wisconsin
Founded 1885 by W. D. HOARD

W. D. HOARD & SONS CO., Publishers
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EDITORS
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Subscription in United States and Mexico $1.00 per year; 3 years, $2.00; Canada, $1.50 per year.

FOREIGN SUBSCRIPTIONS may be sent through news dealers and book sellers in all foreign countries.

All foreign countries in the Postal Union $2.50 a year; not in the Postal Union $3.00, including postage.

Correspondents must not expect us to acknowledge the receipt of letters containing remittance for subscription. The receipt of Hoard's Dairyman is sufficient notification that money has been received. The label on the paper will show date to which subscription is paid. In case of renewals, if date on label is not changed within two weeks after remittance is sent, inform us at once.

We solicit advertisements of meritorious articles needed by the farmer. We try to keep our advertising columns clean and wholesome, that they may merit the patronage and confidence of our readers. Unwholesome, immoral, and quack medical advertising are excluded. A sincere effort is made to exclude frauds, irresponsible and unscrupulous firms. We will always take it as a favor to be notified whenever any advertiser's dealings with a subscriber are in bad faith or evidence a lack of business honor. Advertisers generally recognize the readers of Hoard's Dairyman as an up-to-date class of farmers, who farm with business-like methods, and we hold our columns for the patronage of only those with whom our readers can deal with profit and satisfaction.

ADVERTISING COPY must be received eight days previous to the date of publication. Advertising to be classified or changes in advertising must reach us twelve days previous to date of publication.

Entered at Fort Atkinson, Wis., as second class matter.

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Coming Events

Sept. 26-Oct. 2nd—Dairy Cattle Congress at Waterloo, Iowa.

Oct. 8-15—National Dairy Show at Minnesota State Fair Grounds. Manager, W. E. Skinner, 910 So. Michigan Ave., Chicago.

Oct. 31 to November 5. Association of Ice Cream Supply Men, Buffalo, N. Y. Roberts Everett, 1328 Broadway, New York City, Secretary.

Ice cream is rapidly climbing out of the luxury class and taking its rightful place among the palatable and highly nutritious foods.

Artificial shade in the pastures, if nature has furnished none, will pay well in increased thrift of the live stock.

E. B. Heaton Heads Bureau Dairy Department

E. B. Heaton has been appointed director of the Dairy Marketing Department of the American Farm Bureau Federation. Mr. Heaton is already a member of the Farm Bureau staff and has done effective work for the Department of Organization. Previous to his employment by the Federation he was farm adviser in Du Page County, Illinois, where he originated the slogan: "Make the farm feed the cow." Mr. Heaton has given a lifetime of intensive study to the problems of the dairy farmer. As head of the Farm Bureau Dairy Marketing Department, Mr. Heaton will devote his activities to the co-operative distribution of dairy products, to the development of organizations in unorganized territory, to advertising, standardization, and grading of dairy products, to studying existing co-operative dairy marketing organizations, and to assisting in every way possible the work of the Farmers' Milk Marketing Committee of 11. Interviewed concerning his new work, Mr. Heaton said:



E. B. HEATON

"The big job is to build up dairy marketing organizations. It is easy to formulate co-operative marketing plans and to enlist the support of the leaders in the various communities; the difficult task is to secure the active support of the majority of the milk-stool farmers. This applies to the whole United States.

"The work of the Dairy Marketing Department will be largely governed by the recommendation and plans formulated by the Committee of 11. It would seem that the formulating of national policies in regard to the marketing of dairy products can be worked out in a national way along a few definite lines. It will not be possible to cover all of the dairy marketing problems because the marketing of raw or market milk is one that is governed largely by local conditions. It should not be difficult to carry out a definite line of marketing butter and cheese and to carry out a national policy of advertising, standardizing, and grading of dairy products. If this is done in an effective way, it should be possible to take care of the unorganized territory."

World's Dairy Congress

Dean H. E. Van Norman of the College of Agriculture, University of California, has been granted a leave of absence to organize a World's Dairy Congress in the United States.

It will be recalled that at a preliminary meeting of the national dairy interests during the last National Dairy Show, the U. S. Department of Agriculture was requested to take up with the Department of State the necessary steps to secure from Congress authority for the President of the United States to invite the participation of all nations in a World's Dairy Congress in this country. Such authority was granted by the last Congress, and, upon request of former Chief Rawl, Dean Van Norman took up the preliminary work of perfecting an organization which will represent all branches of the industry for the development of the Congress.

Mr. Van Norman's Chicago address is Room 222, 910 South Michigan Avenue. His temporary Washington address will be care of C. W. Larson, Chief, Dairy Division, U. S. Department of Agriculture, Washington, D. C.

Wendt With Michigan State Department

H. D. Wendt, secretary of the Michigan Allied Dairy Association, has been appointed acting director of the Bureau of Dairying of the new State Department of Agriculture in Michigan. Mr. Wendt was born on a dairy farm in Southern Minnesota; he acquired the equivalent of a high school education and took a short course in dairy manufactures at the Iowa State College. He managed and operated creameries in Iowa for several years; and was for a time connected with Purdue University, Indiana, in the capacity of dairy field agent; and also supervised the manufacture and packing of butter for the United States Navy Department for several seasons. To Mr. Wendt goes the credit for organizing and effecting the unity of purposes existing in the dairy industry in Michigan. No other state in the Union has such a complete dairy organization as that of the Michigan Allied Dairy Association which embraces all phases of dairying in the state. Mr. Wendt became connected with the State Dairy and Food Department in Michigan in 1913 and in 1917 was appointed chief of the Dairy Division of that department.

Two Days at Marshfield

Two big days are scheduled for Central Wisconsin farmers at the experiment station at Marshfield, Wis., on July 20 and 21. Judging from the attendance in the past, farmers are appreciating the services of the Marshfield substation and are putting into practice many of the ideas advocated by the men in charge of the different lines of work.

The first farmers' meeting was held eight years ago when a one-day session was held, attracting from 75 to 100 farmers. The popularity of these meetings has been such that several day sessions are necessary now in order to do justice to the program carried out. The past year upward of two thousand farmers visited the station during the three-day session. This year Taylor and Clark Counties, in charge of R. A. Kolb and H. M. Knipfel, county agents, are planning a big excursion the first day, July 20. The second day is given over to Marathon and Wood Counties in charge of county agents.

Horses in Hot Weather

1. Load lightly, and drive slowly.
2. Stop in the shade if possible.
3. A sponge on top of the head, or even a cloth, is good if kept wet. If dry it is worse than nothing.
4. Water your horse as often as possible. So long as a horse is working, water *in small quantities* will not hurt him. But let him drink only a few swallows if he is going to stand still.
5. When he comes in after work, sponge off the harness marks and sweat, his eyes, his nose and mouth, and the dock. Wash his feet but *not* his legs.
6. If the thermometer is 75 degrees or higher, wipe him all over with a *damp* sponge, using vinegar water if possible. Do *not* wash the horse at night.
7. Saturday night, give a bran mash lukewarm; and add a tablespoonful of saltpetre.
8. Watch your horse. If he stops sweating suddenly, or if he breathes short and quick, or if his ears droop, or if he stands with his legs braced sideways, he is in danger of a heat or sun stroke and needs attention at once.
9. If the horse is overcome by heat, get him into the shade, remove harness and bridle, wash out his mouth, sponge him all over, shower his legs, and give him two ounces of aromatic spirits of ammonia, or two ounces of sweet spirits of nitre, in a pint of water; or give him a pint of coffee warm. Cool his head at once, using cold water, or, if necessary, chopped ice, wrapped in a cloth.
10. If the horse is off his feed, try him with two quarts of oats mixed with bran, and a little water; and add a little salt or sugar. Or give him oat meal gruel or barley water to drink.
11. Clean your horse *at night*, so that he can rest well, and clean him *thoroughly*. The salt dandruff drying on his skin makes him uncomfortable, and often produces sores under the harness.
12. Do not fail to water him at night *after* he has eaten his hay. If you don't he will be thirsty all night.
13. If it is so hot that the horse sweats in the stable at night, *tie him outside*, with bedding under him. Unless he cools off during the night, he cannot well stand the next day's heat.
—Boston Horse Association.

Pure-bred Cattle in Mississippi

According to the 14th census, Mississippi has 8,367 pure-bred dairy cattle, of which number 6,229 are females. The number of pure-breds by breeds are as follows: 101 Guernseys, 1,331 Holsteins, 6,571 Jerseys, and 364 other breeds.



W. G. ROGAN

W. G. Rogan was recently appointed to succeed F. G. Swoboda as agricultural agent for Marathon County, Wisconsin. Mr. Swoboda has accepted the position of manager of the Wisconsin Cheese Producers' Federation which is steadily increasing its range of activities.

Washington, D. C., Weekly News

[SPECIAL TO HOARD'S DAIRYMAN]

WASHINGTON, JULY 5—What is "garbage oil", and what are its chief uses? Persons who know anything about the manufacture of this competitor of cocoanut and other vegetable oils will confer a real favor if they will give some information about it to Chairman Fordney of the Ways and Means Committee of the House. Chairman Fordney says that he has been told that this oil is being made in large quantities, used especially in soap making, but incidentally can be used wherever the so-called "edible" oils are used. He wants to know if it is being used in food products. Who knows; who will tell?

⚜

Chairman Fordney is taking unusual interest in this whole subject of vegetable and other oils which are crowding into the field properly occupied by butter. He told Hoard's Dairyman's representative that he wanted to put a much larger duty on cocoanut oil than finally was named in the tariff bill, because he found it was being used in large quantities in making imitation dairy products. He says that it could not be done because it was shown that a higher duty would increase the cost of soap to every household in the country.

His decision when confronted by this alleged fact was that since the dairy industry could not get adequate protection by a tariff, he would do what he could to remedy it in a revenue bill, and so he introduced on Friday, June 30, the filled milk tax bill, which has been asked for specifically by Wisconsin farm and dairy interests, and generally by all dairy interests. This bill covers the whole problem of the manufacture and sale of filled milk by imposing manufacturers' and vendors' license taxes, placing a flat tax of three and a half cents per pound on the product itself, and providing for strict posting of signs to warn the public of the places where it is sold as an imitation of real milk.

⚜

The Fordney Filled milk bill was referred directly to the Ways and Means Committee which means that it will get consideration while the other revenue bills are under study, and that will be in the near future. Chairman Fordney asked the Hoard's Dairyman correspondent to say he needed the assistance of the dairy industry in securing the facts relative to the amount of this commodity which is being made and offered for sale, the methods used to put it off on the public in place of milk, and the other pertinent facts. "I know the situation myself" he said, and the fact that he introduced the bill and is back of it is proof of this, "but I must convince my colleagues and the country."

The bill is similar to the Beck bill already before the Ways and Means Committee but more complete and carrying a heavier rate of taxation. Congressman Nelson of Wisconsin was also anxious to introduce a similar bill, but withdrew in favor of permitting the chairman of the committee to introduce it.

The tax rate provided for manufacturers is $1,500 a year, for wholesalers half that amount, and for retailers $12 a year, just enough to compel registration and supervision by the revenue officers. The tax rate on the commodity itself is fixed in the bill as introduced at three and a half cents a pound.

Chairman Fordney is also interested in the question as to whether or not oleomargarine should not pay a bigger tax in this time of needed revenue and dangerous competition of cheap foreign oils with the American dairy industry. "It has been said," he is quoted as saying, "that oleomargarine is the poor man's butter, and that it ought not to be taxed at all."

Of course he knows now, as the public is rapidly coming to know, that oleomargarine is not butter at all, and contains the vital food elements, discovered and first explained to the public by Professor McCollum through Hoard's Dairyman, only in very limited quantities if at all and these chiefly from the small proportion of milk or cream mixed with it to make it a better counterfeit of butter by getting the milk taste in the oleomargarine. Not being butter at all and coming on the market as it does very largely made of cocoanut and other cheap foreign oils, in ruinous competition with the product of an essential American industry, there is a good reason for taxing it more at this time. Colored oleomargarine now pays ten cents a pound and still commands a market, although to be sure in very small amount. Still it has proven impossible to prevent the gift of color with white oleomargarine, so a very important feature of the oleo law is defeated, that is, the protection of the public which buys the oleo at table. Under all these circumstances, with lowered prices on the real butter and with colored oleo being sold carrying a ten-cent a pound tax, there are many members of the dairy industry who believe the time has come to make the tax rate even on all oleo, ten cents a pound, and add to the law a provision that color like butter either shall be sold or given away with the goods if especially taxed, or that a different color scheme be demanded, such as is being considered in other countries which are trying to protect and build up their dairy industry.

⚜

The House Committee on Agriculture is holding further hearings on the Voigt bill to make it unlawful to manufacture or sell filled milk, as agreed upon when the proponents of the bill were heard three weeks ago.

Professor Mendel of Yale and representatives of the makers of this product were called before the committee on July 6. The arguments against the bill are as to its legality, and claims that filled milk makes a market for skimmilk and is a perfectly pure, wholesome food product which can not be ruled as illegal.

⚜

The Fourth of July recess of Congress found no action taken on either Packer legislation, or the co-operative marketing bill. The tariff comes before the House on Thursday, July 7. The debate in the House is to be short. A few committee amendments may be proposed, but it is expected that the bill will go to the Senate about as reported out. Congressman Frear of Wisconsin will file a minority report, and make a hard fight to get the dye embargo and licensing system stricken out. He also opposes the tariff on lumber and on potash salts used for fertilizers.

⚜

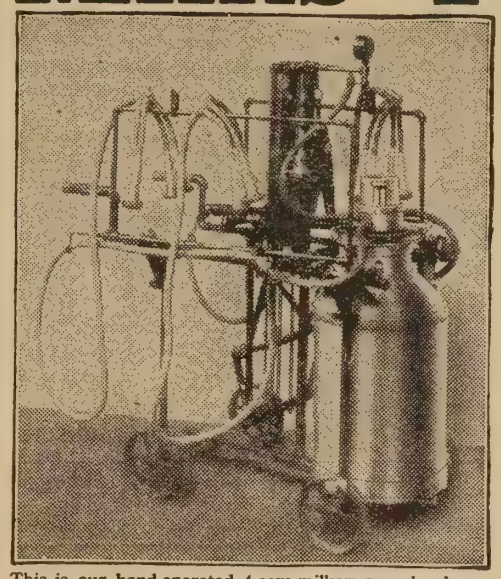
The Executive Committee of the National Grange, in session here July 6 and 7, will take action on both filled milk and oleomargarine legislation. The committee is expected to endorse the Fordney filled milk bill enthusiastically, and to urge all state granges to support this measure.

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Address.....

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DON'T KEEP BOARDER COWS

Every dairy man needs this outfit. Points out the "boarder cow". Enables him to buy cows with his eyes open and to check up his creamery, etc. Tells him how to regulate feed to increase production. Highly recommended by U. S. Department of Agriculture, County Agents, etc.

Free with each testing machine: 4 test bottles, 1 acid measure, 1 pipette, 2 brushes, 1 bottle acid and Instruction Sheet giving complete information about testing milk and cream.

Milk Dealers and Dairymen Write for big, free catalogue.

The Creamery Package Mfg. Company
68 W. Kinzie St., Chicago.

Have you talked with your neighbors about subscribing for Hoard's Dairyman? Why not do it now? Make up as large a club of subscribers as you can and send them in.

Cow Testing Associations

RECORDS, PRICES OF FEEDS, FAT, AND MILK

Following is the summary of reports received during the week and up to the time of going to press of this issue:

State	Association	Tester	Month	No. of cows tested	No. of cows producing over 40 lbs. fat	Fat production of high cow	Owner
Wis.	Empire—Osceola	P. Simonson	May	495	180	87.5	H. Braun & Sons
Penn.	Canton	B. E. Whitney	"	493	152	76.8	H. C. Gates
"	Wyalusing	W. West	"	390	37	72.6	S. McLand
"	Towanda—Wilmot	L. Warren	"	327	84	64.6	Keeney Bros.
"	Troy	M. V. Bennett	June	380	125	73.5	F. Morse
Mich.	Kalamazoo	S. P. Sexton	May	300	57	68.2	H. Medema & Son
Ohio	Coshocton	J. A. Emig	"	268	26	79.8	S. Pew
N. D.	Jamestown	J. A. Barner	June	321	68	78.6	State Hospital for Insane
Wis.	Marshfield—McMillan	E. E. Schroeder	May	408	63	67.9	Mrs. B. Motl
"	Monticello	H. T. Albrecht	"	568	206	85.8	Wood & Son
Calif.	Riverside Co.	E. Bahler	June	394	72	66.3	H. A. Younkin
Mich.	Hillsdale Co.	E. G. Barrett	May	228	63	81.6	C. Bailey
Ia.	Hardin Co.	A. Nichols	"	304	50	74.9	R. R. Clampitt
Minn.	Pioneer	H. C. McMurray	June	1143	146	70.4	J. Johnson & Son
Ill.	Lake Co.	A. Christiansen	"	462	72	90.7	W. A. Brewerton
Minn.	Blue Earth Co.	O. Erickson	"	280	90	80.3	Marlow & Randall
Mo.	St. Louis—St. Charles	J. E. Comfort	"	233	32	83.7	Calla Lily Farm
Ia.	Delaware Co.	W. K. Bullock	"	394	24	68.3	W. J. Matthiessen
Ill.	Jo Daviess No. 2	W. O. Tupper	"	347		65.4	C. Heuer
Wis.	Elkhorn—East Troy	E. D. Burr	May	534	82	70.1	M. Westphal & Sons

Association Notes

Empire—Osceola, Wisconsin:—Seven herds averaged over 40 lbs. butterfat per cow in May. Two barns were whitewashed. Four cows were sent to the block and two were sold for dairy purposes. Two registered Holsteins were purchased at the Fond du Lac sale. The condensery paid 45 cents per pound for fat and the cheese factory 33 cents. Milk retailed for 12 cents per quart; butter, 30 cents per lb.; cheese 30 cents. Bran cost $30.00 per ton; oats, $24.00; barley, $26.00.

Riverside County Farm Bureau, California:—The reason for such a pronounced decrease in fat production from last month is due to market conditions. The California Milk Producers' Association had set the price on production of February. If a dairyman shipped more than that amount and there was a surplus on the market he would have to take the fat price of 38c. Dairymen did not feel that they could afford to feed grain when it gave them a surplus which they sold at this price. Consequently they are eliminating the concentrates in a good many cases and the result is a decreased production. July 1st sees the adoption of a different scale of prices and this condition should be corrected.

Monticello, Wisconsin:—One pure-bred Holstein bull was purchased to use in a grade herd. Official test work is being encouraged. Several two-year-old records of 15.5 to 19.1 lbs. butter were made in seven days. In May market milk sold for $1.65 per 100 lbs. Milk retailed for 10 cents per quart.

Marshfield—McMillan, Wisconsin:—Local merchants donated $100 in cash for best yearly records made in this association. Free bi-monthly programs of speeches, songs, etc., for farmers are being arranged. There are still four scrub bulls left in the association. The price of milk varied from 77 cents to $1.03 per cwt. in this community. Bran sold for $24.00 per ton; corn, $26.00; oats, 46 cents per bushel.

Jamestown, North Dakota:—Two pure-bred Holstein bulls were purchased in June and several inquiries came from outside the county for calves from the best producing cows. The tester has spent some time helping to fit cattle for the county fair. Market milk sold for $2.00 per cwt. The creamery paid 30 cents per pound for fat.

Coshocton County, Ohio:—Many farmers are feeding about 4 to 6 lbs. of grain to their high test cows. Four unprofitable cows were sold. Market milk sold for $1.80 per 100 lbs. in May. Milk retailed for 12 cents per quart; butter 24 cents per pound.

Kalamazoo, Michigan:—Nearly all feeds are purchased through the farm bureau. All but three herds in the association have been tested for tuberculosis. Several members are planning on buying pure-breds to replace their grades. In May market milk sold for $3.18 per 100 lbs. The creamery paid 32 cents per pound for fat. Milk retailed for 13 cents per quart; butter 36 cents per pound; cheese 28 cents. Alfalfa hay cost $25.00 per ton; clover, $18.00; corn, $36.00; oats, $32.00; cottonseed meal, $40.00; bran, $30.00.

Joe Daviess, No. 2, Illinois:—Three unprofitable cows were sold in June and a number will go to the block this fall. We are trying hard to organize a bull association here. Herds being fed balanced rations are holding up in production much better than those which do not receive grain with pasture. Market milk sold for $1.80 per cwt. The creamery paid 27c per pound for fat and the cheese factory, 25c. Milk retailed at 10c per pound; butter, 32c per pound; cheese, 30c. Alfalfa cost $24 per ton; clover, $24; oats, $1.60 per bushel; corn, $1.70; bran, $1.10 per cwt.; oil meal, $2.50; cottonseed meal, $2.30.

St. Louis—St. Charles County, Missouri:—John L. Boland purchased the top cow at the Missouri State Holstein Sale, a three-year-old that produced over one ton of milk in May. Four cows are on official test. Eight pure-bred Holstein heifers and one bull calf were purchased in Wisconsin. One more milking machine is being operated. In June milk sold for $2.40 per 100 pounds. The creamery paid 24c per pound for fat. Milk retailed for 14c per quart; butter, 35c per pound. Crushed oats cost $34 per ton; cottonseed meal, $36; wheat bran, $25; beet pulp, $38; alfalfa, $25 to $30.

Delaware County, Iowa:—Three unprofitable cows were sold in June. Market milk sold for $2 per 100 pounds. The creamery paid its patrons 32c to 40c per pound for fat. Milk retailed for 10c per quart.

Blue Earth County, Minnesota:—The intense heat and flies are problems to contend with these days in keeping up the milk flow. In June market milk sold for $2.10 per 100 pounds. The creamery paid 33c per pound for fat. Milk retailed for 10c per quart; butter 40c per pound, and cheese, 30c. Feed prices: Bran, $1.25 per cwt.; linseed meal, $2.60; oats, 30c per bushel; corn, 40c; silage, $6 per ton.

Lake County, Illinois:—Several barns were whitewashed. Two milk coolers and two cooling tanks were installed during the month. Several members bought feeds for future delivery through dealers, others are co-operating with neighbors in ordering feed for winter use.

A Year's Report

The North Branch, Pennsylvania, Association completed its year's work June 15. The association reorganized and already the new year is well under way. Following is a summary of the 1920—21 work: Number cows tested, 228.9; pounds milk per cow, 6,445.9; pounds fat per cow, 241.04; feed cost of 100 lbs. milk, $2.05; feed cost of 1 pound fat, $.55; returns for $1 of feed, $1.93; cows producing over 500 lbs. fat, 1; cows producing over 400 pounds fat, 7; cows producing over 300 lbs. fat, 36; cows producing over 12,000 lbs. milk, 5; cows producing over 10,000 lbs. milk, 18; number cows not paying for feed, 22.

The high producing herd for the year is owned by J. E. Lenker; 164 cows averaged 10,613.99 lbs. milk and 360.48 lbs. fat. This herd is composed entirely of pure-bred Holsteins and has made several creditable A. R. records during the year. The average cow of the herd has increased in production 2,000 lbs. milk per year over last year's record.

Nine members of the association have completed two years of work. Their records showed an increase of 633 lbs. milk and 15.4 lbs. fat per cow. Considering local dairying we look on this as being good, constructive improvement. F. J. Holt.

"A Good Trio"

Belmont County, Ohio, premier Jersey county of the state, has a trio of good cow testing associations. This is due to the fact that progressive farmers make up the three associations and because each has an official tester on the job who is not afraid of work and who has lots of pep. The Barnesville Association needs no introduction. Clyde F. Lewis is the detective on the job there. Dan Harpley is testing for the Ohio Valley Cow Testing Association, which was organized last November. C. G. Henry is testing for the Tri-County Cow Testing Association which is on its second year of work.

During the month of May, 740 cows were on test in the three associations, 217 of which made over 40 pounds butterfat, 60 of which made over 50 pounds fat and 20 which made over 60 pounds fat. In the Tri-County Association, W. G. McClain's herd of Holsteins averaged 1,474 pounds milk, 48.37 pounds butterfat; in the Barnesville Association, where the average for all the herds was 348.13 lbs. fat for the past year, J. T. McCartney's herd of Holsteins averaged 43.68 pounds butterfat; and in the Ohio Valley Association Geo. Sumption's herd of pure-bred Jerseys averaged 46½ pounds fat.

The Ohio Valley Association, having completed six months' work successfully, recently held a meeting at Geo. Sumption's and inspected his dairy equipment and his herd. It was found that Mr. Sumption's bull has been increasing the production of his daughters at the rate of 5 pounds butterfat per month over their dams. Professor Erf, of the Ohio State University, and L. P. Bailey talked to the dairymen. About 60 people were present.—J. C. Neff, County Agent, Ohio.

Convenience, beauty, comfort are all qualities which the farm home should have.

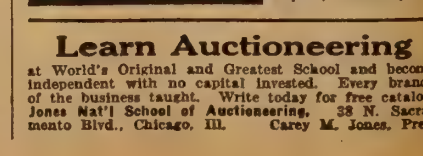












Dolling Up the Dairy Cow

(Continued from page 987)

very well. When all the creases are removed a medium grade of sand paper may be applied followed by emery cloth or a fine grade of sand paper. The horns will then be ready for the polish. Using a woolen rag, rub the horn with a mixture of sweet oil and pumice stone. Follow this rubbing with sweet oil alone and finally rub vigorously for several minutes with a dry woolen cloth until the desired gloss is secured. Once it is secured but little work need be done on the horns until just before showing when the final touches must be added again.

Before shipping, a complete list of everything needed should be made out. It is better to have too much than too little. Do not crowd the stock in the car and be especially careful that there are no nails or other projections in the walls that might scar up one of your best prospects. Ship soon enough to arrive at the show two or three days ahead of time. This allows time for the cattle to rest and it gives you an opportunity to have them all looking at their best for the big test. In transit they may be fed the same as at home but the ration should be cut in two. Upon arrival at the show feed them lightly, gradually increasing the feed to a full ration. If washing is necessary do it as early as possible to have time to regain the natural oil and glossiness in the hair. The night before showing, the tail should be washed out and done up in a dozen or more small braids to be brushed out the next day just before showing. A liberal supply of salt given the night before will cause an increased thirst and, if water is withheld until a couple of hours before showing, the heavier drinking will result in a considerable increase of barrel and apparent capacity.

The practice of bagging up the cows that are in milk is a very lamentable one but, since all showmen do it, there is no other resort for those who would compete in fast company. The cow is not milked from the day before until the showing is over. If the quarters of her udder are somewhat unbalanced, this gives a chance to make them appear equal by milking sufficient from any one quarter to make it balance with the rest. Thus a nearly perfect udder may be displayed to the judge who has no way of knowing just how bad the udder may have been.

When entering the show ring go with the determination to win. After spending weeks of preliminary fitting one can ill afford to let down at the last. Even though it may seem that you haven't a chance to place, fight to the last ditch, for many a doubter has been surprised by receiving a worthy placing when but little was expected. Always keep your animal at pose because you never can tell when the judge will make his decision. Do not wait to show your animal until the judge comes around to examine it but when he does you must be on the extra alert. When he tries the hide for handling qualities turn the head slightly to that side to loosen up the skin as much as possible.

Above all things, be a good sport. If you seem to have lost unjustly remember that the breaks will swing your way some time and that for every unjust loss, in the long run, you will receive a lucky win. Do not be the fellow who always has better stuff at home. The cash winnings at the shows are surely the bread and butter of the business but the sugar of the game is the thrill you get when you lead out the animal with the blue. If you were ever thrilled at a race meet you will partially know what it is to win in the show ring against hot competition, and yet the just pride and glory that you have in owning and showing well fitted cattle that can win is only secondary to the practical value gained from the show ring as an advertising and selling medium for good cattle.

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International Motor Truck
PRICES

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Compared price for price, quality for quality, the International line stands today the lowest-priced line of motor trucks on the market, backed by an inspection and service organization without equal.

Model	Capacity Lbs.	Tire Equipment	New Price	Reduction
101	10,000	Solid	$3,600	$900
61	6,000	Truck Cord	2,750	700
41	4,000	" "	2,395	565
31	3,000	" "	2,032	393
21	2,000	" "	1,874	286
61	6,000	Solid	2,400	400
41	4,000	"	2,100	300
31	3,000	"	1,850	200
21	2,000	"	1,750	100

Our new 1500-pound Speed Truck, electric lights and starter, 34 x 5 cord tires, is the best buy in its class for **$1,500.**

Prices quoted are for the chassis f. o. b. factory.

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Remarkable Record Made by Kerry Cow

HOARD'S DAIRYMAN:—The little Kerry cow, Cort Curley 4th, owned by S. J. Brown of County Kildare, Ireland, has recently made what is believed to be a world's record for an animal of her size. In 52 weeks this midget, weighing only 775 lbs,. has produced 10,175 lbs. of milk, or approximately 13 times her own weight.

The Kerry breed, known in Ireland where it was originated as "the poor man's cow", because of its extreme hardiness and easy keeping qualities and its ability to produce well under adverse conditions, is always black in color and of strictly dairy type. The cows range in weight between 500 and 700 lbs.; the bulls about 800 lbs., or about the weight of a Jersey cow. In spite of poor pastures and unfavorable climate in their native land and their small size, the Kerrys are remarkable producers.

The Dexter-Kerry is a somewhat smaller form which shows a marked tendency towards beef type, and usually produces less milk than the true Kerry above mentioned. It may be either solid black or solid red in color.

Neither of these breeds has ever gained popularity in the United States, less than a dozen herds being listed in the herd book of the American Kerry and Dexter Cattle Club, Columbus, Ohio.

Wisconsin. JOE ALEXANDER.

Jersey Cattle Notes

For week ending June 24:

Number of animals registered: Bulls, 214; cows, 561; total, 775. Number of transfers recorded: Bulls, 168; cows, 476; total, 644.

A NEW BOOK for Dairymen

"Concrete on the Dairy Farm"

It will help you boost dairy profits. It's full of valuable information on how and why to use concrete for barns, icehouses, watering troughs, silos, water storage tanks, barnyard pavements—every necessary dairy farm building. Write our nearest District Office for your free copy. Remember!

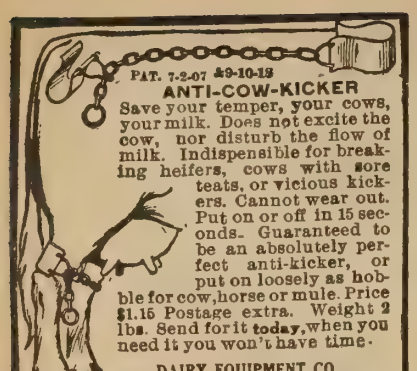
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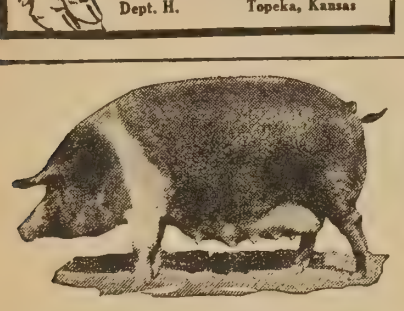


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51 per cent of all hogs marketed in the United States in 1918 were Duroc-Jerseys.

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Smaller chew, lasts longer—so it costs less to chew this class of tobacco.

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DAIRY MARKET NEWS

Good Demand Supports Cheese

(Report by U. S. Bureau of Markets)

Consumptive demand has been fairly active and buying for storage is still a factor, but there have been no new developments in cheese markets during the week ending July 2. At primary markets in Wisconsin the volume of business was perhaps as good as might be expected during the extreme hot weather, although there was apparently a slight falling off in sales.

Dealers who are particular about inspection have held their prices firmly on best grades, but these prices have found business rather dull. Wisconsin cheese board prices showed slight advances on June 27, but sales later in the week were on practically the same basis as the previous week.

Conservative Storage Buying

The tone in wholesale distributing markets was firm. Buying for immediate trade requirements was active, some storing took place, and at times speculative demand was brisk, notably at Chicago. In general, dealers appeared to have confidence in the situation, although it may be said that most of the storing is being done on the basis of actual needs for fall and winter.

Holdings in the four markets were increased only about 1,000,000 lbs. but it is reported that rather an active into-storage movement is taking place at country points, partly on account of better rates.

The average wholesale prices on American cheese (style Twins) for the week ending July 2, 1921, and for the corresponding week a year ago were as follows:

	Week ending July 2 1921	1920
	Cts.	Cts.
New York	15.9	27.0
Chicago	14.7	25.6
Boston	16.5	27.9
San Francisco	16.9	29.7
Wisconsin	13.2	25.2

The receipts of cheese at these markets were 4,369,610 lbs. as compared with 4,297,146 lbs. a year ago and 5,246,141 lbs. a week ago.

Butter Sales Continue Active

(Report by U. S. Bureau of Markets)

Butter prices again reached higher levels during the week ending July 2, and the markets were mostly firm and active, although a certain amount of skepticism still existed, especially among western buyers. Others who had thought well of the markets so far, began to operate with caution, but the actual conditions of supply and demand as found on the market seemed to warrant the advances made.

Receipts for the week showed a falling off, quality was poorer on the average, and buying for consumption and storage, as well as speculative demand, was active. Undergrades also continued to find a ready outlet which is always a good sign in relation to a market.

Production is apparently on the decline. Eighty-four plants of the American Creamery Butter Manufacturers' Association showed a reduction for the week ending June 25 of 1.4% under the production of the previous week and a decrease of 2.5% as compared with the same week last year. Information at hand points to a greater decrease since then. The arrivals at New York have shown a large percentage of fine quality with medium and undergrades, particularly with butter scoring 90 to 91 points, short of the trade demand. This is probably due to the fact that Chicago has been receiving most of the centralized cars, especially those of fine quality. Most of this butter is finding its way into storage.

Sales of futures for fall delivery have advanced materially, December options closing at 39½c on July 1. Boston reports that most of the storing is being done by dealers who are receiving long lines of contract butter. Local production in that section is light and there has been a strong demand for small lots of western creamery.

The average wholesale prices on 92-score butter at five of the principal markets for the week ending July 2, 1921, and the corresponding week a year ago were as follows:

	Week ending July 2 1921	1920
	Cts.	Cts.
New York	35.4	58.6
Chicago	34.6	56.4
Philadelphia	36.3	58.8
Boston	36.5	59.6
San Francisco	33.5	58.2

The receipts of butter at these markets were 17,288,672 lbs. as compared with 14,957,632 lbs. a year ago and 18,112,640 lbs. a week ago.

New York Butter Market

New York City, July 5:—It is feared that the incentive for higher quality butter production which existed during the greater part of last year has been dispelled because of the unprecedented demand for butter of all grades that has existed in all markets during the past few months. During the greater part of the year, 1920, considerable quantities of Danish butter were being received at irregular intervals in this country. As butter prices were comparatively high at that time, a factor which materially curtailed butter consumption, and as the Danish butter was of vastly superior quality, on the whole, there was little or no demand for butter of inferior quality. As a result there was a wide range in quotations on the various grades of butter and many creameries lost large sums of money because their butter had to be sold for low prices as based on the quotations on fancy butter at that time. However, there is an entirely different condition today. There is a surprising demand for butter of inferior quality and the range of quotations is very narrow. That condition is undoubtedly encouraging creameries which make poor butter and it is very doubtful if they will exert themselves as they did during last year to improve the quality of their butter.

Another factor which, while encouraging to the producer, is of questionable value to the dariy industry as a whole, is the proposed increase of duty on imported butter. The new tariff bill which will soon be up for consideration in Congress carries a tentative duty on butter of 8c, which is an increase of 2c per pound over the duty that is now levied on butter through the operation of the so-called Emergency Tariff Law, which was recently en-

Carload Prices of Hay and Feed at Important Markets July 2

(In dollars per ton)

(Report by U. S. Bureau of Markets)

Commodity	Boston	New York*	Philadelphia	Richmond	Atlanta	Jacksonville	Memphis*	Cincinnati*	Pittsburgh*	Chicago*	Minneapolis*	Omaha*	Kansas City*	San Francisco*	Los Angeles*
HAY															
Timothy and clover:															
No. 1 Timothy	30.00	29.50	23.50	24.00	26.00	26.00	26.00	.....	21.00	23.00	18.00	.....	†19.00	.....	.....
No. 1 Clover, mixed	25.50	25.00	.....	21.00	25.00	24.00	.....	.....	14.50	18.00	14.50	.....	†15.00	.....	.....
No. 1 Clover	.....	.....	.....	20.00	.....	.....	.....	.....	14.50	16.00	14.00	.....	†13.50	.....	.....
Alfalfa:															
No. 1 Alfalfa	.....	.....	.....	.....	26.00	28.50	20.00	.....	.....	†24.00	†20.00	17.00	†18.00	16.00	17.00
Standard Alfalfa	.....	.....	.....	.....	24.00	28.00	18.00	.....	.....	†20.00	†18.00	†14.00	†15.00	14.00	.....
No. 2 Alfalfa	.....	.....	.....	.....	22.00	26.00	16.00	.....	.....	†17.00	†15.00	11.00	11.00	12.00	.....
FEED—Bagged															
Wheat Bran:															
Spring	23.25	22.00	21.50	23.50	23.00	24.00	.....	19.00	21.00	15.00	13.25	.....	.....	.....	.....
Soft Winter	24.00	.....	23.00	26.00	23.00	.....	16.00	20.00	22.00	.....	.....	.....	.....	34.00	.....
Hard Winter	.....	.....	22.00	.....	23.00	24.25	.....	19.00	21.00	15.00	.....	10.50	11.50	.....	26.00
Wheat Middlings:															
Spring (Standard)	22.75	22.50	22.00	23.50	26.00	.....	.....	20.00	21.00	15.00	13.00	.....	.....	.....	.....
Soft Winter	.....	.....	27.00	.....	28.00	.....	18.00	24.00	26.00	.....	.....	.....	.....	38.00	.....
Hard Winter	.....	.....	.....	.....	26.00	.....	.....	21.00	28.00	.....	.....	17.00	.....	.....	.....
Rye Middlings	21.00	20.00	20.00	22.00	.....	.....	.....	.....	19.00	16.00	12.00	14.00	.....	.....	.....
High protein meals:															
Linseed	36.00	35.50	35.50	.....	.....	.....	.....	.....	.....	31.50	28.00	32.50	31.50	.....	.....
Cottonseed (41 per ct)	41.00	41.00	41.00	38.00	.....	.....	32.00	.....	.....	37.50	.....	.....	36.00	33.00	.....
Cottonseed (36 per ct)	39.00	38.50	39.25	35.00	30.00	33.00	30.00	33.50	.....	.....	.....	.....	.....	.....	30.00
No. 1 Alfalfa me'l (med)	.....	.....	.....	.....	.....	26.00	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gluten feed	35.28	35.00	31.21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hominy feed (white)	31.00	30.50	30.00	29.00	30.00	30.00	.....	26.50	.....	23.00	.....	19.00	.....	.....	.....
Ground barley	.....	.....	36.00	.....	.....	.....	.....	36.00	.....	32.00	21.00	.....	27.00	.....	.....
Dried Beet pulp	29.00	28.50	27.70	28.00	.....	37.00	.....	25.00	25.80	.....	.....	.....	.....	30.00	29.00

*Hay quotations represent average of cash sales at these markets. †Nominal.

Straw:—The demand for straw has fallen off slightly and prices have declined generally about $1 per ton. The following prices were quoted in the various markets: Wheat straw: Philadelphia $16.50, Pittsburgh $13, Chicago $9, Minneapolis $8, Kansas City $9, Omaha $8. Oat straw is quoted about $1 over wheat straw prices. Rye straw: Philadelphia $24, Pittsburgh $14.50, Chicago $13, Minneapolis $9.

acted. If the proposed tariff becomes operative there is little doubt but that it will exclude all foreign butter from this country. There were many who believed that the Danish butter which arrived last year, while working a temporary hardship on producers and creamery operators, was indirectly of benefit to the dairy industry in that it caused a revival of interest in the improvement of butter quality in this country. It now looks as though the industry would soon be back on the old basis, that is, with the whole energy which is behind it exerted toward quantity rather than quality production.

Receipts have shown a marked decrease during the past two or three weeks and there has been a marked deterioration in quality. Undoubtedly, the hot, dry weather which has prevailed quite generally throughout the country is largely responsible for the decrease but it is also true that New York is receiving less than its usual quota of butter as based on production throughout the country. That is due to the fact that Chicago quotations are on a par with those of New York and freight rates to New York from the dairy sections of the Middle West are much higher than to the western market. Reports from producing sections since the heavy rains of last week indicate a marked increase in production, hence it is anticipated that receipts will increase immediately.

While there has been little change in quotations during the past week, the market has been firm and active at all times and there have been no accumulations of butter in the market. Very little butter is now passing into storage which proves that consumptive demand is accounting for practically all of the current receipts. The price trend is upward at the present time and there is a feeling that there will be a gradual price advance for some time to come. The only price advance during the past week was one of ½c cent today which was the result of the depletion of stocks in jobbers' and retailers' stores over the holiday. Established quotations today are: Higher scoring than extras (93 score or higher), 36½@37c; firsts (90—91 score), 35@35½c; firsts (88—89 score), 33½@34½c; seconds (83—87 score), 30@33c. W. B. LIVERANCE.

CHICAGO, July 8—Butter—Creamery, extras, 36½c; standards, 36½c; dairy, firsts, 31@35½c; seconds, 27@30c.

Eggs—Ordinary, 26@27c; firsts, 29@30c.

Cheese—Twins, 14½@15c; Young Americas, 14¾@15½c.

MILWAUKEE, July 8—Butter—Creamery; tubs, 36c; prints, 36c; extra firsts, 34@35c; firsts, 32@33c; No. 1 packing stock, 15@16c; off goods, 10@12c.

Eggs—Miscellaneous receipts, country candled, cases included, 26@26½c; cases returned, 25@25½c; seconds, 18@19c; checks, 16@17c.

Cheese—Twins, 15@15½c; Daisies, 14½@14¾c; Young Americas, 14½@14¾c; Longhorns, 14¾@15c; Bricks, 15@16c; Limburger, 20@22c; Swiss, loaf, 47@48c; block, 23@24c.

NEW YORK, July 8—Butter—Firm; receipts, 210 pkgs,; creamery, extras, 37@37½c; state dairy, tubs, 29@37c.

Eggs—Firmer; receipts, 23,444 cases; near by white fancy, 45@46c; nearby mixed fancy, 29@40c; fresh firsts, 33@38c.

PHILADELPHIA, July 8—Butter—Higher; western creamery extra, 38½c; nearby prints fancy, 49@51c.

Eggs—Higher; nearby extra firsts, 33c; do firsts, 32½c; western extra firsts, 33c; fancy, selected packed, 43@44c.

Cheese—Unchanged.

Fifteen Cows Average 20 Quarts of Milk a Day

Fifteen Jersey cows on official year's test have made the remarkable average of 60.68 lbs. fat in one month, an average of two pounds of fat per day for each cow. Seven of them were over eight months in milk and only three out of the fifteen were less than two months in their period of lactation.

The average milk production for these animals is 1,205 lbs. of milk for the month, or forty pounds per day, which roughly figures 20 quarts of milk testing over 5% of butterfat. No other herd of this size on record has as yet accomplished such a feat, and in this case it is attributed to the fact that nine of these cows are by the same sire, Holger, one of the most noted bulls of the Jersey breed. Nine of his daughters in the fifteen averaged 1,406.6 lbs. of milk and 69.03 lbs. of butterfat, seven of them qualifying for the 50-lb. list. This record herd of cattle is owned by McArthur and Stauff of Oregon.

Uncle Ab says: City life may have its good points but the folks there have no monopoly on happiness.

Aunt Ada's axioms: Community houses are all right, but the best community center is a happy family.

A Farm Bureau Program

Counties which have organized a farm bureau are interested in the development of a program which will be of interest and value to its members. It is not an easy matter to outline a series of projects in all counties which will be satisfactory to most members and that will render a service which they may expect from their organizations.

The Walworth County Farm Bureau of Wisconsin has a program for 1921 which we publish herewith, not that we expect other counties to adopt it entirely but that they may use such portions of it together with other plans they may desire to follow. The Farm Bureau program of Walworth County is at least suggestive to other counties of what can be done by county farm bureaus.

1. Legislative work.
   - A. Fight modified milk
   - B. Work to secure favorable state legislation
   - C. Protect members from unfair legislation
   - D. Co-operate with state and national offices in their program
   - E. Investigate milk preservatives.
2. Social work.
   - A. Co-operate with farmers' clubs in arranging programs
   - B. Endeavor to get farm bureau picnic
3. Educational work.
   - A. Co-operate with county agent in:
     1. Promoting cow testing associations
     1. Placing labor on farms
     3. All other activities
     4. Soil testing
   - B. Carry on advertising campaign for greater use of dairy products
   - C. Publish facts on farmer's work
     1. Show cost of production
     2. Explain profit making methods
   - D. Discourage use of stock foods
4. Financial work.
   - A. Investigate questionable stock and security issues
   - B. Investigate agencies operating in county
   - C. Back Milk Producers' Association in efforts to get fair price for milk
   - D. Give help in laying out drainage systems
   - E. Publish market facts weekly
   - F. Assist members to buy in large lots through dealer
   - G. Work for lower threshing rates in 1921
   - H. Help buy and sell products for members.
5. Co-operation.
   - A. Form co-operative live stock shipping associations
   - B. Work to market Walworth County butter co-operatively
   - C. Co-operate with other county units in
     1. Ordering coal
     2. Protecting sugar beet growers
     3. Promoting interests of pea growers
   - D. Co-operate with breed associations in promoting sales and clubs.

Jerseys Over 50 Pounds Fat

A recent semi-official test on Waikiki Farm, owned by J. P. Graves of Washington, credited 15 Jerseys with a butterfat production for the month in excess of 50 lbs. The high cow in the herd was G. T. Morocco Duchess, whose production was 1,420.1 lbs. milk and 91.74 lbs. fat. The highest milk production for the month was made by Imperial Greba Pogis, which stood second in fat production, her monthly showing being 1,934.5 lbs. milk containing 77.57 lbs. fat.

Barron Co. Holstein Sale

Barron County Holstein breeders held a successful sale at Chetek, Wis., June 22, selling 41 animals for $6,075. This was not a high average, but it was a fair one considering the class of cattle sold.

Wm. Meisegeier received the top price of the sale, $350 for a 24-lb., 5-year-old granddaughter of Canary Paul.

F. H. Everson was in the box with R. E. Haeger doing the selling. County Agent W. A. Duffy was in charge of all local arrangements.

Formerly Known as "Kil-Zem."

FLY-KIL

Insect Killer and Repellent.



Don't Be Pestered with Flies!

FLY-KIL acts instantly. When applied with a fine fog sprayer it positively kills flies, fleas, lice, ticks, mosquitoes, bed bugs, cock roaches, and many other insect pests.

Fly-Kil protects all stock in barn or field from flies and other insect pests. It is non-inflammable: will not stain, mat the hair nor blister. Pleasant odor—will not taint milk. Prevents development of larvae when sprayed about farm buildings and stagnant water.

Fly-Kil has been proven superior to any other fly spray by many of the largest dairy farmers in Wisconsin and Minnesota. Approved by hundreds of herdsmen, and by Dairy Departments of State Experiment Stations.

Cows protected by Fly-Kil give more milk—young stock fattens more rapidly. Horses work better. Ask your neighbor—perhaps he uses it.

Fifteen gallons will protect 15 cows for the season.

Sold direct to dairymen and other users in the following wholesale quantities, at prices named, f. o. b. Saint Paul (mention whether by express or freight):

In Barrels, (50 gallon steel drum included).....$1.30 per gal.
In Half Barrels, (30 gallon steel drum included)..... 1.35 per gal.
In Quarter Barrels, (15 gallon steel drum included)..... 1.40 per gal.
SPECIAL—2 gallon can (sample order)..... 1.50 per gal.

SEND NO MONEY—All shipments C. O. D.

Our Fly-Kil booklet tells how to keep flies off your stock. Write for it—it's FREE.

Guaranteed to Do All We Claim for It

FREE!

To induce prompt ordering we will give absolutely FREE, a heavy one-gallon galvanized air pressure sprayer with your first order for 15 gallons or more. Order today and get the benefit of this FREE offer.

After using one-fourth of the contents of any container in accordance with directions, any purchaser of Fly-Kil who does not find it superior to any fly spray he has ever used, as a fly killer and repellent, is authorized to return the balance to us for refund of total purchase price of the full container. That's fair—isn't it?

WILLHELM OIL COMPANY
ST. PAUL, MINN.

Lubricating Oils Sold Direct to Users at Wholesale Prices
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Here is a hog house that belongs on every farm. Warm in winter—cool in summer. Keeps hogs clean, dry and healthy. Economical to build—easily cleaned—little repair. Made of hollow tile that lasts for ages.

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Cedar Rapids Speed Governor controls speed of all machinery like separator, churn, fanning mill, washing machine. Changes speed of any or all instantly while in motion. Fine for separators. Steady speed saves vibration and spilling. Insures closer skimming. Costs very little.
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Cedar Rapids, Iowa

World's Greatest White Collies



They will herd your stock, guard your flock and rid your place of vermin. A playmate for the children and a household companion. Largest breeders of white collies in the world.

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Montgomery County, Alabama is the only section of the Lime Land Belt that has the wonderful combination of splendid roads, excellent R. R. facilities, stock yards and markets, an abundance of pure water, low tax rate and a great system of Consolidated Rural Schools. You will make good on a Montgomery farm. Write for "A Carpet of Green."

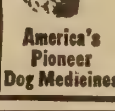
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HOARDS DAIRYMAN JUNIORS



A DEPARTMENT FOR THE DAIRY FARM BOY

SENTIMENTS OF THE PAST

In School Days

Still sits the schoolhouse by the road,
A ragged beggar sunning;
Around it still the sumachs grow,
And blackberry vines are running.

Within, the master's desk is seen,
Deep scarred by raps official;
The warping floor, the battered seats,
The jack-knife's carved initial.

The charcoal frescoes on its walls;
The door's worn sill, betraying
The feet that, creeping slow to school,
Went storming out to playing!

Long years ago a winter sun
Shone over it at setting;
Lit up its western window panes,
And low eaves' icy fretting.

It touched the tangled golden curls,
And brown eyes full of grieving,
Of one who still her steps delayed
When all the school were leaving.

For near her stood the little boy
Her childish favor singled;
His cap pulled low upon a face
Where pride and shame were mingled.

Pushing with restless feet the snow
To right and left, he lingered;—
As restlessly her tiny hands
The blue-checked apron fingered.

He saw her lift her eyes; he felt
The soft hand's light caressing,
And heard the tremble of her voice,
As if a fault confessing.

"I'm sorry that I spelt the word;
I hate to go above you,
Because"—the brown eyes lower fell—
"Because, you see, I love you!"

Still memory to a gray haired man
That sweet child face is showing.
Dear girl! The grasses on her grave
Have forty years been growing!

He lives to learn, in life's hard school,
How few who pass above him
Lament their triumph and his loss,
Like her—because they love him.

John G. Whittier.

The Mowers

Where mountains round a lonely dale
Our cottage roof enclose,
Come night or morn, the hissing pail
With yellow cream o'erflows;
And roused at break of day from sleep,
And cheerily trudging hither—
A scythe sweep, and a scythe sweep,
We mow the grass together.

The fog drawn up the mountain side
And scattered flake by flake,
The chasm of blue above grows wide,
And richer blue the lake;
Gay sunlights o'er the hillocks creep,
And join for golden weather—
A scythe sweep, and a scythe sweep,
We mow the dale together.

The good wife stirs at five, we know
The master soon comes round,
And many swaths must lie a-row
Ere breakfast horn shall sound;
The clover and the fiorin deep,
The grass of silver feather—
A scythe sweep, and a scythe sweep,
We mow the dale together.

The noontide brings its welcome rest
Our toil wet brows to dry;
Anew with merry stave and jest
The shrieking hone we ply.
White falls the brook from steep to steep
Among the purple heather—
A scythe sweep, and a scythe sweep,
We mow the dale together.

For dial, see, our shadows turn;
Low lies the stately mead;
A scythe, an hour glass, and an urn—
All flesh is grass, we read.
Tomorrow's sky may laugh or weep,
To Heaven we leave it, whether
A scythe sweep, and a scythe sweep,
We've done our task together.

William Allingham.



WHERE THE CUP OF CONTENTMENT RUNS O'ER

When the Cows Come Home

I love the beautiful evening
When the sunset clouds are gold;
When the barn fowls seek a shelter
And the young lambs seek their fold;
When the four-o'clocks are open,
And the swallows homeward come;
When the horses cease their labors,
And the cows come home.

When the supper's almost ready,
And Johnny is asleep,
And I beside the cradle
My pleasant vigil keep;
Sitting beside the window
Watching for "pa" to come,
While the soft bells gently tinkle
As the cows come home.

When the sunset and the twilight
In mingling hues are bent,
I can sit and watch the shadows
With my full heart all content;
And I wish for nothing brighter,
And I long no more to roam
When the twilight's peace comes o'er me,
And the cows come home.

I see their shadows lengthen
As they slowly cross the field,
And I know the food is wholesome
Which their generous udders yield.
More than the tropic's fruitage,
Than the marble hall or dome,
Are the blessings that surround me
When the cows come home.

Mary E. Nealy.

The Old Rail Fence

The old rail fence with aimless angles
Curved round the scented fields of old;
And wild, blown vines in quaintest tangles
Bloomed there in purple and in gold.
And winds went over cool and sweet,
With rivery ripples in the wheat.

The white road to the river knew it—
The river running wild and fleet;
A cabin path went winding to it,
With light prints of a boy's bare feet,
And cattle in the woods at morn
Roamed by and nipped the bending corn.

In corners cool the plowman rested
When rang the welcome bells of noon;
And there the thrush and partridge nested
And sang the mocking birds of June.
And winds were sweet with muscadines,
And blooms were on the melon vines.

There twlight paused in rosy dreaming,
And o'er the riot of the rills
When starlight on the world was streaming
Rose the love song of whippoorwills,
And with the music and the stars
Love met his sweetheart at the bars.

There, with the evening shadows falling,
In cabin door a woman stands;
And far and sweet her voice is calling,
And children heed her beckoning hands.
There, for the weary ones that roam,
Twinkle the dreamy lights of home.

The corn still waves and vines are clinging;
The larks are hid in bending grain;
The birds sing, as my heart is singing,
Where, lonely in the woodland rain,
The old rail fence—its service o'er—
Curves round the blossoming fields no more.

Yet there I halt my horse, and sighing,
Above the old rail fence I lean.
The snow's upon life's pathway lying
Have left one living glimpse of green!
And still, through change of time and art,
The old rail fence runs round my heart.

Frank L. Stanton.

Farm Yard Song

Over the hill the farm boy goes,
His shadow lengthens along the land,
A giant staff in a giant hand;
In a poplar-tree, above the spring,
The katy-did begins to sing;
The early dews are falling;
Into the stone-heap darts the mink;
The swallow skims the river's brink;
And home to the woodland fly the crows,
When over the hill the farm-boy goes,
Cheerily calling—
"Co', boss! co', boss! co' co'! co'!"
Farther, farther over the hill,
Faintly calling, calling still—
"Co', boss! co', boss! co'! co'! co'!"

Into the yard the farmer goes,
With grateful heart at the close of day;
Harness and chain are hung away;
In the wagon shed stand yoke and plow;
The straw's in the stack, the hay in the mow,
The cooling dews are falling;
The friendly sheep his welome bleat,
The pigs come grunting to his feet,
The whinnying mare her master knows,
When into the yard the farmer goes,
His cattle calling—
"Co', boss! co', boss! co' co'! co'!"
While still the cow-boy, far away,
Goes seeking those that have gone astray—
"Co', boss! co', boss! co' co'! co'!"

Now to her task the milkmaid goes.
The cattle come crowding through the gate,
Lowing, pushing, little and great;
About by the trough, by the barn-yard pump,
The frolicsome yearlings frisk and jump,
While the pleasant dews are falling;
The new milch heifer is quick and shy,
But the old cow waits with tranquil eye;
And the white stream into the bright pail flows,
When to her task the milkmaid goes,
Soothingly calling—
"So, boss! so, boss! so! so! so!"
The cheerful milkmaid takes her stool,
And sits and milks in the twilight cool,
Saying, "So! so, boss! so! so!"

To supper at last the farmer goes.
The apples are pared, the paper read,
The stories are told, then all to bed.
Without, the crickets' ceaseless song
Makes shrill the silence all night long;
The heavy dews are falling.
The housewife's hand has turned the lock;
Drowsily ticks the kitchen clock;
The household sinks to deep repose;
But still in sleep the farm boy goes
Singing, calling—
"Co', boss! co', boss! co' co'! co'!"
And oft the milkmaid in her dreams,
Drums in the pail with flashing streams,
Murmuring, "So, boss, so!"

John T. Trowbridge.

The Old Farm Gate

The old farm-gate hangs sagging down
On rusty hinges, bent and brown;
Its latch is gone, and here and there
It shows rude traces of repair.

The old farm-gate has seen each year
The blossoms bloom and disappear;
The bright green leaves of spring unfold,
And turn to autumn's red and gold.

The children have upon it clung,
And in and out with rapture swung,
When their young hearts were good and pure—
When hope was fair and faith was sure.

Beside that gate have lovers true
Told the old story always new;
Have made their vows, have dreamed of bliss,
And sealed each promise with a kiss.

The old farm-gate has opened wide
To welcome home the new made bride,
When lilacs bloomed, and locusts fair
With their sweet fragrance filled the air.

The gate with rusty weight and chain,
Has closed upon the solemn train
That bore her lifeless form away
Upon a dreary autumn day.

The lichens gray and mosses green
Upon its rotting posts are seen;
Initials carved with youthful skill
Long years ago are on it still.

Yet dear to me above all things,
By reason of the thought it brings,
In that old gate, now sagging down
On rusty hinges, bent and brown.

Eugene J. Hall.

Junior Composes Rhyme

HOARD'S DAIRYMAN JUNIORS:—My cow calved April 3rd and I named the calf Cupid. I am quite busy these days, for I am feeding 22 calves before breakfast and after supper each day. Twelve of them are on skimmilk. I am sending you a rhyme which I made while I was feeding them. It is like the Charge of the Light Brigade, but it is on quite a different subject.

Rhyme of the Calf Brigade

Dozen feet, dozen feet,
Here's where we need 'er;
Into the long alley
Marched the calf feeder.
Forward the Calf Brigade,
Charge for the milk, Pa said.
Into the long feed alley
Marched the calf feeder.

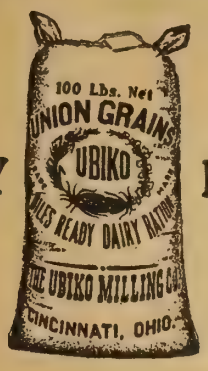
Forward the Calf Brigade!
Is there a calf dismayed?
No, for our Holsteins knew
No one has blundered:
Theirs not to make reply,
Theirs not to reason why.
Theirs but to drink or die.
Into the long feed alley
Marched the calf feeder.

Jerry to right of me,
Nigger to left of me,
Bob all over me
Stamped and bellowed;
Stormed at with tongue and tail
Boldly they drink and well
Into the pails of milk,
Into the glorious milk
Went twenty odd noses.

Flashed their pink tongues bare,
Flashed as they turn in air,
Licking the feeder there,
While all the cows wondered.

Canada. GRACE BROWN.

Lowest Price in 5 Years

BUY  NOW

Get the Original—It contains Pure Corn Distillers Grains.

Summer feeding is just as important as winter feeding. Union Grains is the very best supplement to pasture. It is easily digested and therefore cooling. It will keep your herd in condition all year round and maintain top-notch production.

Milk Record Cards Free—Write to

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Like a Blocked Drive Wheel

BARE, unlubricated spots on cylinders or bearings retard power and cause undue wear.

Wadhams Tempered Tractor Oil

clings in an unbroken film that does not break down and leave bare spots.

***Tempered*-an oil QUALITY, not just a brand name**

Cow Waters Herself



with this wondertul new Libbey Automatic Water Bowl. Anima. moves lever, opening water valve, when it starts to drink. Lever swings back, closing valve, when animal stops drinking.

15% More Milk

Milk is 87% water, and cows cannot give their greatest yield unless they have plenty of water constantly within reach. Farmers who use Libbey Bowls report an increase of 15% to 20%, which soon pays for the bowls.

Libbey Automatic Water Bowls

are the most sanitary and successful ever invented. Each bowl controls its own water supply, operated entirely by cow, and may be put at different heights, or in any stall or pen. No float tank required. Cannot overflow; cannot get out of order. Almost no water left in bowl to become stagnant. They save labor and feed and increase milk. Prevent spread of contagious diseases, as each cow has her own bowl and no water can pass from one to another, as with old-style bowls. Very simple and easy to install. Write for circular and prices, also FREE DAILY MILK AND FEED RECORD.

If interested in Stanchions, Stalls, Carriers, etc., ask for free General Catalog.

C. A. LIBBEY COMPANY
195 Marion Street Oshkosh, Wisconsin

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FARM WAGONS

High or low wheels—steel or wood—wide or narrow tires. Wagon parts of all kinds. Wheels to fit any running gear. Catalog illustrated in colors free.

Electric Wheel Co., 31 Elm St., Quincy, Ill.

A Missouri Better Bull Tour

HOARD'S DAIRYMAN:—That a great dairy development is at hand in South Missouri is the belief of extension specialists, practical farmers, and others who accompanied the live stock demonstration party of the Missouri College of Agriculture on its recent trip through South Missouri.

Starting on May 2, the party visited 30 counties, practically all in the Ozark region, returning home on June 18. Between 18,000 and 20,000 persons heard the dairy and beef cattle lectures at the 42 shops and 71 separate meetings held. Co-operating with the extension department of the college were four railroads, which carried a car of cattle free over their lines, various breed associations, farm bureaus, county agents, business men, chambers of commerce, and the state board of agriculture. The dairy cattle included Jerseys and Holsteins from the herds of the Missouri College of Agriculture, a Jersey cow from Longview Farm, and Campus Chief Bis, the six-time champion Holstein cow owned by Glenn Davis.

Incidentally, this great cow was much admired throughout the trip and the sight of her brought constant reminders of the time the college toured the state with the renowned Missouri Chief Josephine, grandam of the Davis cow. The individually owned cows were sent along with the approval of the Southwest Jersey Cattle Club and the Missouri State Holstein-Friesian Association. The object was to show the farmers of the state good types of these two breeds. The idea of the dairy department of the College of Agriculture was to demonstrate not only good dairy type, but to show how production has been increased and herds improved by the use of the right kind of sire. "Better bulls", both beef and dairy, was the slogan of the demonstrators throughout the trip.

Professor A. C. Ragsdale, dairy specialist, gave the lectures the first few days of the tour. He told of the foundation of the herds by Professor Eckles, now of Minnesota University, and how they had been built up through the use of good dairy bulls.

Among the animals taken along in the special car was one 15-year-old Jersey from the college herd. She has a record of 9,548 pounds of milk and 510 pounds of fat as a 12-year-old. With her were two of her daughters, showing marked increase in milk yield and improvement in type as the result of using the right kind of bull. Without dealing in a technical way with dairy matters, Professor Ragsdale offered a formidable array of convincing facts and figures to show what can be done with ordinary cows, provided the right sort of dairy bull, of whatever breed, is used.

The Holstein herd at the college was started in 1902 with four foundation cows, two of which were culled out as inferior. No new females have been introduced since that time, yet the herd has been built up to where it is one everywhere commanding respect. Something like $17,000 worth of Holsteins have been sold out of the herd and those now on hand are easily worth more than $17,000. The right sort of bull made this possible, and Professor Ragsdale lost no opportunity to impress this fact on his audiences.

How great is the need for carrying the gospel of dairying to the hills of South Missouri may be seen in conditions at Annapolis. Here the only cream separator in the community was one kept as a sample by a dealer in town, and not a pound of dairy products of any kind has ever been shipped from that point. While this is an unusual case, numerous communities were vistied where a few dairy cows would add materially to the income of the farmers of the vicinity.

At Bismark, St. Francois County, about five cans of cream are being shipped out each week. But conditions in this neighborhood are on the road to improvement, for St. Francois County has three Jersey bull clubs owning some well-bred animals. Several thousand persons in this vicinity heard the practical talks given by Professor M. L. Regan, dairy specialist from the Missouri school.

A. J. McDowell, dairyman for the Frisco railroad, joined the party farther on and aided in the demonstrations. McDowell is himself a practical dairyman who has done much to aid in the development of the milk and butter industry in Southwest Missouri.

E. G. Bennett, Missouri State Dairy Commissioner, accompanied the demonstrators part of the way and his plain, common sense talks added much to the value of the demonstrations.

The South Missourians are taking a deep interest in permanent pastures and are constantly planning to improve their pastures. Probably no one who spoke on the entire trip was given closer attention than W. D. McKee, lecturer for the State Board of Agriculture, who talked on permanent pastures. At every town he was invited by farmers to go out and look at their pastures and make suggestions as to how they could best be handled and improved.

"South Missouri is displaying a most gratifying interest in dairying and better dairy stock," said E. M. Harmon, dairy extension specialist of the Missouri College of Agriculture, who had charge of the dairy demonstrations the last part of the tour. Harmon formerly was county agent in one of the southern counties of Missouri and has taken an active part in dairy matters over the state.

"Without exception we had at least one request for a pure-bred dairy bull at every town where we stopped," Harmon said. "E. J. Alexander, of the Missouri Holstein Association, was along with the party and got orders for a fine lot of Holsteins. A considerable number of other farmers of course wanted Jerseys. These farmers want to get good calves and raise them at home, instead of high priced bulls ready for service, as was the case two and three years ago. We are placing three good dairy bulls now, to where we placed one a year ago."

Professor Harmon believes the Ozark section will eventually be one of the great dairy regions of the country. In support of this contention he points out the relative cheapness of the land, the abundant water, good grass, long outdoor seasons and nearness to big markets, while the need of expensive buildings for winter use is practically non-existent in that section.

"This trip, in effect, took the college of agriculture on cars right out to the farmers who put up the money to support it," said P. H. Ross, extension assistant at the college. "We had just the material we wanted to illustrate our talks, and a whole day was spent in each place, so the farmers had a good chance to look over the stock and discuss things fully with our specialists. I feel that it is the best extension school work the college has ever done and I believe it convinced thousands of farmers who had not before given careful thought to herd improvement through breeding and feeding."

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Wanted—By September 1st or sooner, clean, willing, quick man, married or single, if married, small family, as care taker, milker. Must be a worker. Permanent job for the right man. Modern equipment. Name wages with board and room or house furnished. Address WILT, Kearneysville, W. Va. 25-2

Wanted—Good, reliable man, who is a good milker and who thoroughly understands advance registry work and fitting cows. Good year round place. We have a fine registered Holstein herd that has never been tested. Give experience and references in first letter. J. H. HOFSTETTER, Lewistown, Montana. 26-2

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Judging Program at National Dairy Show

Saturday, October 8th, will be opening day of this great show. The Boys' and Girls' Cattle Judging Contest will begin at 9:00 a. m. and consume probably the entire day. Boys entered in this contest will camp in comfortable buildings on the Fair Grounds, and the girls will be housed in dormitories of the Minnesota Agricultural College, adjoining the Fair Grounds.

On Monday, October 10th, at 9:00 a. m., the Agricultural College Students' Judging Contests will begin. The cattle judging contest will be held in the Hippodrome ring and the dairy products judging contest will be held in a cold storage warehouse down town.

Ayrshires will start the regular show judging on Tuesday, October 11th, first classes to be called at 9:00 a. m., Prof. A. C. McCandlish will judge with Mr. A. H. Tryon as associate judge.

Brown Swiss will also show on Tuesday, beginning at 12:00 noon with Prof. G. C. Humphrey as judge and Mr. J. P. Allyn as associate judge.

Guernsey Day will be Wednesday, the 12th, and judging of this breed will begin at 9:00 a. m., with Mr. Robert Scoville, President of the American Guernsey Cattle Club, as judge, and Mr. Chas. L. Hill as associate judge. Unfinished classes in Ayrshires will also be judged on Wednesday.

Holstein judging will begin on Wednesday, the 12th, at 1:30 p. m., with Mr. W. S. Moscrip as judge and Prof. J. B. Fitch as associate judge. Holstein Day will be Thursday, the 13th, since the greater number of classes, including the state herd, will be judged then.

The first Jersey classes will be called on Thursday, the 13th, at 1:30 p. m., with Prof. H. H. Kildee as judge and Hon. C. N. McArthur as associate judge. Judging will be resumed at 9:00 a. m. on Friday, which will be Jersey Day.

The state herds of each breed will be judged at the conclusion of the individual and group classes of the breed, thus giving each state an opportunity to select the herd to be shown in this most exciting contest.

Minnesota Dairy Council

Eighty-five per cent of all Minnesota creameries called upon, or a total of 175, are supporting the Minnesota Dairy Council which was organized for the purpose of advertising dairy products, according to a statement made recently at University Farm by W. A. McKerrow, secretary of the organization. Mr. McKerrow believes that at least 500 to 600 of the local creameries will join the council eventually, and that the cheese and milk producers and distributors will also come in on the same basis.

One of the council's first undertakings in Minnesota, says Mr. McKerrow, was to put on a milk campaign in the twin cities and Duluth, which resulted in increased consumption of milk of more than 15 per cent in those two localities. A dairy film portraying the value of various dairy products and dairy foods is now being displayed in moving picture houses of the state and later will be shown in the school. Mr. McKerrow says that a million people or more will be reached in this manner. About 8,000 attractive butter posters and 2,000 "Use More Dairy Products" posters have been distributed. Many of the latter were posted in local creameries and factories for the effect they might have upon farmers who have been selling their dairy products and buying butter substitutes for home use.

The dairy council has also distributed a large number of recipe books for dairy dishes, and is now arranging for attractive advertising booths at the coming Minnesota State Fair and the National Dairy Show which will be held in the Twin Cities.

Funds for the council's advertising campaign are provided by the payment by creameries co-operating of one-tenth of one per cent per pound of butter produced. Assessments will be levied proportionately upon producers of cheese and milk who co-operate with the council.—Minnesota College of Agriculture.

Do Cups Pay?

The question foremost in the minds of many dairymen is "Does the installation of drinking cups increase the production of the herd"? There is no question but that they decrease the work of caring for the stock and make it more pleasant for the cows and the farmer.

Many instances of increased production following the installation of drinking cups have come to our attention, the latest of these being a report of Mr. Nander Nelson, tester for the Wausau, Wisconsin, Cow Testing Association. In the herd of eight cows owned by Mr. M. C. Ewing, he found that following the installation of drinking cups, there was an increased production of 11 per cent. In getting his figures he did not rely upon the usual method of estimating the milk production from the one day test but he totaled the milk sheets which Mr. Ewing had kept of the daily weights of milk produced by each cow. The following table gives the production of each cow in the herd for the month of November when the drinking cups were not in use and also for the month of December after the cups were installed, the computations being made on the basis of a thirty-day month for the purpose of accurate comparison:

Name of cow	November milk, lbs.	December milk, lbs.
Cherry	710	697
Trixy	406	346
Honey	494	475
Buster	771	1063
Rose	572	635
Clara	459	592
Jess	411	479
Pansy	920	977
	4743	5264

Despite the fact that three cows showed a decrease in production and all the cows were advanced in their lactation period, the herd, as a whole, showed a net gain of 522 lbs. or an average daily gain per cow of over 2 pounds. At the time of this test, Mr. Ewing was selling his milk at 10c a quart and the gain in production for the month of December brought him $24.20 additional in his milk check. To this actual money return should properly be added the greater convenience in watering the cows and saving in time and labor. This would seem to be an excellent return on the investment in drinking cups, particularly when it is remembered that this increase may be reasonably expected to be maintained and so bring in larger milk checks each succeeding month.

Recent Guernsey Records

Mixter Belladona is the one hundred and eighty-second cow to make an Advanced Register record at Mixter Farm, Massachusetts. She qualified for sixth place in Class DD with a record of 11,191.6 lbs. milk containing 588.63 lbs. fat. She is the thirty-fifth Advanced Registry daughter of Langwater Demonstrator.

Third place in class EE is now held by Emma of Fond du Lac, a Guernsey cow owned by B. F. Sheridan of Wisconsin. Her production was 11,412.2 lbs. milk containing 613.26 lbs. fat. She is state champion in her class.

Janette of Graham's Dale, a Guernsey owned by W. R. and R. H. Graham, Wisconsin, the second Advanced Registry cow on the farm, has qualified for sixth place in Class FF with a production of 11,069.60 lbs. milk containing 570.02 lbs. fat.

The West Virginia Guernsey, Milford of Bethany, owned by Waddington Farm, is now champion in Class DD. Her record is 13,727.60 lbs. milk, 708.81 lbs. fat. The champion, her sire, her sire's sire, and her dam were all bred at Waddington Farm.

HELENDALE FARM

HERD SIRE—TRICKSEY SAM A. R.

One daughter made 864 lbs. fat in a year; another (a two-year-old now on test) made 64 lbs. fat in May. Herd is free from Tuberculosis and Abortion. Bulls of service age, also a few females, for sale at low prices. Send for list.

Wm. A. Erbach, D. V. M., Owner,
Athens, Wisconsin.

WARWOOD FARM

Has For Sale:

Two Fine Young Bulls

from dams of good reord by PABST KING COLANTHUS, 31-lb. son of KING PONTIAC CHAMPION. Both bulls are fine individuals, mostly white; one is 16 months old and the other 6 months old.

ALSO A YEARLING BULL by MAPLECREST KING DE KOL who has 19 A. R. O. daughters. Warwood Farm is under Federal Supervision. We will price these animals right. Address

WARWOOD FARM, Lisle, Illinois

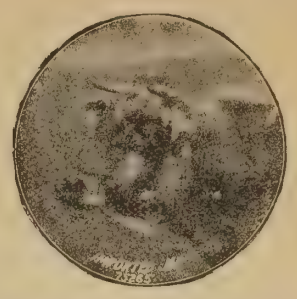
St. Rose College Farms

offer for sale

Several Choice HOLSTEIN BULLS

from their Federal Accredited Herd. The bulls are from 3 months to 2 years of age and all sired by U. S. S. H. King Segis Drosky Tehee 218814 whose first two-year-old daughter made an official record of 11½ lbs. of butter in 7 days. Address

ST. ROSE FARMS, Springfield, Ky.



MERIDALE JERSEYS

For Sale:

Sayda's Meridale King 194878

Dropped April 30, 1920.

Sire, Sayda's Heir 3rd, 74817. 5 sons and 55 daughters in Register of Merit.

Dam, Spermfield Zetta King 343410. 12,349 lbs. 3 oz. of milk, 711 lbs. 11 oz. butter at 3 years 11 months. Milked as high as 55.8 lbs. of milk in one day.

Bred along the lines as—

Sayda's King of Meridale

One of this year's winners of the American Jersey Cattle Club's Silver Medal.

16 of his daughters are in Register of Merit, 50% of them in class AA.

One daughter with 636 pounds of fat is senior two-year-old of Vermont.

Heifers and cows of highest dairy quality for sale.

Write for full pedigrees and prices.

AYER & McKINNEY

Meridale Farms, Meredith, N. Y.

Jersey Herd Sire

for sale at a bargain. Torono of Hill Brook Farm No. 173981, grandson of Champion Torono of Hood Farm. Three years old. Write or come and see him.

HILL BROOK FARM, Ypsilanti, Mich.

READY FOR SERVICE—

Graccus Fairview

$500 buys a Holstein bull just over one year old. Two-thirds white and of show type conformation. He is a grandson of Pontiac Korndyke, being by Sir Fairview Pontiac Korndyke, 30 A. R. O. daughters. Dam is a twice 30-lb. cow. Present record, 33.6 lbs. Graccus has a four-year-old full sister with over 26-lb. record. Herd under Federal Supervision. Photograph on request.

GRAYFIELD FARMS, - - Greenwich, New York

Money Talks

Last month, milking 20 cows we produced in milk and cream $1,010.10, an average of $50.50 per cow.

You can do the same IF you get the proper herd sire.

We have several young Jersey bulls all grandsons of

Flora's Queens Raleigh

out of dams that turn milk into money. Prices at pre-war levels.

FOREST HILL FARM

Bellmonte Park, North, F. S. Reynolds Dayton, Ohio

SALE ANNOUNCEMENTS

Aug. 8—Holsteins. Victory Farms' Holstein Sale at Doylestown, Pa.
Oct. 10—Holsteins. Victory Farms' Holstein Sale at Doylestown, Pa.
Oct. 19—Holsteins. Chester Co., Pennsylvania, Holstein-Friesian Breeders' Guaranty Consignment Sale. C. J. Garrett and F. C. Brinton, Jr., Mgrs.
Oct. 19—Guernseys. Michigan State Sale of Registered Guernseys at Lansing, Mich. F. E. Fox, Waukesha, Wis., Sale Mgr.
Oct. 25-26—Holsteins. Lake Mills Semi-annual Consignment Sale at Lake Mills, Wis.
Oct. 27—Holsteins. Marathon Co. Holstein Breeders' Semi-annual Consignment Sale at Wausau, Wis.
Nov. 3—Holsteins. Nebraska Holstein Breeders' Ass'n. Sale at Lincoln, Neb.
Nov. 4—Holsteins. Virginia Holstein-Friesian Breeders' Club Sale at Richmond, Va.
Nov. 16—Holsteins. Waukesha Co. Holstein Breeders' Fall Classic Sale.
Jan. 2, 1922—Holsteins. Victory Farms' Holstein Sale at Doylestown, Pa.
Feb. 21-22, 1922—Holsteins. Iowa Holstein-Friesian Association's Annual Sale.
Feb. 23, 1922—Guernseys. Wisconsin State Guernsey Sale at Madison, Wis.
April 1, 1922—Oak Hill Stock Farm Dispersal Sale at Crown Point, Ind.
April 3, 1922—Holsteins. Victory Farms' Holstein Sale at Doylestown, Pa.
July 4, 1922—Holsteins. Victory Farms' Holstein Sale at Doylestown, Pa.
Oct. 2, 1922—Holsteins. Victory Farms' Holstein Sale at Doylestown, Pa.

Maryland State Fair TIMONIUM, MD. Sept. 5, 6, 7, 8, 9, 10, 1921

Over $8,500 Premiums in the Cattle Department.

$2,120 to Guernseys, Ayrshires, Holsteins and Jerseys. The Holstein Association adds 15%, making about $2,500 to Holsteins.

Only T. B. tested cattle allowed on the grounds. We will look after the comfort of men and cattle in every possible way.

Over $3,000 offered in Swine Department.
Divided between Durocs, Hampshires, Berkshires and O. I. C's.

Supt. Cattle Department, G. H. HIBBERD, LUTHERVILLE, MD.
Supt. Swine Department, HAIG GALAJIKAIN, CATONSVILLE, MD.

For catalogues now ready, write

M. L. DAIGER, Asst. Secretary, 350 Equitable Bldg., Baltimore, Md.

Periodic Ophthalmia

Please tell me if there is a blindness in horses eyes that comes and goes with the moon. I have a fine horse that seems to be affected in the dark of the moon. Last month in the left eye and this month in the right eye. The eye looks milky, clears up, and don't seem to bother him.

Independence, Kans. H. N. R.

The horse is afflicted with periodic or recurrent ophthalmia, popularly called "moon blindness". The latter name no doubt was given to the disease for the reason that attacks usually occur at intervals of a month or more, but the changes of the moon are not in any way the cause, neither is the disease caused by "wolf" teeth, although many believe to the contrary.

Cataract results after repeated attacks and causes blindness of one or both eyes. There is considerable to indicate that germs are the cause and veterinarians are now experimenting with a biologic prepared from the germ supposed to be the causative agent. Results from its use do not thus far allow of definite conclusions as to its effects.

Blindness may be retarded somewhat by slightly darkening the stable in which the horse should be kept apart from others and at time of attack covering the eyes with a soft cloth to be kept constantly wet with a saturated solution of boric acid. A dram of iodide of potash should also be dissolved in the drinking water night and morning for 10 days. A little one per cent yellow oxide of mercury ointment placed in the eye every other day is also helpful.

The agricultural population produces the bravest men, valiant soldiers, and a class of citizens the least given of all to evil designs.—CATO.

BROWN SWISS



BETTY OF LAKE VIEW

Breed Brown Swiss Cattle

They prove their superiority over other breeds when subjected to severe conditions on the farm, by keeping in good flesh and milking the full while other cows grow thin and reduce their yield. You can prove this to your satisfaction.

BROWN SWISS CATTLE BREEDERS' ASS'N
IRA INMAN, Secretary, Beloit, Wis.
William B. Hale, Pres., Aqueduct Bldg., Rochester, N. Y.

JUBILEE FARM
Brown Swiss Bulls

to increase the production of your herd, out of cows on Official Test.

A limited number of heifers now offered for sale.

Box 747, Peoria, Ill.

JERSEYS

Bull Associations Breeders and Dairymen

Large Producing Jerseys Pay

SOPHIE TORMENTOR JERSEYS

LEAD THE BREED

for largest production and reproduction. We have several bulls of serviceable age at from $200 to $2,000. The kind that sire large, vigorous, heavy producing cows. The better your herd, the better bred bull you require. Just write us size and quality of your herd, we will recommend bull to improve same and will send four generation pedigree, description and price on same for your consideration.

HOOD FARMS, Inc.
LOWELL - - MASS.
JIMMY DODGE, Mgr.

Cedar Crest Farms

OFFER

Three young Jersey bulls, out of fifty-pound dams, few choice heifers and mature cows. Write for prices and full particulars.

J. K. Dering, Owner, Lake Villa, Ill.

Hillcrest Jerseys

Bull calf born March, 1920. Sired by Imp. grandson of Golden Fern's Noble. Priced right for quick sale. Write

ROLLIE VANDERVORT, TOMAH, WIS

Ten Splendid Jersey Bulls

Good type, 6 to 18 months old. Heifers bred and open. Hood Farm Toronto, King Sappho King, Loretta D. Butter Prince, etc. blood lines. Free from abortion. Dams are in the R. of M. or on test. Accredited herd.
Address: J. Q. Emery & Son, Edgerton, Wis.

HERE'S YOUR OPPORTUNITY

Bull calf born March 4, 1920, sired by a grandson of Majesty's Western King and out of a R. of M. daughter of Ibsen's Chief. For full pedigree and price write

E. E. HILL & SONS, Tomah, Wis.

Jersey Bull Calves
$100 to $150 Each

For immediate sale, we offer several splendid bull calves, some nearly six months old, sired by our high class Majesty bulls and out of Register of Merit dams. They are right individually.

M. D. MUNN,
Elms Jersey Farm, Forest Lake, Minn.

Montpelier Jerseys

Three young bulls ready for service. Trace three times to Oxford Lad. Fine typy individuals. Right in every way.

Montpelier Manor Farms, Laurel, Md.

Two Young Bulls

Two young bulls ready for service. Rlymouth Lad breeding. Splendid individuals with Register of Merit sires and dams. Prices and pedigrees on application.

Sheffield Farm, Glendale, Ohio.
(U. S. Accredited Herd.)

Valley Farm is Offering

Several bulls, 6 to 12 months old, from R. M. cows. Sired by Golden Maid's Viscount and Kilda's Royal Majesty, two of the best Island bred bulls living. At prices to sell. Write

FRED STUBLEY, Black Earth, Wis.

JERSEYS—DUROCS

Just one bull old enough for service and a few young calves. Hood Farm breeding.

F. R. Constance & Sons, Waupaca, Wis.

Albion Jersey Farm—R. of M. Jerseys

Herd sires, E S. Kilda's Viscount and T. N. T. Jap, Oxford breeding. A few choice bulls for sale, out of Register of Merit dams or dams on test.

R. C. GREEN & SON, Albion, Wis.

INCREASED PRODUCTION GUARANTEED

We guarantee any Jersey bull we sell to increase the average production of any herd

OR MONEY REFUNDED

YOU TAKE NO CHANCES. Our guarantee insures increased production and profit. Bulls for sale, ready for service.

AYREDALE STOCK FARM
F. W. Ayer, P. O. Box 713, Bangor, Maine.

N. B. Write us the size and producing ability of your herd, and we will describe and price a bull guaranteed to increase their production.
By mentioning "Hoard's Dairyman" we will know you are asking for a guaranteed bull.

POLLED JERSEYS

Breeders' names and Spillman's "Inheritance of the Poll Character in Cattle" mailed free.
CHAS. S. HATFIELD, Secy, R4, Box 5, Springfield, Ohio.

AYRSHIRES

Delchester Farms Ayrshires

Tell us your wants and we can supply them at prices you can afford to pay.

Aged cows, bred to Glenury, an A. R. son of Finlayston.

Aged cows, bred to Rena's Baron of Highland, an outstanding son of Baron's Best of Bargenoch.

Heifers, bred to these two great sires.

Young heifers.

Bull calves.

All the above stock carries some of the best producing blood of the breed with A. R. ancestry on both sides.

Herd free from tuberculosis

DELCHESTER FARMS
Edgemont, Del. Co., Penn. - Thomas W. Clark, Supt.

REGISTERED

Ayrshire Bull Calf
On Credit — $100

Payable ten dollars with order and the balance at ten dollars a month.

Good individual. Bred for heavy production. Vigorous. Guaranteed satisfactory or your money refunded. Write today to Box E, Martinsville, Ind., for full particulars.

GOSSARD BREEDING ESTATES

Ayrshire Cattle for Sale

Bull calves from one to six months old of good type and color from high producing dams at farmers' prices.

Harry R. Richardson,
Spring Green, Wisconsin.

Pure-bred Ayrshire Cattle For Sale

Best of breeding. Calves sired by a Grandson of Brown Kate, record 1,080 lbs. butter in year.

Wm. Nisbet & Sons, Richland Center, Wis.

Ashbrook Farm Offers
Seven Heifers of this Type and Age For Sale



STRATHGLASS CREAMPOT 53497

Also the first prize bull calf at the Eastern States Exposition, by Foulton Ambassador.

This will make someone a good herd.

L. E. ORTIZ, Prop., Morris Plains, N. J.

BLACKBURN FARM
Home of Addington's Champion

Grandfathers—Nox'emall and Finlayston.
Father—Rena's Champion—17 A. R. daughters
Mother—Addington Queen 3d—Two mature records each over 19,000 lbs.

Fully Accredited Tuberculosis Free Herd.

SEWICKLEY, PENNSYLVANIA

World's Champion

AYRSHIRES

200 head Fully Accredited, Tuberculosis Free for 3rd consecutive year. 100 records average 13,454 lbs. milk. Many cows weigh over 1400 lbs. For large, healthy, productive Ayrshires, address:

Penshurst Farm, Narberth, Pa.

Weymouth Farms

"Ayrshires of Quality"

All cows on Advanced Registry Test. Herd Tuberculin Tested.

We can supply you a herd sire of choicest breeding.

MARTIN A. TOWLE, Mgr.
NORTH WEYMOUTH, MASS.

Ayrshire Stock

of all ages for sale. Satisfaction guaranteed

L. W. McCONNELL, Wellington, Ohio

If you are interested in
Economical Production of Highest Grade Milk
You should become acquainted with the ability for such production possessed by

Strathglass Farm Ayrshires

Among several noted bulls in service in the herd now numbering over 200 head are *Penshurst Mischief Maker, son of the World's Record cow for the breed and sired by a son of the cow standing second in the list for both milk and fat,* and others from the heaviest milking and best breeding families.

Sons of these bulls out of R. of M. cows now in offer may be counted on to materially assist in the accomplishment of above mentioned results.

We also have a few heifers of various ages to sell. Tabulated pedigrees and full particulars sent on request.

STRATHGLASS FARM, Hugh J. Chisholm, Owner, Port Chester, N. Y.

Monstone Farm Ayrshires

"Production — Size — Individuality"

Bull calves out of dams with A. R. records of 10,000 lbs. (and better) of 4% milk—Winners in show ring—Sired by Lessnessock Gem's Good Gift Imp.—Winner in show ring and proven prepotent sire—Weight 2,250 lbs. in breeding condition—Whose dam made 8,930 lbs. milk, 4.05% fat, in *56 weeks* (Scotch record)—Sire's dam 10,342 lbs. milk 365 days (Scotch record)—Prices $100 to $1,000. If you want class and a square deal, correspond with us. We can supply your wants at your prices. Nothing but the best. Herd Federally tested.

MONSTONE FARM, John Chalmers, Manager, IPSWICH, MASSACHUSETTS



We Have For Sale

the well bred Ayrshire bull. Bargenoch "Drexel" (18474) Imported. Bred by John Logan, Bargenoch, Scotland. Born Feb. 2nd, 1919. Color white and red. Sire, Bargenoch Magnificent (9579). Sire of Bargenoch "Royal Champion" sold at Bargenoch sale, 1919, for $7,267.00.

Dam, Bargenoch Victoria (37003). Scotch record: 9,221 lbs. milk, 4.23% fat in 43 weeks; 11,070 lbs. milk, 4.50% fat in 47 weeks.

BARCLAY FARMS, John Cochrane, Manager, ROSEMONT, PENNSYLVANIA

Heifer Calves By Anton's King Confidence (43517)



This group of young GUERNSEY HEIFERS are some of the get of *Anton's King Confidence*, the senior herd sire of the *Hoard's Dairyman Herd.*

We have several clean cut and sturdy young bulls that we would like to quote you prices on.

HOARD'S DAIRYMAN FARM
Fort Atkinson, Wisconsin

BANKER FARMER EXCHANGE — RELIABILITY — QUALITY — of WISCONSIN BANKERS ASSOCIATION

GUERNSEYS FOR SALE

Pure-breds { 70 Cows; 61 Heifers and Heifer Calves; 162 Young Bulls and Bull Calves
Grades — { 116 Cows; 115 Heifers and Heifer Calves

Other Live Stock: Breeders are listing with us other dairy cattle, beef cattle, horses, sheep, and swine. Write us if you want stock. We will answer promptly.

BANKER FARMER EXCHANGE,
D. H. Otis, Director. 1822 Chadbourne Ave., Madison, Wis.

MR. GUERNSEY BREEDER

we are offering bulls of May Rose, Glenwood and Yeksa breeding out of A. R. cows. Our records range from 450 lbs. to 864 lbs. of fat ages from 2 months up to serviceable age for $100 and up.

Can spare a few fine females.

CORIUM FARM, F. J. Rueping, Owner, Fond du Lac, Wisconsin

MR. FARMER
Kill the Scrub Bull

Now is the time to buy young bull calves from A. R. dams. Reasonable prices. Write for complete information.

BAY CLIFFS STOCK FARM
Jay B. Deutsch, Owner
Big Bay, Michigan.
Accredited Herd

A May Rose Bull
He Will Suit You

He is Gumption of Koshkonong Place, ready for heavy service and as straight as a line. His sire is Anton's King Cecil, one of the best May Rose bulls in the state. His dam is Gladness of K. P. (414.68 lbs. fat Class G), a daughter of Gilt Edge of K. P. (15 A. R. daughters).

Write me today about him.

A. R. HOARD, Fort Atkinson, Wisconsin

Tilden Farms Guernseys

FOR SALE: Several typy, May Rose bulls out of A. R. cows and sired by Hope's May Rose of Maple Hill (35903), whose dam is a class leader with 776 pounds of butterfat at 3 years. Also several choice pure-bred females and a few excellent grade cows. Herd on Federal Accredited list.

TILDEN FARMS
James H. Murphy, Mgr. Delavan, Wisconsin

---

714 Lbs. Fat Average

For the first 13 tested daughters of May King's Vrangue. This includes cows in (Class AA) and Class A and heifers with credits figured as per A. G. C. C. standard. Bulls for sale from him out of May Rose cows with good A. R. records. Prices very reasonable.

Mineral Home Farm, Platteville, Wis.

---

2 Guernsey Bulls

No. 1—A son of Bob Rilma's Monogram, whose dam and sire's dam have records averaging 887.5 lbs. fat. His dam, a daughter of Langwater Hambro, made over 400 lbs. fat in Class G., 10 months old and well grown.

No. 2 is from a 519-lb. cow and sired by a son of Lord Waukesha from a 717-lb. 13-year-old dam. They're priced right and they must be as represented.

Write me for further information.

RALPH TRATT, Whitewater, Wis.

Another Real One

Bull dropped Oct. 12, 1920. Light fawn, beautifully marked; straight, deep body, level rump. Sire's 3 nearest dams average 732 lbs. fat. A grandson of Itchen May King. Dam is a very good individual and has 478 lbs. fat.

NORWIND FARM, Sheboygan, Wis.

GORDONDALE GUERNSEYS

3 bull calves offered for sale. They have excellent breeding and dams have or are making good A. R. records. Write for further information, they are priced to sell.

Herd under Federal Supervision
L. E. GORDON, JR.,
Nelsonville, Portage Co., Wisconsin

Wern Farm Guernseys

I am offering for sale 20 head of choice Grade Guernsey springers coming with first and second calf. Also have two bulls highly bred along May Rose lines just ready for service, that I will sell. For full particulars, write, wire, or come and see the stock.

Wern Farm, Waukesha, Wis.

Pleasant Acres Guernsey Farm
Is Offering For Sale

Bull calves of May Rose breeding from 3 to 14 months old. The dams of these calves either have A. R. records or are now on A. R. test.

Clyde E. Fruit, R. 1, Waukesha, Wis

Mound City Farm Guernseys For Sale

May King's Reputation of Mound City (63800) born Dec. 3, 1919.

Sire—May King's Vrangue of Ingleside (15430). Dam—Alma Ethel, three records namely 495 class G, 621 lbs. class AA and 704 lbs. class A. Alma's King of Mound City (63801) born Dec. 23, 1919. Sire—Cinderella's King of Mound City (40476). Dam—Alma Lehigh (43704). 340 lbs. fat class G. 648 lbs. fat class A. Rose's May King of Mound City (63802). Born March 19, 1920. Sire—May King's Vrangue of Ingleside (15430). Dam—Rose of Little Platt (55717) record of 667 lbs. fat in class AA now fourth in her class. Some younger bulls of equal breeding.

Chas. A. Wilkins, Platteville, Wisconsin

Homestead Farm

Offers for sale bulls from 11 to 13 months of age from A. R. dams. Also a few young bull calves of excellent breeding, and three A. R. cows. Write for sale list or come and see them.

JAMISON BROS., Appleton, Wis.

Guernsey Bulls

GET A BULL, with Langwater, Pencoyd, May Rose or Haye's Cherub breeding. Prices reasonable, quality considered. Grades in limited numbers.

Fox River Valley Guernsey Breeders' Association,
Harry Leppla, Secy. Appleton, Wis.

THE CHILMARK FARM GUERNSEY HERD was started in a small way. It grew naturally and steadily larger and better.

CHILMARK FARM

The Herd was built from the bottom up and not from the top down

Come to the New York State Guernsey Breeders' Sale September 17th, at

Chilmark Farm, Ossining-on-the-Hudson

HONESTY PRIDE OF BIRCHFIELD 44580



Sire — Langwater Warrior 26509
Dam — Langwater Honesty 49479
10,536.9 lbs. milk, 517 lbs. fat, at 2 yrs. and 5 months

We are now offering a few splendid sons of Honesty Pride of Birchfield. From cows with A. R. records or now on test. Everyone is a straight backed, growthy, vigorous youngster. These young bulls will put type and production in your herd. Prices range from $150 to $300.

Quality Guernseys **HIGHLANDS** *Tuberculin Tested*

NYE H. FREEMAN, Herdsman, Linwood, New York

Langwater Traveler

Carries 50 per cent blood of Imp. King of the May, greatest bull of the breed.

His dam is Langwater Lustre, A. R. 806.10 lbs. fat, fifth cow in Class C. She is the second highest testing daughter of King of the May. His sire is Langwater Holliston, sire of Langwater Levity, sold for $6,000.00 and leading cow in Class EE. Traveler's daughters are averaging over 500 lbs. of fat with their first calves. His first daughter to freshen will be a class leader in FF. We offer some excellent bull calves by Traveler out of May Rose cows with fine records. Federal Accredited Herd.

CHICONA FARM GUERNSEYS
A. L. Gile, Prop., Chinook, Washington.

Guernsey Bulls For Sale

Polly's Anchor No. 42845, born August 24, 1916, and Imp. Bluebird of Lakeside No. 45329, born June 15, 1917. Good, straight bulls, very gentle and sure breeders.

For Sale by
RADISSON FARM, ANOKA, MINN.

Iowanola Guernseys

We are offering

A Very Fine Son

born July 25, 1920, out of Imp. Kitchener's Express 43925, his dam has 592 lbs. of fat, and out of Franseca of Homa Della who has 12,855.2 lbs. of milk and 640.09 lbs. of fat in Class D. This is a very typy calf and should appeal to any one in need of a bull. Correspondence solicited.

MOUNTAIN BROS.,
Carrier 403, Des Moines, Iowa.

Guernsey Bulls

Our last 9 official records average over 510 lbs. fat, including all ages. Our herd sire has 8 A. R. daughters, including one with 572 lbs. fat in Class GG. His three nearest dams average 822 lbs. fat. Send for pedigrees and prices on young bulls with this backing.

Folly Farm, Box 587, Libertyville, Ill.

Thorn Hill Farm Guernseys



Have several well bred young Guernsey bulls for sale at reasonable prices. All my own breeding. May Rose and Glenwoods, out of A. R. cows with records from 500 to 750 lbs. of fat. Write for sales list to

AUGUST ZIESING, Deerfield, Ill.

Do You Want A Guernsey Bull

Closely related to Pergue's Crescent A. R. with a record of 13,316.9 lbs. milk and over 582 lbs. fat in Class EE and dropping two calves within the year, entitling her to second place in her class? Some excellent young bulls closely related to Pergue's Crescent ready to head your herd. Write for descriptive circular, or come and see them.

Ernest W. Sass, Box H, Streator, La Salle County, Illinois

Head Your Herd
With a Son of Imp. Sailor Boy

whose daughters are now making such good records. We have a number of good ones from A. R. dams at reasonable prices. Write

John P. Crozer, Upland, Pa.

Guernsey Bulls

A few real choice sons of our herd sires, out of May Rose dams with A. R. records up to 757.57 lbs. of fat.

Accredited Herd. Send for list.

E. S. Person, Minot, N. D.

A Guernsey Show Bull

Falcon's Galore, 65543, Dropped June 7, 1920

Sire: **FALCON'S PROUD WARRIOR**, 47559, an outstanding son, both in breeding and individuality, of the noted Langwater Warrior.

Dam: **LUPA LENFESTEY**, 25372, a splendid Advanced Register cow by Langwater Strongheart, a very great sire of high production.

GALORE is unusually promising and should head a splendid herd. Write quick if you want him at $500.00.

FALCON'S FLIGHT FARMS
Litchfield, Connecticut.

GRASSLAND FARMS GUERNSEYS

Choicely bred males and females for sale. (The natural increase of the herd.)

Herd federal tested for tuberculosis. Send for sales list. Satisfaction guaranteed.

Taconic, Conn., Litchfield Co., (C. N. E. R. R.)

Guernsey Females

bred to an outstanding son of Ne Plus Ultra, one of the greatest sires of the breed. Fifty head from which to select.

MEADOWLAND FARM, Litchfield, Conn.

The Mixter Farms

For Sale at farmers' prices,—**bull calves** sired by May Rose bulls and out of May Rose dams with records of 500 to 700 lbs. fat. Also a number of producing females—animals that will be a credit to any herd and prove profitable in dollars and cents.

Write us before purchasing elsewhere. Mixter Farms have bred over 3,000 pure-bred Guernseys. **J. S. Clark, Supt., Hardwick, Mass.**

300 Guernsey Females.

Hillswold Farm
Shrewbury, Mass.

Registered Guernsey bull calves for sale. Dams in Advanced Registry and tuberculin tested. Prices right, and animals guaranteed to suit. **W. A. Cloues, Mgr.**

Pure-bred Dairy Cattle

The census figures for Louisiana show that this state is credited with a total of 3,415 pure-bred dairy cattle of which number 2,580 were females. The figures by breeds are as follows: 95 Guernseys, 1,009 Holsteins, 2,201 Jerseys, and 111 other breeds.

According to the same report Maryland has a total of 8,668 pure-bred dairy, of which number 6,638 are females. The division by breeds is as follows: 113 Ayrshires, 1,867 Guernseys, 4,073 Holsteins, 2,323 Jerseys, and 292 others.

GUERNSEYS

Golden Secret Guernseys

TYPE
PRODUCTION
GOOD UDDERS

Bull Calves of this Breeding For Sale

PENCOYD FARM, Bala, Penna.
T. W. & I. W. ROBERTS, Owners,

Address correspondence to
1644 Land Title Bldg., Philadelphia, Pa.

Guernsey Bulls

All ages, sired by a son of Beda's May King, out of dams who are daughters of Governor of the Chene (1297) P. S., Langwater Raritan, Prince Charming and others. Write for prices.

Peter Simon, Elba, Minn.

HOLSTEINS

Quality Holsteins For Sale

As many as you want. 1,000 herds in the county to pick from. Write for our sale list of bulls and registered and grade females.

JEFFERSON COUNTY HOLSTEIN BREEDERS' ASSOCIATION,
A. F. Gafke, Sec., Jefferson, Wis.

Holstein Bulls

At Reasonable Prices

Breeding considered from 3 months to 18 months of age. From both tested and untested dams and sired by some of the best bulls of the age, such as

King Pietertje Ormsby Piebe 4th
King Pietertje Ormsby Piebe 2nd
Colantha Wayne Ormsby
Wolfspring Sethje Mooie Pontiac

Write for prices and descriptive list
Herd under Federal Supervision

STATE HOSPITAL AND COLONY FOR EPILEPTICS
Woodward, Iowa.

Bull of Ormsby Breeding

We offer Pietertje Ormsby Lyons, No. 274364, born February 26, 1919. A grandson of Sir Pietertje Ormsby Mercedes 13th. His sire a 33-lb. bull whose four nearest dams are all 30-lb. cows. His dam is a granddaughter of Sir Pietertje Ormsby Mercedes; half sister to a 1,000-lb. cow. Also a few young bulls ready for service. Write for prices.

SCHERMERHORN FARMS, Mason City, Iowa.

Son of Lieutenant Rag Apple

from a daughter of Admiral Urmagel Burke a real combination, light in color, priced right, serviceable. State and Federal accredited herd.

BLUEBELL FARM, Riceville, Iowa.

High Grade Holsteins and Guernseys

We make a specialty of supplying Certified, Grade A. and Commercial Dairies with car lots of first class dairy cows. All cows are carefully selected and are the large, heavy producing kind. All cows are guaranteed as represented. Every animal must pass the tuberculin test before delivery to our farm and is sold subject to a 60-day re-test. One hundred head now on hand to select from. Let us know your wants.

THE RIECK FARM SALES CO. Rootstown, Ohio

HEAD YOUR HERD

With a Son of S. P. O. M. 41st

We Have Several For Sale

They aren't all high priced bulls, either. We have some good ones from A. R. O. dams that will have a chance to increase their 7-day and yearly records.

One of these youngsters will suit you; he's priced to sell, and he is bound to increase in value.

Write for information or come and see for yourself.

Gustave Pabst's Hollyhock Farms

Fred J. Southcott, Manager Dousman, Wisconsin

Ready For Service

GOOD INDIVIDUAL

His dam is just finishing a record of over 700 lbs. butter from over 17,500 lbs. milk at 2 years, 6 months. His dam's dam made 1,117 lbs. butter from 24,648 lbs. milk as a junior 4-year-old. At 7 years she made 34 lbs. butter from 742 lbs. milk in 7 days and 1,030 lbs. butter from 24,000 lbs. milk in 305 days.

Sire's dam made 27.86 lbs. butter from 658 lbs. milk in 7 days; 705.9 lbs. butter from 16,820 lbs. milk in 272 days, carrying calf 215 days.

He is a double grandson of SIR JOHANNA FAYNE, who now has 25 daughters averaging over 20,000 lbs. milk in a year, 15 of them in heifer form.

Write for pedigree, photo and price

IOWANA FARMS, (Herd Under Federal Supervision) Davenport, Iowa



Yearly Records

Choice Young Bulls

from one to fourteen months old for sale. Sired by Cloverlawn Johanna Piebe whose five nearest dams average 1,070 lbs. of butter, 23,809 lbs. of milk a year. Herd numbers 140 head forty cows with yearly records. State exactly what you want.

JOHN PULS, HARTFORD, WISCONSIN

HOLSTEIN COWS

We offer for sale a number of cows, heifers, bulls and calves of all ages. Some sired by King Korndyke Veeman whose two nearest dams average over

WISCONSIN STAR STOCK FARM,

HEIFERS and BULLS

37 lbs. butter in 7 days and bred to King Sadie Vale Walker who is a son of the youngest 29-lb. cow in the world. Come and see them or write to

ED. M. SCHULTZ, Hartford, Wis.

LIGHT COLORED 800-lb. BULL

Dam—a 4-year-old daughter of Sir Sadie Cornucopia, finishing a yearly record of over 800 lbs. She made 731 lbs. at 3 years. Sire—Woodcrest Sir Clyde, son of Alma Clyde (33 lbs. and 970 lbs.), and sire of 16 20-lb. 2-year-old daughters and two over 30 lbs. Bull was born May, 1920, is ¾ white and Federally tested. Reasonable terms.

W. B. BARNEY & SONS Chapin, Iowa

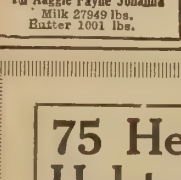
Breeders of Holstein Cattle

2 WORLD } RECORD COWS IN OUR HERD
4 STATE }

Holstein Bull Calves For Sale

A Few Exceptional Individuals Ready for Service

"SPOT"



Fly Aaggie Fayne Johanna
Milk 27949 lbs.
Butter 1001 lbs.

Write for Bull Sale List LISLE FARMS CO., LISLE, ILL.

Cows and Heifer

A Few Good Bulls

Because I am overstocked, I am offering some very good registered females for sale. They either have A. R. O. records or are from A. R. O. dams.

Can also offer some excellent young bulls by a 33-lb. sire and from A. R. O. dams with records up to 28 lbs.

Every animal sold is guaranteed to be as represented.

Write or come and see for yourself.

J. D. McDonald West Salem, Wis.

Send For Our Bull Sales List

Three bulls of serviceable age—four others will be old enough for service in a month or two—others three months old and older. Almost all of them sired by SIR ORMSBY BEAUTY PONTIAC SEGIS, the son of a 37-lb., 1112-lb. three-year-old daughter of KING SEGIS PONTIAC COUNT.

If it will be of an accommodation to the purchaser, we will accept a six months' note in payment, WITHOUT INTEREST, or will accept payment on installment plan basis.

Pinehurst Farms Co., Sheboygan Falls, Wis.

75 Head Holsteins DISPERSAL Aug. 27, 1921

Eagle Bay Farms, Silver Creek, N. Y.

PAPPAS & HUGHS, Props.

KING SADIE VALE SUPREME, No. 232686. His dam 40 lbs., sire's dam 41 lbs. 14 of his daughters, and 8 sons from dams up to 31 lbs. Large record heifers, all in calf to this GREAT 40 lb. sire. EVERY ANIMAL GUARANTEED — 60-DAY RETEST. *At your own price.*

AN OPPORTUNITY THAT WILL NEVER KNOCK AT YOUR DOOR AGAIN. THEY MUST BE SOLD. Records show that cattle at CHAUTAUQUA CO. Sales never sold for more than 25% of their VALUE.

B. V. Kelly, Glen R. Mead. S. T. Wood in the Box

M. L. Allen, Manager, Elmira, N. Y.

Small Breeder BARGAIN

Being a smaller breeder we will make you a smaller breeder's price on a well grown six months

Son of Sir Pietertje Ormsby Mercedes 38th

Has old Sir Piet's stamp. For quick sale are asking but $400.

W. L. DEVANEY,
Shell Lake, Wisconsin.

FOR SALE

Twenty pure-bred Holstein cows and heifers bred to a 31.51-lb. weekly, 1,057-lb. yearly record son of King Pontiac Champion. Twenty young bulls by same sire.

John Alexander, Baraboo, Wis.

Good Holstein Calves

Bargains for the next 60 days. Grade heifers. Pure-breds either sex. Order your Duroc-Jersey pigs to be shipped at three months old. Pairs or trios not akin.

J. C. BOLGER, Waterloo, Wis.

Ten Dams Average 33 Lbs.

A March 1921 calf we offer—by a son of Mabel Segis Korndyke (40.32-lb.) from a daughter of a 35-lb. cow, next dam 33-lb. and dam by a son of Valdessa Scott 2d, 41-lb., has a 33-lb. average for ten dams. Right in every way—will please anyone. Guaranteed.

BELL FARM, Coraopolis, Penn.

Don't order your HOLSTEIN
PEDIGREES
before writing for our Special July Offers. Write today.

Wisconsin Live Stock Advertising Company
Madison, Wisconsin

I-N-V-E-S-T-I-G-A-T-E—Pure-bred Holstein bulls sired by Wisconsin 3-year-old at National Dairy Show 1920. Herd tuberculin tested. Pure-bred Duroc pigs sired by Great Wonder Sensation.

RIDGEHURST STOCK FARM,
Glen C. Ramsey Ft. Atkinson, Wis.

When writing advertisers please mention Hoard's Dairyman.



The Count-Piebe Combination



KING SEGIS PONTIAC COUNT
"The Marvel of All Sires"
Whose daughters have broken more World's Records than the daughters of any other sire.

PIEBE LAURA OLLIE HOMESTEAD KING
"The Present Day Sensation"
The only bull in the world with five 20,000-lb. two-year-old daughters.

Will Triple Your Milk Check Because It Will Put Production Into Your Herd

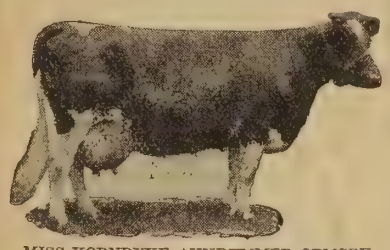
And more than triple the price you are getting for your calves. Because it combines individuality with production, it has given us thirty cows at Arden Farms that have each produced $1,000 worth of milk per year. Do you want that kind?

We Offer
Sons of "Count" from Daughters of "Piebe"
Sons of "Piebe" from Daughters of "Count"

We have the finest line of young bulls we have ever raised at ARDEN FARMS, priced in accordance with present financial conditions. LIBERAL TERMS GIVEN IF DESIRED.

J. M. Hackney, 602 Merchants Bank Building, **St. Paul, Minnesota**

MINNESOTA HOLSTEINS



MISS KORNDYKE AKKRUMMER ORMSBY
30-lb. 4-year-old, 39.67 lbs. butter at full age.
(Owned and developed by J. B. Irwin.)

"The Home of the Ormsbys."

BARGAINS IN BULLS

A few richly bred choice young bulls ready for service,

on the bargain counter for a clearance sale.

Let us give you a good individual well bred at a very low price while they last. Tuberculin tested. Guaranteed in every respect and ready to ship. Come and see them.

Woodlake & Clover Farms,
JOHN B. IRWIN, Sta. F, Minneapolis, Minn.

Registered Cows and Heifers

We have on hand more females than we usually carry so are able to offer some good ones for sale. A number have A. R. O. records and most of them are from tested dams. Bred to a yearly record sire and themselves backed by yearly producers.

Address correspondence to Axel Hansen, formerly with John B. Irwin.

MINERAL SPRINGS STOCK FARM, - - SAVAGE, MINNESOTA
Stuart—McIntyre—Hansen, Owners.
Address correspondence to Axel Hansen, formerly with John B. Irwin.



St. Olaf Ormsby Mercedes Maplecrest

Well Grown—Ready for Heavy Service is for sale. He is by Maplecrest Butter Boy De Kol, a son of Friend Hengerveld De Kol Butter Boy and from a 987-lb. full sister to that world record cow, Maplecrest Pontiac Application. His dam is a 19-lb. 4-year-old granddaughter of S. P. O. M. with a creditable 305-day record. Write us today for complete information.
(*Accredited Herd No. 10957.*)
ST. OLAF COLLEGE FARMS, Northfield, Minn.



Lola Segis Pontiac Homestead

the highest record bull in southern Minnesota, heads our herd. His sire, Piebe Laura Ollie Homestead King, has more daughters that as 2-yr.-olds have produced 20,000 lbs. milk in a year than any other. His dam, a 34-lb. 4-year-old daughter of King Segis Pontiac Count, has 3 records averaging 33 lbs. and has made over 1,000 lbs. in 1 year. We have a few serviceable bulls and younger from A. R. O. dams for sale.

Clover Lea Farm, W. W. Walker, Owner. Austin, Minnesota



Sir Walker Segis Homestead

The best show bull and son of the great bull, PIEBE LAURA OLLIE HOMESTEAD, out of a "COUNT" daughter, BEAUTY BEETS WALKER SEGIS, world's greatest heifer, with two yearly records over 25,000 lbs. milk and 1,000 lbs. butter in heifer form, and a seven-day record of 35.03 lbs. butter from 730 lbs. milk.

We offer several choice bulls, one month to a year old, out of high yearly record and A. R. O. cows, at very reasonable present day prices. Pedigrees and photos will be sent.

A. J. LASHBROOK, - - Northfield, Minnesota

Serviceable Sons of Dutchland Aaggie Tidy Prince

I have three of these youngsters for sale, all ready for service and from A. R. O. granddaughters of S. P. O. M. Their sire is from a sister to Tidy Abbekerk Prince and already has a good list of tested daughters, including one above 36 lbs.

Write today for complete information.

E. J. BROSIOUS, - - Stillwater, Minn.

Here's Another Serviceable Son of King Segis Pontiac Fayne Star

Born March 17, 1920, a splendid individual nearly white.

His dam a 16-lb. 2-year-old with a good 305-day 2-year-old record, one good enough to win a share of association prize money for 1919-1920. She by a grandson of Homestead Junior De Kol.

Fayne Star Sir Wayne is a Bargain at $400

Flecks Farms Faribault, Minn.

Registered Holsteins

For Sale—Four heifers from good sire and tested dams. Bred to our 34-lb. sire, Count and Piebe breeding. Are good individuals, priced at $175. Herd under State supervision.

BLACK & WHITE STOCK FARM, Melrose, Minn.

RICHLY BRED
HOLSTEIN BULL CALVES

out of A. R. dams and sired by our two richly bred herd sires — King Piebe Ormsby Mercedes, a 35-lb. son of Sir Korndyke Bess and every dam in pedigree over 22 lbs. and King Pietertje Mercedes Ormsby, a son of Sir Pietertje Ormsby Mercedes and out of a 19-lb. senior two-year-old dam.

Herd tuberculin tested. Write for information or visit herd.

P. FROST SPAULDING FARM CO.
C. L. Spaulding, Mgr., Warren, Minn.

Bull Calf

advertised last week is sold. Here is another good one ready for light service. Sired by a 30-lb. bull. Dam a 14-lb. 2-year-old who will be tested again next spring. Priced so reasonable that you can't afford to be without him. $150.00 for immediate sale.

V. R. Holmes, Anoka, Minn.

COME TO BISCAY

for your next purchase of pure-bred or grade Holstein cattle, mature or young stock. Large selection, also a few select male calves to offer. Located near station.

BISCAY SALES CO., BISCAY, MINN.

A LINE-BRED "41st" BULL CALF FOR SALE



SIR PIETERTJE ORMSBY BESS BURKE
Born Dec. 20, 1920

A real showy calf, straight as a line and of ORMSBY type

His dam and sire's dam are both daughters of SIR PIETERTJE ORMSBY MERCEDES 41ST, the only son of Spring Brook Bess Burke. His dam is on yearly test as a junior two-year-old and bids fair to go 800 lbs. The sire's dam made 28.93 as a 3-year-old and 26.82 as a 2-year-old.

THIS CALF WILL GROW INTO MONEY —SEND FOR PHOTOS, PEDIGREE AND FULL PARTICULARS.

E. C. Schroeder Farms

(*Under Federal Supervision*)
MOORHEAD, Minnesota

"DUKE"

The only place you can buy sons of serviceable age sired by DUKE PIETERTJE KORNDYKE ORMSBY

The bull selling at the last Minnesota state sale for $33,000.00 is from the herd where he stood for three years prior to the sale. "Duke's" dam now has three records above 1,000 pounds, the last one was 1,190 pounds.

Now is the opportune time to buy one of these bulls as their sisters will be given every opportunity. Get a son now and be in line. Clean bulls from a clean herd. Prices reasonable. Write

EDW. H. ULRICH, Biscay, Minn.

REGISTERED BULLS

FROM TESTED DAMS

Sired by a 30-lb. son of Colantha Johanna Lad and a 26½-lb. son of Laura Piebe Ollie Homestead King. Well marked, straight individuals from two months to 2 years old. Priced to suit present conditions.

GEO. H. ELWELL,
Minneapolis, Minnesota.

Get A Calf

We have a grand bunch of youngsters on hand. Come and pick out a calf while you have a big choice. Grow him to suit you. Saves you money and we are selling them as cheaply as we can. Show calves that are backed by generations of official testing and careful breeding. Sons of DUTCHLAND CREAMELLE COLANTHA LAD No. 165049. His yearly daughters all average over 834 lbs. of butter at 26 months of age.

GRAHAMHOLM FARMS,
H. R. Searles, Mgr., Rochester, Minn.

Choice Ormsby Bulls

From good record dams. Priced from $150 to $700. A few higher. Tell us your wants, or better still, come and see us.

MANKATO HOLSTEIN FARMS
Marlow & Randall, Mankato, Minn.

Grandsons of Sir Pietertje Ormsby Mercedes

The sire is Sir Pietertje Ormsby Mercedes 22d, a son of Minnesota's first 1000-lb. cow. These bulls are all nicely marked, straight top lines. Very good individuals from good A. R. O. dams.

For pedigrees and prices, write
O. J. GROVER, - GLYNDON, MINN.

The Pontiac Herd

"Where the Champions come from"

Offer Bull Calves sired by sons of *Pontiac Korndyke, Hengerveld De Kol, Pontiac Dutchland, or Admiral Walker Pietertje.*

Do you want a Pontiac in your herd?

PONTIAC STATE HOSPITAL, Pontiac, Mich.

Respectfully Submitted:

Every effort to create new markets for Holsteins is entitled to your prompt, practical and punchful co-operation. On August 8, 1921, I shall offer forty head of THE breed at auction. All bred in the deep purple; all classy individuals; all pail-profit producers along with such high grade, healthy and "typy" individuals as you may consign to this sale. I want to make Victory Farms a market place of International importance to the Breed and must have your generous, practical help NOW. If you have nothing to sell, come and buy. Bring the folks. If you decide to participate as a seller ship tested, "clean," guaranteed stock via Reading System to Victory Farms, Doylestown, Pa. References: Dun, Bradstreets, Middle City Bank, Philadelphia, Pa.; West End Trust Company, Philadelphia, Pa.; Solebury National Bank, New Hope, Pa. Monday, August 8, 1921, is the date. Victory Farms, Doylestown, Pa., is the place. Ship "clean" stock. Come along yourself.

VICTORY FARMS
Clement H. Congdon, Owner, Doylestown, Pa.

SONS

of Sir Echo Sylvia Johanna —

⅞ Brother to the $106,000 Bull

From high bred fine individual A. R. O. cows up to 30 lbs. Several on test now. All good, straight individuals, backed by lots of milk and butter. Some are ready for service. Priced very low. Write for catalog.

(*Herd Under Federal Supervision*)

CHESTNUT HILL FARMS,
G. A. Burdick, Mgr., Gibsonia, Pa.

ORIGIN FARM

HORNLESS HOLSTEINS, Registered and A. R. O. Animals, all ages, for sale. Federally Tested.

GEO. E. STEVENSON, Scranton, Penna.

A Youngster Rich in King Segis Blood

Born March 18, 1921

His sire is a son of KING LYONS, out of a 35-lb. daughter of KING SEGIS.

His dam is a 25.81-lb. daughter of JOHANNA KING SEGIS, a 40-lb. grandson of KING SEGIS.

For pedigree and price write:

G. G. Burlingame, Cazenovia, N. Y.

Fairhurst Herd

On the Accredited List

We offer young bulls, fine individuals and well grown. Sired by 33-lb. bull and from dams with records up to 30 lbs. Write for pedigree and price.

KITTLE BROS., Holland, Ohio.

BULL CALF

Sire's dam, butter, 1 yr., 848 lbs.; her daughter, 1,055 lbs. Grandsire's dam, 987 lbs. at 11 yrs.; her full sister, 1,344 lbs.; another, same dam, 1,322 lbs. Dam, Miss Pietertje Alexina 3d, sister to Miss Pietertje Alexina 2d, 1,290.91 lbs. A dandy calf, priced right. Write quick to

McKAY BROS., - - CADDOA, COL.

HOLSTEIN OPPORTUNITY

A 24-lb. herd sire for $175. Grandson of King Segis Pontiac 8th. Three years old. Dam's unofficial 7-day record 634 lbs. milk. A. R. O. record 24.51 lbs. butter. Bargains also in yearling service bulls and calves from A. R. O. dams of good strains, $45 each and up. Three A. R. O. cows 5 and 6 years. All tuberculin tested. Write for pedigrees, photos, and our special low prices on this surplus stock.

ORCHARD CREST FARM, Schoharie, N. Y.

"A Nigger in the Woodpile"

LOOK OUT FOR HIM, and if you are in the market for better dairy cattle take no chances but order your grade Holstein cows, pure-bred cows, heifers and bulls, from River Meadow Farms. A thirty-year-old reputation for reliability. Just now very favorable prices on high-grade Holstein cows in carload lots, and on pure-bred heifer calves and bulls. Write

RIVER MEADOW FARMS, Portlandville, N. Y.

"Otsego County leads in Tuberculosis Eradication."

For Immediate Acceptance—

Three young bulls ready for service—Holsteins.
No. 1—Sire a 30-lb. bull. Dam a 27.5-lb. cow. Price $300.00.
No. 2—Sire 30-lb. bull. Dam 23-lb. 3-year-old. Price $250.00.
No. 3—Sire 30-lb. bull. Dam 16-lb. cow. Price $100.00.
King of the Pontiacs breeding, well grown and good individuals. Send for extended pedigree.

R. F. JOHNSON, Assumption, Ill.

THE TRAVERSE HERD

We have what you want in

BULL CALVES

the large, fine growthy type, guaranteed right in every way. They are from high producing A. R. O. ancestors. Dams' records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.

Traverse City State Hospital, - Traverse City, Michigan

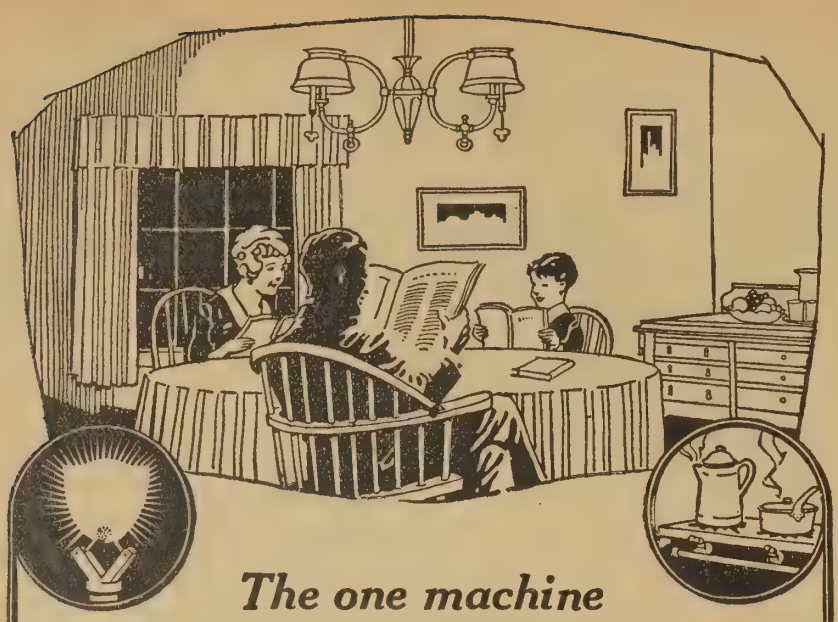


Sons of Sir Ormsby Pontiac Segis

whose sire, Sir Ormsby Hengerveld Korndyke, is the only living son of Pietertje Maid Ormsby. His dam, Lola Pontiac Segis, is the best individual daughter of King Segis Pontiac Count. She has 3 records over 30 lbs. and averaging 33 lbs., with a 1,012-lb. yearly record.

The young bulls are of serviceable age, from A. R. O. dams and offered at farmers' prices.

LILLIBERK FARMS, J. F. Berkheimer, Owner, Homer, Michigan



The one machine makes both fuel and light

COOKING-FUEL and light from a single source—these are available to every country home equipped with the simple Colt Carbide Lighting-and-Cooking Plant.

The fuel produces the hottest flame known for the gas-range, hot-plate or flat-iron. The light is mellow-white, so like sunlight that Nature herself accepts one for the other.

What is it? How does it work?

The simple Colt machine, down cellar or in an outbuilding, mixes crushed stone (carbide) with water automatically and produces fuel and light—that's all there is to it.

No fuss. Nothing to do but put in a little carbide about once a month. The machine does everything. It shuts off of its own accord when not in use. No waste. You can use even the residue, which is simply slaked lime.

Picture your place after sundown—a radiant jewel set in the blackness of rural night; seemingly a bit of transplanted city. Consider the convenience of city fuel for cooking and ironing—the clean, cool kitchen in summer that makes life worth living.

These advantages are yours with a Colt plant. And the cost is trivial in proportion to the manifold benefits.

Jot your name and address on a postcard and hand it to the R. D. man. By return post you will receive full and complete information which will not obligate you in the least to go further into the proposition.

Do that—you'll be glad you did, over and over again.

J. B. COLT COMPANY

30 East 42d Street, New York

COLT TRADE MARK — CARBIDE LIGHTING-AND-COOKING PLANTS

C-5-21



Waterloo Boy Economy Absolutely Proved

LAST Fall, C. R. Young, County Agent for Dakota County, Nebraska, held a plowing contest, for the benefit of farmers in his community. Sixteen tractors entered the contest. Fuel, oil and operator's time were charged against each tractor outfit in figuring costs.

The economy of the Waterloo Boy was absolutely proved. With its heavy-duty, two-cylinder, low-speed motor built for economical kerosene-burning, it plowed its allotted four and a half acres of heavy Nebraska soil at the extremely low cost of $1.11 per acre. This, remember, was at the time when fuel, oil and labor costs were at the highest.

The Waterloo Boy furnished power at less cost than any other tractor and at about one-half the cost of a number of other tractors.

Why the Waterloo Boy Is the Economical Tractor for Farm Work

The Waterloo Boy is built especially for heavy duty farm work. Its two-cylinder, heavy-duty, long-stroke, large-bore motor of special design, burns kerosene with unusual economy.

Its consumption of lubricating oil is exceptionally small. In the Dakota County test, the Waterloo Boy used only one-half pint of oil in plowing four and a half acres.

The upkeep cost of the Waterloo Boy over a term of years is low because of its simple, sturdy, high quality construction. Another contributing factor to its low repair cost is the low speed (750 R. P. M.) at which the motor develops 12 horsepower at the drawbar and 25 horsepower at the belt.

Its motor is unusually responsive—the automatic governor insures flexible power to meet varying loads. Remember that the Waterloo Boy has ready, always, reserve power above its rating to meet emergencies.

Unusual accessibility to all of its operating parts saves valuable time in making adjustments and in repair work.

The Waterloo Boy is a real farm tractor that will give many years of satisfactory and economical service—investigate it.

Get This FREE Booklet

See the Waterloo Boy at the store of your John Deere dealer, and write us today for free booklet which fully illustrates and describes the Waterloo Boy. It gives you a lot of valuable tractor information. Write to John Deere, Moline, Ill., and ask for Booklet T 614.

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